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# CARCASS COMPOSITION OF SEXED NIGERIAN INDIGENOUS DUCKS RAISED IN DIFFERENT GEO-POLITICAL ZONES OF EKITI STATE, NIGERIA

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## ABSTRACT

*The study investigated physico-chemical, carcass and non carcass characteristics in sexed Nigerian local ducks raised under extensive system in different geographical locations of Ekiti State. A total of twenty-four of 24-months-old local ducks were obtained from three different households (8 per location). Average weights were taken prior slaughtering, carcass weight was determined immediately after evisceration and dressing percentage evaluated. Carcass was dissected into retail cuts. The breast muscle was used for the determination of physico-chemical analysis. Thigh, drum stick and breast muscles were dissected to determine the percentage yield of meat, skin, bone and meat to bone ratio. Dressing percentage ranged between 60 and 70 %, 54 and 74% in drakes and female ducks respectively. The carcass yield, water holding capacity, chilling loss and pH value differed significantly ( $p < 0.05$ ) between sexed ducks from different locations. Breast muscle colour for lightness ( $L^*$ ), redness ( $a^*$ ) and yellowness ( $b^*$ ) was high ( $p < 0.05$ ) in drakes from location A. The highest meat to bone ratio (8:1) was recorded in drum stick muscle of drakes from location A. The dressing percentage, carcass yield and meat to bone ratio were appreciably high for sexed indigenous ducks. The study revealed appropriate physico-chemical properties in breast muscles of an indigenous duck; an evidence of good meat quality.*

**KEYWORDS:** *Indigenous breed, sexed ducks, carcass, muscle type, location*

## 1.0 INTRODUCTION

Nigerian local ducks genotypes have not been improved with exotic breeds of ducks. The population of Nigerian indigenous breed of ducks has not been ascertained because they are raised in their few numbers per household under extensive system. The production of local ducks on large scale is still a challenge due to many reasons such as unavailability of breeder stock,

poor managements, high rate of mortality, low fecundity, high cost of feeds and feeding, lack of land space and lack of technical-know-how in terms of carcass handling [1]. In Nigeria, local ducks is one of the poultry species that was given lesser attention and popularity. This has resulted into discouragement in raising the local breed of ducks and this species of



poultry is moving gradually to the brink of extinction [2].

The high demand for poultry products such as meat and eggs in Nigeria depend largely on poultry species especially chicken. This has contributed tremendously to the high cost of chicken meat and eggs which has made it almost impossible for low income earners not to be able to afford the products hence, the daily protein consumption requirement per man per day is far below the recommendations. The rate of nutritional deficiencies in Nigerian is outrageous due to shortage of animal protein in the diets resulting from high level of poverty. Also, the demand for red meat due to its high level of saturated fatty acids made it unsafe for many consumers who could afford it. This protein deficiency could be corrected by raising high economic value poultry species such as local ducks for high carcass yield and good quality meat that could promote increase for the demand of duck meat [3]. Improvement of the qualitative, quantitative characteristics and conservation of local domestic animals in developing countries is a good consideration for research [2]. Research that will provide base line information on the carcass characteristics of the local ducks in Nigeria will facilitate further studies on its improvement and its large scale production. The study aimed at investigating the quantitative and qualitative characteristics of the meat of the indigenous breed of ducks raised under extensive system from three different locations in Ekiti State, Nigerian.

## 2.0 MATERIALS AND METHODS

### 2.1 Experimental animals, management, slaughtering and carcass dissection

The experiment design was a Completely Randomized Design. Laboratory analysis was carried out at the Department of Animal Science, Faculty of Agricultural Sciences, Ekiti State University, Ado - Ekiti, Nigeria. Twenty four local ducks (eight per household per location comprising four drakes (male) and four female ducks), aged 24 months and raised strictly under extensive management system were obtained from the households within three different locations and kept at Poultry unit of the Teaching and Research Farm, Ekiti State University. The birds were quarantined in the pens, dewormed and deloused. The birds were weighed prior slaughtering, stunned by mechanical method and eviscerated to determine carcass weight and dressing percentage evaluated. Carcass was dissected into cut parts by the procedures of [4, 5]. Thigh muscle was separated from body and knee joint, drumstick muscle which is the distal portion of the leg was separated between the knee joint and ankle joint. The whole wing cut was obtained by cutting

through the shoulder joint at the proximal end of the humerus. The whole breast portion was obtained by detaching through the ribs, thereby separating the breast portion from the back. The percentage of carcass cuts was determined based on the carcass weight. The thigh, drum stick and breast muscles were dissected into skin, lean and bone. The percentage proportion of skin, lean, bone and lean to bone ratio was determined.

### 2.2 Physico-chemical analysis

The breast muscle was deboned and used for the determination of physico-chemical properties (pH, water holding capacity, chilling loss and colour). The pH was measured by using a pH meter after calibration with pH 4, 10 and 7 buffers. Water holding capacity (WHC) was determined by pressing samples between two plexiglass plates for 3 min. The areas of pressed sample and water were measured using planimeter. Water holding capacity was evaluated as 100% minus free water percent [6]. The chilling loss was calculated by deducting chilled sample weight from weight of warm sample (before chilling) divided by weight of warm sample multiply by one hundred. The breast muscle colour was determined using a Hunterlab colorimeter (Colorflex Hunterlab Restonva, USA) as CIE colour profile of lightness ( $L^*$ ), redness ( $a^*$ ) and yellowness ( $b^*$ )[7]. The non- carcass components were excised and weighed separately.

### 2.3 Statistical analysis

All data were obtained in triplicates. Statistical analyses were performed using SAS 9.3 software [8].

## 3.0 RESULT

Average live weight of local drake of location A was 2000g while female duck was 1800g. Drake and female duck of location B had an average live weight of 2567g and 1367g respectively. Location C drake weighed 2233g while female ducks weighed 1733g. Average dressing percentage in drakes ranged from 60% (location A) to 76% (location B) while dressing percentage in female ducks ranged between 54 (location a) and 74 (location C). The water holding capacity in breast muscle of the local drake and female ducks were significantly higher ( $p < 0.05$ ) in location B than locations A and C. The pH of the breast muscle at 24 hour postmortem in the drake was between 5.80 and 6.0 while the female was between 5.67 and 6.00 ( $p < 0.05$ ). The percent chilling loss was similar between drake and female ducks of location B (7.00%) but values varied significantly between other locations ( $p < 0.05$ ). Also, result showed that chilling loss was significantly increased ( $p < 0.05$ ) in location C for both sexes. The breast muscle colour of drake from location A had



higher ( $p < 0.05$ ) value for lightness ( $L^*$ ), redness ( $a^*$ ) and yellowness ( $b^*$ ) than locations B and C. The value of lightness ( $L^*$ ) of female breast muscle colour was highest in location C with the least recorded in location B ducks. The value for redness ( $a^*$ ) of female breast meat was significantly ( $p < 0.05$ ) higher in ducks from location A than those from locations B and C. Yellowness value ( $b^*$ ) was significantly higher ( $p < 0.05$ ) in breast muscle of female ducks from location B than female ducks from locations A and C (Table 1.0).

The results of carcass yield of sexed Nigerian indigenous ducks raised in different locations (Table 2) shows that the thigh yield of drake had the highest percentage in location A and the lowest obtained from location C, while in the female, thigh yield was significantly higher ( $p < 0.05$ ) in birds of location B than birds of locations A and C. Neck yield of drake from location A had the highest value and lowest value found in location B drake. The wing yield of drake was between 16.0 and 18.0 ( $p < 0.05$ ) while the female was between 15.1 and 18.0 ( $p < 0.05$ ). The breast yield was significantly higher ( $p < 0.05$ ) in drake of location A than locations B and C. The breast yield was similar ( $p < 0.05$ ) between female from locations A and C. The vent had lowest yield among the carcass yield derived from both drakes and female ducks irrespective of their locations.

The result of the proportion of visceral organs and non-edible carcass determined relative to live weight is shown in Table 3. The proportional weight of gizzard ranged from 1.62 to 1.73, 1.51 to 1.99 in drakes and female ducks respectively. The heart yield did not differ significantly ( $p > 0.05$ ) between drakes of locations B and C, while heart yield was similar ( $p > 0.05$ ) between female ducks from locations A and C. The study showed that the proportion of feet and head were higher ( $p < 0.05$ ) in drakes than the female ducks across different locations. The proportion of lung was 1.72, 1.35 and 1.52% in drakes from locations A, B and C respectively while the female ranged from 1.04 (location A) to 1.26% (location B). The results of yields and ratios of different muscle types derived from carcass of the Nigerian indigenous ducks raised in different geo-political zones of Ekiti State are presented in Table 4. Thigh lean (meat), bone, skin yield and lean to bone ratio differed significantly ( $p < 0.05$ ) between ducks of either sex raised in different geo-political zones. Drum stick meat (lean), skin, bone yield and the lean to bone ratio were significantly higher ( $p < 0.05$ ) in drakes than its female counterpart across locations. Breast meat, skin, bone yield and lean to bone ratio differed significantly ( $p < 0.05$ ) between ducks from different locations for both the drakes and female ducks.

#### 4.0 DISCUSSION

Average live weight of drakes from location C was closer to those observed in 12 weeks old male Turkish pekin genotype while the average live weight of female ducks from location B was similar to those observed in female Boz duck genotype at 8 weeks [9]. The variations observed in the study for the live weight may be due to several factors such as sex, age, genotype/ breed/ species, nutrition and management system which are known to determine live weight of poultry birds. The study revealed that dressing percentages above 70% were recorded in drake and female from locations A and C respectively. The dressing percentage was high for local drakes and female ducks, the dressing percentage obtained in the study aligned with values that have been reported for duck breeds [9, 10]. High dressing percentage in the local ducks under free range might have been influenced by quality and quantity of feed they were exposed to during foraging. This has led to increase live and live weights. The water holding capacity values obtained in the study from the drakes and female ducks were higher than those in chicken raised under free-range system [11]. The results of the water holding capacity showed that duck meat has high water retention ability that could influence a good meat quality and high product yield [12, 13]. The evidence of high water retention capacity was affirmed in the study by low percentage chilling loss in breast muscles in both male and female ducks. Factors such as net charge of myofibrillar proteins, structure and components of muscle cells and the amount of the extra-cellular space within the muscle determine the rate of water retention in meat [14].

The pH values in the breast muscle of drakes from locations A and B, also the female ducks from locations B and C were within the range considered normal for high quality attributes [15, 16]. The pH values of 6.00 in breast muscle of drake from location C and female ducks from location A were similar to other author [17], but relatively close to the pH 5.8 which is classified to be normal for meat quality [18]. The rate and the extent of pH decline which have major impacts on meat quality, such as water holding capacity and juiciness [19] were relatively appropriate in this study.

The study revealed that redness ( $a^*$ ), lightness ( $L^*$ ) and yellowness ( $b^*$ ) values were significantly high in local duck breast meat especially in the drakes. This could make duck meat to be termed as red meat due to the presences of red muscle fibres [20] which makes it depart slightly from the nature of poultry meat known as white meat for their presence of white fiber [21]. This red nature of duck breast meat affirms that the physiological composition of duck differs from other





poultry species [20]. Meat colour depends on pigment (myoglobin, hemoglobin) concentration, their chemical states, and the light scattering properties of meat [22, 23]. The colour of the meat greatly determines its salability [13], as it influences the appearance and attractiveness of meat to consumers [24].

The proportion of retail cuts showed high percentages in wing and breast parts of the local ducks of either sex. This indicates that these cut parts have high carcass yields, an important attributes for carcass quality [25]. Carcass yield which is the amount of carcass derived from live animals after slaughter and is available for sale or consumption, determines the potential profit and a larger muscle to bone ratio results to a greater profit for the producer [13]. The composition of carcass for skin, lean (meat), bone yields and meat to bone ratios of drakes and female ducks raised in different locations had similarity with earlier reports [9, 26]. The percentage of heart and liver of the drakes were related to observation of other

authors [9, 10, 17], however, lower values were observed in female ducks. The study showed that the proportion of lean (meat) obtained from the muscle types of local ducks of either sex raised in different geo-political zones were more than the proportion of skin and bone. This indicates that only a little portion of duck meat contained skin and bone. The meat, skin, bone and its ratios obtained in the study from different muscle types of the Nigerian indigenous ducks of either sex were much higher than those reported for ducks [26]. The high values of ratios of meat to bone indicate more meat was derived from the muscles of duck and this contributes to high fleshing properties especially in the drakes [26]. The study revealed that lowest proportion of bone was found in the drum stick muscle than thigh and breast but this did not indicate that drum stick muscle was meatier in term of quantity than thigh and breast muscles.

**Table 1. Dressing percentage and physico-chemical properties of sexed Nigerian indigenous ducks raised in different geo-political zones**

Items	sex	Location A (Ekiti Central)	Location B (Ekiti North)	Location C (Ekiti South)	SEM	p-value	
Live weight (g)	Male	2000 <sup>c</sup>	2567 <sup>a</sup>	2233.3 <sup>b</sup>	30.6	0.10	
	Female	1800 <sup>a</sup>	1367 <sup>c</sup>	1733.3 <sup>b</sup>	21.9	0.07	
Carcass weight (g)	Male	1200 <sup>c</sup>	1933.3 <sup>a</sup>	1533.3 <sup>b</sup>	21.0	0.01	
	Female	967.0 <sup>b</sup>	933.3 <sup>c</sup>	1267.0 <sup>a</sup>	23.5	0.05	
Dressing percentage (%)	Male	60.0 <sup>c</sup>	76.0 <sup>a</sup>	68.0 <sup>b</sup>	0.64	0.04	
	Female	54.0 <sup>c</sup>	66.0 <sup>b</sup>	74.0 <sup>a</sup>	0.48	0.00	
WHC (%)	Male	58.7 <sup>c</sup>	61.0 <sup>a</sup>	60.0 <sup>b</sup>	0.42	0.80	
	Female	60.0 <sup>b</sup>	63.3 <sup>a</sup>	56.0 <sup>c</sup>	0.41	0.10	
pH @ 24 hrs	Male	5.90 <sup>b</sup>	5.80 <sup>c</sup>	6.00 <sup>a</sup>	0.02	0.50	
	Female	6.00 <sup>a</sup>	5.67 <sup>c</sup>	5.73 <sup>b</sup>	0.03	0.30	
Chilling loss (%)	Male	6.00 <sup>c</sup>	7.00 <sup>b</sup>	7.67 <sup>a</sup>	0.13	0.30	
	Female	7.00 <sup>b</sup>	6.33 <sup>c</sup>	8.67 <sup>a</sup>	0.14	0.10	
Color	Male	L*	41.3 <sup>a</sup>	38.9 <sup>c</sup>	39.4 <sup>b</sup>	0.09	0.01
		a*	18.35 <sup>a</sup>	17.5 <sup>c</sup>	17.6 <sup>b</sup>	0.05	0.10
		b*	5.37 <sup>a</sup>	4.85 <sup>c</sup>	5.00 <sup>b</sup>	0.05	0.40
	Female	L*	35.5 <sup>b</sup>	33.9 <sup>c</sup>	36.8 <sup>a</sup>	0.06	0.00
		a*	17.5 <sup>a</sup>	16.2 <sup>b</sup>	15.9 <sup>c</sup>	0.03	0.00
		b*	4.95 <sup>b</sup>	5.02 <sup>a</sup>	4.80 <sup>c</sup>	0.02	0.50

WHC – Water holding capacity; L\* - lightness, a\* - redness, b\* - yellowness; <sup>a, b, c</sup> - means with different superscripts on same row are significantly different (P<0.05), SEM - standard error of means, p - probability of mean effects



**Table 2. Carcass yields of sexed Nigerian indigenous ducks raised in different locations based on carcass weight (%)**

Items	sex	Location A (Ekiti Central)	Location B (Ekiti North)	Location C (Ekiti South)	SEM	p-value
Thigh	Male	8.84 <sup>a</sup>	8.06 <sup>b</sup>	7.69 <sup>c</sup>	0.11	0.40
	Female	6.80 <sup>b</sup>	7.37 <sup>a</sup>	6.33 <sup>c</sup>	0.16	0.70
Neck	Male	13.4 <sup>a</sup>	8.25 <sup>c</sup>	11.0 <sup>b</sup>	0.18	0.02
	Female	11.1 <sup>a</sup>	9.37 <sup>b</sup>	7.85 <sup>c</sup>	0.34	0.50
Drum stick	Male	11.4 <sup>a</sup>	9.67 <sup>c</sup>	9.74 <sup>b</sup>	0.17	0.40
	Female	11.6 <sup>b</sup>	13.7 <sup>a</sup>	10.0 <sup>c</sup>	0.34	0.40
Rib	Male	12.2 <sup>b</sup>	10.6 <sup>c</sup>	13.0 <sup>a</sup>	0.24	0.50
	Female	11.7 <sup>a</sup>	11.6 <sup>a</sup>	9.23 <sup>b</sup>	0.15	0.10
Back	Male	8.68 <sup>b</sup>	8.75 <sup>a</sup>	8.10 <sup>c</sup>	0.22	0.90
	Female	7.76 <sup>b</sup>	7.07 <sup>c</sup>	7.97 <sup>a</sup>	0.09	0.40
Vent	Male	5.72 <sup>a</sup>	4.99 <sup>c</sup>	5.46 <sup>b</sup>	0.12	0.70
	Female	6.13 <sup>a</sup>	5.33 <sup>b</sup>	4.83 <sup>c</sup>	0.15	0.60
Wing	Male	17.3 <sup>b</sup>	16.0 <sup>c</sup>	18.0 <sup>a</sup>	0.25	0.50
	Female	15.1 <sup>c</sup>	18.0 <sup>a</sup>	17.4 <sup>b</sup>	0.27	0.50
Breast	Male	24.0 <sup>a</sup>	16.2 <sup>c</sup>	18.0 <sup>b</sup>	0.42	0.10
	Female	22.0 <sup>b</sup>	28.0 <sup>a</sup>	22.0 <sup>b</sup>	0.33	0.07

<sup>a, b, c</sup>- means with different superscripts on same row are significantly different ( $P < 0.05$ ), SEM- standard error of means, p - probability of mean effects

**Table 3. Proportion of visceral organs and non-edible carcass relative to the live weight (%) of sexed Nigerian indigenous ducks raised in different geo-political zones**

Items	sex	Location A (Ekiti Central)	Location B (Ekiti North)	Location C (Ekiti South)	SEM	p-value
Gizzard	Male	1.62 <sup>c</sup>	1.68 <sup>b</sup>	1.73 <sup>a</sup>	0.03	0.80
	Female	1.51 <sup>c</sup>	1.99 <sup>a</sup>	1.61 <sup>b</sup>	0.03	0.10
Liver	Male	1.53 <sup>b</sup>	1.32 <sup>c</sup>	1.55 <sup>a</sup>	0.02	0.30
	Female	1.51 <sup>c</sup>	1.92 <sup>a</sup>	1.61 <sup>b</sup>	0.03	0.20
Heart	Male	0.70 <sup>b</sup>	0.74 <sup>a</sup>	0.74 <sup>a</sup>	0.01	1.00
	Female	0.39 <sup>b</sup>	0.44 <sup>a</sup>	0.39 <sup>b</sup>	0.01	0.50
Feet <sup>1</sup>	Male	2.65 <sup>a</sup>	2.24 <sup>c</sup>	2.53 <sup>b</sup>	0.03	0.10
	Female	1.50 <sup>b</sup>	1.20 <sup>c</sup>	1.61 <sup>a</sup>	0.03	0.20
Head <sup>2</sup>	Male	5.85 <sup>a</sup>	4.50 <sup>c</sup>	5.15 <sup>b</sup>	0.06	0.06
	Female	3.20 <sup>c</sup>	4.36 <sup>a</sup>	3.38 <sup>b</sup>	0.06	0.06
Lung	Male	1.72 <sup>a</sup>	1.35 <sup>c</sup>	1.52 <sup>b</sup>	0.02	0.08
	Female	1.04 <sup>c</sup>	1.26 <sup>a</sup>	1.06 <sup>b</sup>	0.02	0.30

<sup>1, 2</sup>- non-edible carcass, <sup>a, b, c</sup>- means with different superscripts on same row are significantly different ( $P < 0.05$ ), SEM- standard error of means



**Table 4. Proportion of skin, meat, bone and ratio meat to bone of muscle type of indigenous ducks raised within three geo-political zones in Ekiti State**

Muscle type		male					female				
		Location A(Central)	Location B(North)	Location C(South)	SEM	p-value	Location A(Central)	Location B(North)	Location C(South)	SEM	p-value
Thigh	Skin	18.2 <sup>a</sup>	17.4 <sup>b</sup>	17.0 <sup>b</sup>	0.39	0.89	15.0 <sup>a</sup>	11.4 <sup>b</sup>	12.1 <sup>c</sup>	0.21	0.20
	Lean	69.0 <sup>c</sup>	70.0 <sup>b</sup>	73.0 <sup>a</sup>	0.48	0.52	66.3 <sup>c</sup>	71.1 <sup>a</sup>	67.0 <sup>b</sup>	0.64	0.60
	Bone	14.0 <sup>a</sup>	13.3 <sup>b</sup>	11.0 <sup>c</sup>	0.20	0.16	20.1 <sup>a</sup>	14.0 <sup>c</sup>	18.3 <sup>b</sup>	0.19	0.01
	Lean : bone ratio	5.11 <sup>c</sup>	5.48 <sup>b</sup>	6.88 <sup>a</sup>	0.11	0.14	3.29 <sup>c</sup>	5.29 <sup>a</sup>	3.66 <sup>b</sup>	0.11	0.11
Drum stick	Skin	13.1 <sup>c</sup>	16.0 <sup>b</sup>	18.0 <sup>a</sup>	0.39	0.30	14.4 <sup>a</sup>	8.45 <sup>c</sup>	9.21 <sup>b</sup>	0.22	0.02
	Lean	78 <sup>a</sup>	74.3 <sup>b</sup>	55.1 <sup>c</sup>	0.81	0.02	65.1 <sup>c</sup>	74.1 <sup>a</sup>	70.1 <sup>b</sup>	0.68	0.30
	Bone	9.73 <sup>b</sup>	10.0 <sup>a</sup>	9.00 <sup>b</sup>	0.08	0.25	21.1 <sup>a</sup>	18.0 <sup>b</sup>	21.0 <sup>a</sup>	0.50	0.70
	Lean : bone ratio	8.0 <sup>a</sup>	7.40 <sup>b</sup>	6.10 <sup>c</sup>	0.07	0.03	3.14 <sup>c</sup>	4.59 <sup>a</sup>	3.52 <sup>b</sup>	0.14	0.40
Breast	Skin	20.0 <sup>a</sup>	15.0 <sup>b</sup>	12.2 <sup>c</sup>	0.13	0.00	13.4 <sup>a</sup>	9.70 <sup>c</sup>	11.1 <sup>b</sup>	0.13	0.02
	Lean	66.0 <sup>b</sup>	73.1 <sup>b</sup>	77.0 <sup>a</sup>	0.16	0.00	75 <sup>a</sup>	74.4 <sup>b</sup>	74.2 <sup>b</sup>	0.45	1.00
	Bone	15.0 <sup>a</sup>	12.2 <sup>b</sup>	11.2 <sup>c</sup>	0.03	0.00	17.1 <sup>a</sup>	16.1 <sup>b</sup>	16.3 <sup>b</sup>	0.17	0.70
	Lean : bone ratio	4.43 <sup>c</sup>	5.98 <sup>b</sup>	6.82 <sup>a</sup>	0.02	0.00	4.44 <sup>c</sup>	4.64 <sup>a</sup>	4.57 <sup>b</sup>	0.05	0.80

a, b, c- means with different superscripts on same row are significantly different (P<0.05), SEM- standard error of means, p - probability of mean effects

## 5.0 CONCLUSION

The study revealed that the dressing percentage, carcass yield and organ composition were high in both sex of local ducks reared in different locations. The percentage of meat portion was considerably high compared with skin and bone present in the retail cuts irrespective of sex and locations. The drum stick muscle of the drake raised in location A had the highest meat to bone ratio, this indicates high meat turn over as compared with other muscle types. The drake showed higher redness of breast meat color than its female counterpart which may influence consumer's interest. Raising ducks under free range system at minimal cost of production could be a means by which ducks production could be facilitated within locality in Nigeria while the local ducks genotype awaits upgrade with exotic breeds for better performance and yields.

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## 7.0 CONFLICT OF INTEREST

Authors declare that no conflict of interest exist between them.

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## A TRACE OF PANTHEISM IN THE SELECTED POEMS ON NATURAL PHENOMENA

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### ABSTRACT

*Nature is one of the most predominant themes in Literature. Writers who are inspired by the beauty of nature write about it in different genres, especially in the form of poetry. They write poems briefly or elaboratively, about the splendid beauty of the physical world that has entranced them. In some of the nature poems, one could not only find wonderful descriptions of the natural world but also find a touch of pantheism, because of the poets' intense observation of the natural phenomena as the Divine power. In such works, the poets show a sense of gratitude to the Creator and His creations, because of the abundant blessings man has been receiving in various forms.*

*The poems written on nature, can also be rightly called as 'Green poems' or 'Environmental poems'. These poems not only appreciate the loveliness of nature, but also tells about the importance of man's relationship with nature. Such poems insist on the value of the environment man lives in, which is sometimes taken for granted. If only man finds time to appreciate the greatness of the physical world, would the Welsh poet have written the poem "Leisure", which appeared in his collection of poems titled, "Songs of Joy and Others", published in 1911.*

*"What is this life if, full of care,  
We have no time to stand and stare.  
No time to stand beneath the boughs  
And stare as long as sheep or cows.  
No time to see, when woods we pass,  
Where squirrels hide their nuts in grass.  
No time to see, in broad daylight,  
Streams full of stars, like skies at night,  
No time to turn at Beauty's glance,..."*

*In the above-mentioned poem, the poet surrenders himself to nature admiring various things he sees around him. He states that each of the creations looks splendid in its way, but man fails to appreciate or even notice that. This is because, man has no time to spend for nature in this busy world, though he lives in the midst of it. Further, the poet also feels a communion with God when he values each of His creations. In the same way, the eleven poems mentioned in this article find a similarity, where the poets explicitly share the divinity and mysticism they find in the creations and the Creator.*

**KEYWORDS:** *Creator, Creation, Nature poems, Mysticism, Pantheism, Pantheist, Environmental poems.*

### INTRODUCTION

Nature has influenced and inspired not only the Romantic poets, but also writers and poets of all epochs across the globe. Nature is indispensable because it is the main source of livelihood for mankind. This dependency on nature has led man to worship the physical world. The bond between man and nature gets stronger only when man comprehends the language of nature. When that happens, it leads to pantheism. Pantheism is seeing God in every creation of Nature. A person who worships God in various forms of nature is called a pantheist. The poems mentioned in this article have a trace of pantheism, when the poets themselves have turned to be

the pantheists.

#### 1. 'Sunrise' – James Thomson

James Thomson is a Scottish poet. 'The Season' is one of his best poems that is in four parts each is named after a season. This poem 'Sunrise' mentioned in the article, is an excerpt from his poem "Summer", that appeared in the year 1727. In this poem, the Sun is portrayed as the 'Powerful King'. The poem is about this majestic ruler who heaves in sight from the east and appears in the clear blue sky, showing the brighter side of life. The poet gives a picturesque description of how the Sun slowly projects from behind the mountain's upper edge.



" But yonder comes the powerful king of day,  
Rejoicing in the east. The lessening cloud,  
The kindling azure, and the mountain's brow..."

What would it be like without the Sun? The place would look lifeless. Everything around the earth would remain in darkness and the beauty of nature would not be seen at all. But, on the other hand, when the sun rises, it creates a magic on everything around. The Sun spells his golden hue from a very far away place on everything around the earth, to make each of the creation on earth shine brightly.

" ... And sheds the shining day that, burnished, plays.  
On rocks, and hills, and towers and wandering streams  
High gleaming from afar."

The poet has called the Sun 'Powerful king of day' because the Sun is like a King who rules the world. The Sun that rises from the eastern horizon gives hope to all creatures in the world to say it is a new day, a fresh beginning to start work after a peaceful night. The Sun indeed reigns the world! The presence of the Supreme Being is seen in the Sun because it has the power to expel the darkness. It also reassures that there is a ray of hope by illuminating the place.

## 2. 'I wandered lonely as a Cloud' – William Wordsworth

A poem most often quoted for the scenic effect of the poem that the poet has created through his words. "I wandered lonely as a Cloud" by William Wordsworth, is the original title of the poem, though it is often known as "Daffodils". It is one of the most unparalleled poems written by Wordsworth. He wrote this poem after being influenced by the lovely daffodils he saw in a long expanse of land. The poet is spellbound after looking at the golden daffodils, beside the lake. He feels heavenly to look at the daffodils tossing their heads in the breeze.

" A host, of golden daffodils,  
Beside the lake, beneath the trees,  
Fluttering and dancing in the breeze."

More than the sparkling waves of the lake, it is the daffodils that are eye capturing. It is found in the poem that the poet is overwhelmed with joy in admiring the flowers for a long time. This gives him immense pleasure, and treasures these memories.

" I gazed – and gazed – but little thought  
What wealth the show to me had brought:"

In the final stanza, the poet states that whenever he is alone lying on his couch, he cherishes the memories of the daffodils that gives him the blissfulness.

" They flash upon that inward eye  
Which is the bliss of solitude;  
And then my heart with pleasure fills,

And dances with the daffodils.

This poem is one of his most celebrated lyrics. He has revealed that he has been mesmerized by the lovely yellow flowers that made him feel heavenly. This poem has a trace of pantheism because he is awestruck by the heavenly creation.

## 3. 'Loveliest of Trees, the Cherry' – A. E. Housman

A.E. Housman in the poem "Loveliest of Trees, The Cherry", states how the floral tree has captivated him. The charming wonder has captured his attention that nothing else could divert him from looking away from the tree. The snow-covered on top of the tree makes the tree look even more beautiful. It also reminds him of the purity that associates with the festive season.

" The Loveliest of trees, the cherry now  
Is hung with bloom along the bough,  
And stands about the woodland ride  
Wearing white for Eastertide."

The poet also wishes to spend the rest of his lifetime only to admire the lovely floral tree. He knew it is a seasonal tree, still, he wishes to see it throughout his life only for the beauty of the flowers. This is one of the poems that appeared in "A Shropshire Lad", a series of 63 verses published in 1896. Though, this collection of poems are known for its pessimistic tone, this particular poem, can be viewed optimistically. The Easter season is the time for the rebirth, to feel the presence of the Lord. The poet does not only admire the tree but the creator of the tree as well, with whom he feels the communion, that he wants to spend the rest of his life only to experience that happiness.

## 4. 'Green Mountains' – James Russell Lowell

James Russell Lowell in his poem "Green Mountains" writes about the splendid beauty of the high mountains that seizes his attention. The poet shows his amazement at the grandness of the mountains, that he views from a distance. Yet, he is discontent, because he could not get a closer view of the majestic mountains.

"Ye mountains, that far off lift up your heads  
Seem dimly through their canopies of blue,  
The shade on my unrestful spirit sheds  
Distance – created beauty over you;  
I am not well content with this far view;..."

His ancestors or his contemporaries must have astonished as he has for these magnificent mountains, that has been there for ages and leaving everyone wonder at its presence. Just as how Emily Dickinson states in her poem "The Mountain", a majestic figure (the mountain) sits upon the plain which is its eternal chair, so does Lowell feel there is this greatness that man could hardly understand about this wonderful creation of God. The mountain is eternal as God, and the grandeur presence is inexplicable.



### 5. 'Summer Clouds' – Sarah Willis

The American novelist and short-story writer Sarah Willis has written this poem "Summer Clouds", in which she states how she spends her time gazing at the clouds on a quiet summer day. She is astounded by the variety of shapes it takes. The clouds look soft and pillowy and float in the air. The poet happens to see various shapes in the formation of the clouds. She lists out them one by one, a bird upon a ship, a whip, a flower like a rose, a rooster, a colt and a litten kitten having fun. She feels serene just by watching them move.

" I love to watch them when they drift  
Into the many shapes as they shift  
What a peaceful, pleasant way,  
To spend a quiet summer day."

This poem is one of the most beautiful poems to tell about how a person can escape from the routine life and just lose oneself admiring the wonderful clouds floating by. Clouds are the source to bring in rain. They are not only found on rainy days but even on other days, just suspended in the air moving leisurely. Clouds paint themselves beautifully in different forms only to give happiness to those who observe their movements. Anything that creates tranquility and gives inner peace, is sure to be filled with the presence of God. Here the poet is stupefied of being lost in paying attention at the clouds that are floating.

### 6. 'April Rain Song' – Langston Hughes

Langston Hughes the American poet expresses his love for the rain in the poem " April Rain Song". He shows his happiness just like a child would, to share his experience of the rain showers on him. It is a wonderful feeling to sense the raindrop fall on a person's head. He calls the raindrops as the silver liquid drops. There is something harmonious about the sound of the rain that it is compared to a lullaby by the poet.

" Let the rain beat upon your head with silver liquid drops

Let the rain sing you a lullaby,..."

The whole place changes when it rains. It leaves little pools here and there and finds a place to run through the gutter. Its song on the roofs of their houses at night creates a peaceful atmosphere for the people to sleep happily as they listen to its music.

" The rain plays a little sleep song on our roof at night  
And I love the rain."

This poem also states the presence of God that is felt in the form of rain. It is one of the blessings of God to man. This reminds of the couplet in Thirukkural –

"The world survives because of the rains and therefore  
rain is known to be the nectar of immortality."

(Bk 1, Ch 2, V 11).

### 7. 'The Rainbow' – Charles Lamb

Charles Lamb, the famous essayist has also written poems and this is his colourful poem, "The Rainbow". The poet is mesmerized by the beauty of the rainbow after a storm. He counts the colours in the perfect half arch-shaped rainbow. He is puzzled because even a person with good vision could hardly make out where the finely blend colours begin or end. He is awestruck seeing the distinct colours in it and loves them all.

" Each precious tint is dear to me,  
For every colour find I there,  
Which flowers, which fields, which ladies wear:  
My favourite green, the grass's hue,  
And the fine deep violet – blue,  
And the pretty pale blue – bell,  
And the rose I love so well,..."

Though the rainbow stays only for a short while, he finds the hues in every creation of God, he sees all around him. He also states that everything He created has a tint added to it from the rainbow.

"In all their tints, in every shade,  
Are from the rainbow's colours made"

It is very clear from the poet's description that he feels the presence of God in everything he sees around him, which he not only admires, but also adores.

### 8. 'Looking Glass River' – Robert Louis Stevenson

Robert Louis Stevenson wrote "Looking Glass River", is a poem from the collection of "A Child's Garden of Verses", published in the year 1885. The title of the poem itself states that the river is as clear as a looking glass, and a smooth flowing one. Since it is like a crystal, a person can see his reflection in the river, can look at the silver fishes that live in it, the gravel at the bottom of it and the flowers that have fallen from the trees in the river bank, float on it. The place looks attractive, that even a child wishes to live near the river.

" Sailing blossom, silver fishes,  
Pave pools as clear as air -  
How a child wishes  
To live down there!"

The poet also mentions about the shimmering beauty of the river that is seen during the day when the sun's rays fall on it. There is something magical to look at the river when the ripples on the water are formed, and when the wind blows. All these could not be seen in the night, still, the river continues to flow like how it does during the day. Here the poet says that the river keeps flowing quenching the thirst of all the people who are dependent on it, just like the Lord who always gives abundant blessings for mankind.



### 9. 'It is a Beautious Evcning, Calm and Free'– William Wordsworth

This is one of the most beautiful sonnets of William Wordsworth, in which he makes a direct reference to the presence of God, in the form of the waves. He mentions about one calm evening he spent at the sea-shore, at the time of the sunset, when only the sound of the swash was heard filling him with tranquillity.

" It is a beautious evening, calm and free,  
The holy time is quiet as a Nun  
Breathless with adoration; the broad sun  
Is sinking down in its tranquility;..."

He addresses to his little companion who walks along with him on the seashore, about the movements of the waves and the sounds produced by the waves are everlasting, just as the Almighty, who is eternal.

" The gentleness of heaven broods o'er the Sea;  
Listen! The mighty Being is awake,  
And doth with his eternal motion make  
A sound like thunder – everlastingly."

He is poet par excellence, known as nature worshipper. The two poems by Wordsworth mentioned in this article states that the poet is a pantheist, who sees the Supreme Being in all the beautiful creations found in the physical world.

### 10. 'Child Moon'– Carl Sandburg.

American poet, Carl Sandburg in his poem "Child Moon", states that the child is fascinated looking at the moon that shines in the sky which is far from reaching. Her attention is completely grabbed by the moon and nothing distracts her from it until the time she goes to sleep. She keeps sweetly telling tales of the moon till she falls asleep.

"Crying with her little tongue," see the moon!  
And in the bed fading to sleep  
With babblings of the moon on her little mouth."

The child is astonished at the old moon that appears night after night. The moon has been referred to as 'old' because, it has been there for ages and will remain so, an eternal beauty. God's presence is felt in that shining, silent moon because it makes people cheerful, every time they look at it. This poem proves that age never matters, when it comes to admiring nature and that God gives pleasure to all, either they have felt his presence or not.

### 11. 'The Starlight Night' - Gerald Manly Hopkins

The poet asks his reader to look up at the stars in the sky, at the very beginning of the poem. He states so because he feels that man has failed to notice the beauty of the stars that shine brightly in the sky during the night.

He marvels at the stars that are placed in a very high position. He exults at the creation of God. They sparkle and glitter like pieces of the precious jewels in the sky. Hopkins calls the night sky as a grey lawn where one would find the luminous stars.

"Look at the stars! Look,  
Look up at the skies!  
Oh look at all the fire-folk sitting in the air!  
Down in dimwoods the diamond delves the elves'  
– eyes!  
The grey lawns cold where gold, where quick gold  
lies!"

Poet conveys that this creation of God is wonderful that it gives hope for mankind even in the complete darkness, as they shine brilliantly. Poet clearly expresses that the twinkling stars make the dark sky heavenly where His presence is felt.

" O Lord, how manifold are your works!  
In wisdom have you made them all;  
The earth is full of your creatures.  
Here is the sea, great and wide,  
Which teems with creatures innumerable,  
Living things both small and great."  
Psalm 104: 24 – 25 (ESV)

"In all things of nature there is something of the marvellous," said Aristotle. This quote is proved true in the selected poems mentioned in this article that deals with eleven different creations that are unique in this physical world, that are found from morning to night. The poets have brought alive the scenic beauty they have seen, and have shared their inner feelings in the poems, giving a visual treat to their readers. The picturesque details in the poems reveals how blissed the poets have felt experiencing the different forms of nature. In these works, the poets have felt the Supreme presence in the natural phenomena which has influenced them to become nature worshippers and to write such distinct poems.

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# A TRANSDISCIPLINARY PERSPECTIVE OF THE CURRENT CRISIS SITUATION IN THE WORLD

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## ABSTRACT

*This short communication aims to be a contribution on the transdisciplinary perspective of the relationship between spirituality and the current global crisis situation due to Covid-19.*

**KEYWORDS:** *Current global crisis situation, Covid-19 combat modes, Indian spirituality, A transdisciplinary perspective of the current crisis situation.*

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## INTRODUCTION

The coronavirus pandemic (abbreviated Covid-19) has brought about the changes that "cyclically" societies have to face, leading to the emergence of new paradigms [1]. For example, nowadays some changes that are already taking place on the areas of Artificial Intelligence (with the use of algorithms to discover the mode of action of corona virus), new technologies with the use of the internet (for non-classroom teaching, teleworking, take-away) and telemedicine (for remote consultation) [2] that are a reflection of this need to readjust to the new demands of contemporary society.

## METHODS

In this short communication on transdisciplinary perspective on the current crisis situation, I analyzed and selected the 12 most important items about this topic, based on the "impact factor" of the article and the book that might be useful to the reader who just wants to have an idea on this theme, but maintaining the scientific rigor of my research.

## RESULTS AND DISCUSSION

In this section, I will present the results of my research on the current global public health situation due to Covid-19, describing the most relevant facts of my research work.

In medical terms, SARS-CoV-2 virus has circulated only in the animal kingdom, namely, through bat droppings, which are the food of pangolins. Thus, nowadays there is a hypothesis that pangolins are the hosts that transmit SARS-CoV-2 from bats to humans. In fact, human beings, particularly the Chinese population, having ingested the pangolins have allowed this virus to "jump" into the human kingdom. Through the air, human beings have infected each other [3]. Currently, the pharmaceutical Gilead Sciences is studying some ways of combating the disease Covid-19 that is the infection caused by the genetic material of SARS-CoV-2 coronavirus. This could be performed through an antiviral called "Remdesivir", which prevents the virus from replicating itself. In fact, the virus (as if it were the "key") seeks to take over the entire cell (as if it were the "door lock") in order to multiply itself, although there is still no knowledge how to "close" the "door lock". Most positively, there are several kinds of vaccines under development



against Covid-19, namely by the multinational Johnson&Johnson, and some others companies in the area of Biotechnology, such as Moderna/NIH that has already started testing in humans [4].

On the other hand, even before the Covid-19 appeared, many people in various parts of the planet were already suffering from hunger and war on a daily basis, as is the case with Sudan and Syria. In this regard, I want to highlight the interconnection between spirituality and health in a kind of “network of life” that could allow a global improvement of the living conditions of all human beings [5].

In fact, I want to refer some extraordinary human beings who have sought to alleviate the suffering of mankind. Some examples of these people have been Mother Teresa of Calcutta, or more recently Ammachi who has founded “Embracing the World”, whose financial resources have allowed to minimize in a practical way the damage due to natural or human causes [6]. In this regard, I would like to emphasize the importance of Indian spirituality in contributing to the broader view of the current crisis situation in the world [7] and which is described by the statement “*Le 21ème siècle sera spirituel ou ne sera pas*” assigned to André Malraux [8].

Meanwhile, the World Health Organization (WHO) has defended that community isolation and social contact should be avoided, as well as washing hands and put masks on the face, as the most effective ways to minimize the exponential advance of the Covid-19 (until an effective vaccine might be discovered by scientists) [9]. Thus, the minimization of the effects of Covid-19 has led the governments of the several countries to seek to balance between the protection of health and financial stability of people [10]. From a transdisciplinary point of view, the current crisis situation might be the result of some wrong actions of human beings over time, as it has already been referred to by Basarab Nicolescu, in relation to Anthropocene [11].

## CONCLUSION

Finally, from my point of view, coronavirus pandemic could contribute to some changes in certain areas of human life in contemporary society, such as, health, economy and work, general relationships, where the key phrase will be “the interconnection of each species for the balance of life on Earth, highlighting the common good”. For example, health should be the most precious asset to which all governments must give top priority (through free access to the National Health Service); economy should promote (whenever possible) telework, so that the worker might have more free time for the family;

general relationships should promote self-awareness where personal well-being might be linked to the well-being of others human beings (through solidarity between countries, as proposed by the European joint project). All these topics are the essence of spirituality, which aims at a better quality of life for all human beings [12].

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## HOBBIES: NOT A WASTE, BUT AN INVESTMENT

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### ABSTRACT

*Hobbies are the best way to develop positive attitude and achieve happiness. We often choose hobbies that make us happier and more excited. Since each one has different ways of finding and enjoying leisure, hobbies vary from person to person. Hobbies are not to fritter away one's time but to increase the quality and happiness of one's life. Many people do not understand the value of hobbies and hence are reluctant to spend time on them. If one needs to be more productive and intrinsically motivated, one has to make an introspection of one's areas of interest and spend time on them. Only intrinsically motivated individuals can actively contribute much to the family and society.*

*There are a wide variety of hobbies that boost up our confidence and self-esteem. If we are fed up with the routine schedule of our life or having some mental stress, then engaging in favourite hobbies is a good way to regain our enthusiasm. My attempt in this article is to discuss a few of my favourite hobbies that energize and inspire me. They are cooking, travelling, gardening and reading. Engaging in these hobbies often rejuvenate me and help me perform better in my personal, academic and professional life.*

**KEYWORDS:** *Hobbies, Positive Attitude, Motivation, Quality of life*

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### COOKING

Cooking is one of the best creative hobbies; it is interesting too. Mixing up different masalas and making innovative dishes is truly exciting and cool. During my Research degree program in Coimbatore, I cherished and fostered this hobby, which later became a part of my life. In Coimbatore, we were in a rented house. There, we had to cook our own food. After the class, we would come back to our room and then go for shopping. Meanwhile we would make a menu planning and purchase the needful things for creating dishes. This hobby helped us make a good timetable for our academic life. Moreover, we enjoyed a lot by inventing new items and naming them. There I stayed with two other friends from Tamil Nadu. So we tried both Kerala and Tamil Nadu dishes. Even after two years, I still remember those days. By making cooking your hobby, you can improve your creativity; Moreover, it can make you motivated. Motivation is directly associated with the wellbeing and performance of an individual. Cooking

can surely make you motivated and more optimistic towards future.

### TRAVELLING

Travelling is a hobby that will help you explore the places you visit. Normally I enjoy this hobby on weekends and holidays. Whenever you are exhausted, take a short break for two or three days and travel to your favourite places. It will surely bring magical changes in you. The places we choose should be interesting. I prefer high ranges or hill stations for travelling. Travelling to a place and spending time exploring the culture of that place is exciting. If you are a foodie, then explore the traditional cuisines of that place. It is going to be an awesome experience. Travelling also enhances your knowledge and shapes your viewpoint. Two years ago, I travelled to Varanasi and stayed there for three days. The energy and experiences I could gather from there were incomparable. If you are interested in travelling and think that travelling soothes your heart



then make it your hobby and spend some time enjoying it.

## GARDENING

Gardening is another popular hobby and it is very beneficial for mental and physical health. In earlier times, we used to get quality vegetables and fruits. But now we do not have gardens; neither do we have quality vegetables and fruits. Therefore, many people have now started to do gardening in different styles and at different places. Gardening is a way to interact with nature, to love it and to understand it. Spending some time in your garden watering the plants and observing their growth will make your day more beautiful. Gardening is another interesting hobby of mine. Every day I spend 2 to 3 hours in the garden. Working in the garden observing the beauty of it and caring the plants in it, will give you a contented heart. If you develop gardening as a hobby then the quality of your life is going to improve. I have a small garden at home where I grow spinach as the main crop. When people visit my home, I give a bunch of spinach to them. I strongly recommend all people to make gardening a hobby.

## READING

Reading our favourite books is a good way to revitalize ourselves. I used to carry Robin Sharma's book 'Who will cry when you Die' when I travel. It is an excellent source of motivation. I read and re-read his books because they are so powerful in evoking positive thoughts. If you want to make reading your hobby, then proceed with that. Reading can makeover your convictions and views.

I was trying in this article to present some of my best-loved hobbies. Hobbies will not only make you positive and motivated but also it will help you manage your time and make your life easier, happier and meaningful. Life has to be enjoyed to the fullest. This is possible through hobbies. I am busy with my personal assignments; still I try to find some time to nurture my hobbies. Many studies have found that one of the finest ways for relieving stress is to spend time on hobbies. I wish everybody to foster their hobbies, improve the quality of their life and explore the world of happiness.

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## METHODS AND TECHNIQUES OF TEACHING THE MEANS OF VERBAL EXPRESSIVENESS OF THE UZBEK LANGUAGE STUDENTS OF RUSSIAN GROUPS

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### RESUME

*The article considers the problem of teaching and developing the skills of usage the means of speech expressiveness among Russian-language speaking students for correct, precise and emotional expressing of thoughts. There has given an information about tropes and figure they have analysed with examples.*

**KEY WORDS:** *a standard of speech, expressiveness, tropes, a figure, comparison, means of speech expressiveness, skill, training, educational process.*

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## МЕТОДЫ И ПРИЁМЫ ОБУЧЕНИЯ СРЕДСТВАМ РЕЧЕВОЙ ВЫРАЗИТЕЛЬНОСТИ УЗБЕКСКОГО ЯЗЫКА СТУДЕНТОВ РУССКИХ ГРУПП

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### РЕЗЮМЕ

*В статье рассматривается проблема обучения и развития навыков обучения русскоязычных студентов использованию в речи средств речевой выразительности, для правильного, точного и эмоционального выражения мысли.*

*В статье даются информации о тропах и фигурах, которые анализируются конкретными примерами.*

**Ключевые слова:** *культура речи, выразительность, троп, фигура, сравнение, средства речевой выразительности, навык, обучение, учебный процесс.*



Специфика обучения культуре речи, в том числе и культуре владения средствами речевой выразительности в вузе, обуславливается современными требованиями к уровню владения специалистом государственным языком, необходимостью использования лексики тропов и фигур в различных ситуациях общения. Без средств речевой выразительности нельзя представить никакой язык, в том числе и узбекский, а значит и процесс его изучения не только как родного, но и как неродного, государственного. Средства речевой выразительности к настоящему времени сыграли важную роль в формировании в языке художественного стиля речи. В современном узбекском языке они также используются и в разговорном.

Средства речевой выразительности служат не только для уточнения, более широкого и глубокого раскрытия многих изображаемых картин и явлений, но и являются показателем уровня творческого мышления; их использование важно при достижении образности, точности речи, а овладение ими - необходимое условие развития не только информативного, но и прагматического потенциала в речи студентов. Коммуникативная функция заключается в способности языка служить средством общения между людьми. Изучение текста с точки зрения соответствия его языковой структуры задачам общения в теории культуры речи получило название коммуникативного аспекта культуры владения языком. То, что теперь называют коммуникативным аспектом культуры речи, было известно уже в античности из учения о риторике [1, 555].

С точки зрения культуры речи коммуникативная функция языка предполагает установку участников речевой коммуникации на плодотворность, взаимную полезность общения, общую нацеленность на адекватность понимания речи. Однако достижение функциональной эффективности общения невозможно без знания и соблюдения норм литературного языка. Это в свою очередь, требует наличия самых необходимых и элементарных представлений о лексических, грамматических и стилистических нормах узбекского языка. Они незаменимы при работе по построению правильной узбекской речи, которая обязательно должна отличаться ясностью и точностью изложения мысли, последовательностью и информативностью.

Она также обязательно должна характеризоваться богатством, выразительностью, уместностью, чистотой, доступностью, правильностью, логичностью, точностью и т.д.

Разработка эффективных методов преподавания средств речевой выразительности (тропов и фигур), внедрение в учебный процесс различных педагогических технологий, дают возможность добиться наибольшей продуктивности в обучении. При подготовке к каждому занятию преподавателю необходимо поставить конкретные цели и задачи, которые реально достижимы в процессе занятия. На их решение должны быть направлены все виды работ, методы и приемы ведения занятия. В соответствии с этим также грамотно должны чередоваться типы и виды выполняемых заданий и упражнений.

По утверждению многих исследователей соблюдение последовательности в подаче языковых и коммуникативных упражнений имеет важное методическое значение. Основная задача подобных упражнений заключается в формировании нормативных речевых действий по использованию средств речевой выразительности в речи. С помощью таких упражнений проходит тренировка речевой деятельности, по правильной ориентировке и формулировке речевых действий с использованием средств речевой выразительности, вырабатывается умение осуществлять речевую деятельность на узбекском языке [3, 25-26].

Тем не менее, работа над ними требует от русскоязычных студентов относительно самостоятельного выбора единиц средств речевой выразительности, что связано с реализацией более сложных чем тех, мыслительных операций, которые осуществлялись обучающимися в процессе их первичного закрепления. Предполагается, что к концу данного этапа навыки и умения использования средств речевой выразительности узбекского языка должны быть достаточно прочными и устойчивыми.

Известно, что трудности в овладении средствами речевой выразительности узбекского языка состоят не столько в том, чтобы запомнить и сохранить их в памяти, а также и в том, чтобы уметь употреблять их в соответствии с ситуацией. В этих целях необходимо сформировать операции поиска и выбора средств речевой выразительности, для конкретного речевого высказывания, его замены, его преобразования, формирующие



умение выразить одну и ту же мысль различными выразительными средствами, комбинирования различных стилистических приемов, а также операций сопоставления выбранного средства речевой выразительности с задачами высказывания. Выполняя указанные упражнения, русскоязычные студенты оказываются перед необходимостью решения двух задач: во-первых, планирование высказывания и, во-вторых, отбор соответствующих средств речевой выразительности.

Термин «педагогическая технология» получил распространение в отечественной лингводидактической литературе в 60 - е гг. XX в. В 70 - е гг. толкование понятия расширилось и к нему стали относить фактически все основные проблемы дидактики, направленные на совершенствование учебного процесса. Такие исследователи, как Ш.А.Амонашвили, Н.Ф.Талызина, В.А.Сластенин рассматривают педагогические технологии с позиции научной организации труда педагога[4,740].

На современном этапе развития образования возникла необходимость обновления методов, средств и форм организации обучения. Педагогическая технология - это совокупность методов, приёмов, форм организации обучения и учебной деятельности учащихся, опирающихся на теорию обучения и обеспечивающих планируемые результаты. Основная цель педагогических технологий – организация взаимосвязанной деятельности учителя и учащихся, которая направлена на обеспечение планируемых результатов[5, 262].

Главными признаками педагогической технологии обучения можно считать четкую постановку перед обучающимися учебных целей и задач, осознание лично каждым учащимся значимости изучаемого материала, мотивацию учебной деятельности учащихся; построение последовательной поэтапной процедуры достижения целей и задач с помощью определенных средств обучения, активных методов и форм организации учебной деятельности учащихся; обучение на примерах и образах (по учебникам); выполнение указаний преподавателя; организацию самостоятельной работы студентов, направленную на решение проблемных учебных задач; широкое применение тестовых заданий для проверки результатов обучения. К особым чертам

технологии обучения относят: разработку целей обучения; направленность на гарантированное достижение учебных целей; оперативную обратную связь посредством диагностирующих проверочных работ; обязательную оценку текущих и итоговых результатов обучения; возможность повторения обучающих процедур любым преподавателем[4, 740].

На примерах рассмотрим несколько видов стандартных и нестандартных тестов, используемых нами при обучении средствами речевой выразительности узбекского языка студентов русских групп.

**Например:**

- 1). “Майсалар қикирлар бехосдан,  
Гулбаҳор келганин эшитиб.” **Ушбу шеърий парчада қандай маъно кўчиш усули қўлланган?**  
А) Метонимия  
Б) Синекдоха  
**В) Жонлантириш**  
Г) Вазифадошлик
- 2). **Қуйидаги гапларнинг қайси бирида жонлантириш иштирок этган?**  
А) Эрта тонгда қушларнинг чуғур-чуғури-ю баргларнинг шитир-шитири уйқумни қочирди  
Б) Қишлоқ ҳаёти жуда ёқимли, айниқса, қўй-қўзиларнинг мараши-ю, одамларнинг товушлари ҳаётнинг нечоғли серташвиш ва жўшқинлигини кўрсатади.  
**В) Мен сувларга қулоқ тутдим, мени ич деб ёлвордилар.**  
Г) Янчдим ўту-ўланларни ғирч-ғирч деган овоз келди.
3. Сени пайдо этиб бунча мукамал,  
Ҳайрат қилмасмикан ўзи табиат.  
 (“Ғазални севган қиз”). **Ушбу шеърий парчада қандай маъно кўчиш усули қўлланган?**  
А) антитеза  
Б) такрор  
В) эпифора  
**Г) инверсия**
4. Қоронғу кечада кўкка кўз тикиб,  
Ул ёруғ юлдуздан сени сўраймен,  
Ул юлдуз уялиб, бошини эгиб,  
Айтадир мен уни тушда кўрамен  
**Юқорида берилган парча қайси услуб намунаси эканлигини аниқланг.**  
А) сўзлашув  
Б) расмий  
**В) бадий**  
Г) илмий



5. “Бунда булбул китоб ўқийди,  
Бунда қуртлар ипак тўқийди,  
Бунда ари келтиради бол,  
Бунда қушлар топади иқбол.”

**Қуйидаги шеърий парчада қандай тасвирий воситалардан фойдаланилган?**

- А) Жонлантириш;
- Б) Муболаға;
- В) Кичрайтириш;
- Г) Киноя;

6. “Кузимизнинг гўзаллигин,  
Оғайнилар, кўрганмисиз?...  
Пахтазордан уюм – уюм Оқ олтинни  
ийққанмисиз?”

**Ушбу шеърий парчада қандай тасвирий воситалардан фойдаланилган?**

- А) Риторик сўроқ;
- Б) Метафора;
- В) Антитеза;
- Г) Гипербола;

7. Булутлар орасидан  
Қуёш кулиб қарайди  
Мажнунтолнинг ювилган  
Сочларини тарайди

**Берилган парчада қўлланган бадиий тасвир воситаларини топинг.**

- А) муболаға
- Б) сифатлаш
- В) ўхшатиш
- Г) жонлантириш

**Ностандарт тестлар**

**1. Атамаларга берилган мисоллар ўртасида мосликни топинг:**

1	Илмий услуб	А	-Дада, бугун жўрам билан кўришаман. Кеч қолсам, хавотир олманг. Аямгаям айтарсиз-а?
2	Бадиий услуб	Б	Метафора -(грекча - кўчириш): нутқий таъсирчанликни оширувчи воситалардан бўлиб, ўхшатишнинг турларидан биридир.
3	Сўзлашув услуби	В	2019-йил 21-октябрь куни Тошкенткимё-технологиялари Ўзбек тилига Давлат тили мақоми берилганининг 30йиллигига бағишланган “Сен миллат мулкисан, она тилим!” деб номланган байрам тадбири бўлиб ўтади. Сизларни байрам тадбирига таклиф қиламиз.
4	Оммабоп услуб	Г	Агар ҳаёт бўстон эса, боғбон муаллим, Агар ҳаёт карвон эса, сарбон муаллим. Агар ҳаёт олтин бўлса, заргар муаллим, Агар ҳаёт денгиз бўлса, гавҳар муаллим.
5	Расмий-идоравий услуб	Д	Тил – миллат вакиллари мустаҳкамбирлаштирувчи, тутиб турувчи белбоғ. Бу рамзий белбоғнинг кучи, қудрати сиз-у бизларнинг она тилимизга бўлган муносабатимизга боғлиқ.

1	2	3	4	5

**Тўғри жавоб:**

1	2	3	4	5
Б	Г	А	Д	В

**2. Атамаларга берилган таърифлар ўртасида мосликни топинг:**

1	Риторик сўроқ.	А	...- гр. қарама-қарши қўйиш маъносини англатади мумтоз адабиётда тазод дейилади.		
2	Антитеза	Б	Фикр фақат сўроқ шаклида ифодаланиб услубий маъно кучайтирилади, аммо сўроққа жавоб талаб қилинмайди.		
3	Сифатлаш	В	...- юқорига кўтарилиш деган маънони билдиради		
4	Ўхшатишлар	Г	... - лотинча сўз бўлиб, ерi – кейин, foros – маъно демақдир.		
5	Эпифора	Д	-...лар нутқнинг таъсирчанлигини оширишда муҳим омил саналади.		
6	Анафора	Е	- грекча сўз бўлиб, “изоҳловчи” деган маънони англатади.		
1	2	3	4	5	6

**Тўғри жавоб:**

1	2	3	4	5	6
Б	А	Е	Д	Г	В

**3. Тушунчалар изоҳини мослаштиринг.**

Тушунчалар изоҳи	жонлантириш	сифатлаш	троп	метонимия
....(гр. айланиш сўзидан) –кўчим. Бирор нарса ёки ҳодисани ифодалаш учун сўз ёки сўз бирикмаларининг ўз маъносидан бошқа маънода қўлланишини англатувчи тушунча.				
....юнонча сўз бўлиб, “янги ном қўйиш”, “номиниўзгартириш”, “қайта номлаш” маъноларини ифодалайди.				
.... инсонга хос хусусиятларни жонсиз ва мавҳум нарсаларга, ҳодисаларга нисбат бериб тасвирлашдир.				
....грекча сўз бўлиб, “изоҳловчи” деган маънони англатади. Киши, нарса ёки воқеанинг бирор белгисини, сифатини ифодалаш сифатлаш ҳисобланади.				



**Тўғри жавоб:**

Тушунчалар изоҳи	жонлантириш	сифатлаш	троп	метонимия
.....(гр. айланиш сўзидан) –кўчим. Бирор нарса ёки ҳодисани ифодалаш учун сўз ёки сўз бирикмаларининг ўз маъносидан бошқа маънода қўлланишини англлатувчи тушунча.			+	
.....юнонча сўз бўлиб, “янги ном қўйиш”, “номиниўзгартириш”, “қайта номлаш” маъноларини ифодалайди.				+
..... инсонга хос хусусиятларни жонсиз ва мавҳум нарсаларга, ҳодисаларга нисбат бериб тасвирлашдир.	+			
....грекча сўз бўлиб, “изоҳловчи” деган маънони англатади. Киши, нарса ёки воқеанинг бирор белгисини, сифатини ифодалашни сифатлаш ҳисобланади.		+		

А также можно предоставить студентам интеллектуальное произведение “*Superthinking*” говорит о семи деталях карты, в которой с помощью слова, словосочетаний и картинок можно выразить основную мысль. Исследования показывают, что Иллюстрации помогают обучающимся лучше запомнить данный материал. Данный график-органайзер позволяет преподнесенный материал в форме схемы и активизировать учебный процесс, и в отличие от символов, он легко запоминается. Вместо двадцати традиционных занятий интерактивные методы и страниц, достаточно написать двадцать ключевых предложения повышают уровень эффективности преподавания.

Эта технология с английского “mindmap” означает “интеллект-карта”. Т.Бьюзен в своем





Педагогическая технология во многом ориентирована на обучение репродуктивного типа. Для нетрадиционных технологий характерны: интенсивная подача материала, активная позиция и высокая степень самостоятельности обучающихся, постоянная внутренняя обратная связь (самоконтроль), диалогичность. Они, собственно, вбирают и развивают и многие черты эффективного традиционного обучения. Вот почему их лучше называть современными технологиями[5, 262].

Таким образом, для того, чтобы овладеть необходимыми для построения речевого высказывания средствами речевой выразительности, необходимо научить студентов воспринимать, интерпретировать их адекватно замыслу говорящего и передавать определенную информацию с широким их использованием.

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## ELEMENT OF COMPETITION IN THE CLASSROOM ON RUSSIAN LANGUAGE

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### ANNOTATION

*This article discusses issues related to effective teaching of students in Russian classes.*

**KEY WORDS:** *educational process, games, effectiveness, subject matter.*

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## ЭЛЕМЕНТ СОРЕВНОВАНИЯ НА ЗАНЯТИЯХ ПО РУССКОМУ ЯЗЫКУ

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### Аннотация

*В данной статье рассматриваются вопросы, связанные с эффективным обучением студентов на занятиях по русскому языку.*

**Ключевы слова:** *учебный процесс, игры, эффективность, тематика.*

### DISCUSSION

One of the ways to develop cognitive interest associated with the use of the emotional factor of communication is to introduce an element of competition into the educational process.

The stimulating influence of the introduction of competition in the educational process is explained by the action of the approximate research reflex inherent in each individual, which is manifested in this case in the form of a desire for self-affirmation and self-expression. Training activities in competition are motivated by the desire to understand as much as possible, to perform the task better, to Express your thoughts more accurately. An element of competition can be introduced into all speech actions of the

trainees, thereby stimulating their initiative in performing speech actions and their interest in achieving the goal of these actions.

When you add a competition element, completing tasks turns into a kind of game, a game with a competition element.

The effectiveness of using games-competitions in the educational process at the Institute, in particular in the process of mastering a second language by students, is that they, raising the emotional tone of students, contribute to the successful completion of tasks, causing such motivating forces as initiative and motivation of actions, facilitate the performance of difficult tasks, the solution of complex cognitive tasks.



Especially valuable is the use of game suggestions when generalizing, repeating and fixing the material of a certain thematic cycle of classes. The competition element can also be entered in the performance of independent homework. For example, you can arrange a competition between students in order to find and write out more examples of the use of certain constructions in textbooks on the specialty in Russian, select more Proverbs, sayings or riddles with a phrase of a certain form, and so on. These tasks encourage students to review a large number of materials on the specialty in Russian, pay attention to the language form of these materials.

Competition in who will respond better and more correctly to the teacher's remark, build their utterance more fully and correctly depending on a particular speech situation, encourages students to mobilize attention, implement all their speech skills.

Using the element of competition, you can put in the form of a game the process of performing many exercises aimed at developing productive speech actions.

For example, in the game "guess-ka", the teacher hides a card on which a certain phrase from the studied text is written. Trying to guess it, students name a lot of similar phrases.

Several games with a competition element that can be used when pinning and repeating any topic:

1. Who will find more?

Competition in finding structures of a certain shape in dictionaries, texts, articles, and other materials.

2. The hidden question.

One of the students (the driver) leaves the classroom for a few minutes. At this time, the teacher writes a question on the Board that the players should remember and quickly erases it. The driver comes in: everyone he addresses must give their own version of the answer to this question. According to the answers, the driver must guess the hidden question. The driver is replaced by the one whose answer he guessed the question. The game is repeated.

Another version of this game: the driver, hiding the card with the question, gives the answer to it. Based on the content of this answer, students should guess which question is written on the card.

Not individual students, but small groups can compete in the successful completion of the task.

Several games for group competitions:

1. Relay race.

Each group receives a card with a task: write a phrase with a specific word, write a phrase, or continue the story by adding a phrase that matches the meaning. The student, after receiving the card, completes the task and passes the card on.

Each of the students has the right to write one phrase, phrase or sentence. The group that completes the task faster and with fewer errors wins.

2. Who is better?

Groups compete with each other in who is better and faster to write a characteristic of one of the students, a letter to friends, a memo, the minutes of the meeting.

Students are very interested in quizzes. It is desirable to conduct quizzes after studying certain thematic cycles.

The group is divided into two teams. The teacher offers students questions, the answer to which must be found independently, and in the course of the game to ask members of the opposing team. Students come up with some of the questions themselves. At the game itself, students collectively discuss the questions asked, and then one of them gives an answer. The head of the game is appointed, he gives tasks, counts the correct answers and summarizes the results.

These and other similar games not only help to stimulate interest in the Russian language, but also foster such valuable qualities as a sense of camaraderie and mutual support. Weak students, joining the General rhythm of the competition, overcoming self-doubt, begin to work more successfully, try not to make mistakes and complete tasks faster.

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## ASSESSMENT OF LEARNING OUTCOMES AND FEEDBACK

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### ANNOTATION

*The purpose of this article is to clarify some key terms that we use, discuss some earlier reviews that define the baseline on which our research is based, discuss some aspects of the methods used in our work, and finally, introduce the structure and the rationale for the subsequent sections.*

**KEY WORDS:** *evaluation of results, feedback, written answer, English.*

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## ОЦЕНКА РЕЗУЛЬТАТОВ ОБУЧЕНИЯ И ОБРАТНАЯ СВЯЗЬ

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### Аннотация

*Цель данной статьи состоит в том, чтобы уточнить некоторые ключевые термины, которые мы используем, обсудить некоторые более ранние обзоры, которые определяют базовую линию, на которой основано наше исследование, обсудить некоторые аспекты методов, используемых в нашей работе, и, наконец, представить структура и обоснование последующих разделов.*

**Ключевые слова:** *оценка результатов, обратная связь, письменный ответ, английский язык.*

### DISCUSSION

Recent years one of the most famous features of studies of assessment has been the modification in the focus of attention, towards greater interest in the interactions between assessment and classroom learning and away from concentration on the properties of restricted forms of test which are only weakly linked to the learning experiences of students. This move has been coupled with many expressions of hope that improvement in classroom assessment will make a strong contribution to the improvement of learning. So one main purpose of this review is to survey the evidence which might show whether or not such hope is justified. A second

purpose is to see whether the theoretical and practical issues associated with assessment for learning can be illuminated by a synthesis of the insights arising amongst the diverse studies that have been reported.

The purpose of this Introduction is to clarify some of the key terminology that we use, to discuss some earlier reviews which define the baseline from which our study set out, to discuss some aspects of the methods used in our work, and finally to introduce the structure and rationale for the subsequent sections.

Evaluation of educational results is an important means of stimulating students' learning activities. As practice shows, attempts to exclude





controlling the activities of a student in whole or in part from the educational process lead to a decrease in the quality of education. Today, the functions of pedagogical assessment are not limited only to identifying the shortcomings of the organization of the educational process, but are considered as its critical analysis, conducted to improve learning outcomes and improve the quality of education. Here it should be pointed out, assessment and feedback associate together and they are tandem.

Feedback is widely seen as crucial for encouraging and consolidating learning, and this significance has also been recognised by those working in the field of second language (L2) writing. Its importance is acknowledged in process-based classrooms, where it forms a key element of the students' growing control over composing skills, and by genre-oriented teachers employing scaffolded learning techniques. In fact, over the past twenty years, changes in writing pedagogy and research have transformed feedback practices, with teacher written comments often supplemented with peer feedback, writing workshops, conferences, and computer-delivered feedback. But while feedback is a central aspect of ESL/EFL writing programs across the world, the research literature has not been unequivocally positive about its role in writing development, and teachers often have a sense that they are not making use of its full potential. In this paper we examine recent research related to feedback on L2 students' writing, focusing on the role of feedback in writing instruction and discussing current issues relating to teacher written and oral feedback, collaborative peer feedback and computer-mediated feedback.

Feedback has long been regarded as essential for the development of second language (L2) writing skills, both for its potential for learning and for student motivation. In process-based, learner-centred classrooms, for instance, it is seen as an important developmental tool moving learner through multiple drafts towards the capability for effective self-expression. From an interactionist perspective it is regarded as an important means of establishing the significance of reader responses in shaping meanings (Probst 1989). In genre classrooms feedback is a key element of the support provided by the teacher to build learner confidence and the literacy resources to participate in target communities. In fact, over the past twenty years, changes in writing pedagogy and insights gained from research studies have transformed feedback practices, with teacher written comments now often combined with peer feedback, writing workshops, oral-conferences, or computer-delivered feedback. Summative feedback, focusing on writing as a product, has generally been replaced or supplemented by formative feedback which points forward to the student's future writing and the development of his or her writing processes.

But while feedback is a central aspect of L2 writing programs across the world, the research literature has not been plainly positive about its role in writing development, and teachers often have a sense that they are not making use of its full potential. Many questions relating to feedback remain unanswered or only partially addressed: Does it make a difference to students' writing? If so, in what areas? What is the best way of delivering feedback? Can error correction and form focused feedback have long term benefits on students' writing? Can technology play a greater part in delivering feedback? What role can peer feedback play in writing development? How far does culture play a part in student responses to feedback? How can teacher feedback enhance students' ability to independently reflect on their writing? What are the implications of feedback for teacher control and text appropriation? This paper reviews recent research which addresses these questions by focusing on teacher written and oral feedback, peer conferencing and computer-mediated feedback. The volume of this research means that we are forced to focus on L2 learners of English, although the issues are common to studies of learners of other languages.

#### Teacher written feedback

Despite increasing emphasis on oral response and the use of peers as sources of feedback, teacher written response continues to play a central role in most L2 and foreign language (FL) writing classes. Many teachers feel they must write substantial comments on papers to provide a reader reaction to students' efforts, to help them improve as writers and to justify the grade they have been given (K. Hyland 2003). Research in the 1980s and early 1990s, however, began to question the effectiveness of teacher feedback as a way of improving students' writing. Early research on native English speakers (L1) suggested that much written feedback was of poor quality and was frequently misunderstood by students, being vague, inconsistent and authoritarian, overly concerned with error and often functioning to appropriate, or take over, student texts by being too directive.

A substantial amount of the research on teacher written feedback in L2 writing contexts has been concerned with error correction and whether this benefits students' writing development. Research in this area has sought to explore whether error correction is effective and what strategies and treatment steps are used for error correction, and to discover the effects correction has on students' immediate revisions and their longer term development as writers. Another key area of investigation has been the stance teachers take towards students' texts and the relationship they build with their learners when giving feedback. It has long been recognised that teachers approach texts with a number of



different purposes in mind and that these may change with different assignments, different students and different drafts (Bates, Lane & Lange 1993). Thus commentary on a draft is likely to serve more immediate pedagogical goals than that given on a final product, for instance, and process approaches mandate that teachers should comment on ideas in earlier drafts and on grammar in later drafts (e.g. Zamel 1985). Several researchers have observed, however, that because meaning is only realised through language, the content-form distinction creates a false separation.

One key variable here is the type of error feedback that is given, and a number of researchers have compared direct feedback, where the teacher makes an explicit correction, with indirect forms where he or she simply indicates that an error has been made by means of an underline, circle, code, etc. The role of explicitness in student uptake, or response to feedback, is important as while indirect error feedback may encourage learner reflection and self-editing (Lalande 1982), lower proficiency students may be unable to identify and correct errors even when they have been marked for them (Ferris & Hedgcock 2005). Findings on feedback type have been conflicting, largely due to the widely varying student populations, types of writing and feedback practices examined and the diverse research designs employed. For example, in assessing and giving feedback for future lawyers students, the important notion that should be pointed out, we always pay great attention to their critical thinking abilities and surely, the type of their writing research. Particularly, case study and giving legal advice to the issues are the right tool to enhance the abilities and skills. Undoubtedly, assessment and giving feedback play the vital role in adapting knowledge and boost future proficiency of learners. The concept of appropriation has been redefined with the suggestion that assumption can go in two directions. Appropriation of teacher feedback can be an active strategy used by novice academic writers as they develop their own voices and their familiarity with different genres. Commentary on a writing is expected to serve more immediate pedagogical objectives and these feedback should serve for positive results.

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## SIGNIFICANCE USE OF INFORMATION TECHNOLOGIES IN EDUCATIONAL INSTITUTIONS

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### ABSTRACT

*Use information technology and network internet is considered In article in educational discipline.*

**THE KEYWORDS AND TERMS:** *Information technologies, use information technology in educational discipline, Remote technologies, interactive interaction trained.*

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### ЗНАЧЕНИЕ ИСПОЛЬЗОВАНИЕ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ В ОБРАЗОВАТЕЛЬНЫХ УЧРЕЖДЕНИЯХ

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### Аннотация

*В статье рассматривается использование информационных технологий и сети интернет в образовательных дисциплинах.*

**Ключевые слова и термины:** *Информационные технологии, использование информационных технологий в образовательных дисциплинах, Дистанционные технологии, интерактивное взаимодействие обучаемого.*

### DISCUSSION

The rapid development of new information technologies and their introduction in our country left an imprint on the development of the personality of modern young people. Today, a new unit — the computer — is being introduced into the modern traditional school scheme “teacher-student-textbook”, and computer learning is introduced into the school consciousness. One of the main parts of the informatization of education is the use of information technology in educational disciplines.

Information technology penetrates deeper into human life, and information competence increasingly

determines the level of his education. Therefore, it is necessary to develop an information culture from an elementary school, because an elementary school is the foundation of education, the success of a student and then a graduate in the modern world who will live and work in the current millennium in a post-industrial society depends on what this foundation will be. He must be able to independently, actively act, make decisions, flexibly adapt to changing living conditions.

Information becomes one of the main productive resources, the foundation for the development of the economy and society as a whole. In the information



society, a high degree of education becomes a priority. Only highly educated people are able to effectively use information as a powerful productive resource. The situation of the “Information Explosion” requires each member of the society to constantly update their knowledge. “Education for life” is not enough for a person; he needs “education for life”. Training objectively becomes continuous. The nature of the learning process itself changes significantly.

For modern Uzbekistan, the accelerated modernization of educational technologies is even more relevant, since the potential of the national education system is a resource that provides a real opportunity for an innovative breakthrough to a higher level of economic development. The use of information technology in training that is consistent with the world level is the only possible way today for the progressive development of the domestic education system.

Remote technologies are considered as promising in creating a system of pedagogical personnel for a market economy. The Commission of European Cooperation, various international development and support funds have expressed interest in developing distance learning in Uzbekistan and consider it as one of the important areas of project financing. The global trend of informatization of education has also begun to be recognized in the pedagogical community of Uzbekistan. A number of programs for the development of distance education are being developed.

The President of the Republic of Uzbekistan Shavkat Mirziyoyev paid great attention to the wider implementation and development of ICT, including in the educational process. This is one of the fundamental tasks of the Law on Informatization. Indeed, the effective use of information technology plays an important role in improving the quality of student learning content, organizing education at the level of modern requirements, enriching and updating information on general and professional subjects.

Distance learning technology can be defined as a system of means, methods and forms of training for the replicated implementation of a given educational content. In other words, we can say that the technology of distance learning is a form of organization of the educational process, which provides interactive interaction between the learner and the teacher at a distance using open access channels.

In the process of implementing distance learning technology, traditional and innovative learning tools that are based on the use of various computer equipment and other new information technologies can be used.

In distance learning, such teaching aids as printed books, teaching materials, reference books

and encyclopedias, sound materials, computer programs, didactic video materials, electronic textbooks and encyclopedias are used.

Electronic textbooks are copies of printed publications and have several advantages over printed ones: compact storage of educational material; long-distance transmission using modern technical means; the ability to make changes to the content. Sound and video materials can also be used in other learning technologies. They are educational films, classroom recordings.

With the advent of computer networks and other similar ICT tools, education, on the one hand, has lost its monopoly on education, on the other hand, it has acquired a new quality, associated primarily with the ability to quickly receive information from anywhere in the world. Through the global computer network the Internet instant access to world information resources (electronic libraries, databases, file storages, etc.) is possible.

Other common ICT tools are available on the network, including email, lists, newsletters, newsgroups, and chat. And my students every day, coming home from college, together with their parents, and often travel independently on the Internet. Therefore, as a teacher, I need to be able to master modern methods and new educational technologies in order to communicate with my students in the same language, to be a guide, and even to remain a TEACHER here. Before using ICT and Internet technologies in our activities, we asked ourselves questions: Why do I need to use ICT and Internet technologies ?.

Any question finds the answer:

1. Saving time in the lesson;
2. Depth of immersion in the material;
3. Increased motivation for learning;
4. The ability to simultaneously use audio, video, multimedia materials; attraction of different types of activity: to think, argue, reason; communication with colleagues; communication with parents;

What will this give our students?

1. ICT provides wide access to educational, methodological and scientific information;
2. ICT facilitates the organization of operational consulting assistance, conducting virtual training sessions;
3. ICT promotes student achievement in the subject;
4. ICT allows students to prove themselves in a new role;
5. ICT forms the skills of independent productive activity;
6. ICT helps create a success situation for each student.



7. ICT makes classes interesting and develops motivation.

8. The ability to do remotely via the Internet.

Nowadays, thanks to the development of the Internet, new tools and means are coming into teaching practice with which teachers can increase the level of pedagogical skill and expand the educational space.

Why not use these opportunities for educational purposes? Moreover, to make sure that the capabilities of the Internet can be used to expand the educational space, both teacher and student. Teacher communities have been created on the Internet for a long time, where each teacher has the opportunity to create his own blog, and this is one of the forms of Internet communication. A teacher's blog is a collection of teaching material.

The technology of creating a blog allows you to place collections of copyrighted educational and methodological materials, audio and video materials, links to necessary and interesting sites on your own pages. By creating a blog, the teacher receives a methodological tool for interacting with students, their parents and fellow teachers. I would like to share my experience in using Internet technologies and talk about where you can create a personal blog and website, and how teachers can use it in their work. Based on the experience of communication in online communities, the professional activities of teachers can be conditionally divided into two components:

This is, first of all, activities aimed at students in order to expand the educational space; the development of interest in the subject, the development of their thinking, creativity, collectivism. The teacher can organize his students to participate in distance contests, quizzes, contests, network projects;

The second area of professional activity of teachers in the network is activity aimed at teachers themselves, self-education, activities related to advanced training. In this case, the teacher's blogging and site management can and should become a way of self-expression and one of the methods of awareness of their own professional competence.

Thus, the support of the educational process by Internet technologies forms students' skills in working in a global network and, as a result of this, forms creative thinking. Distance learning technology as a way to obtain education solves the problem of providing all sectors of the population with affordable and at the same time quality education. The student is almost not limited by the time frame for obtaining information.

Students study as much as they need to study the course in their chosen specialty. Training can be carried out in free time from professional activity and at a great distance from the educational institution. In

distance learning, new information technologies are used that simplify the learning process.

The capabilities of the information environment provide the implementation of the necessary conditions for the formation of independence and the need for continuous self-education. These qualities are currently the key to success and demand for graduates in the labor market.

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# THEORETICAL APPROACHES OF TEACHING LATIN LANGUAGE AND MEDICAL TERMINOLOGY TO FOREIGN STUDENTS

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## ABSTRACT

*This article looks at some aspects of teaching Latin language and medical terminology to the students who come from overseas.*

**KEY WORDS-** *Latin, medical terminology, phonetics, grammar, vocabulary*

## FOREWORD

Historically, for many centuries, Latin language, which absorbed the lexical and derivational wealth of the ancient Greek language, has played an essential role in the professional activities of doctors, pharmacists, biologists. The alphabet, phonetics, morphological, word-building, syntactic and lexical resources of Latin language continue to function actively as a supranational sign system in the languages of different sciences and areas of scientific knowledge. As Latin, expression says "Invia est in medicina via sine lingua Latina" which means "Without Latin the way for medicine is impassible".

## THE ACTUALITY OF THE SUBJECT

Teachers of Latin language at the higher medical school have extensive experience working with students who studied Latin through Russian or Uzbek language as an intermediary. However, teaching Latin without an intermediary language in an English-speaking audience is another thing. In countries with English and Roman languages, doctors write terms in Latin language, neglecting only the norm of Latin grammar. Since we know that English is rooted in Latin and that Latin has had a significant influence on English through French, because of the conquest of England in the 11 th century by French Normans. Many words have been taken by English language during the Renaissance and directly from Latin, so foreign students easily learn lexical material with virtually no translation and mechanical memorization.

The task of the teacher is to develop such techniques in the learning process so that English language is used as an assistant, and not an interfering enemy. Studying Latin language at a medical university involves the study of phonetics, grammar, vocabulary, and terminology. The main point of theoretical and

practical studies of the intensification of teaching foreign languages in general, and Latin language in particular, is the so-called comparative method (consciously-comparative method), which has become widespread.

The essence of this method is that the comparison of English and Latin in methodological and linguistic terms at certain stages in the development of methodological and linguistic thoughts of students not only effectively correlate, but stimulate each other. [4] It should be emphasized that English language is the basis of comparative method of teaching Latin language. In the teaching Latin language with the help of comparative method, one should pay attention to the following sections:

### 1. Phonetics.

Phonetics in the language system is one of the areas of linguistics, the subject of which is the study of sounds. L. V. Shcherba formulated the concepts of phoneme: "In living speech, there is a significantly greater number of different sounds than we usually think, which in each given language are combined into a relatively small number of sound types able to differentiate words and their forms, that is, serve the purposes of human communication." Undoubtedly, the mastery of Latin language must begin with the study of the phonetic system of this language. The important thing in mastering the sounds of Latin language is the comparison of the sounds of the native and foreign languages, since the content of phonetics training contains sounds that are most difficult to master based on the similarity of sounds with the native one.

For students from India and Pakistan, English is considered as a native language along with Hindi and Urdu, and fluency in English is a factor that must be used to intensify and optimize the educational process, given the fact that in the process of learning Latin



language difficulties inherent in interfering influence of English language.

The main task of the phonetic section is to develop students' reading skills. This problem can be solved in a short period only through massive reading. Therefore, one should go through the entire alphabet of Latin in more detail. In the educational process, where students begin to learn Latin from the beginning, one must first introduce sounds that have no analogues in English language, and learn sounds that have a correspondence in their native or other language passively.

Among the phonetic exercises, one can deserve special attention: exercises for the development of phonemic hearing, exercises in learning the correct way of stress; complex exercises for reading anatomical terms, written exercises in Latin letters. The following exercise system for the development of speech hearing has proven effective:

1. Read aloud.
2. Read the following words, paying particular attention to vowels
3. Read the following words, paying particular attention to the vowels [i], [j]
4. Read the following words, paying particular attention to digraphs and diphthongs
5. Read the following words, with particular attention to consonants [s], [ʃ], [l], [x], [z]
6. Read the following words, paying particular attention to the letter combination [ch], [ph], [qu], [rh], [th], [ngu], [ti]:
7. Read the following words, paying particular attention to the consonants [qu] and [ngu]

After phonemic hearing training, exercises are used to develop the ability to correctly pronounce Latin sounds.

1. Exercises for the correct reading of specialist terms.
2. The repetition of anatomical terms in front of teacher.
3. Demonstration of cards with sounds and the correct logical stress. [2, p.14]

The proposed exercises or their elements for the development of phonetic skills can be used both in comprehensive pronunciation training, and to maintain the pronunciation skills of students in Latin language.

## 2. Grammar of Latin language

Difficulties may arise when studying the grammar of Latin language. Latin, like Russian, is

predominantly synthetic. This means that grammatical categories are expressed by inflection (declension, conjugation), and not functional words. In Latin, there are six cases:

- Nominative (nominatives);
- Genitive ( genitivus);
- Dative ( dativus);
- Accusative (accusativus);
- Ablative( ablativus);
- Vocative ( vocativus).

There are three genders in Latin language, like in Russian:

- Masculine (genus masculinum),
- Feminine (genus femininum),
- Neuter (genus neutrum). [2, p.28]

When teaching Latin, unlike English, it is important to know the vocabulary forms of nouns and adjectives, since translation from English into Latin depends on knowledge of the vocabulary form and non-matching of two nouns or matching of adjectives and nouns. Anatomical terms can consist of one, two, three, four or more words. For example:

- costa (rib), costae (ribs)
- corpus vertebrae (body of vertebra)- two nouns, singular
- corpōra vertebrarū (bodies of vertebrae)- two nouns, plural
- vertebrathoracica (thoracic vertebra)- nouns and adjectives
- ligamentum tuberculi costae (ligament of tubercle of rib) – three nouns, singular. [2, p.27]

Students may have difficulty translating verbose anatomical terms. In this case, one should pay attention to learning the word order, gender, declensions and cases. Also, unlike Latin language (except III declension), the gender of English nouns cannot be determined by the end of the word. In English, only lexical meaning or context can often identify it. This means that for a foreign student, the task is to correctly identify nouns by gender for proper coordination with adjectives in the future.

## 3. Vocabulary of Latin language.

When studying vocabulary in anatomical terminology, students see how much Latin has firmly entered English language. So already at the first obligatory lexical minimum, foreign students do not experience difficulty with following words:

Table 1.

Latin:	English:	Latin:	English:
patella, ae f	patella	vertebra, ae f	vertebra
sutura, ae f	suture	arteria, ae f	artery
tuba, ae f	tube	crus, cruris n	crus
angulus, i m	angle	cavum, i n	cavity
aorta, ae f	aorta	concha, ae f	concha
vena, ae f	vein	cornu, us n	corn
arcus, us m	arch	crista, ae f	crest



However, recognition of common root words during listening is not as simple as when reading due to differences in pronunciation in English and Latin. Therefore, in the formation of a mechanism for recognizing common root words in speech, special exercises are necessary, first with visual support, then

without it. The names of adjectives in languages also appeared because of the subjective perception of the world by native speakers. This is especially true for adjectives. In addition, there are adjectives, the meaning of which is clear to students who speak English:

Latin:	English:
pterygoideus, a, um	pterygoid
cervicalis, e	cervical
frontalis, e	frontal

From all of the above it follows that in terms of perception and understanding of the lexical material of Latin language, students who speak English at the level of their native language have practically no problems.

When studying medical terminology, foreign students also do not experience great difficulties. The vocabulary of English contains a huge amount of borrowings from Latin and Greek languages. English medical terms are identical in sound and almost coincide graphically:

Latin:	English:
hypertonia	hypertonia
oliguria	oliguria
heimatoma	hematoma
microsplenia	microsplenia

Latin:	English:
Extractum, i n	an extract
aerosolum, i, n	an aerosol
granulum, i, n	a granule
Adrenalinum, i, n	adrenaline
Amidopyrinum, i, n	amidopyrine
Dibazolium, i, n	dibazol

Particular attention should be paid to the pronunciation of the -um ending, which is very common in pharmaceutical terminology: foreign students often ignore it when pronouncing medicinal plants, dosage forms, drugs, medicines:

## CONCLUSION

From the above-mentioned, we can conclude that with a comparative method in the process of studying Latin language based on English as a native, mechanics with a high level of students' analytical activity and ease of transfer of mastered analytical operations to new language material occurs. Such a method in mastering Latin language fully complies with the requirements of modern linguistics, namely, the transition from language learning as a set of forms and means to an integral, conscious, logically justified learning of a new language.

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## PROBLEMS OF CLASSIFICATION AND CERTIFICATION BY CHEMICAL COMPOSITION OF SOME FUNGICIDES AND HERBICIDES

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### ANNOTATION

*This article gives the types, meaning, application and classification of fungicides and herbicides. The role of the International Convention on the classification of goods, the significance of the State chemical Commission, as well as suggestions for improving their classification and certification of these substances in the commodity nomenclature of Foreign economic activity (HS code).*

**KEY WORDS:** *pesticide, herbicide, fungicide, plant pathogenic fungi, commodity nomenclature of foreign economic activity, position, subitem, sub-subitem, ingredient, indicator.*

### INTRODUCTION

More than 1.5 thousand different chemicals (herbicides, fungicides, insecticides, acaricides, defoliants, stimulants, regulators, etc.) allowed in agriculture are included in the book: "List of pesticides and agro chemicals allowed for use in agriculture of the Republic of Uzbekistan" in the 2017 edition of the State Commission on chemistry and plant protection under the Cabinet of Ministers (State chemical Commission). (And also play an important role in monitoring agricultural land in the alienation of protected areas). [1]

Most herbicides and fungicides from this list that are allowed for use for 5 years (they must alternate due to the adaptation of microorganisms to drugs) come from many countries of the world, including Germany, Japan, India, the United States, Russia, China, Denmark, and are also produced by LLC "Ifoda", "Inok Nur Baraka", "Samo farm service" and others. republic of Uzbekistan.

Since hundreds of new types of herbicides and fungicides are currently being produced, and when the global chemical industry supplies more than 250 types of herbicides and more than 300 types of fungicides to agricultural markets, it is necessary to systematize them for effective use in agriculture, develop modern methods of classification and certification for their chemical composition. [2]

The international Convention on the harmonized commodity description and coding system was adopted in order to promote international trade, simplify fees, reduce the cost of re-describing, classifying and coding goods when they move from one classification system to another in the process of international trade, promote the standardization of foreign trade documentation and the transmission of statistical data.

### OBJECTIVES

Study of the chemical composition, physico-chemical and Toxicological properties, as well as classification of herbicides and fungicides according



to the HS code. Based on the research, proposals for improving the classification and accelerated methods of certification of these drugs as a product are planned.

## METHODOLOGY

The research material is herbicides and fungicides that are used in the fight against weeds and phytopathogenic fungi. The research uses modern analytical methods to determine the chemical composition (active substance and other ingredients) of herbicides and fungicides.

In the commodity nomenclature of foreign Economic activity (HS code), adopted on June 14, 1983 in Brussels by the International Convention on the harmonized system of description and coding of goods for determining their marketability, they are classified in 38 groups and there are only a few sub-items.

It becomes clear that over the next 50 years, new generations of herbicides and fungicides have appeared on the world agricultural market, which are exported and imported as goods, but there are no corresponding codes for them.

When classifying goods, other than certain properties (net weight, packaging), their other characteristics or trademarks, such as the amount and mechanism of the active substance in the product, the impact on the environment, and others are not used. For example, the most commonly used fungicides are assigned multiple places in group 38 based on position 3808. Despite the fact that fungicides have now been developed, containing dozens of new types of organic substances and hundreds of different additives.

In addition, we must take into account the risk of many problems when the chemical composition of the ingredients in the product is not fully understood and it is bad that the composition of the substances is not considered their brand secrets. This is confirmed by the fact that sometimes there are cases of poisoning of animals and people with food products where chemicals are used.

It cannot be said that the classification and certification of agricultural products in Uzbekistan meets the requirements of the international standard.

If you need to know the quality and quantity of the product, the information may be insufficient due to the lack of verification methods in both the State sanitary and epidemiological station and the State Department of standardization. After all, even in these local organizations, there are not enough modern accelerated methods for determining the quantitative and qualitative analysis of products, as well as devices for research.

It would be advisable to study the simplest, fastest and cheapest methods of chemical analysis of ingredient classification based on the chemical composition of ingredients used in agriculture and introduce ways to implement them in Uzbekistan.

At the same time, it is necessary to provide industry representatives with convenient and acceptable methods for classifying and standardizing products based on their chemical composition and, as far as possible, using harmless substitutes, which can serve as a basis for conducting scientific research.

One of the solutions to this problem may be scientific research and its results, conducted by the honored inventor of Uzbekistan, President of the Academy of folk medicine of Uzbekistan, doctor of chemical Sciences, Professor I. R. Askarov. He is the founder of the science of chemistry 02.00.09 - "Chemistry of goods", which was born in Uzbekistan.

Herbicides by their effects on plants are divided into mass-acting (affecting all plant species in one field) and selective (only those groups that affect one plant and do not harm another). Herbicides of the first group are used in industrial facilities, airfields, Railways and highways, under high-voltage power lines, around drainage channels and in other places, while herbicides of the second group are used to protect cultivated plants from weeds [2].

They affect the cell membrane, meristem tissue, the process of cell mitosis, the light phase of photosynthesis (hill reaction). Some herbicides damage the cambium, and some slow down cell differentiation.

## STATISTICAL DESIGN

The classification of fungicides and herbicides as products is shown in the following table.





Classification of fungicides and herbicides by HS code (version 2017)

HS code	Name position
3808 52 000 0	-- ISO (clophenotane), in packages with a net weight of no more than 300 g
3808 59 000 0	-- other
3808 61 000 0	- goods mentioned in the note to subheadings 2 to this group: -- in packages with a net weight of not more than 300 g
3808 62 000 0	-- in packages with a net weight of more than 300 g, but not more than 7.5 kg
3808 69 000 0	-- other
3808 91	-- insecticides
3808 92	-- fungicides:
3808 92 100 0	--- inorganic:
3808 92 200 0	---- preparations based on copper compounds
3808 92 300 0	---- other
3808 92 400 0	--- other:
3808 92 500 0	---- based on dithiocarbamates
3808 92 600 0	---- based on benzimidazoles
3808 92 900 0	---- based on diazoles or triazoles
3808 93	---- based on diazines or morpholines
	---- other
3808 93 110 0	-- herbicides, anti-sprouting agents and plant growth regulators:
3808 93 130 0	--- herbicides:
3808 93 150 0	---- based on phenoxyphytohormones
3808 93 170 0	---- based on triazines
3808 93 210 0	---- based on amides
3808 93 230 0	---- based on carbamates
3808 93 270 0	---- based on dinitroaniline compounds
3808 93 300 0	---- based on derivatives of urea, uracil or of sulphonilecarbomide
3808 93 900 0	---- other

Fungicides and herbicides are classified in 38 groups, having 3808 heading and respectively subpositions 3808 92 (fungicides) and 3808 93 (herbicides). [3]

According to the rules of the Convention (Belgium, 1983), the items and sub-items of goods do not change, and it is clear that the types of goods that belong to one sub-item have only a few places. Goods in most cases are classified based on net weight, but not chemical composition, for example, DDT (currently prohibited due to high toxicity) with a net weight of no more than 300 g (3808 520 000 0), and the rest, i.e. other 3808 590 000 0.

## RESULTS

Herbicides are classified according to active substances: based on phenoxyphytohormones (3808 93 110 0), based on triazines (3808 93 130 0), based on amides (3808 93 150), based on carbamates (3808 93 170), based on dinitroaniline compounds (3808 93 210) and herbicides based on urea (urea), uracil or sulfonylcarbamide (3808 93 230 0). However, they currently have many different chemical bases.

However, other targets (especially additives) were not used in the classification of herbicides when

currently the active substances in herbicides are 5%, 10%, 20% and 50%, and respectively the remaining additives are 95%, 90%, 80% and 50%.

## CONCLUSION

In conclusion, given the above, we recommend you to consider the following parameters: their chemical composition (inorganic or organic), the number of active substances and additives in their composition, and their influence on Botanical classes of plants, the retention time in the soil, the effects, the time of leaching from soil, effect on soil microflora and animals, of course, the price in the global market.

The following should be noted:

- Classification (product code) should be the basis for certification in standardization;
- Export and import of goods by their classification and certification in accordance with the established procedure;
- Buy at cost and bring them to the international market by optimizing proper classification and certification based on cost;
- Especially on their basis to organize proper collection of payments;
- To protect the country economically;



- Conservation of the environment, plants, animals, and human health.

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## APPLYING INNOVATIVE TECHNOLOGIES IN THE EDUCATIONAL PROCESS

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### ABSTRACT

*This article presents the review of applying innovative technologies in the educational process. As a result of the research conducted in Ferghana Polytechnic Institute, the authors make an argumentative conclusion about the need to change the system and style of teaching, suggests the use of innovative methods to address these issues in modern higher education. The article presents the types and advantages of interactive methods as one of the forms of innovative learning.*

**KEY WORDS:** *interactive methods, discussion, discipline, methods, aims, tasks, forms of education, technological map, technology of learning, transformation process, training.*

### INTRODUCTION

In Uzbekistan a great attention is paid to the problems of education. Annually about 53% of the state budget is allocated to the improvement of the system of education in the country. The main objective of the driving force of the transformation process is the human being, his or her harmonic development and well-being, and the creation of conditions for the effective mechanisms of realization and identity. An important condition for the development of Uzbekistan is the formation of an advanced system of training and education on the basis of the rich intellectual heritage of nature and human values, achievements of modern culture, economy, science and technology. [3]. The Education Act and article 14 on a higher education in Uzbekistan state that a higher education provides for the training of highly qualified specialists. The training of specialists with higher education is provided in higher educational institutions (universities, academies, institutes and others) on the basis of specialized secondary and vocational education.

At the present time in the system of a higher education there is a search and development of innovative teaching technologies which aims, first of all, at the development of analytical and creative abilities of the individual [10]. This creates the most favorable conditions for connecting the educational

process with the research work of students. The following requirements are imposed to the technologies of innovative education: dialogical and activity-creative character, aimed at supporting the individual development of the student, providing the necessary space for the student to make independent decisions, choosing the content and methods of teaching and behavior [2]. The priority forms of modern technologies in the educational process are technologic and creative.

The effectiveness of their use presupposes the existence of a certain system of pedagogical actions in the construction of the classroom space. The educational activity acquires a creative innovative character, develops independence and activity of students. The obligatory condition is the teacher's motivation of students' creativity [5].

Traditional methods imply communication between the teacher and the student, constant control by the teacher over the educational activity of the student, control over the learning of the educational material. The fruitfulness of this dialogue depends on the correct solution of tasks:

- setting a learning goal and the resulting motivation for the student;
- transmission of material of certain content (lectures) and its interpretation for students (seminars);
- Knowledge control.



This model of education is of directive nature. Under the direct model, the result of training is considered to be the transfer of knowledge through the rational organization of the content of the educational process, when there is a one-sided dialogue, where the active side is the teacher [3].

On the basis of new information technologies and teaching methods it became possible to change the role of a teacher, to make him not only a carrier, but also a leader and initiator of independent creative work of a student [2]. In today's conditions of educational services market development and the requirements of the information technology era, teaching should combine directive and modern, innovative and interactive models of teaching developed by practice.

The interactive model of teaching is based on the introduction of innovative methods into the process of teaching: the method of problem presentation, pre - curricular presentation, discussions, case studies, group work, brainstorming, critical thinking, quizzes, mini research, business and role-playing, insert method (the method of individual notes when students write a 7-10 minute associative essay), blitz survey method, questionnaire method.

The process of information transfer is based on the principle of interaction between teacher and student [8]. It assumes greater activity of the student, his creative rethinking of the received information. The main criteria of the interactive learning model is: the possibility of informal discussion of the free presentation of material, a smaller number of lectures, but more seminars, the student's initiative, the presence of group tasks that require collective efforts, constant control during the semester, the performance of a written work. The priority principle of the higher educational system is the student's interests. In this regard, university lecturers are faced with the task of developing and implementing such methods and techniques of teaching as are aimed at activating the creative potential of students and their desire to learn [7].

The special place in innovative technology takes a seminar-training which purpose is acquisition of new experience of behaviour in conflict situations. The objectives of the training include the development of stress-resistant qualities of personality, the acquisition of skills of constructive behavior in conflict situations, the formation of reflexive thinking. Thus, training is an important methodological technique that makes it possible to build relationships between teachers and students in a constructive mode.

## OBJECTIVES

The research under discussion has been conducted among the students of Year 3 of Mechanical Engineering Faculty in Ferghana Polytechnic Institute in 2020. 100 students of three

different groups participated in the research. It was relevant to research the level of students' satisfaction with the educational process and teaching methods, as well as to identify the level of teachers' knowledge of innovative methods. The aim of the research is to form the principles of effective teaching at the technical university using interactive methods.

## METHODOLOGY AND RESULTS

In order to conduct the research to identify existing problems in the educational process "through the eyes" of students, the questionnaire "Student Satisfaction with the organization, forms and methods of education at the University" was developed, which was distributed among 100 students of three different groups of Mechanical Engineering Faculty of Ferghana Polytechnic Institute. Besides, to identify the level of professionalism of teachers in pedagogical activity, the questionnaire "Possession of teachers with innovative technologies and advanced pedagogical forms and methods of training in higher educational institution" has been developed. The survey was attended by 20 teachers working in different scientific directions.

Most students see the main problems in the educational process as teachers' little interest in interesting and qualitative presentation of educational material, lack of innovative methods in teaching.

Also, when asked whether students are satisfied with the methods of teaching academic disciplines (lectures), most of them answered that they are not very satisfied. 60 % of students are not satisfied with the methods of teaching, as in almost 40 % of cases passive methods of traditional teaching are used in their classes, while all respondents consider interactive and active forms of interaction between teacher and students to be the most effective in teaching.

Students consider the most effective ways of conducting classes to be practical classes of innovative type (debates, trainings, game situations, role-playing, etc.), creative tasks (independent research, essays), round table method, i.e. interactive methods. In most cases, as follows from the survey results, monologue lectures or traditional classes are used, where students play a passive role.

The success of students depends on the ability of the teacher to motivate students to study and work independently. Most of the teachers surveyed rated their level of ability to motivate students to learn as average. When asked what forms of teacher-student interaction in their opinion are the most effective in learning, 95% of teachers answered active or interactive, but 19.4% of them use passive methods of working with students, i.e. lectures-monologues and traditional classes, 66% use active methods and only 14.6% - interactive. Also, when assessing teachers' own level of mastery of innovative



technologies and advanced pedagogical methods, the majority answered as average or sufficient.

The survey results show, both students and teachers are ready to use innovative methods in their practice, which leads to systematization of interactive methods in education and description of forms of their use in practice.

## SUGGESTIONS

There are various interactive forms in education [6]:

- the round table method;
- disputes;
- brainstorming;
- business and role-playing games;
- case-study (case studies, situational analysis);
- Trainings, master classes.

Depending on the specific situation, the teacher chooses the most convenient forms of learning. When presenting teaching material in an interactive session, certain principles should be followed.

- The first principle: a lesson is not a monotonous lecture, but a common work and interaction of students with each other and the teacher.
- The second principle is that all students are equal, regardless of social status, age, experience, place of work, etc.
- The third principle: every student has the right to have his or her own opinion on any issue.
- The fourth principle: in no case should an individual be criticized, only the idea itself can be criticized.
- The fifth principle: everything said in the class is not a guide to action, but only information for reflection.

By following these principles, both the teacher and students will get the most out of the interactive lessons.

The peculiarities of the main part of the lesson, which is based on the method of round table, is that the use of this method allows to consolidate previously obtained knowledge, fill in the missing information, acquire the skills to solve existing problems, teach the culture of discussion. A characteristic feature of the round table is the combination of thematic discussion and group consultation.

The peculiarities of organizing a session using the round table method are that one or two problem situations on a given topic should be discussed in the course of the discussion; the opinions and statements expressed should be illustrated with the use of various visual materials (for example, diagrams, diagrams, graphs, audio and video

recordings); the main speakers should be carefully prepared on the topic (to express their opinion, prove and argue, not limited to one report).

The features of a discussion-based lesson are collective discussion of a certain issue, problem or comparison of information, ideas, opinions, suggestions, etc., the aim of which is to teach, diagnose, train, transform, change attitudes, stimulate creativity and so on. The effectiveness of discussions depends on the student's preparation for the proposed problem, their awareness and competence, and the degree of understanding of all terms, definitions and concepts. The correctness of the participants' behaviour as well as the teacher's ability to conduct the discussion is important.

Debates are a form of round table based on free expression and exchange of opinions on a given thematic thesis. The group of students is divided into two subgroups. A special feature of a debate is the result obtained, which should give an unambiguous answer to the question asked - yes or no. One subgroup is for positive answer(s) and the other subgroup is for negative answer(s). In the course of the debate, participants give examples, facts, logically prove, argue, explain, provide different information, etc.

Thus, debates contribute to the acquisition of skills to form and defend one's own position, strengthen speaker skills and ability to communicate with the audience, form team spirit and leadership skills, develop students' communication culture and public speaking skills. Equally important is the fact that the debate process builds research skills, as the arguments require proof and case studies that require work with literature and information sources. Debate also provides students with organizational skills, listening and recording skills.

Interactive methods help to establish emotional contacts between students, develop creativity, the ability to think outside the box and be able to defend their interests, form teamwork skills, providing high motivation in self-development and self-study, an active life position, disclosure of creative potential. Practice shows that the use of interactive methods in training, helps to reduce the nervous load of students, provides an opportunity to switch students' attention to key issues and topics of classes [1].

## CONCLUSION

The use of innovative methods, which include interactive forms of learning, is particularly important in training students in today's market needs.

It is difficult to overestimate the advantages of innovative methods, as they play a significant role in shaping the personal qualities of a future specialist. Innovative methods help students learn active ways to acquire new knowledge, allow them to master a higher level of social activity, also stimulate the





creativity of students and help bring their studies closer to the practice of everyday life.

The main feature of interactive methods in education is that students take initiative in the learning process, which is stimulated by the teacher as an assistant partner. The process and the result of obtaining knowledge acquire personal significance for each student, which makes it possible to develop the ability to solve a problem independently.

In order to implement innovative technologies in teaching, first of all, it is necessary to change established stereotypes and habits of lectures by teachers themselves, which is not facilitated by passive methods.

Besides, it is necessary to reorient the traditional approach to obtaining knowledge to work with students, which allows them to be actively involved in independent thinking, development of mental abilities, ability to analyze and draw conclusions.

For successful implementation of effective forms of education, a teacher needs to possess a comprehensive set of skills and knowledge based on the use of modern innovative methods of working with students [3].

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# EFFECTIVE METHODS OF TEACHING THE RUSSIAN LANGUAGE ENGINEERING STUDENTS IN UZBEKISTAN

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## ABSTRACT

*The article under discussion depicts the effective teaching methods of teaching the Russian language in technical universities in Uzbekistan. The author of the article thinks that at present, new requirements are imposed on the training of specialists in various fields of higher education. For a graduate of a modern university it is not only enough to have knowledge in his or her field, it is also important to have mandatory language skills on a professional level.*

**KEY WORDS:** *effective, teaching, a foreign language, methods, professional level, speech, listening, reading, knowledge, technical universities, model, communicative tasks, productive speech, mechanical memorization, material.*

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## DISCUSSION

The time of intensive international cooperation has proved once again that without a foreign language skills of technical university graduates intercultural communication in various spheres of economy, science and technology will be difficult. These circumstances have adjusted the goals of higher education in general and language in particular.

Students of technical universities are usually inclined to self-monitoring and have a good long-term memory, so a teacher should correct errors immediately. As practice shows, this does not confuse them and helps to introduce the correct model into their memory [6].

However, students of technical universities find it harder to "talk" and are hampered by excessive control over their own speech. Thus, in productive speech activities, they usually use prelearned phrases and texts, which they can include in their own oral statements without prior thought. Communicative tasks that promote memorization of whole blocks and phrases make it possible to spontaneously use the language of a specialty in speech without mechanical memorization, thus helping to get rid of too rigid self-control over their own speech.

However, when teaching engineering students, the emphasis should be on a written speech, because in the scientific and technological base it is the main and oral type - a derivative.

From a communicative point of view, writing instruction is most conveniently divided into stages during which students perform various types of tasks. This article provides some types of exercises that can be used in classroom classes and in the process of students' independent work. Combined with the variety and complexity of learning stylistic features of academic writing, in particular, the features of texts of professional content, terminology requires more training, better representation of its system, connections with other categories of words.

In modern methods, there is a desire to bring the conditions of the educational process closer to those of free communication. In this regard, great attention is paid to the development of skills in all four types of speech activity. There is such a term of interconnected learning, which implies parallel and balanced formation of the four speech activities on the basis of common language material within the framework of their sequential-temporal relationship. Listening, speaking, reading and writing are both: the goal and the means of learning. The work on these speech activities is carried out in a certain sequence within a practical lesson or cycle of lessons where common language material is mandatory. A powerful means of language learning is listening, allowing you to master the sound side of the language, its phonemic composition and intonation: rhythm, accent, melody. Klobukova L.P. singles out the following characteristics of listening as a type of speech activity: listening realizes oral and direct



communication, it is a reactive and receptive type of speech activity in the process of communication, the main form of listening - internal, uneven. Listening is the basis of communication, mastering oral communication begins with it. It consists of the ability to differentiate perceived sounds, to integrate them into semantic complexes, to keep them in memory during listening, to carry out forecasting and, based on the situation of communication, to understand the perceived sound chain. In this case, the process of perception is carried out at a certain normal pace, typical for a given language, from different sources, with natural interference of speech and non-speech character [1].

The listening process is motivated not only by the need to understand the speaker's spoken message, but also to express an opinion based on an understanding of what is heard. This motivation undoubtedly creates the listener's inner attitude, which is to bring "the perceptual circuit, i.e., the reaction circuit, to a state of readiness". This state, in turn, can be expressed in concentration and consequently in greater productivity of all mental processes.

Training in listening, or sensory perception (understanding) of speech by hearing, involves the performance of exercises to develop general listening skills, speech exercises and subsequent training work with audio text. Here are some examples of such exercises:

1. Listen to the beginning of the story and try to guess what happened next.
2. Plan a statement for a given communication situation and listen to several pieces of text to get the information you need.
3. Listen to the suggestions and tell how many questions, affirmative, negative suggestions you have heard.

A teacher can ask students to work with audio text consisting of several steps: pretext, text and posttext.

The pretext phase includes work with the whiteboard, handouts and listening (audio) fragments as well as live educational communication. The main content of the stage: removal of language difficulties of audio text (control of understanding the most difficult sentences of the text, analysis of the meaning of individual words and phrases), training exercises based on the text, the introduction and primary consolidation of new words, the interpretation of the use of lexical units and grammatical phenomena in the text, listening to individual text fragments.

Pre-textual orientation to the perception of speech by hearing consists in raising pretext questions, proposals for the title of the text, tasks to confirm or disprove the statements proposed by the teacher, choose from a series of data correct, approximate and incorrect statements, choose the

correct answer to the question, reproduce the context with key words, etc.

The text stage includes listening to the whole text and alternating paragraphs, semantic blocks. In the process of multiple listening to the text, trainees are offered the following types of work:

1. Selection for a paragraph of the title.
2. Playing the keyword in context.
3. Paraphrasing.
4. Answering questions.
5. Listening to the text again.

The post-text stage includes question-and-answer work, oriented paraphrase, extension and continuation of the text by students, making up a story, making up a dialogue on the topic of the text, etc.

It is important to achieve the desire of students to learn to listen to speech and understand what they hear, give them a sense of their abilities, their progress. This increases their interest in learning a non-native language. In connection with listening, monological speech develops when students speak after listening to a text, with independent communication and personal evaluation, as well as the ability to speak in different situations within the educational and labor, social and socio-cultural spheres of communication. Through active listening, the transition from sentence level speech to coherent monological speech at text level is made.

Listening forms the basis of communication, and mastery of oral communication begins with it [5].

Let's take a closer look at teaching another of the receptive types of speech activity, namely reading. Reading is a receptive skill aimed at extracting information contained in a written text (speech work).

Reading is both an objective and a learning tool. As an objective: to form, develop and improve the ability to extract information from text of any style and genre. As a means - to perform a variety of tasks. It is necessary to read and understand the task. In order to retell the text (as well as perform other tasks related to it), you need to read it.

Teaching a language without reading support can be justified only with pre-school children. Reading is a special kind of speech activity, a process of simultaneous perception and understanding of a written text. It is a deeply internal process, consisting in the interpretation of the text, which implies verbal, substantive and semantic understanding. The understanding of the text is based on a) subject and b) language competence.

Reading of texts on the students' speciality should be based on translation, which should be considered as the main means of developing understanding. Non-translation comprehension is the final stage of learning to understand a foreign-language text, which is achieved in the further independent work of students. Translation, on the



other hand, is a necessary way to find an equivalent. Having received a complex text for comprehension, the student first of all tries to translate this text into his native language, because he does not think in Russian. Therefore, there is always an explicit or implicit translation in the native language.

In a generally accepted linguistic representation, a translation is considered to be the transformation of a speech work or a message in one language into a speech work in another according to predetermined correspondence, while keeping the content plan unchanged [4].

From our point of view, the translation process cannot be reduced to a mechanical act of finding inter-linguistic matches. It is precisely because of the students' desire to convey, above all, the meaning of individual words that most translation errors occur, the so-called false friends of the translator. It is impossible to establish direct equivalence between words and constructions of two languages because semantically and functionally the signs of two languages usually do not coincide. A word-by-word translation without understanding the entire speech work as a whole often leads to a distortion of meaning. In addition, excessive "attachment" to the dictionary complicates the process of perception of a foreign language text: slows down the pace of reading, disrupts the logical flow of thought, distracts from the content of the read.

## CONCLUSION

For a graduate of a modern university it is not only enough to have knowledge in his or her field, it is also important to have mandatory language skills on a professional level. The main purpose of a foreign language (Russian) teaching is not so much teaching the language system (linguistic competence) as mastering communicative competence, i.e. the ability of a person to carry out verbal communication in this or that sphere of activity by means of the studied language. The communicative competence is based on the complex of language knowledge and speech skills and abilities, which are formed and assimilated during the lessons [6]. Priority is given to independent work of the student, which implies, first of all, careful study of additional theoretical materials and educational Internet resources for each topic, self-check with the help of questions and tests given at the end of the topic, as well as mandatory performance of practical tasks.

Thus, when teaching the Russian language in technical universities of engineering profile it is necessary to pay special attention to receptive speech activities, namely, reading as one of the most important and basic, but it should be noted that the sequence of methodological steps offered by the teacher implies a transition from mastering the foreign language means to the formation of speech

skills and development of speech skills of both receptive and productive speech activities.

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# IMPROVING THE QUALITY OF HIGHER EDUCATION IN UZBEKISTAN

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## ABSTRACT

*The article deals with the issues of improving the quality of higher education in Uzbekistan. The main task of higher educational institutions is to ensure high quality education. This task can be realized only if favorable conditions are created for this purpose, such as the development of modern material and technical, informational and personnel resources. According to the author, along with improving the material base, an important role in this process should be played by improving the quality of education, which, in turn, can be achieved by applying quality management in the system of higher education.*

**KEY WORDS:** *quality of learning, quality of education, management, educational system, economic growth, sustainable, sphere, resolution, development, scientific, research, educational institutions.*

## DISCUSSION

At the current stage of development, Uzbekistan faces strategic tasks, including the further development of the educational system as the most important factor in the country's prosperity, sustainable economic growth and employment. The resolution of the President of the Republic of Uzbekistan S.M. Mirziyoev "On measures on further development of the system of higher education" from April 20, 2017 became a new impulse for cardinal perfection of the sphere, radical revision of the content of training at the level of the international standards. At the same time, the Program of complex development of the system of higher education for the period 2017-2021 was approved, which includes measures to strengthen and modernize the material and technical base of higher educational institutions, equipping them with modern teaching and research laboratories and modern information and communication technologies. [1].

The Law "On Education" and "National Program on Personnel Training" have created the necessary legal framework for the progressive development of the educational system as a single educational, scientific and production complex on the basis of the state educational institutions [7]. The principal difference between the educational reforms in the country guarantees the creation of conditions for the gradual progressive development of the

continuous educational system, governmental regulation of the educational services market and the proper quality of education [2].

One of the highest goals of our country nowadays is to train highly qualified and competitive personnel in the higher educational system as social and economic development of the country and improvement of living standards of the society can be achieved through training highly qualified and competitive personnel. Effective implementation of economic reforms directly depends on the professional preparedness of these specialists [3].

Modern requirements to doing business, improving its quality, adapting to rapidly changing political and economic factors indicate that competent staff at all levels of management is a prerequisite for the successful operation of a business entity in any industry. The basics of personnel training are laid down in the educational system, where future specialists receive initial knowledge and skills in the field of competencies of their profession. Thus, higher educational institutions should provide potential graduates with basic training on the issues that they will solve in practice, and not only solve, but also solve quickly and competently.

The main task of higher educational institutions is to ensure high quality education. This task can be realized only if favorable conditions are created for this purpose, such as the development of





modern material and technical, informational and personnel resources. To achieve this goal, equipped classrooms, electronic and printed teaching aids, demonstration and laboratory equipment, interactive and multimedia components are needed to ensure high quality education. Thus, a condition for the training of quality specialists is the availability of material resources. This is particularly important when it comes to organizing education at different levels: Bachelor and Master.

There are two terms: "quality of learning" and "quality of education", these terms are partially different from each other, as they have the following features. The term the "quality of teaching" includes the result of the educational process: the organization of educational and methodical work, the state of material and technical base, the level of qualification of the faculty and the intellectual potential of students of higher education. Speaking about "quality of education", it should be noted that this term consists of the abovementioned indicators of "quality of education", and also includes the demand of a graduate of a higher educational establishment in the professional sphere [4].

The basis of social mobility and further reduction of social and economic differentiation in society is the provision of quality education for the entire population of our country. Thus, for example, the entrant takes a very careful approach to the choice of a higher educational institution, because having received a quality education and becoming a trained specialist in a certain field of activity, he or she will be able to realize himself or herself in professional activity, because the high quality of professional education is manifested in the level of demand for the graduates of professional education institutions in the labor market.

The main role in improving the quality of education is played by the teaching staff. Only a teacher who is constantly improving his activity, with a high level of qualification, professional and intellectual levels will be able to transfer knowledge to students. The intellectual activity potential of teachers is inevitably correlated with their scientific work, since outside teachers are doomed to read "foreign" textbooks and their more or less skilful presentation to students [5].

Pedagogical activity requires constant development and radical improvement of the actual complex status of a teacher, thus turning the educated and forming into a class, i.e. increasing the value of education. Only by creating all the necessary conditions for teachers, we can talk about increasing the value of education as a whole [6].

In order to improve the quality of education in higher educational institutions it is necessary to take into account the following parameters, such as the quality of programs, quality of the teaching staff (age, pedagogical activity, regular professional

development), information support, quality of computer networks, material and technical support, premises for practical application of the received knowledge, laboratory equipment, special audience and quality of the scientific work, as well as an important component is the monitoring, which can include sociological research on the achievements of all conditions for a higher education institution to provide quality education. This is how the survey of teachers and students (undergraduates, graduate students, postgraduates and young scientists) can be the main indicator of the results achieved in the long term.

The main progress in the sphere of improving the quality of education can be made by the quality management in this sphere, which will allow manage competently the higher educational institutions of Uzbekistan and improve the quality of education.

There are the following opportunities for management of quality education:

- building assessments based on the implementation of basic principles of quality management, including "customer orientation";
- evaluating on a systematic basis in monitoring mode;
- developing systems for the assessment of the delivery based on a competency-based approach;
- developing a model of salary pay system based on incentive bonuses for quality work.

## CONCLUSION

The above mentioned opportunities, which can be used for the evaluation of the quality of education in higher educational institutions, can improve the level of higher education in our country, bringing it closer to the world.

Besides, in improving the quality of the higher educational process, the following approaches should be followed:

- Holding various competitions to develop the creative potential of students, developing a mechanism to encourage students who have achieved certain creative results and providing opportunities to stay in other higher educational institutions;
- use of new information technologies, i.e. new versions of presentation preparation and development of applications for automatic data updating, use of Internet and digital education resources;
- effective organization of the training session: mastering of new material bases by teachers and their practical application, as well as the use of developed mechanisms for increasing intellectual potential, establishing a structure for joint work with other higher education institutions.



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# SPECIFIC FEATURES OF TEACHING THE RUSSIAN LANGUAGE IN TECHNICAL HIGHER EDUCATIONAL INSTITUTIONS IN UZBEKISTAN

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## ABSTRACT

*The article under discussion depicts specific features of teaching the Russian language in technical higher educational institutions in Uzbekistan. The author of the article considers that the study of communicative needs of the students of non-philological profile showed the necessity to develop a special method of teaching the Russian language. The study of the professional language course is defined as an integral pedagogical process of forming the profile and communicative competence of students, which is based on the integration of knowledge about the language, norms of its functioning, specifics of the technical discourse and ways of activity - the use of the studied language means in the educational and professional and scientific and professional spheres of speech communication.*

**KEY WORDS:** Teaching, higher educational institutions, communicative, students, experience, competence, communicate, linguistic, tangible, orientation, intercultural, the Russian language.

## INTRODUCTION

At the current stage of Uzbekistan society's development, the main objective of methodological science is to educate individuals seeking to make the most of their abilities, open to new experiences and capable of making informed and responsible choices in various life situations. In order to raise such a person, the students should be taught communicative competence, consisting of speech, linguistic and sociolinguistic competence. The learner educated in such situations should eventually reach a level defined as the level of the "linguistic personality".

As a result of the transformations taking place in Uzbekistan, the process of the Russian language teaching today can develop taking into account people's needs and acquire a more tangible practical and communicative orientation. Preparing a person to communicate in the language being studied today is equated with preparation for intercultural dialogue. Accordingly, the practice of teaching the Russian language should promptly respond to this fact and develop ways to best address emerging issues.

In technical higher educational institutions of Uzbekistan the program of studying Russian, as well as other foreign languages, includes in-depth study of grammar, phonetics and lexical composition of the language, with an increasing emphasis on teaching the language system and mainly grammar. Still the

main difficulties are the lack of active oral practice per student in the group, learning Russian should be based on the development of speech skills of students as a result of oral exercises, and theoretical study should give way to the development of practical skills. It is necessary to teach students not only the basics of the Russian language, but also to teach them to communicate with interest and communicate correctly in another language, both in professional and everyday situations [1].

The process of language learning took place differently at different times. Within the post-Soviet countries, this process previously had its specific features. In particular, the problem with the process of teaching Russian and other foreign languages was the lack of rhetoric. This approach to language learning and teaching was caused by the cancellation of rhetorical lessons in the Russian school at the end of the 19th century. Although since ancient times, language learning has been and is being conducted in two directions - the formation of eloquence skills and the study of the theoretical foundations of the language.

In the twentieth century, the methodology of teaching Russian at the national school, followed by foreign languages at schools of all types, was developed by copying the methodology of teaching native (Uzbek) language. This was due to the lack of analogues. A somewhat simplified version of the



programme for teaching native languages was announced as a programme for teaching Russian as a non-native language. This circumstance led to a tangible difference in approaches to language teaching problems in Uzbekistan and in other countries. All this has also been reflected in the practice of language teaching - for a long time the process of language teaching has been repeating the main provisions of the process of teaching the native language. The final results of the language learning process also testified to this - many graduates, knowing the sum of their theoretical knowledge of a language, were helpless in communicating in it. This was typical for almost the end of the twentieth century [2].

In recent years, the issue of the impact of the language environment has been subject to multilateral research. In particular, the language environment has been studied as a learning factor and a reserve for improving the efficiency of a short-term the Russian language teaching. Four main functions of the language environment have been identified: informative, motivational, communicative and accelerative. The selected functions have different impacts on the specifics of the Russian language teaching to non-philological students studying in the absence of the language environment. Thus, for example, the absence of the language environment in its accelerative function slows down the process of students' memorization of language facts, which, apparently, should be taken into account when determining the time frame for introducing and fixing this or that language material. However, in this case there is no significant impact on the basis of the Russian language teaching methodology.

The lack of the language environment in such a function as motivational causes the need to develop a special method of teaching the Russian language. As it reduces the scope of students' activities, reduces the volume of their communication needs and eliminates the need for links between skills in different types of speech activity.

For students studying in the absence of the language environment, only reading publicist literature, listening to radio programs, watching TV programs in Russian can be considered relevant to one degree or another. However, this cannot be considered as a necessary factor for mastering the chosen specialty, and given the short period of study, this type of activity should probably be given a fairly limited place in the program of teaching Russian to students of technical universities. In my opinion, it is advisable to take into account, first of all, the educational and professional sphere of communication. At the same time, communication needs of technical university students are mainly limited to reading general and special literature in Russian.

## METHODOLOGY

The technique of teaching of Russian to the students of a non-philological profile receiving education in the country, will be based not on the complex approach, and on primary formation of skills in one kind of speech activity - reading. However, this conclusion in no way should not be understood as a requirement, completely isolate reading from other types of speech activity in the process of teaching. This would be both inappropriate and impossible. Naturally, students will learn writing, speaking and listening skills while learning different types of reading. But mastering skills in these types of speech activities will be a means of teaching reading, not a goal of the learning process.

Functioning of reading as any kind of speech activity is provided, on the one hand, by skills that aim at semantic perception and processing of test information and, on the other hand, by different groups of skills, the most important of which are lexical and grammatical.

Thus, when teaching reading it is necessary to select certain stages. Each stage should be characterized in several directions:

- representation of this or that text material;

First of all, a text is a message consisting of a number of statements united by different types of lexical, grammatical and logical links. Selection of texts is carried out according to such criteria as: a) professional orientation of text information; b) authenticity of professional sources; c) functional-stylistic and genre correlation with the speciality acquired by students; d) interaction of the studied speciality with other sciences and technical branches; e) consideration of students' professional and language level; f) gradual increase of difficulties [6].

- the presence of certain lexical-grammatical material participating in the creation of these text types;
- Statement of tasks specific for each stage in the field of skills formation in different types of reading (with definition of minimum and maximum for each stage), etc.
- Development of the control system.

As well as reading, from a communicative point of view, writing instruction is most conveniently divided into stages during which students perform various types of tasks. Combined with the variety and complexity of learning stylistic features of academic writing, in particular, the features of texts of professional content, terminology requires more training, better representation of its system, connections with other categories of words.

Among priority directions of practice of teaching the Russian language the problem of formation and perfection of communicative skills in the field of written speech is the most essential and





difficult. We agree with the opinion of E.I. Passov and N.E. Kuzovleva that "some objects of speech appear to be included in writing, as both types of activity are productive by nature [3]. These are the skills to express oneself in a holistic, logical, coherent, productive way, the ability to convey what has been read, heard, and seen. Moreover, the ability to express oneself coherently, logically and coherently is more important for writing than for speaking" [4].

In modern linguistics, the requirements for professional texts are clearly defined. Its main property should be the possibility of reverse transformation, i.e. lexically and syntactically texts should be oriented to the possibilities of the perceiving consciousness. Plot construction of educational and linguistic material allows to organically enter the "personality of the speaker" and demonstrates the full range of speech, language, and communicative competencies, which opens access to the information thesaurus, expanding the verbal and non-verbal fund.

An important condition in the formation of communicative competence was the allocation of exercises aimed at mastering the textual functioning of professional vocabulary of future engineers of buildings construction.

As it is known, an important point in the teaching of written language is the reliance on the functional approach to the study of the language of the specialty: identification and differentiation of nominations, expression of accession, explanation, accession explanation of independent proposals, the formation of textual explanations on the basis of generalization: the construction and communication of paragraphs, the relationship between thought and arguments in a consistent and logical form.

Accordingly, the work on the special text includes development of special vocabulary and terminology (substitution tables; samples of quantum shape-oriented texts with tasks for transformation or modification).

The professional language component as the basis for the development of students' written language skills includes language knowledge (including terminology), speech skills in professional communication, as well as strategies for studying and applying this knowledge and skills. It is necessary to use contextual and integrative means of problem-project learning, transforming the content and process of linguistic-professional training into a scenario of future professional activity of a specialist, in which each subject is manifested as a unique self-actualizing personality and the acquisition of knowledge occurs through activities based on experience.

## CONCLUSION

Thus, the formation of communicative competence of future engineers of buildings

construction assumes the necessity of purposeful application not only of textbooks and manuals (quantum profile-oriented texts, terminology minimum, which reflects the terminology system of the specialty), but also the use of potential possibilities of information and educational environment (fragments of educational, scientific and cognitive films, materials available on the Internet, fragments of performances of famous scientists, interviews and opinions of engineers, etc.).

Therefore, in the process of professionally oriented language training the main emphasis is shifted to the acquisition of professional knowledge and competences by students. The main function of a teacher is not so much to teach students the language, as to create such organizational and pedagogical conditions, in which students realize the importance, interest and need to learn and use the Russian language in setting and solving educational and professional tasks.

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## AN ALARMING PANDEMIC COVID-19 IN ASIA -AN OBSERVATIONAL STUDY

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### ABSTRACT

*Back ground & Purpose: Many countries in Asia as well as developed countries like England, Australia and USA were attacked by the rampant COVID-19. This observational study was conducted to analyze the rate of transmission, death to case ratio, doubling time, role of temperature and other preventive measures on these variables.*

*Methodology: Data of the variables were collected from World Health Organization online daily progress reports on COVID-19 and other reliable Internet sources on a daily basis from 30-03-2020 till 20-04-2020.*

*Results & Conclusion: The transmission was maximum in Turkey, Iran, China, Russia, India, Israel, Japan, South Korea, Saudi Arabia, and Pakistan whereas minimum in Yemen, Bhutan, Laos, Timor-Leste, Nepal, Mongolia, Syria, Maldives, Myanmar, and Cambodia. There were no confirmed cases reported in Turkmenistan, Tajikistan and North Korea. Temperature didn't appear to be influencing the transmission and death rate due to COVID-19 in Asian countries. There is a positive correlation between the environmental temperatures, preventive measures, lock down and the doubling time of COVID-19 in Asian countries.*

**KEY WORDS:** - COVID -19, ASIA, Doubling time, Death – to - case ratio, Temperature



## INTRODUCTION

The outbreak of mysterious pneumonia in December-2019 characterized by fever, dry cough, fatigue and occasional gastrointestinal symptoms in the city of Wuhan, Hubei province in China<sup>1</sup>. The World Health Organization (WHO) has declared the COVID-19 as a health emergency and pandemic. The pathogen of this baffling pneumonia was identified as novel beta-coronavirus disease named as COVID-19<sup>2,3</sup>. The exact genesis, environment and natural reservoir of the 2019-nCoV is still dubious, although it is believed that the virus is zoonotic and bats are the delinquent.<sup>4,5</sup>

Asia is Earth's largest and most populous continent located in the eastern and Northern Hemispheres. It shares its borders with Europe and Africa. It is notable for its dense and large human settlements constituting 60% of world's population<sup>6</sup>. COVID-19 had its epicenter at Huanan seafood whole sale market in Wuhan, China, Asia, and strew all over the world by mid of March, 2020. Many countries in Asia as well as advanced developed countries like England, Australia and USA were attacked by the rampant spreading of the disease<sup>7</sup>

In this observational study, we analyzed the rate and type of transmission, death-to-case ratio, and doubling time of COVID-19 cases in various Asian countries from 30-03-2020 till 20-04-2020. We also analyzed the effect of temperature and preventive measures taken by various Asian countries to restrain the transmission and death-to case ratio of the disease.

## METHODOLOGY

We collected the data from World Health organization online daily situation reports on COVID-19 and from other reliable Internet sources on a day to day basis from 30-03-2020 till 20-04-2020. Daily Confirmed cases were recorded along with number of Deaths, number of recoveries in the Asian countries. We also recorded the date of first confirmed case, type of transmission, monthly average temperatures for the month of February, March and April 2020, date of implementation of lock down along with the preventive measures taken by the respective administrations of the countries.

The **death- to - case ratio** was calculated by the formula<sup>8</sup> (Number of Deaths due to COVID-19 on 20-04-2020/ Number of cases of COVID-19 reported on 20-04-2020) x100.

The **doubling time** was calculated by the following procedure

For each Asian country, the numbers of confirmed cases (Nd) on any given day (n) were then compared with number of confirmed cases on following subsequent days, until the number of cases exceeded

2xNd. Interpolating linearly between day (m), where (m) is the day 2xNd occurred and day (m-1) generated the decimal number of days taken to double Nd. The process was then stepped forward starting at day (m), to find the number of days required for doubling that number of COVID-19 cases, repeating through the dataset<sup>9</sup>.

## RESULTS

After, collecting the data, from 30-03-2020 till 20-04-2020 on a day to day basis, it was revealed that the maximum number of confirmed cases were reported in Turkey (90980), Iran (83505), China(82747), Russia(47121), India(18539), Israel(13713), Japan(11135), South Korea (10674), Saudi Arabia(10484), Pakistan(8892). The minimally affected countries by number of confirmed cases were Yemen (01), Bhutan(05), Laos(19), Timor-Leste(22), Nepal(31), Mongolia(33), Syria(39), Maldives(69), Myanmar(119), Cambodia(122). There were no confirmed cases reported in Turkmenistan, Tajikistan and North Korea. (Fig 1-See Appendix)

The average temperatures for the months of February, March and April in the countries where maximum number of confirmed cases were reported in degree Celsius are Turkey (3.6, 6.7,11.5), Iran (3.5,10.1,15.6), China( -0.4,7.1,13.6), Russia(-18,-9.8,0.8), India( 17.3, 23.6, 27.4), Israel( 11.2, 14.2, 18), Japan (3.9, 7.1, 12.2), South Korea(-0.9, 5.3, 11.5), Saudi Arabia( 15.6, 21, 25.1), Pakistan (10.5, 17.9, 23.2) and for Minimally affected countries the temperatures recorded are Yemen(23.9, 25.4, 27), Bhutan (7.5, 12.7,15.5), Laos(20.8, 24.8,26.9) Timor-Leste (31.1, 31.2, 31.5), Nepal (9.9, 16.4, 20.7), Mongolia(-20.8,-8, 1.5), Syria (7, 11.5, 16.3), Maldives (27.6, 27.8, 28.3), Myanmar(21.7, 26.5, 28.9), and Cambodia (25.1, 28.1,29.1).

The death-to- case ratio was calculated and the Maximum rate was found in Indonesia (8.72), Syria (7.6), Philippines (6.6), Iran (6.2), China (5.5), Iraq (5.2), Myanmar (4.2), Afghanistan (3.5), Bangladesh (3.4), and India (3.19). The minimal Death to case ratio was found in Singapore (0.13, Qatar (0.14), Uzbekistan (0.30), Bahrain (0.36), Kuwait (0.45), Oman (0.49), UAE (0.59), Palestine (0.66), Brunei (0.72), and Russia (0.8). (Fig 2-See Appendix)

The doubling time was calculated in the countries where Maximum number of confirmed cases and Minimal number of Confirmed cases were recorded. The doubling time during the period of 30-03-2020 to 20-04-2020 was Turkey (3.5, 3.5, 7.5), Iran ( 16.5), Russia (3.5, 3.5, 4.5,3.5), India (3.5, 2.5,4.5,6.5), Israel (5.5), Japan ( 6.5,5.5), South Korea (cases were



not doubled during the study time frame), Saudi Arabia (6.5,6.5,5.5), Pakistan (5.5, 9.5). (Fig.2-See Appendix)

## DISCUSSION

From this observational study, it was revealed that the maximum numbers of cases were reported in the countries of Turkey, Iran, China, Russia, India, Israel, Japan, South Korea, Saudi Arabia, and Pakistan. All these Asian countries have different temperature zones. The temperatures recorded in these countries in the month of March range from -9.8(Russia) to +23.6 (India) degree Celsius<sup>10</sup>, and in the month of April the temperatures range from Russia (0.8), to India (27.4) degree Celsius. The Maximum recorded temperature in the Month of April was recorded in Timor- Leste (31.5°C) where the cases are minimally recorded (22). The minimal temperature was recorded in Russia (0.8 °C) where the Maximum number of cases were confirmed (47121). On the contrary, the temperatures in Mongolia were similar to Russia (1.5°C) but the cases were minimally found. From this study we observed that the temperature had no role in transmission because the cases were confirmed in diversified temperature zones. In the study by Ye Yao et.al (2020) culminated that there is no association of COVID-19 transmission with temperature or UV radiations<sup>11</sup>.

The death to case ratio was maximal in Indonesia and minimum in Singapore, while the average temperature recorded in Indonesia in the month of April is 26.7°C and in Singapore 27.4°C. The death-to-case ratio was 0 in Timor-leste where the temperature was recorded maximum and the minimal temperature was recorded at Russia where the death -to -case ratio being 0.8. It is evident from our study, that the temperatures had no role to play on death-case-ratio as the number of deaths recorded either not unified in same temperature zones or diversified in different temperature zones. In the study correlation between temperature and COVID-19 (Suspected, confirmed and death) cases based on machine learning analysis by Mohammad Khubeb Siddiqui et.al (2020) concluded that the temperature had diversified trends on deaths due to COVID-19, hence the transmission and deaths due to COVID-19 cannot be attributed to the temperatures alone<sup>12</sup>.

Most of the Asian countries have called on for a lockdown. The lock down is a preventive measure adopted by many countries to reduce the doubling time. Turkey didn't apply it during our observation time frame. But the doubling time in Turkey without lockdown has declined from 3.5 to 7.5 days due to effective preventive measures taken by the administrators like using special disinfectants to keep surroundings clean against virus threat, travelling and

gathering restrictions, screening of international passengers, closure of public malls and educational institutions. The decline in the doubling time can also be attributed to temperatures in Turkey as temperatures were increasing in the month of April. The latest research on COVID-19 by Barbara Oliveiros et.al (2020) concluded that there may be delay in the doubling time as the temperatures rises, which is similar to our study<sup>13</sup>.

The doubling time in Iran was 16.5 days. Iran too didn't implement lock down measures, but strict social distancing and closure of public hotspots, restriction on travelling were implemented. In this country too, the temperatures raised in the month of April leading to delay in the doubling time. In china, India, Pakistan, the doubling time has been delayed. There was increase in temperatures in the month of April in these countries. These countries also applied Lock down measures.

The most common preventive measures taken in these countries are closure of educational institutes, thermal screening of international passengers, deployment of army to ensure social distance, stoppage of transportation, ban on international travel, sterilization campaign, home quarantine, and ban on social gathering. In most of the Asian countries it was found that there is Local transmission of the disease except for countries like Bhutan, Mongolia, Nepal and Syria. In Timor-Leste, Kazakhstan the transmission is still under investigation. Even though most of the countries went into Lock down, Countries like Bahrain, Bhutan, Brunei, Cambodia, Cyprus, Indonesia, Iran, Israel, Jordan, Laos, Lebanon, Maldives, Mongolia, South Korea, Taiwan, Timore-leste, Turkey, Turkmenistan and Yeman have not applied complete Lock down Measures.

Health services are usually considered synonymous with preventive, curative, protective, rehabilitative and restorative services<sup>14</sup>. Lock down is not a panicking situation but an effective preventive measure<sup>15</sup> to control the spread of COVID-19 as there is no evident and efficient treatment options available till date, hence prevention is the only solution.

## CONCLUSION

The transmission of COVID-19 was reported maximum in Turkey, Iran, China, Russia, India, Israel, Japan, South Korea, Saudi Arabia, and Pakistan where as minimum reported in Yemen, Bhutan, Laos, Timor-Leste, Nepal, Mongolia, Syria), Maldives, Myanmar, and Cambodia. There were no confirmed cases reported in Turkmenistan, Tajikistan and North Korea. Temperature does neither appear to an influencing factor in the transmission nor in deaths due to COVID-19 in Asian countries. There is a positive correlation



between the environmental temperatures, preventive measures, Lock down and the doubling time of COVID-19 among Asian countries, which decreased significantly following implementation of effective preventive measures.

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## APPENDIX

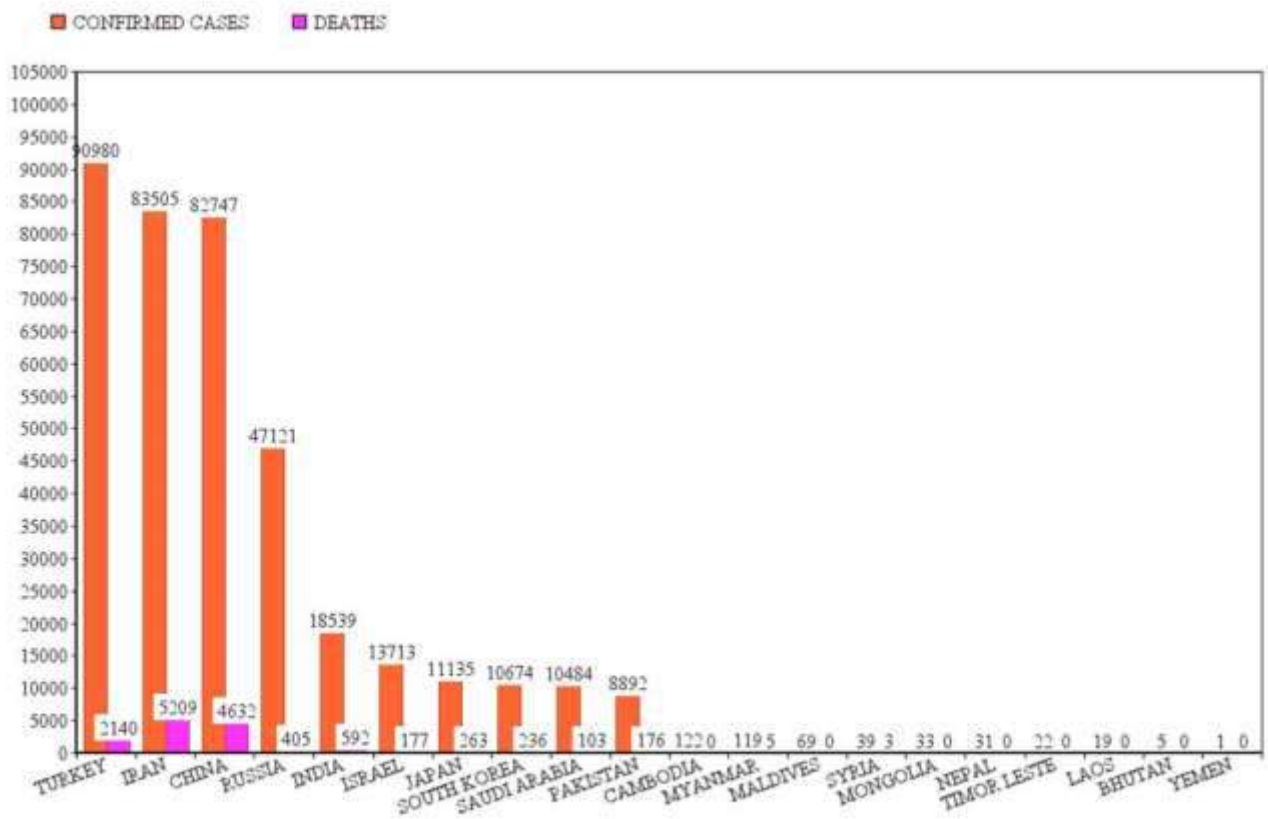
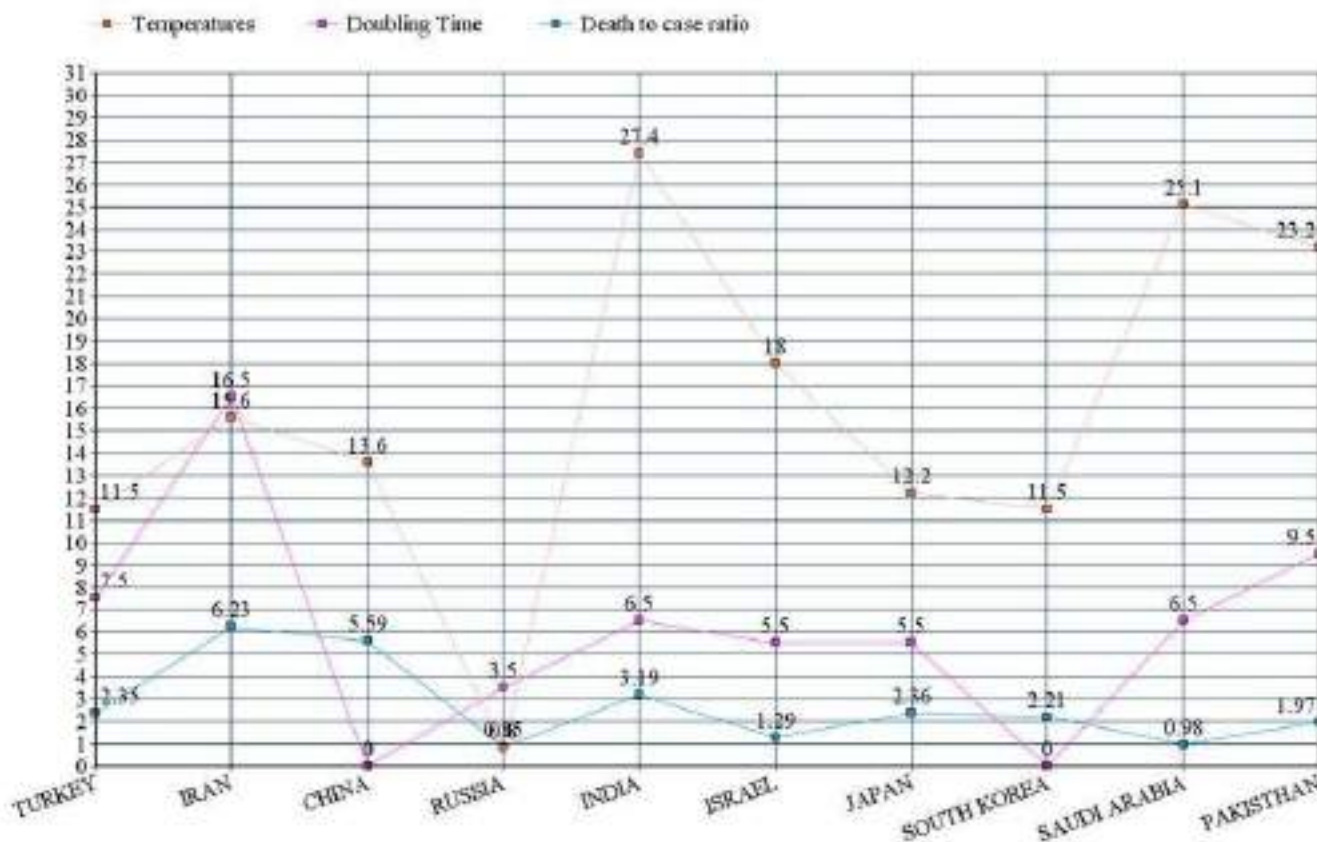


FIG 1: NUMBER OF CONFIRMED CASES AND NUMBER OF DEATHS IN ASIAN COUNTRIES AS ON 20-04-2020 DUE TO COVID-19



**Fig2: Relation between Temperature, Doublingtime and Death to case ratio in Maximally affected ASIAN countries due to COVID-19 from 30-03-2020 to 20-04-2020**

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# A STUDY ON FUTURE AND CHALLENGES OF ELECTRONIC E-COMMERCE IN INDIA

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## ABSTRACT

*E-commerce is one of the business that everyone is exploring at present and in future too. E-Commerce is growing at a fast pace in India. E commerce is the future of shopping. It is discussed in the paper that Indian E-Commerce Industry has registered remarkable growth in the last few years. There are unbelievable opportunities of growth in E-Commerce in future also with its certain challenges too and it needs to be addressed properly. In the present paper an attempt has been made to study the present status of E Commerce in India, discuss the future of E-Commerce in India with the help of forecasting done through Linear Regression, and examine the challenges of E-Commerce.*

**KEYWORDS:** E-Commerce, Growth, Online, India, Internet.

## 1) INTRODUCTION

E-Commerce stands for electronic commerce which means exchange of products, services and information with the help of internet. E- Commerce is an online transactions and is showing a tremendous growth in India. But Electronic commerce is more than just buying and selling products through online medium as it includes the entire online process of developing, marketing, selling, delivering, serving and paying for products and services. In short, it is doing business online. India has shown tremendous growth in the E-Commerce segment. E-Commerce has become an important tool for small and large businesses worldwide, not only to sell to customers but also to engage them. Due to lack of awareness regarding internet facility, online purchasing system was developing slowly, but now the situation has changed and the E-commerce industry is growing rapidly in our country.

## 2) OBJECTIVES OF THE STUDY

- To study the current position of E-business in India.
- To analyse the future of electronic Business in India. (Liner Regression Forecasting)
- To study the challenges faced by E-Business players in India.

## 3) LITERATURE REVIEW

S.A., K.K., J.M. (2016) researched on the topic “A Review Paper on E-Commerce”. The objective of the paper is to describe the scenario of E-Commerce

and to analyse the trends of E-Commerce. To achieve the objective present status and trends in e-commerce are studied which shows that over the last 10 years the use of internet is increasing at a tremendous rate.

MA.V.A. (2012) researched on the topic “E-commerce: Opportunities and Challenges”. This paper examines different opportunities of e-commerce. It brings out the overall view of growth of e-commerce industry in India from 2007 to 2011. This paper highlights the various key challenges and opportunities which Indian E-commerce industry may face in the upcoming years

Bulsara, P.H, Vaghela, S.P. (2017) researched on the topic “E-Commerce: Past, Present and Future - An Indian Perspective”. This paper deals with the introduction of E-commerce, its definitions, the difference between E-commerce and E-business, E-commerce organizations and its classification based on types of transactions and involved parties and benefits of E-commerce to organization and consumer. The paper also discussed key drives of E-commerce in India. It gives an idea about key challenges faced by E-commerce industry in India and highlights of future trends of E-commerce in India. Finally, Conclusion and recommendations are discussed

Khan, G.A. (2016) conducted a study on the topic “Electronic Commerce: A Study on Benefits and Challenges in an Emerging Economy”. The benefits of E-commerce and the impact of E-commerce on the market is discussed in this paper. Advantages of E-commerce are cost savings, increased efficiency, and customization. Successful



E-commerce involves understanding the limitations and minimizing the negative impact.

**N. Kiranmayi. (2016)** researched on the topic “**A study on barriers to e commerce in India**” The objective of the paper is to explain the concept of ecommerce and its limitations in legal and technical barriers. The paper is exploratory cum descriptive in nature. It is discussed in the paper that Despite India being second largest user base in the world most of the hosting companies is not suitable for E-commerce hosting purpose. There has been tremendous pressure to many E-commerce companies to keep the cash flowing. In spite of all its limitations E-commerce continuous to remain as a sunrise sector in India which offer immense benefits to all its stakeholders.

#### 4) SOURCES OF INFORMATION

In the present paper an attempt has been made to study the present status of E Commerce in India, examine the challenges of E-Commerce and discuss the future of E-Commerce in India. In the present paper, the secondary source of information has been used. The data has been collected from journals, books and websites.

#### 5) PRESENT SCENARIO OF E-COMMERCE IN INDIA

E-Commerce in India is still in a growing stage, but it offer tremendous opportunities for

developing countries like India. The e-commerce sector in India started their operations late nineties among business to business users (B2B). Business to Consumers (B2C) E-commerce started in 1996 in the form of matrimonial portals. The cost and the speed of internet was the limiting factor for their growth at that time. The first E-Commerce website in India was rediff.com, which was one of the most trafficked portals for both Indians and non – residents Indians. Last five years have seen a rise in the number of companies enabling e-commerce technologies and the internet in India. Major Indian portal sites have also shifted towards e-commerce instead of depending on advertisement revenues. Today E-Commerce has become an integral part of our society. There are websites providing any number of goods and services. These websites provide almost all categories of goods and services on a single site. These sites target the buyers of every possible product or service. These websites are known as Multi Product E-Commerce Sites. There are also Single Product E-Commerce Sites, which deal in specialised field only. Technology is changing the way of shopping. Out of the total internet users in India, 60% visit e-commerce sites. Favoured demographics and growing internet users’ base helped in adding the growth. Growth shown by Indian players like Flipkart, India Times, Snapdeal etc. and huge investors’ interest around these companies showed the immense potentials of the market.

The Table (a) and Graph (a) depict the leading e-retailers in 2019 in India.

Leading online stores in India in 2019, ranked by net e-commerce sales (in million U.S. dollars)

Table (a) leading e-retailers in 2019 in India

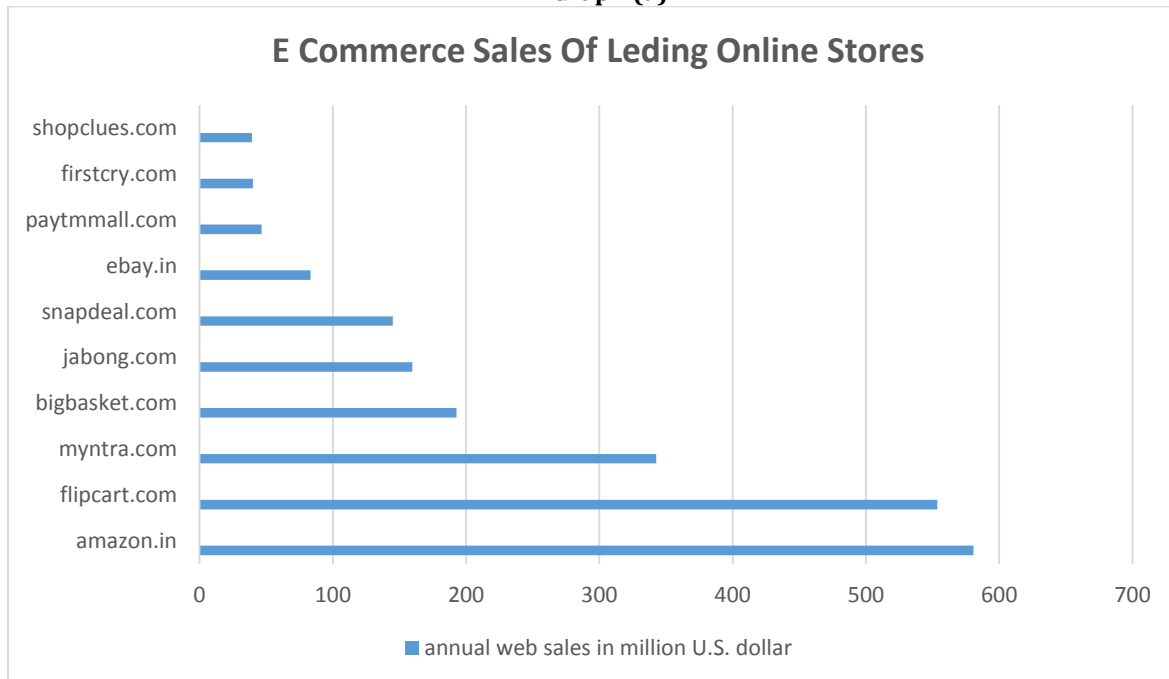
Name of company	Annual web sales in million U.S. dollars
Amazon.in	590.8
Flipcart.com	560.5
Myntra.com	382.7
Bigbasket.com	202.7
Jabong.com	159.7
Snapdeal.com	148.9
Ebay.in	89.2
Paytm mall.com	48.5
Firstcry.com	42.6
Shopclues.com	42.2

Source://www.statista.com

It is clear from the Table 1.1(a) that the Amazon is at the first position in terms of sales in the year 2019 followed by Flipcart and Myntra. Shopclues is at the 10th positions.



Graph (a)



## 6) FUTURE OF E-COMMERCE IN INDIA

The E-Commerce sector in India is growing rapidly in India. The internet users' base in India might still be mere 400 million which is much less as compared to developed nations of the world, but it is expanding day by day. The accelerating growth of e-

commerce in India is due to internet penetration and easily available smart phones. Furthermore the favourable demographics and government effort of digitalisation is also pushing the growth of e-commerce sector in India. Retail sector is one of the largest growing sectors in India at present, which is expected to grow in future with an increasing rate.

Table (b) and Graph(b) show the growth of ecommerce sales from 2015 to 2021.

**Table (b) the Growth of E-commerce Sales from 2015 to 2019**

Years	E commerce sales in billion US Dollars(2015-2019)
2015	12.19
2016	16.08
2017	20.01
2018	24.94
2019	31.94

Source: <https://www.statista.com>



Chart (b)

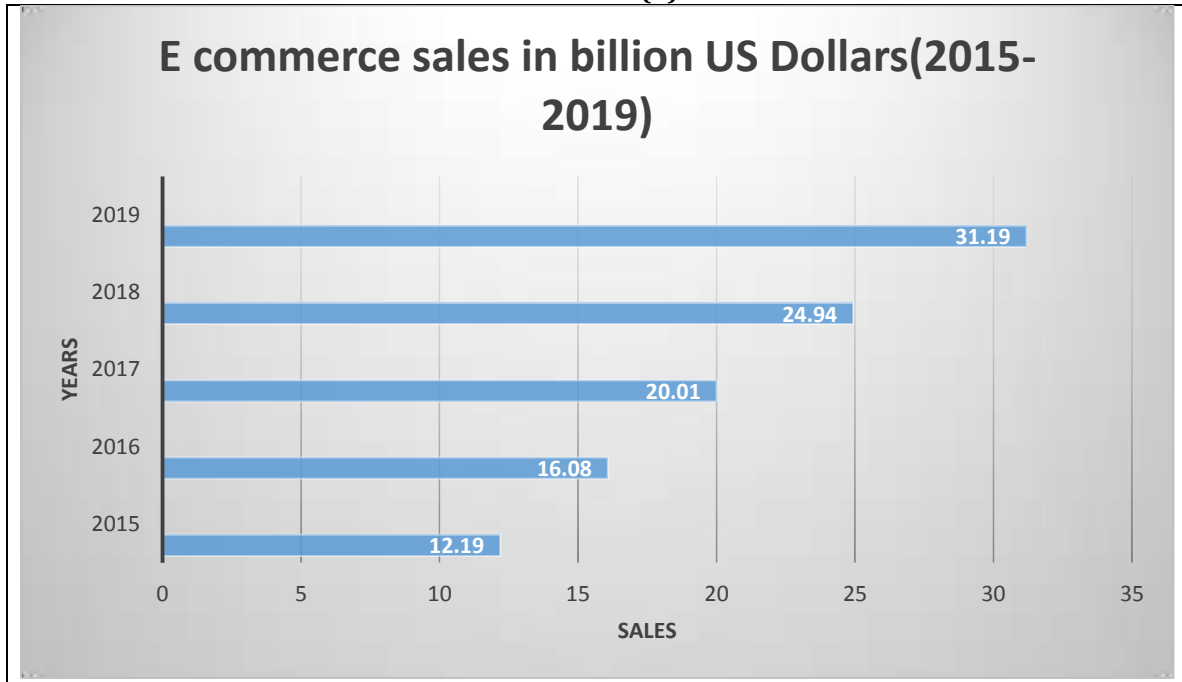


Table 1(b) and Graph (b) highlights the growth of E-commerce sales from 2015-2029. It is clear from the table and the graph that the e-commerce sale is showing an increasing trend.

It was 12.19 Billion Dollars in 2015 which rose to 16.08 in 2016. Sales are expected to grow with an increasing pace in the coming years also. It is expected to reach at 45.17 Billion Dollars in 2021, which is almost 4 times the sale of 2015.

## 7) FORECASTING USING LINEAR REGRESSION

With the help of forecasting method following predictions are made for the year up to 2025. As indicated from the graph the **Blue Line** shows the actual e-commerce sales and **Red Line** shows forecast sales.

The prediction is made with the help of Linear Equation  $Y=4.686X-9430.8$

$$R^2= 0.856$$

Table (C) Forecasting Using Linear Regression

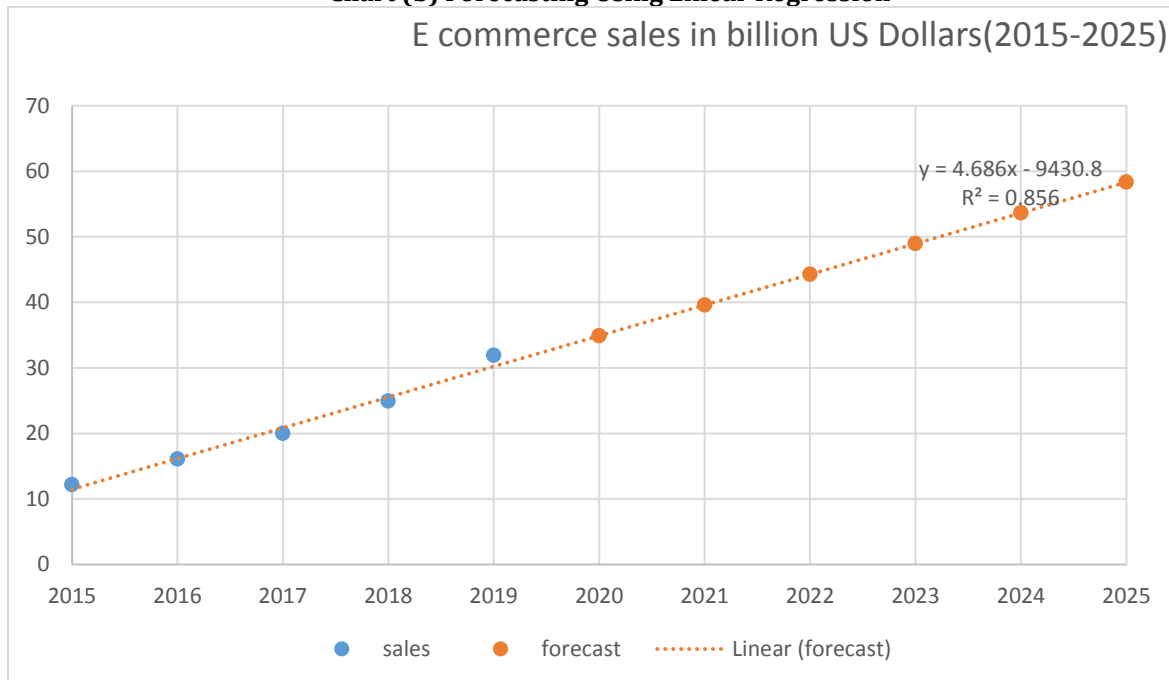
Years	E commerce sales in billion US Dollars(2015-2021)
2015	12.19
2016	16.08
2017	20.01
2018	24.94
2019	31.94
2020*	34.92
2021*	39.606
2022*	44.292
2023*	48.978
2024*	53.664
2025*	58.35

Source: Output Of Forecasting In MS Excel Using Linear Regression





Chart (b) Forecasting Using Linear Regression



## 8) BARRIERS OF E-COMMERCE IN INDIA

- 1) **Poor Internet Facilities:** As it is known that Internet is considered the backbone of the e-commerce. But in rural India the penetration of internet facilities in India especially is very less. Speed of Internet is also the major challenge in our country. No doubt we are moving towards 4G internet services but still a lot has to be done.
- 2) **Feeling Unsecure:** Feeling of insecurity by customer is one of the major and challenges for e-commerce India. Customers have to be confident about the integrity of the e-dealers and payment process before making any purchase order online. Risk of hacking and cybercrimes are also there.
- 3) **Logistic and Supply Chain:** Logistics and supply chain has been the major challenge to the e-commerce companies. As Most of the population of India lives in villages thus to reach the consumer in the village is a big task.
- 4) **Cash on Delivery (COD):** Cash on delivery is still a big problem for e-commerce companies. In the era of digital payments, cash on delivery is still the most chosen mode of payment used by the consumers. But this mode is very expensive for e-commerce companies as If when the customer return the product than it becomes very expensive for the company as it has to pay two way courier charges.
- 5) **High Competition:** There is a cut throat competition among the player in the e-commerce market. With intense competition, the profitability of the of the companies decreases as they have to use aggressive pricing strategy and offer huge discounts and commissions.
- 6) **Tax Structure:** Tax structure is another factor for lesser growth of e-commerce sector in India in comparison to other developed countries like USA and UK. In India there are different types of taxes and these taxes create accounting problems to online business. Some states are even charging separate tax on e-commerce transactions. Government has implemented the GST Act, which is expected to solve this problem to great extent.
- 7) **Absence of Cyber Laws:** Absence of cyber laws to regulate the online business transactions is another bottleneck to e-commerce in India. The new technology has created huge legal uncertainty in our country. The existing Consumer Protection Act 1986 needs to be amended to update and widen the scope of the Act.
- 8) **Physical Purchase:** Most of Indian customers are more comfortable in buying product physically. They want to see and touch the product before buying. So they do not prefer to buy product online.



## 8) CONCLUSION

E-Commerce has made the shopping easy. The E-Commerce Industry in India is growing rapidly and is one of the largest growing industries in India at present. E commerce sale is expected to grow by almost 5 times by 2025 than the sales of 2015. This unprecedented growth in E-Commerce is due to increase in the use of smart phones devices and internet users, 3G/4G internet services, awareness in public, government initiative of digitalisation, advanced shipping and payment options, entry of foreign e-business players etc. Government should take steps to provide a proper legal framework so that hurdles in the growth of e-commerce are reduced to minimum.

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# HOW TO CREATE A POSITIVE LANGUAGE LEARNING ATMOSPHERE IN TEYL: DIFFERENTIATED APPROACHES AND COGNITIVE CONCEPTS OF LANGUAGE ACQUISITION

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## ANNOTATION

*It is not a secret that, teaching language to young learners greatly differs from teaching adults. That's why, many scholars studied the process and different explanations have been put forward for taking into account: for instance, the age, level, ability, and attitude, psychological and cognitive concepts of young learners. In this article, we shall focus on specific ways of creating a positive language learning atmosphere; develop their interests and motivation to language learning. It is necessary for language teachers to be aware about different approaches and cognitive concepts of young learners in teaching foreign language and cope with their problems.*

**KEY WORDS:** *cognitive concepts, competent, uncluttered, essential, intelligence, interpersonal, intrapersonal, spontaneous*

## DISCUSSION

It is impossible to distinguish approaches to teaching young learners' without knowing about their characteristic features, what have been studied by scholars. According to Harmer "It is important, when discussing young learners, to take account of changes which take place within this varied and varying age span" (Harmer, "The Practice of English Language Teaching"). The basic changes that influence classroom methodology are as follows: young children are learning how to cope with school life, learning to become literate and continue to develop concepts. One of the most common beliefs about language learning and the age is that young children learn faster and more effectively than any other age group. However, this claim has been considerably disputed, because the general evidence is unclear. Various studies point to the fact that older learners and teenagers make more progress in language learning and are often more effective learners than the young ones, as they do not need language and they have got a short attention span. Here can also be mentioned that, children after inputting information may not develop the retention period, as they need more practice and memory games.

But another important thing is that, teachers should be true professionals and competent users of

the foreign language to provide young learners with quality input. Harmer comments that the teacher's pronunciation plays great role in teaching, as young learners naturally imitate it. Besides, it was mentioned that the physical world is dominant for young learners and they understand best through senses. That's why, it is important to activate senses of hearing, touch and vision into teaching. Halliwell mentions that teachers should use of gesture, intonation, demonstration, actions and facial expressions to convey the meaning parallel to what they are saying.

We know that most of young learners are visual learners, and demonstration is a key for successful teaching. For example, when teacher is organizing a board game, handouts or worksheet, they can be stuck on the board. Harmer makes some conclusions about what a classroom for young learners should look like. It should be bright and colorful, with enough room for different activities to be taking place. It should be taken into account that pupils would be working in groups in different parts of the room. Teacher can use different sitting arrangements for learners for each activity. Phillips agrees [3] that physical organization of the classroom is important. Ideal classroom would have an area of easily movable desks and chairs, an open space for action songs and



games, a quiet area for self-study or reading and a place where children's work can be displayed.

Other authors usually suggest that activities for eight to ten year olds should be changed every ten minutes or more, since their concentration span increases as they grow older. However, Scott points out that variety in the classroom should include not only the variety of activities, but also the variety of pace, organization and voice. It is also important to help children to feel secure and content in the classroom. "Security is not an attitude or ability, but it is essential if we want our pupils to get the maximum out of the language lessons".

It is fact that, young students at the beginner level are naturally curious about all new things. Their minds and memories are uncluttered; they have no fear of the unknown. If they wish to connect with their peers, they may still be able to use non-verbal means of communication. It means that, children are able to play together, never feeling any language barriers. Additionally, they can also retell, translate into their mother tongue what the other children are saying. It is also effective to use poems and songs are extremely useful, as well as fairy-tales, short plays, cartoons, any and all kinds of visual aids. Teacher may have them draw simple diagrams, repeating the same forms over and over again. Children can recite the same poem, listen to the same fairy-tale, sing the same song, and watch the same cartoon hundreds of time. They will enjoy drawing the same picture and laugh at the way grammar can be learned.

## PSYCHOLOGICAL AND COGNITIVE CONCEPTS OF EFL LEARNING

We need to distinguish that teaching techniques and EFL methodological concepts are quite different from each other. It is impossible to discuss cognitive concepts of language acquisition without reference to Howard Gardner [2] and his noteworthy and influential study of multiple intelligences.

- *Linguistic intelligence* is revealed through specially designed grammar and vocabulary exercises based on pair work in dialogues. We can distinguish two stages of working with the language material: first, the teacher presents new materials when the books are closed and then students work on it with their books opened.
- *Visual intelligence* is developed when students do exercises with the help of different visual aids like work cards, work sheets, pictures or use flash-cards. They reconstruct dialogues and stories with the help of stickers and pictures.
- *Musical-rhythmical intelligence* is developed when children listen to music, sing the song and imitate intonation and rhythm. At the same time they may deal with different

language tasks. They may listen to the song and do listening, vocabulary and grammar tasks.

- *Logical-mathematical intelligence* is very interesting and effective, as it includes in itself problem solving activities and puzzles, counting, analyzing elements of the whole, doing "odd one out" tasks.
- *Bodily-kinesthetic intelligence* comprises physical activities in itself which are preferable one for young learners. As they are full of energy, they enjoy language learning by moving, by participating in different role plays, games, making posters and doing projects.
- *Interpersonal intelligence* provides with such class modes as a pair work group work, games and team activities. They learn how to communicate and share their opinion with each other. As a result of it, they break psychological barriers like, shyness, confusion
- *Intrapersonal intelligence* is based on silent individual work and self-reflection. In order to develop this intelligence, teachers should organize more individual works. They are asked questions to what they give their own opinions and thoughts.

## DIFFERENTIATION METHOD

We can't deny the fact that teaching English to young learners is not an easy process. It has its own peculiarities based on psycho- physiology of their age which need to be taken into account while teaching them. Psychologists assert that preschoolers' perception, memory and attention and retention are involuntary [3]. Children cannot regulate their perception and analyze and retain information. Their attention is drawn by bright objects. Their concentration lasts as long as they are interested in the activity. Therefore, the essential methods of teaching EFL to young learners are based on 3 principles:

- 1) Role plays;
- 2) Communicative methods;
- 3) Total physical involvement.

Learning a foreign language is a pleasant moment in a child's life. He climbs the stairs to a new level of knowledge. In an effort to teach children the basics of English phonetics, grammar and enrich their vocabulary, a teacher overshadows the individual characteristics of a child, the reaction rate, mental health [3]. Because of this, children cannot move forward in learning knowledge as the basis for successful learning is not only the traditional age principle. It is fact that students might be very different in their learning, motivation, learning style, and in other respects. Sometimes, they do not know



about their learning styles. One needs to teach in a way that accommodates these differences, which is called *differentiation*. What is the main goal of this approach? That is to say, the main goal of a differentiation approach is not to provide the necessary minimum in the assimilation of knowledge and skills, but to ensure the greatest possible depth in mastering the material, proper development of abilities of each student. Thus, differentiation involves an implementation of developing learning [3].

According to the above mentioned differentiation, it is useful to divide most children into groups based on the basic channel of perception. This allows a greater training effect. Although, the bone of contention is based on the type of child's temperament, this type is considered to be impractical in a traditional lesson system. This division is more suitable for extra-curricular activities such as the preparation of the play or concert. Modern research shows [4] there are quite large differences in the behavior and training of boys and girls due to a number of factors – biological, physiological, neuropsychological, social, psychological and pedagogical. But, there are some common characteristics what all children might have. They are:

- Energetic and physically active
- Curious and receptive to new information
- Imaginative and playful
- Spontaneous and social to relate to others
- They have short attention span

Taking into account the characteristic, teachers need to explore the followings: characteristics of young learners, how children learn and how children learn the language. If teachers are aware about principles and methods of teaching young learners, they achieve success in teaching, planning and organizing a good classroom atmosphere. In turn, learners develop motivation for learning foreign language even they don't have aim for language learning.

Cameron suggests six recommendations which can be applied in TYLE:

1. Use fun and engaging activities
2. Engage students in a variety of interactions
3. Cater to different learning styles and intelligences
4. Make language learning meaningful and relevant
5. Introduce learners to different cultures
6. Use various teaching strategies that set up learners for success

These recommendations are really true to the teaching process of young learners. Teachers need to implement appropriate games and activities into the practice, and select materials matching meaningful language content, what can highlight different cultures, world knowledge and language practice. As

a result of it , teachers easily create a good classroom atmosphere.

### What is classroom atmosphere?

The classroom atmosphere is a reflection of students' opinions of their academic experience [3]. This includes students' perceptions of the rigor of the class, their interactions with their instructor and class peers, and their involvement in the class. Although each student will develop his or her individual sense of the classroom environment, there is also a community, or collective, sense among the students and the instructor, so the classroom climate is a general feeling shared by all in the class.

### CONCLUSION

Teachers need to be aware about different methods and approaches in teaching young learners, as they are different in inputting information, in mind, behavior, attitude to learning languages. Teachers should deeply recognize their own learners, their characteristics and learning styles. They should know about the key elements of creating language learning atmosphere what help learners to avoid psychological barriers. Learners should be motivated by a desire to succeed, to explore, to develop and to improve, not by a fear of failure. Young learners feel the need for a demonstration when they are learning any language skill. This is because they want to know how they can best do it, when and where it is appropriate to make use of their skill. In turn, child should master the language consciously, and master the language as a medium of communication. The language learning process should improve general educational skills (e.g., ability to work with the book) by expanding their scope in the process of mastering a foreign language.

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# THE NATURE OF SECURITY- DRIVEN DIPLOMACY IN EXECUTING COUNTERINTELLIGENCE OPERATIONS: NADAPAL BELT KENYA-SOUTH SUDAN BORDER

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## ABSTRACT

*Security driven-diplomacy has attracted wide contestations as a preponderant tool for heralding new frontiers in executing counterintelligence operations. As a state-hinged ideology, diplomacy is enhanced through security and security apparatuses. The international pledge of fostering diplomacy through security agencies percolates down through continental, regional niche, to transnational setting as well as national territoriality. Security and diplomacy are both in a process of transformation and the transformative agenda boils down to underscoring security as a driving agent of diplomatic ventures in executing counterintelligence operations. Despite the lead role played by the agencies in entrenching diplomatic forays, counterintelligence operations have largely been elusive, its actors evasive and abrasive. This article was underpinned by one key objective: to examine the nature of security- driven diplomacy in executing counterintelligence operations with reference to the Nadapal belt along Kenya-South Sudan border. This article recommends that, other than the state being the major actor in security-driven diplomacy, a more fused and collaborative umpire should be established along the belt so as to expeditiously deal with latent cross-border affairs.*

**KEY WORDS:** Security driven-diplomacy (SDD), Counter-Intelligence Operations (CIOs), national territoriality.

## I. INTRODUCTION

Security driven-diplomacy now takes considerable time and resources. It has emerged as a new mode of post-modernist ideology employed to consolidate competent minds in the securitization agenda of states. By and large, many diplomatic pundits argue that security driven-diplomacy should not be used for other purposes, but in an interdependent world, in which the concept would serve as an extraterritorial role (Nolan, 2009). Globally, many governments are often not clear about their motives behind the rationale of security driven-diplomacy, when foreign interests are advanced. This scenario has provided a monumental barrier in state's major role in employing security-driven diplomacy. Perhaps, a new way to run the world (Nolan, 2009).

The information age is rapidly shaping the contours of security-driven diplomacy. The crafting as well as practicing of SDD has been epitomized by porous border challenge in defining national sovereignty as well as integrity. The conduct of war in

either benign or malign state has largely shaped relations (Doyle, 1997). Additionally, the volatility and interconnectivity exhibited by complex shifts in international security pose serious questions to the changing dynamics of security agenda. Consequently, the unprecedented shift warrants traditional security priorities and innovative practices that engender security-driven diplomacy. Prioritization of resilience-themed network strategy by the United States (US), for example, is explicated by the need for credible influence other than coercion, participation other than exclusion, transparency instead of secrecy, and sustainment instead of containment (Kalathil, 2013). Such prioritization is key in any security setting.

In as much as a number of literature have focused on the nexus between security and intelligence, the incongruity in counterintelligence as well as counterintelligence operations do not respond well to failing states, hence preservation of dignity or contagious extremist ideology witnessed in various parts of the world, especially in the horn of Africa.



Therefore, in order for counterintelligence operations to be expeditious, security driven-diplomacy umpire is needed to oversee as well as advocate for sound security initiatives.

According to Buchere and Jonyo (2011), security threats in Africa, are as a result of state vulnerabilities that are attributed to ethnic polarizations that coalesce with weak economic bases and military-like social formations. Whereas Buchere and Jonyo allude to options of strengthening security sector, fragmentary thoughts and mechanisms are referred to as far as security driven diplomacy is concerned. Further, while African countries, from embattled Congo Brazaville, to terrorist marooned Chad and Nigeria, have employed sustained efforts in pursuing security driven-diplomacy, to a large degree, counterintelligence operations have remained elusive.

Furthermore, regional security underpinnings have been characterized by strong-willed actors whose collaborative efforts have borne little results. The establishment of regional security communities in various parts of Eastern Africa has been trajectory in nature. However, dearth of political will and mutual trust has greatly stymied these initiatives. For instance, the formation of the Inter-Governmental Authority on Drought Development (IGGAD) in 1986, later succeeded by IGAD (Inter-Governmental Authority on Development) in 1996, with broader security mandate, has exercised little preference to security driven-diplomacy. Besides, the establishment of Africa Mission in Somalia (AMISOM) and EASBRIG, has had little impact on executing counterintelligence operations (Buchere and Jonyo, 2011).

Popular narrative generally holds that, time and distance are collapsing. Disproportionate and ever increasing power, pitting state actors versus non-state actors, is attributed to diverse ambiguity in the concept of security (Buchere and Jonyo, 2011). This offers a piecemeal thinking that does not adequately appreciate security driven-diplomacy. If as Faris (2013) notes, modern diplomacy of which SDD is an appendage, and has traditionally been defined as the practice of crafting open covenants, secretly arrived at, then the heightened employability of SDD in the recent history should not be a worrisome matter.

Albeit critics of SDD have contended that security driven-diplomacy is a linear and unpredictable approach in executing CIOs, they myopically eschew the fact that security-driven diplomacy involves communication, planning, gathering information as well as transferring, commanding and controlling networks from seemingly isolated locations. The flipside of the coin is also important. The agility to conflate security driven-diplomacy and CIOs,

explicates the inertia of past practices in security, in attempting to parse the language of SDD with abstractions. This paper canvasses the nature of SDD by looking at the transnational actors as well as the driving factors of CIOs.

## II. THEORETICAL FRAMEWORK

This research paper was underpinned by securitization theory. By applying the argument of 'national security', the chief question, as to what security is, is very integral in deciphering the applicability of this theory to security-driven diplomacy. In traditional, realist thinking, security can be understood as the freedom from military threat. However, the post-cold war era, characterized by scholars of the Copenhagen School, developed securitization theory as part of a broader attempt to redefine the concept of security (Emmers, 2007). Besides, military security, this wider understanding of security includes political, societal, economic, and environmental security. Williams and Micheal (2003), moot that, within securitization theory, the concept of security "is not treated as an objective condition, but as the outcome of a specific social process". Thus, securitization theory takes a constructivist approach to the study of security. In essence, scholars studying securitization pose the question, "what counts as a security problem?" (Balzacq, 2011).

Since the emergence of as well as the development of the Copenhagen school, securitization theory has been largely criticized and further developed by other scholars. Currently, there are three main approaches to the study of security. Besides the Copenhagen School, the most prominent approaches are the Paris School and the Welsh school. There are several fundamental differences between the philosophical, sociological and normative approaches to securitization.

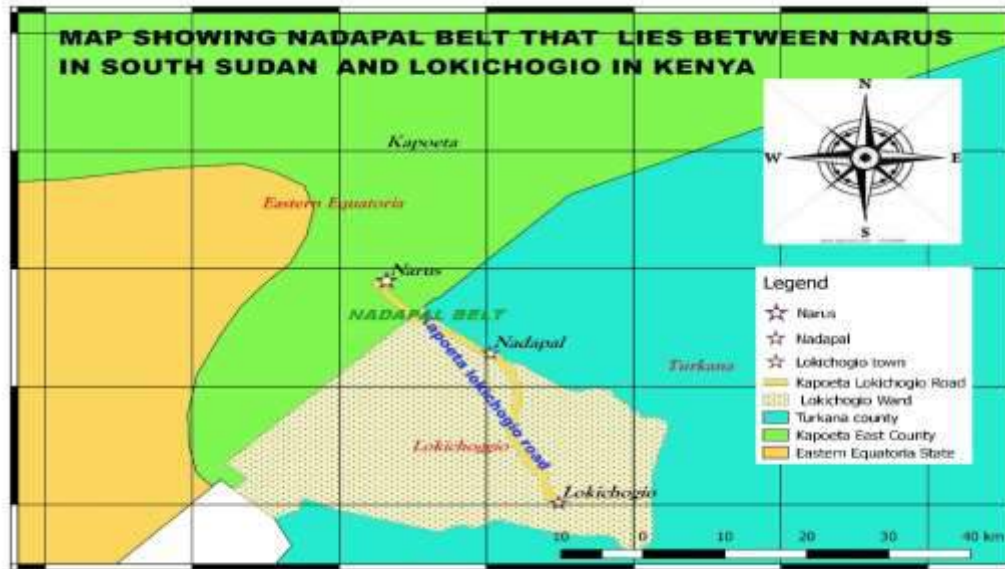
The normative approach includes scholars from the Welsh school and focuses primarily on the conditions for individual security from a wide variety of threats, instead of a state centered security approach. This explains the rationale of this theory in SDD along the belt. The philosophical approach includes scholars working from a post-structuralism approach, including scholars of the Copenhagen school (Balzacq, 2011). They believe in the power that language holds; something becoming a security threat is inherent to the act of saying it (Buzan *et al*, 1998). In nuce, they argue that security is a speech act (Balzacq, 2011).



### III.METHODOLOGY

The research paper employed descriptive survey as well as cross-cultural design. According to Mugenda and Mugenda (2003), descriptive research determines and reports the way things are. Busaha and Harter (1980) observe that the overall purpose of the

descriptive survey is to obtain comprehensive information from every member of population of interest. Its primary advantage is the opportunity it affords for thorough, detailed examination and analysis of the research problem so that findings can be applied directly to the subject under study.



**Figure 1.1: A map showing area of study-Nadapal Belt, Kenya-South Sudan Border.**

Source: Researcher, 2018

Based on the sample of 384, the following categories of respondents were selected: Household heads; government officials, Non-States Actors and FGD participants. Random and purposive sampling was used to determine the distribution of 384 respondents.

The purpose of sampling was to secure a representative group which enabled the researcher to gain information about the population. Nadapal belt and the selected areas have a population of more than 10000, therefore, the desired sample population was determined using Fisher's formula for sample size determination (cited in Mugenda & Mugenda, 1999:43). The formula is stated thus:

$$n = \frac{z^2 pq}{d^2}$$

Where n=desired sample size (the target population is greater than 10,000).

z=the standard normal deviate at the confidence level of 95% is 1.96.

p=the proportion of the target population estimated to have characteristics being measured is set at 50%

q=1-p (probability of non-success)

d=level of statistical significance set at 0.05

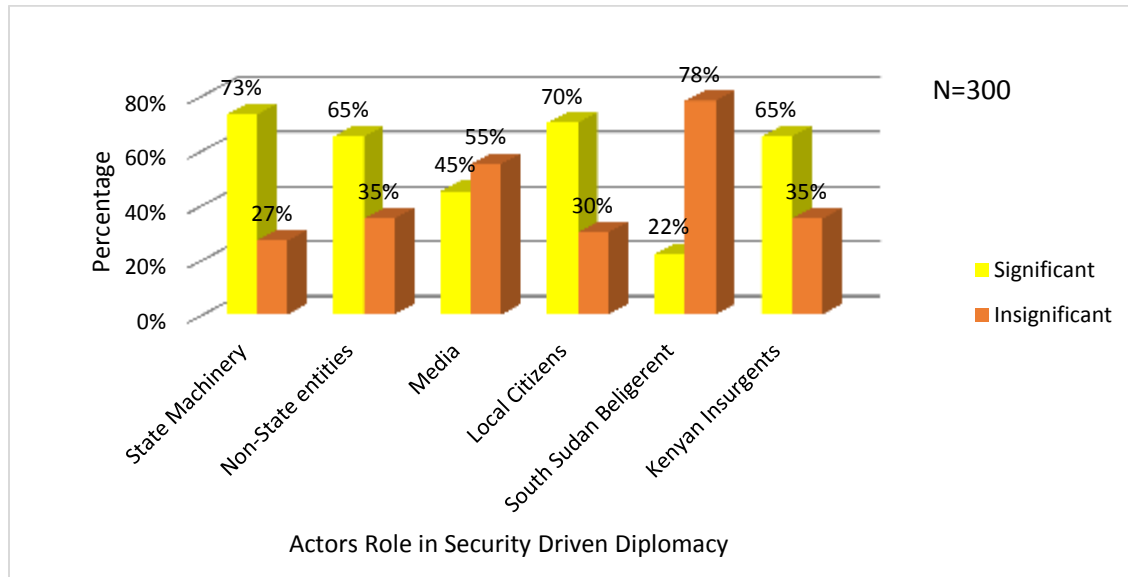
$$n = \frac{(1.96)^2 \times 0.5 \times (1-0.5)}{(0.05)^2}$$

$$n = 384$$

### IV.FINDINGS

#### A. Actor's Role in security Driven Diplomacy

This research paper sought to ascertain the role played by various actors in security driven diplomacy and consequently the influence on CIOs along the Nadapal belt. The results are as shown in figure 1.2.



**Figure 1.2 Significant rating of Actor's Role in security Driven Diplomacy by the Respondents at Nadapal belt, Kenya-South Sudan border**

Source: Field Data, 2018

#### ❖ State Machinery

The results in figure 1.2 attest that, out of 300 respondents, 219 (73%) respondents rated the state machinery as significant actor in security driven diplomacy while 81 (27%) respondents avouched that state machinery was insignificant as far as SDD is concerned along the belt. According to the respondents, state machinery includes the state itself, its personnel and the arsenals used in administration. They reasoned that the presence of police, the Kenya police reserve and the Rural Police Patrol Unit (RPPU) and the military, was an indication that security issues were a concern of the state and a prerogative of the state in general. However, those of contrary opinion averred that the presence of the state and its tools was as good as it was not there, since they did not feel any role that has been played by the state machinery along the belt.

The foregoing results were corroborated by FGD findings where participants confirmed that state machinery was a preponderant actor. One of the participants posited that:

*Serikali* (the government) has played important role in emphasizing the need for security but the efforts are still not enough. The government has put in place the Kenya Police reserve (KPR) which better understands the landscape and Rural Police Patrol Unit (RPPU) to set roadblocks and pursue the intruders (FGD respondent 13<sup>th</sup>.September, 2018,Lokichogio Ward).

Recognizing border porosity and regional volatility, the Kenya government has put a raft of measures to improve cross-border security. Rodriguez (2014) posits that to help Kenya's security institution, securing its national territory and dealing with counter insurgency is key. These counterintelligence operation along with multi-thronged efforts of transnational military operations, have to some extent thwarted the efforts of Toposa aggression into the Kenya land. In addition to CIOs and recent strategic military location, SDD has assisted Kenya in battling insurgency (Rodriguez, 2014).

Kenyan government albeit in the lead to promote safe border, has collaborated with the U.S which has led to improvement of security institutions, thereby building sustainable diplomatic relations. Consequently, the military, as a state machinery has played a pivotal role in diplomacy (Pajtinka, 2016).Pajtinka postulates that the military performs several key functions including (i) gathering and analyzing of information on the armed forces and security situation in the receiving state,(ii) promotion of communication, mutual engagements, cooperation between sending state and receiving state and receiving state (Kenya and South Sudan) respectively,(iii) organizing of working visits of defense authorities among other key roles. In the broadest sense, the efficacy of military is understood as a set of all non-violent foreign policy activities of programs of states implementation where emphasis is laid on external security of Kenya. In the narrowest sense, military engagement has been seen as diplomatic activities of defense ministry with the aim of promoting





interests of the state. Rusinak characterizes military engagement as “the activity of military diplomats focused on political and security issues.”

In the historical context therefore, the Kenyan military was deployed along the border. This is in respect to diplomatic negotiations within the broad spectrum of Versailles Peace Conference. Dubrin (2015), postulates that, analyzing the personality of state actor on transnational relatives, state as an actor emerges as critical opinion shaper when it takes into consideration the view of other authorities. This is essential in SDD as a preponderant tool in CIOs.

#### ❖ Non-State Actors

Non-state entities are also key players in security-driven diplomacy. The results in figure 1.2 indicate that 195 (65%) of the respondents stated that non-state entities significantly played a role in SDD along the belt, conversely 105 (35%) of the respondents indicated that non-state entities insignificantly played any role in SDD.

Among those interviewed, lobby groups, religious groups and aid agencies featured as important non-state entities along the belt.

These findings were corroborated by FGD participants who indicated that:

There are many organization that are locally stationed. They perform various functions. We have Oxfam, Education for all, LOKADO (Lotus Kenya Action for Development), and Red Cross. They are involved in security issues, negotiation and peaceful settlements of disputes. They also support operations of the police and military by providing important information. (FGD respondents 13/9/2018, Lokichogio Ward).

The foregoing is underpinned by Hall (1997) who posits that, the non-governmental organizations facilitate communication between individuals of interest. They also work as pressure group to change government policies and offer critical information-gathering resources. This is most often when no other reliable source exists or is scuttled. Since 1972 when the Stockholm Declaration was promulgated, non-state entities have played significant roles in a number of issues. First, they have established channels of communication that have been used by state representative in order to conduct intergovernmental negotiations. Second, they have informed national as well as international players on conflict and security issues. Besides, the NGOs have emerged as an important partners to both national and government international agencies where issues pertaining to

diplomacy, and counterintelligence discourses have been fronted and delved upon.

More often than not, intergovernmental bodies have been mooching and slowing with emerging crisis situation. However, NGOs capitalize on institutional and political limitation of the state agencies to operate in very difficult circumstances (Weidenbaum, 2009). Consequently, the non-state entities of which NGOs forms quintessential part, have been critical in understanding CIOs along the belt. Though in functional terms non-states entities cannot invariably be distinguishable from state, since they are at times forms of quasi-government organizations, there are still functional overlaps between what non-state do and states activities. State wield much power in SDD and influence non-state entities in CIOs. For instance, there exists complexities of practice and functions, thus a clear cut autonomy from the structure and machinery of the state override the mandate of non-state in SDD and consequently influence CIOs. Weidenbaum (2009) postulates that state take advantage of non-state. This resonates with respondents who asserted that non-state entities play insignificant role in SDD. Apparently, this is a plausible reason. Overall, non-state entities are significant actors in security-driven diplomacy.

#### ❖ Media

Additionally, 165 (55%) of the respondents were of the contrary opinion and stated that the media is an insignificant actor in SDD while 135 (45%) of the respondents said that the media is significant. Among those who exhibited contrary opinion, understood media as channels of communication such as television and radios.

In light of this assertion, the participants in the FGD stated that:

The media is important but in many occasion it is bias. It favors some sectors and ignore other players in security matters. For instance, the media both local and international have pictured our region as no go zone areas and this affects our relationship with both the government and the non-government players. Therefore, we see the media as playing not much role in security and diplomacy, because this gives attackers from neighboring country an opportunity to take advantage of our areas and carry out attacks. (FGD participants, 14/9/18, Nadapal)

Research from other scholarly work confirm that, media is inexorably important channel linking the





world. It presents undeniable opportunity to create sentiments and shape relations. With expanded universal, regional and transnational reliance, clustered proximity and ubiquitous aggressiveness, the role of the media cannot be gainsaid (Young, 2014). Wolfsfeld (2004) further avers that, the media has assumed a vital role in emancipation of communities and promoting security and peace-building. Significantly, the media has played key informative roles in Cambodia, Croatia, Bosnia, Macedonia and Rwanda. However, in SDD, the media has been lackluster and bias to advance sentiments that are in tandem with what they wish.

Though virtual media and cyber diplomacy have emerged as critical appendage of SDD, numerous opportunities in the social media platforms have not been exploited. Consequently, the media has not accelerated SDD to a level of influencing CIOs. Media influences perspectives and affects public opinion. Thus, in SDD, the media has emerged as a new frontier, an aggressive propaganda machinery thus leading to miscues in CIOs. Media's primacy along the belt is still elusive considering adaptability to porous terrain.

#### ❖ Citizens

Besides, 210 (70%) of the respondents indicated that the citizens plays a preponderant role in SDD whereas 90 (30%) of the respondents were of the contrary opinion. This implied that local residents get the support they require from the government in dealing with counterintelligence operations. The local citizens play significant role in CIOs. Among the respondents who agreed that local residents play a vital role in SDD, communication factor emerged as an important interplay in counterintelligence operations. They argued that they are better informed when information is conveyed to them via the media and other channels of communication. Citizen-oriented roles that shape SDD understanding were among the most effective methods of making residents engage actively in CIOs. Further, partnership with the government was deemed vital. It is at grassroot level that citizens can aid agencies and forward critical information needed for CIOs. The respondents were in agreement that local meetings and advisory committee were avenues for providing information and providing feedback on how counterintelligence can be conducted.

#### ❖ South Sudan belligerents

From figure 1.2, 234 (78%) of the respondents indicated that the South Sudan belligerents played an insignificant role in SDD along the belt and 66 (22%) of the respondents stated that the South Sudan belligerent played a significant role in SDD. This response revealed a compelling feeling of respondents

that the South Sudan belligerents' role in SDD was insignificant. They attributed this to the incessant invasions and attacks by the Toposa, who more often than not, have had a predilection of invading the Turkana community.

They opined in this manner: the South Sudan belligerents are nebulous in their operations and hardly engage security personnel in breaking truce and resolving conflict. The foregoing was corroborated by an interview with a Kenya Police Reserve officer, who asserted that:

*Kundi haramu ya Sudanese inatuhangaisha sana katika mpaka. Inatushambulia sisi kila mara, wanachukua, mifigo yetu, bibi zetu na hawataki kukutana na sisi tuongee. Hawataki kuhusishwa na serikali yao, hawataki serikali yetu. Wanajifanya wanakuja biashara kumbe wanakusanyika kutushambulia. Tumepata hasara kubwa.* (The South Sudan belligerent group disturbs us a lot along the border. It attacks us every time, they take our cattle, wives and they don't want to meet us and dialogue. They don't want to be involved by their government, they also don't want to be involved with our government. They disguise themselves in business forays only to attack us. We have greatly run at a loss (Interview with Kenya Police Reserve officer, 14/9/2018, Lokichogio Ward).

The antecedent assertion suggests that, Kenya – South Sudan diplomatic miscues is long predated by South Sudan's independence. However, it is the alleged competition between Sudan and Uganda for armed proxies that have woven a terrible and fearful fabric of belligerence. The ongoing dispute over shared border, support for armed groups and distribution of revenues along the border have been a fodder for belligerence acts. In 2013, the South Sudan belligerence launched a scathing attack on Kiir's government, though with tacit support of U.S, Kiir's government survived (Reuters, 2018)

This research paper notes that the intra-state conflict pitting the belligerent and the state, has led to devastation of economic mainstays. This is due to the blunders in oil exploration that have influenced the conflict between President Slava Kiir and his former *numero dos*, Riek Machar, as the resource is used to support each other militarily. With Chinese prospecting oil in South Sudan, the belligerent feel that 'aliens' ought to be driven away. Consequently, this has led to migration and some of the belligerents find their way



across the border, Kenya-South Sudan (Dziadosz, 2012).

The North –West part of Turkana County, particularly the Nadapal belt, has been a conduit for belligerent to enter into Kenya. Besides, the North West region has been surveyed to have viable and prospective oil deposits and therefore seen new oil prospect zone along the border of the two countries (KPMG, 2013).Overly, the research noted that the East Africa, is at inflection point thus augmenting its muscles in development trajectories. However, SDD has not been successful in countering the belligerent acts. This research paper noted that the South Sudan belligerent played huge role in thwarting efforts of SDD in CIOs rather than constructively contributing to the question of stability .Therefore, in near future, the operations of SSD are likely to escalate in unprecedented level, hence the need to rethink SDD as deterrence mechanism rather than offensive approach (Angelo & Mc Guinness,2012).The research paper observed that the Nadapal belt has become more contentious and dubbed ‘ellipse of instability’. This is due to the fact that cross border raids and tensions between communities in Turkana and Toposa fuel further destabilization in the region thus impacting negatively on border security. Thus, political and economic dilemmas have curtailed

Kenya’s role in making major contributions in strengthening state authority in South Sudan.

#### ❖ Kenyan Insurgents

Interestingly, 195 (65%) of the respondents agreed that the Kenyan insurgents played a significant role in SDD while 105 (35%) of the respondents indicated that Kenyan insurgents played insignificant role in SDD. Kenyan citizens who identify themselves with cross-border intrusion have incessantly intruded to the neighboring South Sudan. According to the respondents, Kenyan insurgents pursue their opponents as aggrieved and disgruntled men, who see fighting as panacea to their problem rather than engaging in diplomatic ways to resolve their grievances. From the foregoing findings, it is evident that both the media and South Sudan belligerent played insignificant role in security driven diplomacy while state machinery, non-state entities, local citizens and Kenya insurgents played significant role in SDD.

#### B. Driving factors for CIOs at Nadapal belt, Kenya-South Sudan border

This research paper sought to determine whether the respondents understood the factors influencing counterintelligence operations. The results are as indicated in figure 1.3

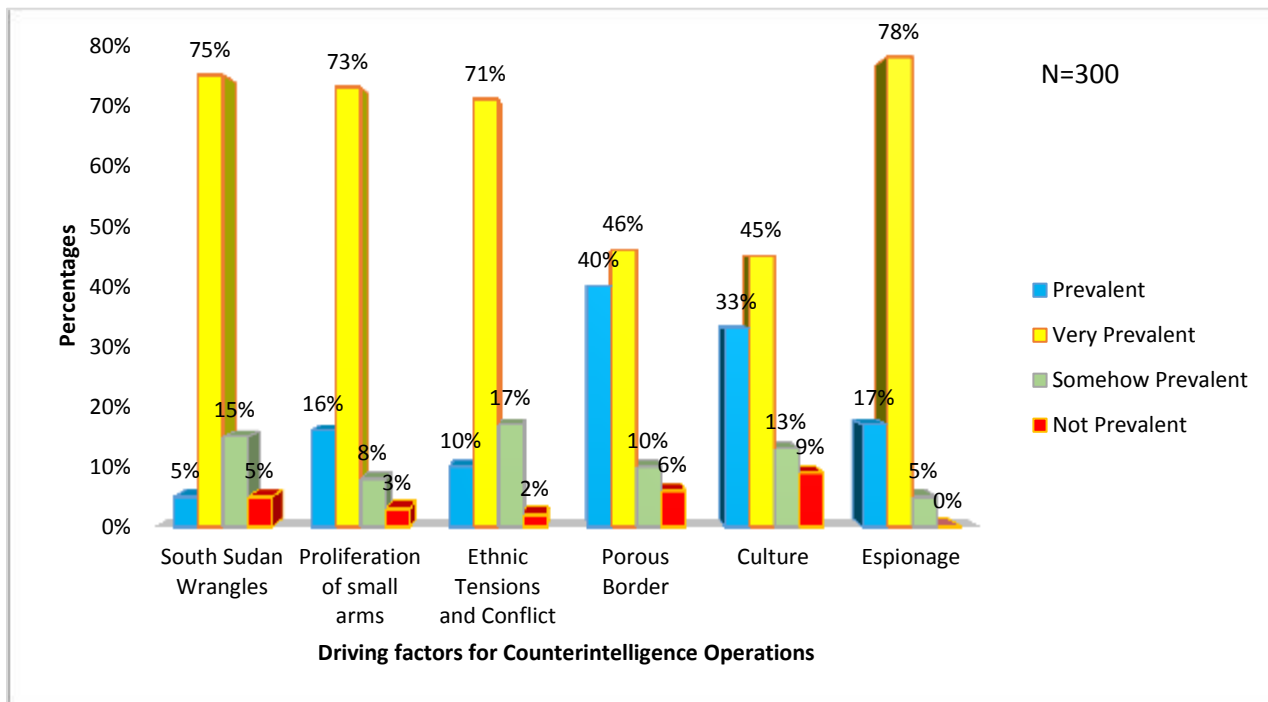


Figure 1.3 Understanding the driving factors for CIOs at Nadapal belt, Kenya-South Sudan border  
 Source: Field Data, 2018



### ❖ South Sudan Wrangles

From figure 1.3, the results show that, out of 300 respondents, 225 (75%) of the respondents acknowledged and rated South Sudan wrangles as very prevalent and noted that they have led to CIOs, whereas 15 (5%) of the respondents stated that South Sudan wrangles were prevalent, on the same note, 15 (5%) of the respondents stated that the South Sudan wrangles were not prevalent. Besides, 45 (15%) of the respondents stated that the South Sudan wrangles were somehow prevalent. The respondents who asserted that the wrangles in South Sudan were common, attributed this phenomenon to continued broken peace deals. However, those of the opinion that wrangles are not common were optimistic and exuded a harbinger of hope that brokering of peace yields better results. These findings were further corroborated by a South Sudanese fugitive who adduced that:

There is much conflict in my country. The fight is between Riek Machar's (Nuer militia) versus Salva Kiir's government. They fight to control key resources. They don't want dialogue. They meet in peace agreements but renege on their promises. They make us look like we are not human beings. Since we got independence, it is like we are not independent. We are under new colonial masters who try to liberate themselves and not us. The fighting have led to people fleeing away to find peace. Some move to occupy new territories and control them (Interview with South Sudan Fugitive, 18/9/18, Lokichogio Ward).

Additionally, the FGD participants opined that:

We hear a lot of information about South Sudan's conflict. We see many of them run to our country in search of peace and home to stay. They tell us that their country is unstable. They are afraid that the government and the opposition will continue fighting if nothing is done. Their families are broken, killed and raped. Sometimes we are afraid of interacting with them for fear of being reprimanded by our police officers. (FGD respondent, 18/9/18, Lokichogio Ward).

The foregoing proffer that, conflict is indubitable. Those responsible for security, cause conflict which further escalate wrangles in the society. Societies large and small are caught in the conflict

traps with democratic illusions, political tensions and rebellions, a common affair. Apparently, South Sudan is a story of two worlds, two visions; Salva and Machar. Compounding the South Sudan situation is total impunity and a breakdown of law and order which has allowed violence and organized banditry to flourish. Though the backdrop of South Sudan wrangles was the heightened cessation that led to independence of South Sudan, the proxy opposition groups have threatened to annihilate the pillars of democratic progress made so far.

This has exacerbated security efforts and consequently provided rich environment for tension to sour high. South Sudan wrangles coupled with fragile justice system and resource conflict have left populations in grievous security abyss dominated by impunity. Civilians, including remote villages, refugees- internally displaced persons have been victims of intimidation and physical attacks. Though internal and border security have been declared first priority for South Sudan Republic, pockets of insecurity in South Sudan are pervasive and more often than not, go unreported (Khabure, 2013). This has been critical considering the fact that South Sudan is still struggling with post referendum, and post – independence domination battles between the Dinka, Nuer and Shilluk.

Khabure (2013) avers that the South Sudan wrangles coupled with domination and constraints on political space remains a major source of long simmering discontent. Knopf (2016) observes that the South Sudan wrangles have increasingly posed a threat to regional stability and the security strategy of U.S partners in the region with particular emphasis on the fact that the key partners in the region, Kenya included, have a propensity of undertaking unilateral military operations interventions with unpredictable results on operations to provide life support to Africa younger nation. The South Sudan nation wrangles have aggravated intra-regional tensions with spill-over effects. Comparatively, Sudan and Uganda have had a long-standing rivalry on border points, Uganda and Ethiopia have been embroiled in hegemonic competition for regional kingship thus exacerbating South Sudan hugger-mugger state. This has warranted international trusteeship as suggested by David Lake and Christopher Faris, political Scientist. These pundits opine that international transitional administration should come at the request of the South Sudanese government. Consequently, South Sudan wrangles can be turned to an opportunity that shapes CIOs along the belt.

Khabure (2013) further attribute wrangles and tension to weakened legal systems and perception of



civil societies as new opposition frontiers for the government. This has simmered tensions, thus the most serious outcome of persistent wrangles in South Sudan has been the increased tensions between communities. These tensions, as argued by Khabure are as a result of exploiting categorization of individuals by political factions and ethnic polarization. The resources too, latent or non-existent have a dimension of identity politics where Christians and Muslims conflict along religious lines and retreat to keep vital information that may be useful in CIOs.

#### ❖ Proliferation of Small Arms

The results also revealed that out of 300 respondents, 219 (73%) stated that proliferation of small arms was very prevalent, 48 (16%) of the respondents indicated that proliferation of small arms was prevalent, 24 (8%) of the respondents also stated that proliferation of small arms was somehow prevalent and 9 a representation of 3%, stated that proliferation of small arms was not prevalent. Intra-community battlements and confrontations, retaliatory attacks and quest for self-defense have been anchors for many ethnic militias and insurgent group formations.

To a larger extent, the respondents agreed that proliferation of SALW was widespread along the belt and counter-proliferation actions that would include detection, monitoring and preparedness to conduct counter-proliferation operations, was necessary. Conversely, those who said that a proliferation of SALW was not prevalent were either those who participate in proliferation or those who didn't have an idea of what proliferation entailed. According to Khabure (2013), proliferation of small arms is majorly attributed to trivialization of unpunished violence. The conflict between the Turkana and the Toposa is also attributed to apparent dearth of information on the source of small arms used majorly in raids. Further, Khabure moots that disarmament and demobilization programmes along the border have been weak due to ineffective and unsuccessful re-integration of combatants. Additionally, both Kenya and South Sudan have failed to provide security for local citizens and therefore the locals take matters of security in their hands. Consequently, CIOs becomes a remote affair conducted by amorphous groups.

Quintessentially, the Northern West part of Kenya and South Sudan have been characterized by human suffering and uncertainties, largely due to onset of 2013 South Sudan civil war. The proliferation of SALW stems mainly from the post-independence of Kenya and South Sudan and has exacerbated the plight of civilian population. These weapons have been used and are now in use in the fight over resources and cattle

rustling, thus contributing to violent crimes. Gikonyo (2015), moots that SALW filters beyond armies and police forces. For instance, amongst the Turkana-Toposa pastoralist, arms are acquired directly for security purposes. With unfettered infiltration being the case, armed criminality and saturation of arms therefore becomes the order of operations.

During cold war, arms control negotiations focused on nuclear bombs, aircraft and ballistic missiles. The post-cold war dispensation has witnessed uncontrolled proliferation and stockpiling of small arms. This has prompted the need to gather and disseminate information so as to better handle proliferation of SALW. Wepundi (2011), opines that, Kenya has contended with SALW for over decades now. Though SALW predates Kenya's colonial era, illicit possession of arms along the border has punctured CIOs efforts. The non-state actors have also been incriminated in proliferation of SALW. They have exploited SALW to perpetuate conflict between communities.

As stated in UN Firearms Protocol of 2001, article three:

The Firearms Protocol regulates firearms, their parts and components and ammunition (art. 3); the Arms Trade Treaty (ATT) applies "to all conventional arms within the following categories: (a) battle tanks; (b) armored combat vehicles; (c) large calibre artillery systems; (d) combat aircraft; (e) attack helicopters; (f) warships; (g) missiles and missile launchers; and (h) small arms and light weapons.

The Arms Trade Treaty also requires State Parties to carry out "import and export risk assessment" concerning:

The potential that the conventional arms or items: (a) would contribute to or undermine peace and security; (b) could be used to: (i) commit or facilitate a serious violation of international humanitarian law; (ii) commit or facilitate a serious violation of international human rights law; (iii) commit or facilitate an act constituting an offence under international conventions or protocols relating to terrorism to which the exporting State is a Party; or (iv) commit or facilitate an act constituting an offence under international conventions or protocols relating to transnational organized crime to which the exporting State is a Party" (art. 7).





The researcher noted that despite SDD being employed along the border, tracing of SALW is still elusive and international tracing instrument only proffers a national prerogative that call states to (i) identify and trace in timely and reliable manner, illicit small arms and light weapons and (ii) to promote and facilitate international cooperation and effectiveness of existing bilateral, regional and international agreement to prevent, combat and eradicate illicit trade in small arms and light weapons.

Regionally, it has been agreed that reining in the proliferation requires regional commitment. This is so, since small arms proliferation has led to devastating consequences. In other studies done in Samburu and Laikipia counties, Kenyan government's response to SALW has been faulted though improvement in security has been attributed to disarmament and reduced banditry. Same efforts can be replicated along Kenya South Sudan border, Nadapal belt in particular.

Those questioned argued that the prevalence of proliferation of SALW is also attributed to poor governance, lack of education, proximity to South Sudan and unemployment.

#### ❖ Ethnic Tensions and Conflict

The results in figure 1.3 also revealed that, 213 (73%) of the respondents stated that ethnic tensions and conflict was very prevalent, additionally, 51 (17%) of the respondents stated that ethnic tensions and conflict were somehow prevalent, 30 (10%) of the respondents overly stated that tensions were prevalent and on the contrary, 6(2%) of the respondents said that ethnic tensions and conflict were not prevalent. The majority of the respondents, therefore avouched that culture has played a big role in fuelling ethnic tensions and conflict. The respondents argued that since the Turkana and the Toposa share cross-border identities, it was common a knowledge that, they would want to cement their relations through raids and clandestine attacks. However, on the contrary, those who did not see ethnic tensions as an issue identified the aggression between the two communities as a common a fair and there was or will there be a need to unite the two communities.

Incompatible interests, inequitable access to political space and intergroup competition are a source of ethnic tensions (Shulika & Uzodike, 2013). These scholars further propound that, ethnic tensions result from disharmony and inequalities that are rooted in ethnic cleavages. Conflicts in countries such as Rwanda, Burundi, the Democratic Republic of Congo have influenced security dimensions as far as diplomacy is concerned. The prevalence of ethnic tensions and conflict along the belt is due to operations of Turkana and Toposa communities'. Initially, the

Toposa exploited other points of entry into North Western side of Turkana but the focus shifted enormously due to the quest for oil prospects and border permeability.

#### ❖ Dimensions of Ethnic tensions and Conflict along Nadapal Belt

Security and peace discourses are dominating tools that shape counterintelligence operations along the belt. Conflicts along the border are believed to occur due to government's failure to gather sufficient information on ethnic instabilities and primordial selections of laborers and *de facto* denial to participate in key policy issues. Another dimension that worsen security efforts along the belt, centers on the issues of cattle rustling, raids and pasture thus the internecine conflicts and tensions have stymied the gathering, analysis and sustained evaluation of information on CIOs. The upsurge of ethnic tensions and conflict is demographically linked to disillusioned youths who have rallied to communal obligations to militate against invasion by either Toposa or Turkana.

In other studies, Jok (2014), postulates that the significance and opportunities offered by ethnic conflict and tensions should not be ignored or underestimated.

#### ❖ Porous Border

Besides, the results in figure 4.8 reveal that 138 (46%) of the respondents stated that porous border was very prevalent, 114 (40%) of the respondents also indicated that porous border was prevalent and indeed was a driving factor for CIOs along the belt. Additionally, 30 (10%) stated that porous border was somehow prevalent and 18 (6%) of the respondents contradicted their counterparts and said that porous border was not prevalent. The existence of the border shared by Kenya and South Sudan is itself a periodic contributor to counterintelligence activities. The principle role that security and diplomacy play has to a greater extent been attributed to apparent paucity of information on border porosity and its implication. The research established that despite the prevalence of border porosity, patrol activities of both Kenya and South Sudan states have been conducted. This, however, contradicted with other respondent's view who noted that porous border is not ubiquitous.

Other studies have shown that, on the Kenya-Ethiopia border, militia and Ethiopian paramilitary forces had crossed into Kenya to commit devastating livestock raids (Karimi, 2003). Akin to this scenario has been the case of Kenya-South Sudan border. Comparatively, Amutabi (2011) contends that Illemi Triangle belongs to Kenya.





This understanding has compounded the situation as far as militarization of the border is concerned, hence perpetuating instability among the Turkana, Toposa and Nyangatom (Amutabi, 2011). Consequently, efforts of gathering reliable information on community identity has posed serious security threat and thwarted security efforts to broker peace diplomatically along the border disputants. As a matter of interest, communities found along Ethiopia, Kenya, Uganda and South Sudan border are closely interlinked and verily related. Common language and a culture of stealing cattle has however complicated relations. The Toposa are found in South Omo in Ethiopia and in South Sudan. The Dassanech and Turkana are cross border neighbors with cross border identities. Interestingly and quite strategically, the case of Uganda is quite different because of improved security that has limited proliferation of weapons (Ngieiywa 2008; Mkutu 2007, 2003). In nuce, the majority of the respondents (46%) affirmatively responded to the question and noted that border porosity is very prevalent.

#### ❖ Culture

From this research paper it also emerged that, 135 (45%) of the respondents indicated that the issue about culture was very prevalent along the belt, 99 (33%) of the respondents also indicated that culture was prevalent, 39 of the total respondents, a representation of 13 %, indicated that culture was somehow prevalent and conversely, 27 (9%) of the respondents did agree that culture was not prevalent. Culture takes center stage along the belt. It determines relations and outcomes of interaction between the Turkana and Toposa communities.

In analyzing culture, only the cultural factors that influence counterintelligence operations along the border and potential were deemed significant. The majority of the respondents avouched that cultural dimensions influenced their relations and how they interact. While an analysis of the Nadapal community as a whole provides some insight, the analysis should be restricted to those factors that affect the CIOs: security efforts.

Center for Advanced Operational Culture Learning (CAOCL) (2012) describes degrees of cultural understanding using the analogy of an iceberg. In one year's time, cultural awareness can be achieved yet this is just the tip of the iceberg. Understanding of culture requires two to five years and cultural competency takes 10 to 30 years. From this assertion, it can be argued that, culture underpins critical aspects of relation among the Nadapal community, thus its prevalence.

#### ❖ Espionage

The results in figure 1.3 indicate that 234 (78%) of the respondents stated that espionage was very prevalent along the belt, 51 (17%) of the respondents indicated that espionage was prevalent, 15 (5%) of the respondents said that espionage activities were somehow prevalent.

The results also reveal that no respondent responded as to whether espionage activities were not prevalent. These findings indicated a level of awareness about espionage and espionage operations along the belt. The majority of the respondents (78%), who averred that espionage was so prevalent were either those who have been directly or indirectly involved in clandestine collection of information.

However, the lack of identification of the unavailability of espionage was attributed to lack of exposure to either overt or covert operations of those who seek for information about a targeted group or entity.

These findings resonated with one of the FGD respondents who avouched that:

We have been involved secretly in obtaining information from the South Sudanese nationals who cross the border. We share these information with the Kenya Police Reserve on weekly basis. Sometimes we meet them as a group and formalize our groups as vigilante and support the operations of police officers. However, there are those who fear engaging in this exercise. They view it as a patriotic act in disguise and a risky affair. We conduct our operations along the belt with the help of RPPU (FGD respondent, 14/9/2018, Nadapal).

These findings resonate with Dictionary of Espionage and Intelligence, (2005) which explains espionage as the clandestine collection of information by people either in a position of trust for the targeted entity, or with access to people with such access. Milne & MacAskill (2015) have echoed these sentiments in another fashion that, Africa is 'El Dorado of espionage'. Africa has therefore emerged as a theatre of espionage, cesspool of international spying and cache of secret intelligence. This situation has escalated to transnational levels and influenced CIOs. Deeks (2015), further opines that "Espionage by definition is intended to occur without detection;" therefore, it is safe to assume that defining and regulating it brings significant complications. He further argues that, the forms and aims of espionage differ considerably, especially with the advent of technology.



On the other hand, espionage can also be defined as a “tool for the execution of policy as well as a tool to inform policy” (Scott & Jackson 2004). This definition adequately splits espionage into its two categories: covert operations (a tool for the execution of policy) and intelligence (a tool to inform policy). The first category, covert operations, consists of active operations which are actions a state takes to influence or affect a foreign sovereign that lack public endorsement by the state and usually remain classified or unfettered. Though the forms of covert operations can be classified as coercive covert operations, propaganda and political action (Treverton, 1988), these particular methods of these types of covert operations differ, primarily through the use of active forces and therefore the deployment of military forces, for example, along the border may significantly shift the nature of espionage activities along the belt.

Another category of espionage is covert intelligence which contains two strands, that is, collection of information and analysis of that information (Radson, 2007). This category also involves three variants: human intelligence (HUMINT), that include active agents who through sustained and systematic network collect information; Signal intelligence (SIGINT), that include electronic surveillance or imagery intelligence (IMINT) such as satellite reconnaissance. These methods provide vital information the state need on security, decision making, foreign policy and understanding future behavior of its constituents. The state therefore, would need this information for counterespionage and understand that intelligence is an important part of state security and diplomacy practice, and the secrecy attached to it, thus a crucial implication on counterintelligence operations.

Spycraft the old chestnut, as reemerged as a new tool in the modern diplomatic dispensation as a vital security component. Hacking of classified documents, stealing of vital information is now pervasive across territories and communities.

Hulnick (2004:10) affirms that:

Espionage—is the use of spies or secret agents to steal information from enemies, adversaries, or competitors—is one of the oldest forms of intelligence gathering.”

Summarily, it can be said that espionage entails various elements that underpin espionage operations. These include spycraft :the art of basically spying for information from a target entity, getting the contact of the spies and mode of communication, method of collecting information, the motive or the reward as well as tradecraft-buying and selling information for purposes of helping in identifying threats.

## V.RECOMMENDATION

Other than the state being the major actor in security-driven diplomacy, this research recommends that, a more fused and collaborative umpire should be established along the belt so as to expeditiously deal with latent and non-existent cross-border affairs. The state needs to decentralize security apparatuses, that is, the detectives handling security strategies. Both the National Intelligence Services, should have their experts working in security-prone areas. These experts should work along non-state actors for proper, expeditious and faster communication in handling security matters and consequently averting as well as precluding external threats.

## VI.CONCLUSION

This research paper concludes that, critical assessment for contemporary security debate that lean on the back of diplomacy is preponderant. The nature of security-driven diplomacy has witnessed a paradigm shift. From traditional arrangement to a post-modern structure, the nature as well as the extent of security-driven diplomacy has transcended the national borders. The tectonic forces of politically inclined relations are shifting too, the old chestnut of security dilemma still reverberates loudly in the ear of security strategists and statist, at the present. Kenya and South Sudan are no exception. States are endlessly besieged by enormously intriguing subject of security driven diplomacy. Why? Because it has emerged as the fronted panacea to incessant threats that bedevils nations today, yet not well executed. Pundits argue that it is the antidote that arrests the modern social and political upheavals. However, this is still not the reality. It is therefore imperative of all stakeholders to be conscious of the “real” realities, that is, Kenya’s geo-strategic interest, the limping South Sudan, dealing with belligerents, border porosity, and building sufficient capacities for security and diplomacy.

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# TRADITIONAL HEALING PRACTICES IN ZAMBOANGA CITY, PHILIPPINES

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## ABSTRACT

*In Zamboanga City, both affluent and poor individuals seek consultation from traditional healers. Thus, this study documented the different traditional healing practices in the city. The researchers utilized a qualitative research design using open ended interview. Purposive sampling was utilized in the selection of key informants who are traditional healers. Photos and voucher specimen was taken for documentation. There were three practices identified: subada (hilot), herbalism and sahuma (mangtatawas). In subada, the healer do massage on the affected body area using of coconut oil or commercial ointment. In herbalism, a total of 16 medicinal plants were recorded. Leaves are the common part of the plants being used and the common method is decoction. In sahuma, the healer uses tawas, kemenyan, candle and blessed palm. The image that will form will be interpreted by the healer.*

**KEYWORDS:** *Traditional Healing, Methods, Subada, Herbalism, Sahuma*

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## INTRODUCTION

Traditional healing is an important and integral in the health system of all countries of the world [1]. World Health Organization reported that 80% of the ailing population in developing countries relies on traditional healing as their first aid to treat the illness [2]. Traditional healing pertains to the health practices, approaches, knowledge and beliefs associated in healing and wellness using ceremonies; plant, animal or mineral – based medicines; therapies or physical techniques [3].

The different traditional healing practices can be traced back in 14,000 centuries B.C., until Chinese, Graeco-Arabic and western countries start using traditional medicines. Thus, healing practices is considered to be the oldest form structure healing, which is practiced with basic set of beliefs [4]. In the Philippines, traditional healing was first documented in 16th century during the Spanish colonization. Thus, it can be said that traditional healing practices is part of

the Philippine society and culture. The traditional healers during those periods are the babaylan or shamans [5].

With the introduction of hospitals, improvement of technology, production of healthcare professionals and western medicines, traditional healing practices begin to fade. Nonetheless, since the healthcare system of the Philippines is underdeveloped, many Filipinos especially those of low socioeconomic consult their medical problems to traditional healers.

Traditional healers use different healing practices. For instance in Cebu, Berdon et al. [6] documented the following traditional healing practices: use of “himolso” (pulse-checking), “palakaw” (petition), “pasubay” (determining what causes the sickness and its possible means of healing), “pangalap” (searching) of medicinal plants for “palina” (fumigation), “tayhop” (gentle-blowing), “tutho” (saliva-blowing), “tuob” (boiling), “orasyon” (mystical prayers), “hilot” (massage), and “barang” (sorcery). To





perform these practices, traditional healers use their knowledge which they acquire from their ancestors [7]. Having traditional knowledge is significant in the daily life of every individual around the world [8]. Thus, documenting the traditional knowledge from key informants especially on healing is essential.

Zamboanga City which is located in the southernmost tip of Zamboanga Peninsula in the Philippines has a diverse community and rich in culture. It is a first class and highly urbanized city, since it is the commercial and industrial centre of the region. It is considered as the third largest city with a total land area of 142,099.99 hectares or 1,420.99 square kilometres and the sixth – most populous city with a total population of 862 thousand people as reported by Philippine Statistics Authority [11].

In this city, it was observed that both affluent and poor Zamboangueno will seek an advice from traditional healers. In some informal interviews, some patients opted to visit traditional healers because they recovered from their medical problems after the consultation. Thus, this study aims to document the different traditional healing practices performed by traditional healers in Zamboanga City.

## METHODS

### Research Design

To obtain the necessary data for this study, the researchers utilized qualitative research design. Purposive sampling were employed for the selection of key informants. Key informants were traditional healers from selected barangays in Zamboanga City. A total of three (3) key informants decided to participate in the study.

### Collection of Data

The primary instrument in this study is the use of open ended interview where questions are translated in local dialect. More so, photos were taken on different plants for documentation. Identification of these plants were facilitated using the voucher specimen collected such as leaves, stem or fruits.

## RESULT AND DISCUSSIONS

There are different methods used in the Philippine traditional healing. In this study, the key informants revealed three different methods. These are

1. Subada (Hilot); 2. Herbalism; and 3. Sahuma (Mangatawas).

### Subada (Hilot)

In this method, the traditional healer will determine the areas of skeletal misalignment (*baldao*) or energy imbalances (*pasmo*) in the body through wrist pulse. Then, the traditional healer will massage the affected body part using coconut oil or commercial ointment. After which, the patient is advised not to drink cold water nor to take a bath for one day. In addition, the patient will be asked to make *hampul*. *Hampul* is the wrapping of cloth in the affected body part with leaves of tangan – tangan (tuba - tuba) for overnight. After recovery, the patient is advised to take an aromatic bath with sampalok leaves decoction. This kind of practices were also documented in Ilocos community [10], however there some practices that differs. For instance, the use of crashed ginger instead of tangan – tangan leaves in making *hampul* and the use of bamboo leaves decoction instead of sampalok leaves for aromatic bath after recovery.

### Herbalism

In this method, the traditional healers are advising their patients to use medicinal plants. The administration of medicinal plants could be in external or internal. In this study, the methods were grouped into five:

- I. boiling of plant samples (leaves, roots or stem) then drink the decoction.
- II. boiling of plant samples (leaves, roots or stem) then used for bathing.
- III. wrapping of plants with cloth directly to the affected areas
- IV. pounding or crushing of plants.
- V. chewing

Table 1 shows the different medicinal plants used by the traditional healers, its scientific and local name, the illness to be treated and what method is applied.









Table 1. Medicinal Plants Used by the Traditional Healers

Medicinal Plants	Name	Parts of the Plant Used	Illness to be Treated	Procedure
	Scientific Name: <i>Moringa oleifera</i>  Common Name: Malunggay	Leaves	Fever	I
			Wounds	IV
	Scientific Name: <i>Peperomia pellucida</i>  Common Name: Sinaw-sinaw/ Pansit pansitan	Leaves	Arthritis, Kidney Problem, Fever	I
		Leaves and Stem	Wounds	IV
	Scientific Name: <i>Jatropha curcas</i>  Common Name: Tangan - Tangan/ Tuba - Tuba	Leaves	Muscle Pain, Flatulence	III
	Scientific Name: <i>Vitex negundo</i> L.  Common Name: Lagundi	Leaves	Cough, Fever	I
	Scientific Name: <i>Coeus blumei</i> benth.  Common Name: Mayana	Leaves	Swell	III
	Scientific Name: <i>Costus igneus</i>  Common Name: Insulin Plant	Leaves	High Sugar	V



	<p>Scientific Name: <i>Allium sativum</i></p> <p>Common Name: Bawang</p>	Cloves	Toothache, Wounds	IV
	<p>Scientific Name: <i>Anona muricata</i> Linn.</p> <p>Common Name: Guyabano</p>	Leaves	Arthritis, Inflammation of respiratory tract	I
			Body pain or Swelling	III
	<p>Scientific Name: <i>Tamarindus indica</i> Linn.</p> <p>Common Name: Sampalok</p>	Leaves	Fever, Puerperium	II
	<p>Scientific Name: <i>Syzygium cumini</i></p> <p>Common Name: Lomboy</p>	Bark	Intestinal inflammation	I



	<p>Scientific Name: <i>Mangifera indica</i> Linn.</p> <p>Common Name: Mangga</p>	<p>Young Leaves</p>	<p>Cough</p>	<p>I</p>
	<p>Scientific Name: <i>Averrhoa bilimbi</i></p> <p>Common Name: Kamias</p>	<p>Fruits</p>	<p>Cough</p>	<p>I</p>
	<p>Scientific Name: <i>Aloe barbadensis</i></p> <p>Common Name: Aloe vera</p>	<p>Leaves</p>	<p>Baldness, Dandruff</p>	<p>IV</p>
	<p>Scientific Name: <i>Andrographis paniculata</i></p> <p>Common Name: Serpentina</p>	<p>Leaves with Stem</p>	<p>Stomachache</p>	<p>I</p>
	<p>Scientific Name: <i>Hibiscus rosa- sinensis</i> Linn.</p> <p>Common Name: Gumamela</p>	<p>Flower Buds</p>	<p>Boils</p>	<p>IV</p>
	<p>Scientific Name: <i>Sandoricum koetjape</i> (Burm.f.) Merr.</p> <p>Common Name: Santol</p>	<p>Leaves</p>	<p>Swelling</p>	<p>III</p>





There were a total of 16 plants identified in the study, of which 3 were part of the 10 medicinal plants endorsed by DOH [11]. These plants are bawang, lagundi and pansit pansitan. More so, from the reviewed published studies the use of duhat bark, gumamela flower buds, kamias fruit, sampalok leaves and serpentine leaves to treat a particular illness is not recorded.

The most common part of the plants being used for treatment is the leaves. This findings coincide with the study of Pizon et al. [12], Fiscal [13] and Agapin [14]. The leaves are the most abundant part of plants that can be easily collected and regenerate [15]. More so, phytochemicals such as alkaloids, tannins, coumarines, flavonoids, essential oils and inulins are manufactured and stored in leaves [16].

The common method in preparing these plants to treat the identified illnesses is decoction. Decoction is the process of boiling plant sample (leaves, stem, fruit or roots) with water to extract water soluble compounds. The patient will intake the decoction. This findings coincide with Pizon et al. [12], Fiscal [13] and Agapin [14].

Zamboanga City as an urbanized city, indeed it is difficult to look for these plants within the 7 km radius. Thus, the government, educational and health institutions should propagate these plants due to their medicinal potentials.

### **Sahuma (Mangtatawas)**

The common method for this practice is the use of tawas (alum), kemenyan (incense), candle from burial and blessed palm. These ingredients will be placed in a container with burning charcoal. The healer will place the container in front of the sick person, while doing some gestures and silently praying. Image formation from alum will determine if you were disturbed by some elements. If the image formed is black, it denotes dark elements. The Sahuma is being done 3 to 4 times. This method is different from pangtatawas of Ilocos Community. Relon [10] revealed that the traditional healer are using lighted candle and basin with half full water. The candle drips on the basin, until an image is form.

### **CONCLUSION**

There were three traditional healing methods documented in this study. These are subada (hilot), herbalism and sahuma (mangtatawas). In subada, the healer do massage on the affected body area using of coconut oil or commercial ointment. In herbalism, a total of 16 medicinal plants were recorded. Leaves are the common part of the plants being used and the common method is decoction. In sahuma, the healer

uses tawas, kemenyan, candle and blessed palm. The image that will form will be interpreted by the healer.

### **Limitation of the Study**

The researchers acknowledge the following limitations of this study: 1.) limited number of key informants and 2.) must include the demographic profile of the key informants. Nonetheless, phase II might be carried if time will warrant.

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## EFFECTS OF EPS, DER, TATO, ON ROA IN THE HOTEL, RESTAURANT AND TOURISM SECTOR

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### ABSTRACT

*This study aims to determine the effect of earnings per share, debt to equity ratio, and total asset turnover, on return on assets in companies listed on the Indonesia Stock Exchange, hotels, restaurants and tourism sub-sectors in 2013-2017. The independent variables in this study are earnings per share, debt to equity ratio, and total asset turnover, while the dependent variable is return on assets. The sample selection in this study used the saturated sample method and obtained 7 companies as samples. Research data obtained from the Indonesia Stock Exchange. The method used in this study is panel data regression and found that the more appropriate model used is the common effect. The results of this study indicate that earnings per share and debt to equity ratio have a positive and significant effect on return on assets and total asset turnover has a negative and significant effect on return on assets.*

### INTRODUCTION

One of the sub-sectors listed on the Indonesia Stock Exchange is the hotel, restaurant and tourism sub-sector. The hotel, restaurant and tourism sub-sector in Indonesia is one of the sub-sectors that has great potential to support the country's economy. Various tourist sites with a variety of inherent cultures can be found throughout the Motherland region attracting the attention of visitors, both local and foreign tourists. This has become a strength for the development of tourism in Indonesia to date. On

the other hand, the current global era accompanied by the rapid development of technology has then invited the attention of various industrial sectors to utilize Information and Communication Technology (ICT) to raise their performance, including in the hotel, restaurant and tourism sectors.

**Figure 1.**  
Number of Foreign Tourists Visiting Indonesia



Source : (Ministry of Tourism, secondary data is processed, 2017)



Figure 1. shows the increasing number of foreign tourists entering Indonesia each year. The increase in the number of foreign tourists entering Indonesia will have an impact on increasing revenues in the hotel, restaurant and tourism sub-sector companies, thus increasing company value. High company value will make the market believe not only in the company's current performance but in the company's prospects in the future, so that the company's shares will also be much in demand by investors. (source: Ministry of Tourism)

In 2016 tourism contributed 10% of national GDP, with the highest nominal in ASEAN. National tourism GDP grew by 4.8% with an upward trend of 6.9%, far higher than the agriculture, automotive manufacturing and mining industries. The tourism industry is still ranked fourth national foreign exchange contributor, by 9.3% compared to other industries. The highest growth of tourism foreign exchange revenue was 13%. The tourism sector is the most profitable business in generating foreign exchange. Tourism is a potential sector that must be developed and maintained to encourage the development of a country or tourist area. With the development of the tourism industry in Indonesia, it can attract investors to invest in the tourism, hotel and restaurant sub-sectors by investing in the capital market. (Source: CNN Indonesia)

Research conducted by Rahma (2016) CR has a positive and significant influence on company performance; DER has a negative and significant effect on company performance; TATO has a positive and significant effect on company performance. While simultaneously

CR, DER, and TATO have a significant influence on company performance.

The reason researchers chose the dependent variable (Y) based on several journals read by researchers, that previous researchers put the dependent variable (Y) is return on assets (ROA), stock prices, return shares and firm value. The researcher looked at the independent variable (X) taken by the previous researcher from several ratios such as cash ratio, current ratio, DER, DAR, NPM, TATO, EPS, PER, PVB, company size, dividend, sales, and NPM. This study uses hotel, restaurant and tourism sub-sector companies listed on the Indonesia Stock Exchange in 2013-2017. Many tourism destinations in Indonesia have interesting places, including beautiful inland areas, interesting cultural ruins and beaches and mountains. Therefore hotels, restaurants and tourism companies large and small have good prospects going forward.

The following table is the return on asset data from 9 Hotels, Restaurants and Tourism subsectors listed on the Indonesia Stock Exchange in 2013-2017:

**Tabel 1.**  
**Retrun On Asset Sectors of Hotels, Restaurants, and Tourism Registered on the Stock Exchange in 2013-2017**

No	Kode Perusahaan	2013	2014	2015	2016	2017
1	JSPT	0.06	0.09	0.06	0.04	0.04
2	FAST	0.08	0.01	0.05	0.07	0.06
3	ICON	0.09	0.02	0.01	0.01	0.04
4	INPP	0.01	0.03	0.02	0.04	0.02
5	JJHD	0.27	0.02	0.01	0.05	0.03
6	MAMI	0	0	0	0.02	0.02
7	KPIG	0.03	0.06	0.02	0.13	0.09
8	PANR	0.04	0.04	0.13	0	0.29
9	PDES	0.04	0.05	0.17	0.05	0.3
RATA-RATA		0.07	0.04	0.05	0.05	0.10

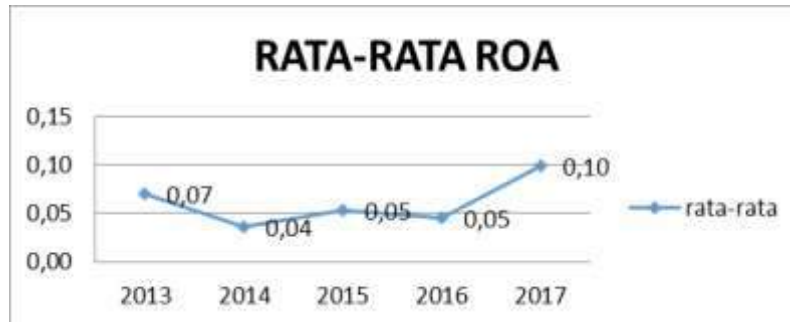
Source: (IDX data processed, 2019)

From the table above it can be seen that the average return on assets increased from 0.07 to 0.10 from the industry. experienced a significant increase of 0.09 from 0.06 and in 2015 decreased with a value

of 0.06 and in 2016 to 2017 decreased 0.04. The development of return on assets of PT Panorama Sentrawisata Tbk (PANR) continues to increase every year, in 2013 to 2014 the return on assets was

0.04 and experienced a significant increase of 0.13 in 2015 and decreased in 2016 and experienced a very significant increase of 0.29 .

**Figure 2.**  
**Average Return on Assets in the Tourism, Hotel and Restaurant Sub Sectors Listed at the 2013-2017 Indonesia Buersa Securities**

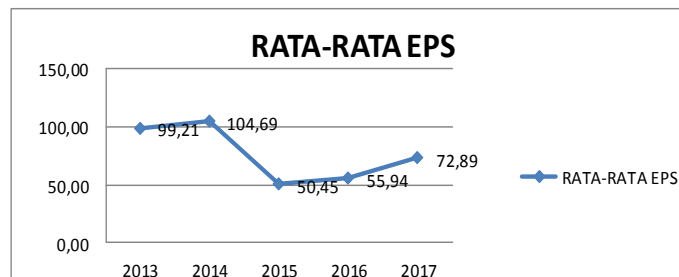


Source: [www.idx.co.id](http://www.idx.co.id)(2019)

Based on sources from the financial statements in the Hotels, Restaurants and Tourism sub-sectors from 2013 to 2017 (source: Indonesian stock exchange), it was explained that the retrun on assets in 2014 experienced a sharp decline, due to an increase in projects in implementation and also an increase cash balances and cash equivalents, the payment of fees for obtaining permits and land acquisition by a subsidiary and the purchase of

restaurant equipment and equipment. In 2017 experienced a sharp increase, due to an increase in real estate business revenue and an increase in average room rates, occupancy rates and an increase in food and beverage sales (source: [Kontan.co.id](http://Kontan.co.id) - Jakarta).

**Figure 3.**  
**Earning Per Share in the Hotel, Restaurant and Tourism Sub Sectors Listed on the Indonesia Stock Exchange in 2013-2017**

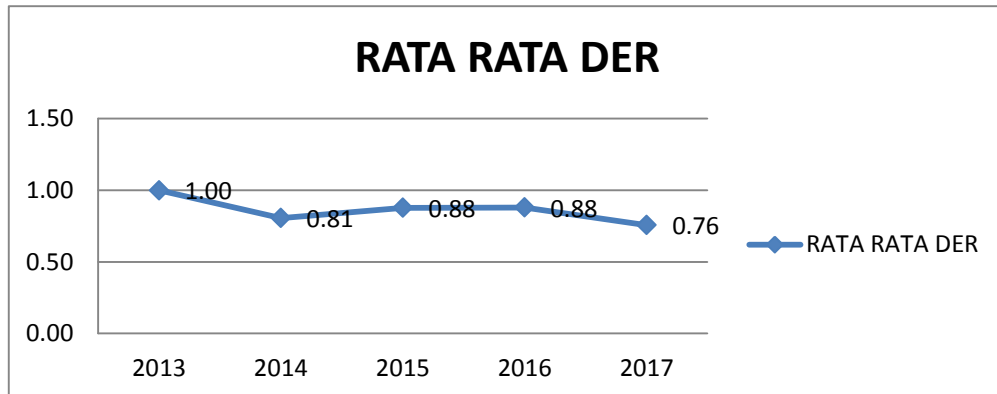


Source [www.idx.co.id](http://www.idx.co.id)(2019)

In figure 3, that earnings per share in 2015 decreased to 50.45 and started to increase again in 2017 by 72.89, it can be said that investors will be more interested in stocks that have high EPS

compared to stocks that have low EPS, low EPS tends to make stock prices down.

**Figure 4.**  
**Debt To Equity Ratio of Hotel, Restaurant and Tourism Sectors Registered on the Indonesian Stock Exchange in 2013-2017**



Source [www.idx.co.id](http://www.idx.co.id)(2019)

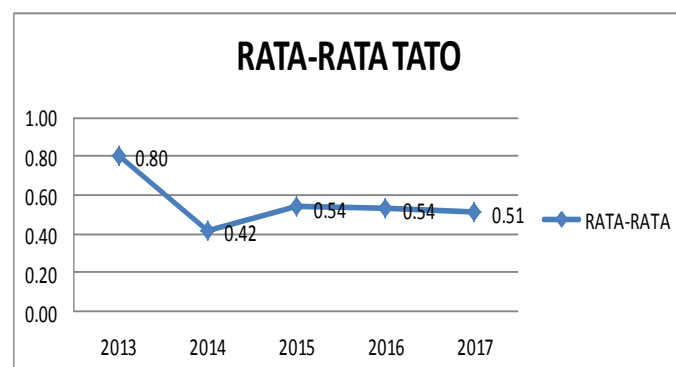
In Figure 1.4 explains the average DER in the hotel, restaurant and tourism sub-sectors listed on the Indonesia Stock Exchange in the period 2013-2017 experienced ups and downs (fluctuations) which tends to fall, can be seen DER 2013 ratio that can be 1.00, in 2015 and 2016 decreased by 0.88, and in 2017 decreased again by 0.76.

Research conducted by Mandasari (2016) shows that DER has a positive effect on PER, on the other hand Andrian's research (2016) shows that DER has a positive and not significant effect on PER.

The lower the DER, the greater the amount of owner's capital that can be presented as a debt

guarantee. Conversely, if the higher the DER, the smaller the amount of owner's capital that can be used as debt collateral. If the ratio increases, this means that the company is financed by creditors and not from its own financial sources which may be a fairly dangerous trend. Lenders and investors usually choose a low Debt to Equity Ratio because their interests are better protected if there is a decline in business at the company concerned. (Budi Kho, 2017).

**Figure 5.**  
**Average Total Trunover Assets in the Hotel, Restaurant and Tourism Sub Sectors Listed at the 2013-2017 Indonesian Buerasa Securities**



Source [www.idx.co.id](http://www.idx.co.id)(2019)

In Figure 1.5, hotel, restaurant and tourism companies in 2013 had a total asset turnover ratio of 0.80, producing assets that could spin and gain profits and aimed at more efficient use of overall assets in generating sales. In 2014 a decline in the total assets turnover ratio of 0.42 resulted in a lack of efficient

use of all assets in generating sales. In 2015, the total assets of the trunover increased again to 0.54 until 2016, in other words, the same amount of assets can increase sales volume if the total asset turnover is increased or enlarged.





## LITERATUR REVIEW

### Financial Management

Financial management is an amalgamation of science and art that discusses, examines and analyzes how a financial manager uses all company resources to find, manage and share funds with the aim of being able to provide profit or prosperity for shareholders and sustainability or to the company's continued business (Irham Fahmi, 2014).

### Financial Ratios.

Understanding Financial Ratios according to Ross (2015) Financial ratios are one number divided by other numbers and because there are so many accounting numbers, we can test a large number of various possible ratios. Kasmir (2014) explains the financial ratio analysis is the activity of comparing the numbers in the financial statements by dividing one number with another number. Comparisons can be made between one component with components in one financial statement or between components that exist between financial statements. The financial ratio is expected to be used to detect financial difficulties (Oktasari, 2019).

### Benefits of Ratio Analysis.

According to Fahmi (2014) the benefits are as follows: (1) Financial ratio analysis is very useful to be used as a tool to assess the performance and presentation of the company; (2) Financial ratio analysis is very useful for management as a reference for planning; (3) Financial ratio analysis can be used as a tool to evaluate the condition of a company from a financial perspective; (4) Financial ratio analysis is also useful for creditors which can be used to estimate the potential risks that will be faced.

Form of financial ratios. According to Brigham and Houston (2014), the forms of financial ratios are as follows:

#### a) Liquidity Ratio

Understanding the liquidity ratio according to Syafrida Hani (2015) the company's ability to meet obligations to be disbursed or past due. Liquidity, the availability of funds owned to meet all debts that are due and according to Rambe (2015). Liquidity ratio is the ratio used to measure a company's ability to meet its short-term financial obligations. By linking the amount of cash in other current assets with short-term liabilities can provide an easy and fast measure used in measuring liquidity. 2 liquidity ratios that are commonly used are quick ratio and current ratio.

According to Firdaus (2017) liquidity ratios affect the company's financial performance, so this ratio has a relationship with the company's stock price.

#### b) Solvability Ratio

The solvability ratio according to Kasmir (2014) is "the ratio used to measure the extent to which a company's assets are financed with debt." In a broad sense it is said that the solvency ratio is used to measure the ability of a company to pay all obligations, both short-term and long-term if the company is dissolved (liquidated).

To measure the extent to which companies are financed with debt one of them can be seen through Debt to Equity Ratio (DER). Debt to Equity Ratio (DER) is one of the ratios used to measure the level of company solvency (Dewi, 2015). According to Kasmir (2014), it states that "Debt to Equity Ratio (DER) is a ratio used to determine the ratio between total debt and capital. This ratio is useful to find out how much the company's assets are financed from debt. Ratio as an indicator that debt can be paid with assets. Namely with the condition of a small ratio, the better.

#### c) Profitability Ratio

Profitability ratios according to Kasmir (2014) are "Ratios to assess a company's ability to seek profits. According to I Made Sudana (2015), it is stated that Return on Assets (ROA) is a ratio that shows how much net income can be obtained from all the assets owned by the company. Therefore used after-tax profit figures and the average wealth of the company. Thus this ratio connects the profits derived from the company's operations with the amount of investment or assets used to produce these operating profits. Return on Assets (ROA) focuses the company's ability to obtain earnings in the company's operations (Oktasari, 2019).

#### d) Market Value Ratio.

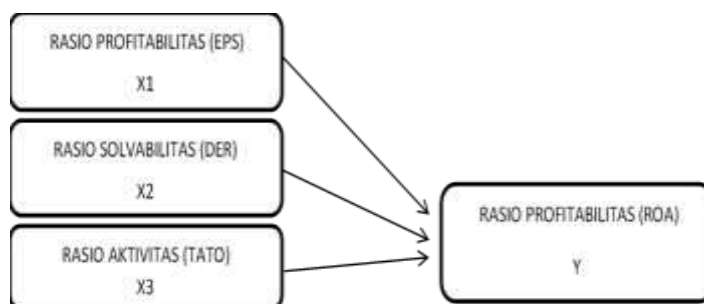
Understanding Earning Per Share (EPS) according to Kasmir (2014) is "a ratio to measure the success of management in achieving profits for shareholders." The higher the value of EPS is certainly encouraging shareholders because the greater the profit provided to shareholders. Earnings ratios show the combined impact of liquidity and asset and liability management on a company's ability to generate profits. So, it was concluded that EPS is a ratio that shows the amount of profit obtained from each existing stock. Profitability or profitability ratios play an important role in assessing the condition of companies related to how to make financial statements related to earnings so that the performance and function of financial statements can be seen by companies with good management so they can utilize various assets and assets to achieve maximum profit according to financial accounting standards.

### e) Activity Ratio.

Activity ratio is the ratio used to measure the effectiveness of a company in using its assets. Total Assets Turn Over according to Kasmir (2014) is: "Measuring the number of times the total assets of a company generate sales, this can also be interpreted Total Assets Turnover measures turnover all assets owned by the company and measure how many sales are

obtained from each rupiah of assets ". The activity ratio is associated with the company's activities to generate profits. Every company would want to get the maximum profit with minimal costs so that the cost collection method also plays an important role.

Figure 6.  
Framework



### Hypothesis

The research hypothesis is a temporary answer to the problem under study, where the truth needs to be empirically tested is as follows:

- H1: EPS has a significant effect on ROA
- H2: DER has no significant effect on ROA
- H3: TATO has a significant effect on ROA

### RESEARCH DESIGN AND METHOD

Research design. The research design used is causal research, according to Sugiyono (2016) that is, a causal relationship. This causal research is a research to find out the influence between one or more independent / independent variables (Earning Per Share, Debt to Equity Ratio, and Total Asset Turnover) on the dependent / dependent variable (Return On Asset).

Variable Definition and Operationalization. Research Variable is something in the form of what is determined by researchers to be studied and obtained information and conclusions can be drawn (Sugoyino, 2016). This study has two variables, namely the related variable (dependent) and the independent variable (independent). The variables used in the study, the dependent variable about Return On Assets. Then, the independent variable consists of Earning Per Share, Debt to Equity Ratio, and Total Asset Turnover.

**Dependent Variable.** According to Sugiyono (2016), the Related Variable (the dependent variable) is the variable that is affected or which is due to the independent variables (independent variables). The dependent variable as the Y variable used in this

study is Return On Assets. The way to measure this ratio is as follows:

$$ROA = EAT / \text{total assets} \dots \dots \dots (1)$$

**Independent Variable.** According to Sugiyono (2016), the independent variable (independent variable) is a variable that influences or is the cause of changes or the emergence of the dependent variable (the dependent variable). In this study there are 3 independent variables used, namely Current Ratio, Debt to Equity Ratio and Return on Assets.

**Earning per share.** Understanding Earning Per Share (EPS) according to Kasmir (2012) is "a ratio to measure the success of management in achieving profits for shareholders. Earning per Share (EPS) is a comparison between the revenue generated (net income) and the number of shares outstanding (Gitman, 2012).

$$\text{EarningPer Share} = \text{Net Income} / \text{outstanding shares} \dots \dots \dots (2)$$

**Debt to Equity Ratio.** Leverage ratios are ratios intended to measure how much the company's assets are financed with debt (Mardika, 2016). Debt to Equity Ratio can be formulated as follows:

$$DER = \text{total debt} / \text{total equity} \dots \dots \dots (3)$$

**Total Assets Turnover.** Total Assets Turn Over Cashmere (2014) is: "Shows how the effectiveness of the company uses the overall assets to create sales and make a profit. ". The formula to look for TATO is as follows:

$$TATO = \text{Sales} / \text{Total Assets} \dots \dots \dots (4)$$



### Research population.

Population is a generalization area that consists of objects or subjects that have certain qualities and characteristics determined by researchers to be studied and then drawn conclusions. Sugiyono (2014). So the population is not only people, but also objects and other natural objects. the population used in this study is the hotel, restaurant, and tourism sub-sectors listed on the Indonesia Stock Exchange (BEI) in 2013-2017, with the criteria used are companies in the hotel, restaurant and tourism sub-sectors listed on the IDX at in 2013-2017 and has normal data of 9 companies. Due to 5 years of observation, 45 data pupups.

### Research sample.

The sample method used is saturated sample which aims to get a sample that is in accordance with the research objectives. Which has in this study the number of samples is 45 samples.

### Analysis Method.

This research uses panel data regression analysis method with the help of software Eviews 9. Activities in data analysis are grouping data based on variables and types of respondents, tabulating data based on variables from all respondents, presenting data for each variable studied, doing calculations to answer the problem formulation, and perform calculations to test the hypotheses that have been submitted then processed to determine the effect of the research variables using the Eviews 9 program.

## RESEARCH RESULTS AND DISCUSSION

### Descriptive Statistics Results

Table 2. Descriptive Statistics

	ROA	EPS	DER	TATO
Mean	15,38850	1,406312	2,722578	5,333333
Median	12,84772	1,369274	2,273806	4,000000
Maximum	34,01487	2,005966	5,666057	15,00000
Minimum	2,040493	1,002252	0,936466	1,000000
Std. Dev.	7,819159	0,225783	1,347503	3,346640
Observations	35	35	35	35

Based on the results of data processing in Table 2 above, it can be seen that N = 35, Return on Assets (ROA) has a mean value of 15.3885 with the highest value of 34.01487 and the lowest of 2.040493. Debt To Equity Ratio (DER) has a mean value of 1.406312 with the highest value of 2.005966 and the lowest value of 1.002252. Total Asset Turnover (TATO) has a mean value of 2.7722578 with the highest value of 5.666057 and the lowest value of 0.936466. Earning Per Share (EPS) has a mean value of 5.3333% with the highest value of 15% and the lowest value of 1.00 million.

### Results of Panel Data Model Selection Common Effect Model test

This method is the simplest method for estimating panel data regression models with the assumption of intercepts and constant regression coefficient (slope) between time and across individuals. In this approach does not pay attention to the dimensions of time and individuals, so it can be assumed that the behavior of data between companies is not different or will remain the same in various periods of time. The results of processing Eviews 9.0 obtained the following results:



**Tabel 3. Common Effect Model test Results**

Dependent Variable: ROA

Method: Panel EGLS (Cross-section random effects)

Date: 11/09/18 Time: 14:09

Sample: 2013 2017

Periods included: 5

Cross-sections included: 7

Total panel (balanced) observations: 35

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	31.48466	9.982828	3.153882	0.0035
EPS	4.931084	0.419882	-0.756315	0.0455
DER	1.137033	0.338991	-1.094363	0.0282
TATO	-1.137347	0.440521	-2.581822	0.0146

Effects Specification

	S.D.	Rho
Cross-section random	0.799383	0.8371
Idiosyncratic random	0.352698	0.1629

Weighted Statistics

R-squared	0.256450	Mean dependent var	15.38850
Adjusted R-squared	0.186743	S.D. dependent var	7.819158
S.E. of regression	7.051378	Sum squared resid	1591.102
F-statistic	3.678934	Durbin-Watson stat	2.136284
Prob(F-statistic)	0.022040		

Based on table 3. random effect test results, obtained the following equation:

$$ROA = C 4.931084 EPS - 1.137033 DER - 1.137347 TATO$$

Based on the adjusted value (R2) in Table 3, the common effect test results of 18.67%, can be interpreted that the earning per share, debt to equity ratio, and total asset turnover can explain its relationship to the price earning ratio, while the

remaining 81.33% explained by other variables outside the research model.



### Hypothesis test

**T test.** Based on Table 3 the results of the common effect test that contains the results of the t test by looking at the t-statistic and probability values can be explained as follows:

**Effect of Earning Per Share (EPS) on Return on Assets (ROA).** Based on the test results above, it can be seen that Earning Per Share (EPS) has a positive and significant effect on Return On Assets (ROA). The increase in EPS indicates that the company has succeeded in increasing the level of investor prosperity, and this will encourage investors to increase the amount of capital invested in the company.

In accordance with Husnan's research (2015) this ratio is considered by investors in choosing stocks. The company has a high EPS value, it will show a high market value as well, so that the stock will be in demand by investors and will have an impact on rising stock prices, and vice versa if the company has a low EPS will also show a low market value, so it will have an impact on decline in the price of these shares.

**Effect of Debt To Equity Ratio (DER) on Return On Assets (ROA).** Based on the test results above, it can be seen that the debt to equity ratio (DER) has a positive and significant effect on Return On Assets (ROA). This is supported by Mahardika (2016) research showing that partially CR, DER has a positive and significant effect on ROA but according to the results of research conducted by Nelsi Anggraini (2017) shows that DER has no significant effect on ROA.

Debt to equity ratio (DER) is one of the solvency ratios. DER is the ratio used to assess debt to equity. This ratio is sought by comparing all debt including current debt with all equity (Sartono, 2014). The higher the DER shows the higher the use of debt as a source of corporate funding. This can pose a significant risk for the company when the company is unable to pay these obligations when due, so that it will disrupt the continuity of the company's operations.

**Total Asset Turnover (TATO) to Return On Assets (ROA).** Based on the test results above, it can be seen that the Total Asset Turnover (TATO) has a negative and significant effect on Return On Assets (ROA).

Total Asset Turnover shows the level of efficiency in using all assets of the company in generating certain sales volumes. The higher the Total Asset Turnover Ratio means the more efficient use of overall assets in generating sales. The same amount of assets, can increase sales volume if the Total Asset Turnover is increased or enlarged. TATO is important for creditors and company owners but will be even more important for company management because this will

show the efficient use of all assets in the company (Syamsuddin, 2011).

The coefficient of determination (R<sup>2</sup>). Based on the adjusted value (R<sup>2</sup>) in table 4.2 random effect test results of 28%, it means that earnings per share, debt to equity ratio, and total asset turn over can explain its relationship to return on assets, while the remaining 72% is explained by variables Other variables outside the research model.

### CONCLUSIONS

Based on the above research results can be concluded as follows: 1) earnings per share has a positive and significant effect on return on assets in companies in the hotel, restaurant and tourism sub-sectors in 2013-2017. In other words EPS affects ROA. 2) Debt to equity ratio has a positive and significant effect on return on assets in companies in the hotel, restaurant and tourism sub-sector in 2013-2017. In other words DER has no effect on ROA. 3) Total Asset Turnover has a negative and significant effect on return on assets in the hotel, restaurant and tourism sub-sector in 2013-2017. In this case the company must increase the value of TATO in order to attract investors to invest their capital in the form of shares.

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## APPLICATION OF INDUSTRY 4.0 IN MANUFACTURING

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### ABSTRACT

*In current circumstance, all businesses are attempting to extend their arms everywhere throughout the globe to turn into a solid rival in manufacturing world. Industry 4.0 includes a wide arrangement of advances that gives a decent stage to development and imaginative arrangements. To actualize such condition, it requires the use of cutting-edge forecast devices that includes the transformation of information into data in a methodical procedure to clarify vulnerabilities. This innovation is a chance to change the economic standards of the business. As we probably are aware India is in its verge of advancement. It is critical to comprehend India's pushed towards "Make in India". In this way it is significant for an India to embrace industry 4.0 innovation and to get adjusted to the equivalent. This thus contributes in the advancement of Indian economy.*

**KEYWORDS:** *Industry, Manufacturing, 4.0, Scalable, Technology, Automated, Performance, Globalization, Make in India, Economy, Application*

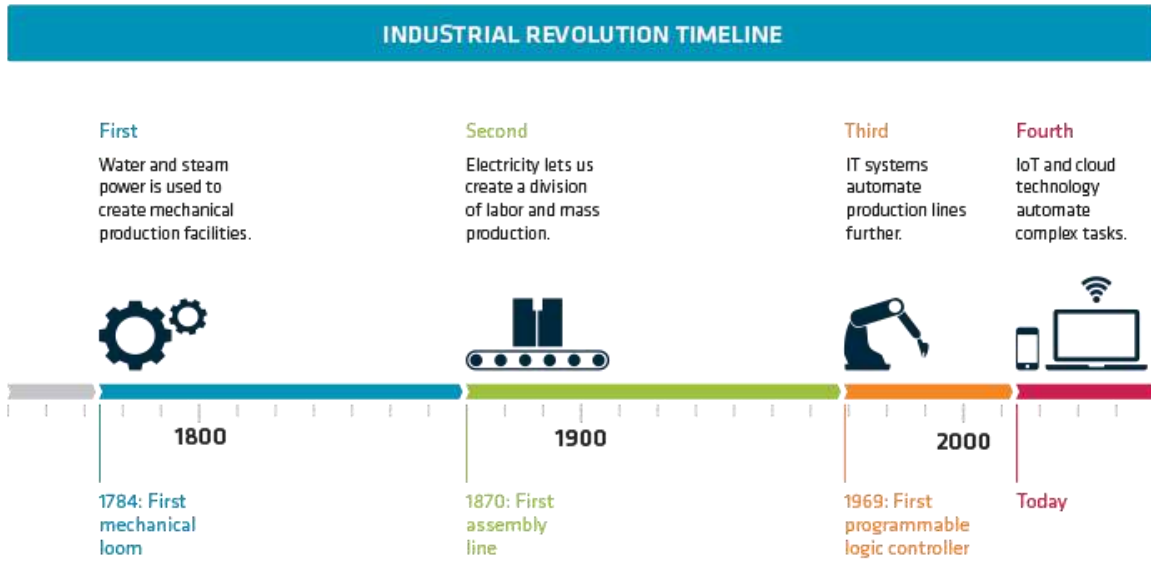
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### INTRODUCTION

Alongside the benefit, industry also cares about consumer loyalty, item quality and its customization and furthermore cost of production. Thick advanced change is on its way, in the background of world's driving ventures. They are strengthening their item portfolio with computerized functionalities and furthermore putting resources into information investigation to drive advancement and critical enhancements in effectiveness as a storm cellar ability. India and China are going after lion's share in worldwide assembling, from recent years. Even though India has infrastructural issues, bureaucratic wattle and furthermore awkward supply

of assets, India supplies inexhaustible gifted works and some of huge producers like Havells, Godrej and Bosch hold their units in India. India has a colossal undertaking in its fantasy of being the world's favoured manufacturing destination in future. The fourth industrial upheaval is on its way and there is no venturing back.

Industry 4.0 will be a challenge and may likewise have the responses for India's proceeded with bit of leeway in the worldwide manufacturing process. This is the time of cutting-edge fabricating, composite materials, quantum building, 3D printing and industrial autonomy.



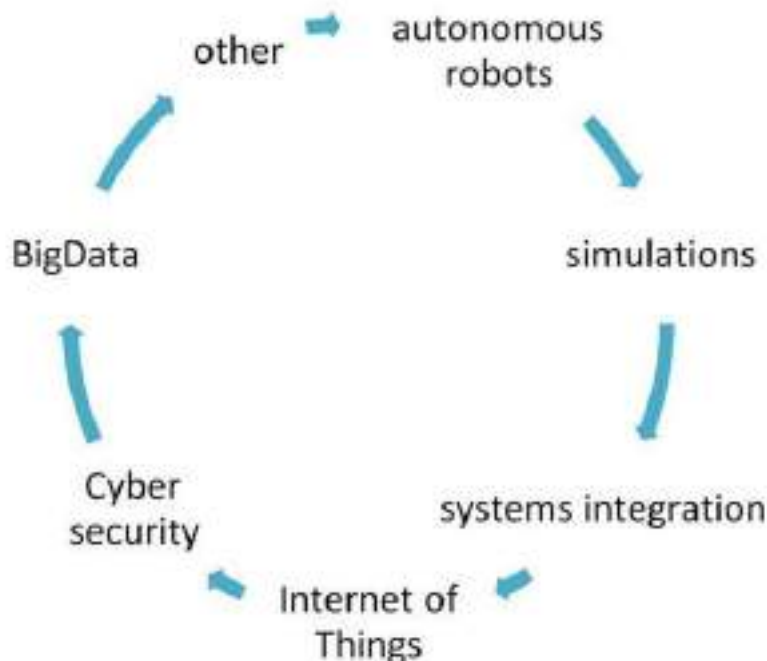
**LITERATURE REVIEW**

**What is Industry 4.0?**

Industry 4.0, also called manufacturing 4.0, is the marriage of IT and manufacturing operations – the maturation of digital technology in the manufacturing industry. Mark Holleran, formerly the CEO of Xplore Technologies, says it represents a "holistic shift from centralized to decentralized manufacturing," which requires the adaptation of processes, talent, business structure and technology.

"Technology, including advanced robotics and artificial intelligence, sophisticated sensors, cloud computing, IoT, data capture and analytics, and digital fabrication ... are all coalescing into the ushering in of this next industrial revolution," Holleran told Business News Daily.

Here's a look at some of the major components paving the way forward for manufacturing 4.0 and how they work. Together, they create a high-tech ecosystem of smart devices that achieve an optimized, efficient workplace.





- **Internet of things**

As the number of smart devices and amount of data captured, analysed, and stored grows, connectivity and communication will only become more important. Both within the enterprise and to third-party partners, companies will need their data to be shareable and compatible to enable a higher level of operation.

Declan Keir-Saks, director of Deskera, said IoT is the bridge that allows the granular insights provided by high tech solutions to join into a coherent, enterprise-level picture for modern manufacturers.

"IoT manufacturing enables virtual tracking of capital assets, processes, resources and products," Keir-Saks said. "This gives enterprises full visibility, which streamlines business processes and optimizes supply and demand."

When implemented correctly, decision-makers will be equipped with more and better information, automated processes, and the ability to intervene on a predictive or preventive basis to avoid downtime or any other issues that might ding production output.

- **Artificial intelligence and machine learning**

The information delivered by sensors and IoT-driven systems is too vast for humans to reasonably analyse. AI and machine learning algorithms can contextualize the data and flag anomalies or make recommendations.

"AI and machine learning can help detect early warning signals of assets [becoming] unhealthy," said Derick Jose, co-founder and chief data scientist at Flutura Decision Sciences and Analytics. "For example, top-drive RPM temperature anomalies could be [the] signature of an impending breakdown."

Moreover, AI serves to improve efficiency in the overall operation, Jose said. By quickly returning predictions on the impact of minor changes, decision-makers can understand the effects before they implement something new.

AI is specifically useful when it comes to digesting the massive flows of information captured by sensors and IoT-enabled devices. Those vast troves of data would be nearly impossible for a human operator to contextualize, so allowing computers to do it makes that captured data valuable.

- **Mixed reality**

Mixed reality is also a major component of Industry 4.0. Big companies are already issuing mixed reality devices like helmets and glasses to employees in hopes that the increased communication and visualization of contextualized data will boost productivity and intelligent decision-making.

"Mixed reality is a real game-changer in manufacturing," Tim Lynch, CEO of Psychsoftpc, said. "For repair personnel, it allows them to 'see inside' the machine that needs repair or 'see through

walls' to the cables and pipes behind to know exactly where to drill or cut."

Couple those capabilities with the predictive maintenance enabled by IoT and AI, and you've got a recipe for high-tech success. If the data suggests a machine is overheating, for example, and the machine-learning algorithms flag it is anomalous enough to warrant dispatching maintenance, workers can employ mixed reality to determine whether a machine is beginning to overheat, and precisely which components are affected.

To take it a step further, imagine the maintenance person diagnosing the affected machine recognizes a problem but doesn't have the expertise to fix it. Mixed reality devices can connect someone with the proper expertise to the person on-site, who can then show them step by step, through digital overlays, how to perform the repairs.

For training purposes, mixed reality creates an environment where employees can experience virtual situations relevant to their job without risking actual equipment or manufacturing uptime.

"In training, workers can practice on virtual products to gain experience that will carry over to the real world," Lynch said. "They can be put in simulated situations that they could face in doing their job and learn how to handle them virtually before being exposed to them at work."

- **3D printing**

3D printers have existed since 1983, though were often only in the hands of large companies. Back then, the term was "rapid prototyping," and they certainly continue to do that today. But it's not just prototypes anymore; 3D printers are also employed in low-volume manufacturing, perhaps to test products or bring samples to trade shows.

"When small companies develop new products and need to make 50 parts to test, or just to bring to a trade show, tooling up for traditional manufacturing can be very expensive," Doug Collins, owner of Avid 3D Printing, said. "They might not have the capital to tackle [traditional manufacturing]. 3D printers allow low-volume production without as much investment, so they can save that capital for the other important stuff, like marketing."

As the technology continues to improve, it's more common to find 3D printed parts within larger projects. One example is GE Aviation's 3D printed fuel nozzle, which is part of the CFM LEAP airplane engine. By printing certain components, manufacturers can save time and money to create the same final product.

### **What are the advantages?**

With such immense promise and cutting-edge technology, Industry 4.0 requires a major upfront investment. According to a 2017 survey of 1,000 small and mid-size manufacturers, invested an average of \$250,000. For larger businesses, the cost



would inevitably be higher. But the expected payoff – connected, smart devices and an automated production process – promises a major return on investment.

Advantages manufacturers stand to reap from implementing those technologies include:

- **Increased competitiveness**  
Outsourcing to low-wage regions of the world was previously an imperative for manufacturers wanting to remain competitive. However, investments in technology are now enabling wealthier countries to compete once again.
- **Increased productivity**  
Automation, analytics and machine-learning algorithms have taken much of the step-by-step work out of the hands of human operators. That means quicker, more efficient production around the clock, with human operators primarily monitoring and maintaining systems.
- **Increased revenue and profitability**  
Industry 4.0 not only creates a more efficient and higher quality production process, but it enables things like predictive and preventive maintenance and upgrades, which results in lower downtime and less capital expenditure over time.
- **Manufacturing process optimization**  
With more connectivity, shared data and better analytics, closer collaboration along the entire supply chain becomes possible, which could lead to increased efficiency, optimization and innovation in the long run across the manufacturing industry.
- **Seamless record-keeping and traceability**  
The immense capture and analysis of data also means better record archiving and search capabilities. This has ramifications from government regulatory compliance to customer satisfaction.

### Current State in India

Since 1970 Industries in India and all over the world have adapted automation and robotic technologies that are driven by electronics and information technology. Present technology consists the automation of isolated machines. General adoption of information and communication technology by manufacturing industry is now leading for deterrent approaches to production development and to the whole logistic chain. As we know increase in population is paving the way for increase in productivity and quality with limited time.

### Identification of potential problems

By studying current industrial technology some of issues or problems were found. These can be categorized into five groups. They are as follows: -

- **MANAGER AND OPERATORS INTERACTION**

At present industries, managers design logistic schedules and operators control machines to check whether they are performing the tasks which are assigned to them. Even though expert managers and operators are deciding these tasks, there is a lack of significant factor: health condition of the machine

- **MACHINE FLEET**

Exposure of identical machines for different tasks in completely different working condition is very common. Most prognostic methods are designed to encourage limited number machines and better working condition. The advantage of identical machines is not being used properly in the present health and prognostic management methods by the worthwhile knowledge gathered from different situations, as a fleet.

- **PRODUCT AND PROCESS QUALITY**

Final product of an industry gives the scrutiny on machine condition through backward reasoning algorithm. Production scheduling can be improved by the feedback provided by the product quality to system management. Because of the absence of such feedback loop more researches should be done on this.

- **BIG DATA AND CLOUD**

Achievement of self-learning and self-aware machines is critical for data distribution and management in big data environment. Research must be done in the efficient implementation of current data management technologies by adapting prognostics and health management algorithms.

- **SENSOR AND CONTROLLER NETWORK**

Sensors act as the gateway of the machine as it senses its surrounding physical environment. Yet they pass wrong and inaccurate readings to decision making algorithms due to its degradation or failure, which leads to the incorrect outputs.

- i. Indian firms have a deep challenge. Even though India has become a destination for outsourced analytics for European and North American companies, they have not utilized locally available expertise.
- ii. India also lags in promoting a strong digital culture, operational disruption from cyber security breaches and clear digital operation vision from leadership.
- iii. Currently, India (27%) drop behind the global average (33%) and Asia-Pacific (36%) in terms of level of digitization.





- iv. By analysing the current technology and its limitation and the problems associated with them some of the industries have come forward and adopted industry 4.0 technology to be a strong competitor in the global market. Industry 4.0 is the one which can take the India to its next level in its development. India should benefit from it.

**INDUSTRY 4.0 as an OPTIMAL SOLUTION for Manufacturing**

Internet and mobile phones as a new transforming technology succeeded because they were followed by a societal transformation and not because they were new. Internet as a technology did not invent Social networks, but social networks formulated thanks to the Internet, and enabled it to develop further. In the same way rules of the industry players will be changed by bringing new functionalities through Industry 4.0. The development in different industries will proceed at different rates.

In the same way India needs to take few steps to ensure a manufacturing success story in Industry 4.0

- **It must improve its fledging internet of things (IOT) industry:**

As the growth of industry 4.0 is based on the growth of IOT market, it is necessary to work on seamless data integration. To create a smart Factory all heterogeneous devices, must be networked and connected in the industrial automation system through IOT. Even though Indian IOT is emerging now it is the crucial part of digital India to transform India into a digital knowledge driven economy.

- **To develop a robust data security environment:**

Practical application of smart factory is impossible without a robust security infrastructure. Security services industry must be developed to manage advanced targeted cyber-security threats and attacks and strict government rules and regulations are to be made for data security and protection.

- **Skill development**

It is the right time for the India to improve its skill in some the areas in which it has not done well so far, like advanced automation, automation bionics, industrial ICT, cognitive robots etc., and it must take care of safety related abilities as Industry 4.0 involves Human machine cooperation and engagement. An instructive approach from corporations helps India in its preparation for leadership in Industry 4.0.

**From a business perspective, Industry 4.0 supports four major tenets of operational execution:**

- 1) Interoperability
- 2) Information Transparency

- 3) Actionable Insights
- 4) Automation

**These tenets in turn, support several business imperatives. These include:**

- **Scalability**

Automation in the factory gives manufacturers the ability to transition personnel to more value-added activities and provides the foundation to extend and expand product and service offerings. As they look to expand globally, automation maintains process consistency across locations.

This also allows manufacturers to focus on what they do best to find and refine their sweet spot. This moves manufacturers into a more advantageous position from taking on every job to taking on those jobs the organization can do well, while achieving the best profit margins.

Cloud technology is central to Industry 4.0. It allows manufacturers to scale operations by focusing more on core competencies versus IT operations. Many small to mid-market manufacturers have limited IT staffs; they must be very strategic with IT resources. The cloud is the great IT equalizer — giving small and mid-market enterprises access to leading software capabilities, while freeing them from having to monitor and manage infrastructure. The cloud also gives manufacturers the ability to spin up computing power, providing agility to help organizations “rise to the occasion” when needed.

- **Security and Redundancy**

As digitization in the factory continues, security implications grow and a sophisticated and layered approach to security is critical. This is challenging for manufacturers who may not have the security resources in-house to adequately address this growing challenge. Again, leveraging a cloud-hosted software model can give manufacturers the ability to confidently charge forward in their Industry 4.0 initiatives.

- **Control and Visibility**

In an increasingly complex and global manufacturing enterprise, a single digital thread across all operations is needed to support responsiveness, improve collaboration, reduce risk, and streamline compliance requirements. Visibility from order entry to inventory to finished product is required to inform customers, partners and other stakeholders as to status at any time.

- **Customer Experience**

This visibility is key to provide the omni-channel order and fulfilment options that customers demand today. It’s also critical to support co-creation — the ability to collaborate with customers and suppliers. Making business processes transparent and/or open to engagement from customers and suppliers can support improved satisfaction, stronger relationships and loyalty.



### • Customization

Mass market manufacturing has given way to personalization and customization. This entails shorter production runs and the need to switch out lines more often. Manufacturers need to be able to configure and reconfigure the shop floor quickly and easily to avoid expensive machine and line downtime. Velocity is the new business currency.

Technologies such as augmented reality can help reduce lag time between design and production. 3-D printing is pivotal in this area. To date, the use case for rapid prototyping has proved to be a game changer, and other broader use cases are now coming into focus. These include 3-D printing for spares or replacement parts — providing the ability to improve responsiveness for customers at a time of need. Additionally, manufacturers also benefit from 3-D printing of replacement parts — another game-

changing value proposition when you consider all the benefits — reducing the acquisition time and cost of parts, especially for old or obsolete parts, and enabling manufacturers to implement speedy repairs that significantly reduce downtime while extending equipment shelf-life and return on investment.

### • Innovation

Crucially, manufacturers need to address whether the business systems they have in place are ready to support the journey toward Industry 4.0. Product Lifecycle Management (PLM), Enterprise Resource Planning (ERP), Manufacturing Execution Systems (MES), and Computer Aided Drafting/Computer Aided Manufacturing (CAD/CAM) all must be integrated to support the move toward increased digitization and customization.



### Broadly, advantages of Industry 4.0 can be listed as

- Leads to innovation
- Effective globalization
- Optimum utilization of resources
- Smooth product flow
- Efficient continuous real time tracking
- Efficient energy consumption
- Autonomous controlling
- Greater flexibility meeting high-level last-minute changes
- Detailed end to product transparency in real time
- Secure and reliable backup system for every step-in cloud storage

### Major challenges in Industry 4.0 are

- Training
- Type of process and work organization
- Lack of research and specialist staff
- Supplier of mechatronic system and machineries
- Strong network infrastructure
- Highly efficient cyber security
- Effective plant layout

### CONCLUSION

India is a population of 1.2 billion people and its resources are stretched to say the least. However, India must rework the way it has historically dealt with issues; the world around it is changing. As we



discussed earlier fourth industrial revolution is on its way to occupy the world and likely provides large opportunities. Through Industry 4.0 it is feasible to create prolonged ecosystem with qualified employees and to bear on India's edge in manufacturing and can orchestrate to large scale customization. Although it is very tough to manage the process centrally, if players in the system apply right levers there will be reinforced effects. Thus, it is imperative to communicate the ideas that players in government and corporate sector will profit most, if an initiative of Industry 4.0 goes together. By adopting Industry 4.0, we will have a major competitive advantage over global competitors in economy. But first and foremost, we need to have the essence of speed to capture this opportunity and to achieve our goal.

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# SPECIFICITY OF TEACHING RUSSIAN TERMINOLOGICAL VOCABULARY IN THE LESSONS OF THE RUSSIAN LANGUAGE IN A MEDICAL HIGHER EDUCATION INSTITUTION

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## ANNOTATION

*This article discusses the specifics of teaching students of national groups of Russian biomedical terminology, identifies effective means of optimizing the process of teaching professional vocabulary in the Russian language classes. The main tasks in organizing work with professionally oriented texts are presented.*

**KEY WORDS:** *professional vocabulary, specialty language, terminology, term, terminology, word formation, derivational processes, communicative competencies, scientific style.*

## INTRODUCTION

A lot of works have been devoted to the specifics of student training at a medical higher education institutions, in which the urgent tasks of achieving the best results in professional speech development are posed and solved. Teaching students of national groups the scientific style of speech is one of the promising areas in the teaching of the Russian language and is aimed at developing the professional competence of future specialists.

Currently, more than one and a half thousand students are studying at the TMA Urgench branch. The discipline "Russian language" is taught only in the 1st course and is designed for 2 semesters. Russian language teachers are working on the formation of common communicative competencies, which students of national groups do not always have in their proper volume, which complicates the perception of the professional speech of teachers.

During the initial analysis of the state of speech skills and abilities of students of national groups in the first year, insufficient fluency in their oral and written Russian speech is noted.

It is known that approximately four thousand of the most frequent words cover 95% of texts of non-special content. According to our observations, scientific vocabulary is least learned. Therefore, increasing the effectiveness of teaching the Russian language has been and remains an urgent problem that is actively being solved by teachers of the Russian language.

Scientific and technological progress in modern society leads to an increase in the importance

of terminology as a means of obtaining and organizing scientific knowledge. Issues of information support and scientific and technical exchange, which affect the full functioning of languages, are especially important. The terminology of various sciences undergoes the process of internationalization and develops by borrowing from different dead and living languages.

The lexical component of the scientific style of speech is determined by three main lexical groups:

- 1) General vocabulary that forms the basis of any texts;
- 2) General scientific vocabulary;
- 3) The terms that make up the metalanguage of a particular science.

As is known, biomedical terminology has its own specifics and various etymologies. Mastering biomedical terminology is fraught with great difficulties because of its considerable volume and variety. The terms of medicine are different in structure: root, derivatives, formed by collocation and phrases, metonymic or metaphorical transfer (deltoid muscle, Koch's wand, solar plexus, etc.). The study of medical and pharmaceutical terminology is due to the need for its presentation as a strictly ordered system corresponding to the current level of development of medical science and the needs of students' practical activities. By origin, biomedical terms can be borrowed from other languages (abdominal, prescription, therapist, pharmacist) and native Russian (ventricle, atrium, pediatrician).

A feature of Russian scientific biomedical vocabulary is the so-called "medical bilingualism" [1, p. 232]: forms of terms of Latin or Greek origin and equivalent Russian-based terminology (apophasis -





process, outgrowth, sclera - albumen, antidote - antidote, abdominal - abdominal, latent - hidden, mumps - mumps, systole - contraction, coronary - coronary). This is one of the difficulties in mastering Russian scientific terminology, since students of national groups perceive such synonyms as completely different words. At the same time, Greek-Latin terminological elements are fully mastered and serve as the basis for creating new words already on Russian soil. They are short enough, easy to use, mostly monosemic, and are used in regular word-formation models. Currently, they are the main ones in the formation of medical and pharmaceutical terminology. Studying the word-building mechanism of biomedical terminology, the researchers came to the conclusion that the formations based on Greek-Latin terminology constitute the vast majority (over 1000 names) [2, p. 102]. Practical tasks in studying the structure of motivated words should be aimed at so that the student can not only predict the meaning of the word, but also correctly form the necessary motivated word to express a certain meaning. These tasks are associated with two important problems of word-building semantics: the component values of the motivated word, the semantic laws of word formation and their lexical implementation. Terms belong not only to individual branches of science, but above all they are units of language. This means that such lexical and semantic processes as synonymy, homonymy and polysemy cannot be alien to them. These processes complicate the process of professional communication of future doctors.

The accuracy of terminology is a prerequisite for the mutual communication of specialists in any field. But even more important is the accuracy of terminology in teaching students of national groups. The terminological vocabulary of the scientific style of speech in teaching the Russian language serves as a means for the formation of the subject (professional) competence of a future specialist. When students understand the words with which the teacher sets out the scientific principles, they learn the material well. If the textual and lexical material of classes in the Russian language corresponds to the main topics of the studied disciplines, and the system of exercises is organized in such a way that students are constantly in the subject area of their main activity, then the learning process acquires a targeted focus and increases learning motivation. Also, students should receive from the teacher a clear target setting for independent work with terminology in the specialty, detailed instruction on its content, methods and implementation methods. It is very important to reorient students from reproductive methods of work to creative activity. As the main form of extracurricular and classroom work with vocabulary in the specialty, students of national groups are invited to work in Russian classes in specially prepared textbooks with scientific texts in the specialty. The formation of terminological competence of students is

one of the most important tasks of teaching the Russian language. For its implementation, a system of tasks and exercises is needed, the purpose of which is a comprehensive acquaintance with the laws of word formation, compatibility and interdependence of lexical units, development of skills in practical knowledge of terminology.

As is well known, modern medicine is a complex of actively developing sciences, the names of which reflect the process of integrating the branches of knowledge: biomedical, medico-technical, medico-chemical, medico-preventive, etc. At present, the number and variety of medical sciences has tremendously increased, directions, schools, in connection with which the number of medical concepts and terms increases with great acceleration. It is practically impossible to compile a complete list of words and expressions forming modern medical vocabulary, to reproduce in the dictionaries all the features of its scientific use. [4, c 52 - 55]

At this stage, in our opinion; it is possible to characterize the basic properties and development trends; medical vocabulary and proper medical terms, to identify the universal and specific features of the latter regarding the terminology of other sciences and commonly used vocabulary, to systematize the results of their linguistic study. Modern medical vocabulary is characterized by a number of specific features that can be identified in terms of its semantic connections, productive: derivational processes, functioning in different subsystems of the modern Russian language. Moreover, changes; in the socio-cultural sphere correlate with scientific progress and in many ways; determine the development trends of medical vocabulary, reflecting the semantic essence, goals, objectives; and prospects for the development of modern medical science. The answer to the question of how fundamentally the medical vocabulary differs from the vocabulary of other sciences requires, first of all, the identification, description and subsequent comparison of the main systemic-semiotic parameters of the lexical field of medicine. [4, p 52 - 55]

Word formation is a kind of connecting link between lexical and grammatical structures in the Russian language. Therefore, focused word-formation analysis allows students to feel the specifics of the language being studied. The intensification of work on teaching terminological vocabulary should help to strengthen the activity of foreign students in the study of educational material and the formation of the ability to independently, systematically and methodically correctly expand the knowledge gained, the formation of the need for reading literature in the specialty, special terminological and explanatory dictionaries. Students of medical universities should not only be fluent in the Russian language and methods of working with special and reference literature, but be able to correctly use the terminology in the classes in core subjects. Of course, work on terminological vocabulary





should be carried out in close contact with Russian teachers of special departments.

**Conclusion.** Teaching students the language of a specialty is a key task, since the sublanguage of medicine has a fairly branched structure and is associated with the development of various lexical-thematic terminological groups: anatomical and histological terminology, clinical terminology and pharmaceutical terminology. The study of the vocabulary of these groups is very relevant for the methodology of teaching the scientific style of the Russian language, taking into account the specialty. The Russian language teacher has a purely practical goal - to prepare a student of a national group for the perception and understanding of lectures in the specialty, that is, to help the student, and develop language competence when using the language of the specialty.

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# METHODS FOR DEVELOPING A SYSTEM OF TEACHING HISTORY AND INCREASING THE EFFECTIVENESS OF HISTORY TEACHING

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## ABSTRACT

*The article analyzes the ways to develop the system of teaching history, methods to increase the effectiveness of history education, as well as ways to pay special attention to the scientific-methodological and didactic conduct of history lessons at the level of modern requirements.*

**KEY WORDS:** *New methods, national idea, teaching history, spiritual life.*

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## I. INTRODUCTION

In general, the method of teaching means the methods of interaction between the teacher and students in the educational process, aimed at achieving certain goals. In other words, teaching methods include both activities, ie the methods used by the teacher to equip students with knowledge, skills and abilities, ideological and moral education, the formation of their scientific outlook, as well as the acquisition of scientific knowledge, skills and abilities by students. Teaching history is a complex problem today, and the education system, especially schools, has a number of responsibilities. Without a deep understanding of the theoretical foundations of teaching history, the task of organizing teaching on a scientific basis, achieving an integral unity of educational work, continuous improvement of teaching history in general, teaching methods can successfully solved. In the teaching of history and the organization of its study by students, the teacher also relies on the theoretical foundations of pedagogy, psychology and methods of teaching history, as well as on best practices.

Only a teacher armed with a theoretical knowledge of history teaching methods should be able to take into account the specifics of teaching and learning, as well as all courses in history. These peculiarities in the teaching and study of history, first of all, are due to the fact that the peoples of the world and all nations and peoples of our Commonwealth are historically interconnected and interact, so it is necessary to study their history comparatively and show all the peculiarities. Peculiarities are determined

by an in-depth study of the natural and historical conditions of the territory of Uzbekistan, its connection with the way of life of the people.

## II. MAIN PART

Different methods of teaching have been used at different stages of the development of history education [1]. In the 1920s, the main method of studying history consisted of students' independent work on historical materials, while in the 1930s, the teacher's live speech served as the sole source of students' knowledge and the main teaching method [2]. Teachers' main focus was on material selection and narration. Also, in the 1930s, the method of narrating the material, the method of conversation and the methods of asking students were developed and published in newspapers. Along with these articles, V.N. Bernadsky's important textbook for the first time on the methods of teaching history ("Methods of teaching history in older classes," L., 1939) was also published. In the 40s and 50s, AI Strajev's "Program of teaching methods of history" for students of history faculties of higher educational institutions and scientific-methodical articles published in journals[3] were written on the basis of these new tasks and opened a new, important direction in the development of historical thought. Based on A.I. Strajev's methods of teaching history, N.V. Andreevskaya and V.N. Bernadsky created a textbook for teachers of the program "History teaching methods in seven-year schools (M., 1947). In these textbooks, the tasks of school history education in the formation of the scientific worldview of students are clearly defined.



The attention of teachers was focused on raising the ideological and political level of history teaching. However, in some history programs and textbooks, too much material was provided, which did not allow the teacher to work creatively in the classroom, to guide the students' cognitive abilities, to organize their creative work. An important feature of the development of historical methodological ideas in these years is, first of all, the intensification of research work, which is carried out on a large scale. There is also a strong emphasis on the teaching of history, based on the achievements of psychology in scientific research. Most of the research, however, focused on teacher narration, heuristic conversation, questioning, and the use of textbooks in the classroom, with little emphasis on student independent thinking, creative work, or teacher guidance.

Since 1956, the way has been paved for the improvement of the socio-political and spiritual life of the former Soviet Union and our republic. History, the content of school history education, began to worship the individual and to cleanse him of its consequences. The study of the history of the former Soviet republics and countries, the creation of special textbooks and manuals, which contributed to the enrichment of the content of historical education and the strengthening of its educational direction, created new programs and textbooks. The role of textbooks in enhancing students' learning activities and their independent creative work has increased.

The agenda was to scientifically substantiate the methods and tools that would help to successfully implement the new content of history education and take full advantage of its advantages. Methodists suggested that the choice of teaching methods and tools should be based on the purpose, content and learning activities of students, and most of the research work was carried out in this direction. In his book "Didactic students for history lessons in secondary schools" (M., 1960), P.S. Leibengrub recommended that the classification of methods of teaching history[4] should be based on the characteristics of teachers and students, the means (sources) to help students learn historical truth under the guidance of a teacher. and teaching methods were divided into the following groups:

1. Story method. 2. School lecture. 3. Conversation style. 4. Demonstration style. 5. Methods of working with textbooks, etc. P.S. Leibengrub later developed his view of teaching methods, arguing in his 1968 book, *Didactics of History*, published in Kiev in Ukrainian, that the level of development of students' cognitive activity should be based on the classification of teaching methods.

### III. RESULT AND DISCUSSION

In the books of A.A. Vagin methods of teaching history are relatively complete and comprehensively classified in depth[5]. A. Vagin based the classification of methods of teaching history on the sources of

knowledge of historical events and divided them into the following three groups:

- 1) Method of oral statement;
- 2) Method of demonstration education;
- 3) Method of working with text;

Speaking about the classification of teaching methods, Prof. P.V. Gora stressed the need to approach the issue not only from a didactic point of view, but also from a historical and methodological point of view, taking into account the educational functions of teaching materials and their specific content. The same principle is based on the program "Methods of teaching history." In his article, P.V. Gora describes the following three types of teaching methods:

- 1) Oral teaching method; this method, in turn, is divided into two types: a) the method of oral education and b) the method of teaching on the basis of printed texts;
- 2) Method of demonstration education;
- 3) Practical method of education.

The interrelationship between teaching methods and different forms of student thinking activity results in the interdependence of methods in a system based on their interaction with each other. Tables, the visual teaching method never takes place without the teacher's explanation, and the teacher's oral teaching method also always relies on visual aids. Pupils' technical means, practical work on various texts are also carried out in connection with visual and oral methods of teaching. This system of methods is also used in the comprehensive teaching and learning of history.

P.V.Gora teaching methods can also be divided into three groups[7]:

- 1) formation of figurative ideas about historical facts in the memory of students;
  - 2) historical facts, consolidation of years;
  - 3) methods of mastering specific historical material and mastering historical material and forming historical concepts[1].
- He also emphasizes the role of the visual style, and in his book on this problem divides the methods and means of exhibition into two groups: 1) methods and means that help to study the external features of historical facts on a visual basis and visualize the historical ideas formed about them; 2) methods and means that provide a deep visual study of the essence of the historical process.

The methods and tools that make learning visual are chosen depending on the purpose of the lesson, the content and nature of the material. P.V.Gora bases the classification of teaching methods and methods and means of visual education on increasing students' cognitive activity and independence. History teaching is seen as a whole process consisting of the teacher's teaching and the students' learning or cognitive activity. P.V.Gora has proved the importance of the teacher's careful study of the lesson material, the rational use of various means of demonstration teaching methods, the performance of various tasks in making them active participants in the educational process. Tasks and assignments that enhance students'



cognitive performance and provide teacher guidance are conditionally divided into three groups[7].

- 1) Helping students to remember existing knowledge;
- 2) Helping them to enrich and develop content;
- 3) problem-based assignments.

Based on the above, it is important to acquaint students with the development of historical methodological ideas, including ideas about teaching methods, to equip them with the theoretical foundations of teaching history, in particular the history of the peoples of Uzbekistan.

The personality of a history teacher, who is highly regarded by the school teaching staff for his dedication to his profession, also plays an important role in the high level of knowledge of students. That is why a history teacher must work tirelessly on himself.

In addition to being equipped with certain necessary knowledge, a history teacher must be able to skillfully use the methodology of inculcating this knowledge in the minds of students and making their knowledge grow into their personal beliefs. Otherwise, "education is for students!" let Him Himself prevent education from remaining in a state of inactive conservation without the realization of the principle.

Well-known historian-methodologist AI Strajev, reflecting on the knowledge and methodological skills that must be acquired for history teachers, writes:

First, to study history in scientific and methodological detail;

Second, it must be armed with a clear historical knowledge in various fields;

Third, it must have a broad-based, universal outlook;

fourthly, the science, which includes pedagogical and psychological knowledge, formed as an independent pedagogical science and art, should have a set of qualities typical of a modern history teacher, fully equipped with the methodology of teaching history"[3].

In agreement with A. Strajev's opinion, we take into account the fact that today's world of scientific and technological information technology is growing, especially in the context of the rapid formation of the national idea and ideology of the history teacher in our country, from the technical means of education - information widely disseminated on the Internet. , in general, the use of periodicals with an in-depth analytical approach is a positive factor in increasing the effectiveness of history education. There is no doubt[6]

Any experienced history teacher in his pedagogical activity should be fully subordinated to the main idea of the lesson, using didactic methods and methodological tools in the selection of lesson materials and its place in the teaching process, clearly focusing on the educational and pedagogical tasks of the lesson, as well as systematic development[8].

As in any field, the "human factor", that is, the knowledge of a history teacher, to be a mature specialist in his field, plays a crucial role in increasing the effectiveness of teaching history. Experience has shown that in the work of teachers often clear historical

facts, concepts, "space", "time", historical archival documents, pictures, drawings, statistics, local lore materials, especially in the organization of local lore of the independence period, in some cases the theory of lessons and not only does the distance from the methodology negatively affect the effectiveness of the lesson, it can even cause the student in the classroom to lose interest in the subject being taught for a lifetime. There is a risk of failure. In this regard, the world-famous scientist, Nobel Laureate, Academician K. Scriabin said: "It is impossible to teach people without deep respect and devotion to science."I think that's where the student's behavior in the classroom, the peace of mind in the classroom, should start".[11]

Any school, whether elementary, middle, or high, starts with respect for it. Usually, a teacher does not have all the responsibilities of the subject he or she is teaching. Just as history did not cease to exist as a science because of the boring lessons in its teaching, so algebra will not cease to exist as a science taught by its vague methods. But a student sitting in these boring, vaguely ineffective classes can lose both history and algebra for a lifetime. Who knows? Would a student who once lost interest in this science be able to make a huge contribution to the development of this science in the future?[9]

It can be said that the curricula, textbooks and teaching aids tested in practice on the basis of scientific, methodological and didactic requirements of the period play an almost decisive role in ensuring the effectiveness of any lesson after the human factor.[10]

#### IV. CONCLUSION

After the independence of the Republic of Uzbekistan, the demand for teaching history has increased. Our historians and methodologists have created books that can show modern methods of teaching. In particular, "Methods of teaching history" created by associate professors T. Toshpulatov and docent Ya.H. Gafforov, as well as in the book "Methods of teaching history" 2 problems of improving the effectiveness of methods of teaching history are practically generalized and analyzed the experience of experimental, scientific-methodical and pedagogical work of history teachers of advanced schools and universities of the Republic of Uzbekistan.[12]

These textbooks focus on history lessons and modern requirements to it, ways to increase the effectiveness of history lessons, an integrated approach to the study of history in the education system and the use of new pedagogical technologies in history education.

Therefore, every history teacher should take a creative approach to the content of textbooks, manuals and other teaching materials in preparation for the next lesson on the basis of the program, paying special attention to the scientific-methodical and didactic conduct of history lessons.



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## MANAGING TALENT FOR THE WINNING EDGE

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### ABSTRACT

*Talent management involves attracting, managing and nurturing talent and is an important issue in the current business scenario. Talent management requires a number of proactive measures on four fronts. An attempt is made to understand these four crucial elements that lead to an effective talent management effort. The first is to focus upon assessing the manpower requirements. The second is to develop strategies to attract the right people. Next the organization must develop appropriate induction, development and training programs and finally, all efforts must be made towards maximizing the potential of existing and newly acquired human resource. Talent Management would thus include creating an organization structure that is supportive of the talents of individuals working in the organization, identifying who does what work best and relating skills and abilities to present and future tasks. It is imperative that the strategies of talent attraction, reward, retention and renewal strategies are well thought out before being implemented. In this way talent management can support and create efforts that result in positive outcomes. Talent Management therefore involves creating and subsequently enjoying the consequences of a holistic talent solution. This paper shall follow each of the steps involved in the process of talent management and analyze how each step can be put into action for the best results. What is significant is that while these steps help the organization towards the final objective of the organization, talent management itself is a cyclical and never ending process and must continue to work in the direction of where the organization is moving in the future. The paper also examines the idea that since every organization is unique, an organization seeking Talent Management solutions need to first appraise their own business processes and visualize how talent management can support the ways in which they actually operate, and identify the short term as well as the long term goals they seek to meet, in order to make the talent management effort workable and effective.*

**KEYWORDS:** *Talent Management, Nurture Talent, Assessing work requirements, Positive Work Environment, Orientation & Training, Maximizing Potential*

### INTRODUCTION

Business Environments are rapidly changing and geographical boundaries are slowly fading for trade and business because of changes in technology and communications. The corporate landscape is undergoing an upheaval because of digitalization, deregulation and globalization and disruption.

If organizations are to successfully adapt to these changes, it is imperative that they reconstruct and reinvent themselves. Organizations increasingly understand that technology supports and drives this change but eventually it is intellectual capital can help companies to emerge successful in the 21<sup>st</sup> century. It is the human resource of the organization can give it a distinct winning edge. If the people in the organization exhibit both creativity and high levels of productivity their talent and commitment can ensure the success of organization. This makes it important to ensure that the talent of the work force is optimally harnessed and managed.

### The Meaning of Talent Management

The term Talent Management was first coined by David Watkins of Softscape and published in an

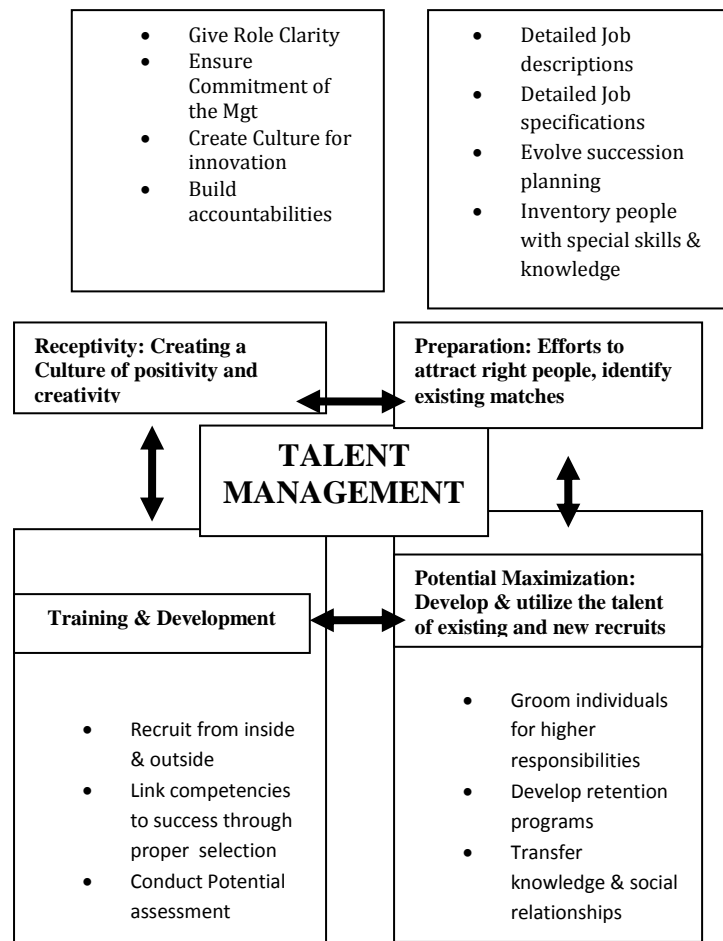
article in 1998 and the effective management of talent continues to be an important aspect of human resource management. The current business world is marked with intense competition which extends to competing for talent as well. Talent Management is also identified as Human Capital Management and includes all the activities like attracting, developing, motivating and retaining talent. Companies also report that while they realize the importance of managing talent, talent as a resource is perpetually in short supply. Stories abound of newly recruited individuals who come with glowing credentials and seem perfect on paper yet fail to show results on the job. Similarly, there are examples of individuals who take up a new job and new goals- without any experience and go on to achieving great success. Talent management therefore emerges as a key differentiating factor between the success and the lack thereof for the organization. The entire process begins by efforts to attract and hire highly skilled people, developing them to match the organization's requirements, integrating them into projects and existing teams and above all not ignoring to nurture existing talent so as to utilize it to maximum benefit.



### What does Managing Talent involve?

To some it may seem that Talent Management focuses on the select few but it is actually based on the assumption that every single individual has inherent talent. The very objective of talent management is therefore to draw it out successfully. For this, a positive work environment, a culture of performance and opportunities for growth

and innovation need to be created. Today, Talent management is a major challenge for HR executives across the globe because organizations are suffering from talent flight and therefore 'talent retention' has also become a crucial issue. Attracting, managing and nurturing talent is set to be the most crucial issue of this millennium.



### The elements of TALENT MANAGEMENT

The above figure shows the major proactive measures and their inter-relationships that underlie the talent management program in any organization. These elements must be understood and proactive efforts to implement them in the organization must be made if the outcomes of talent management are to be seen as effective. The four elements involved in Talent management are:-

- 1) Creating a culture of positivity and creativity that will nurture Talent
- 2) Attracting the right people on the basis of the requirements that emerge from a detailed job description made after understanding the business processes of the organization
- 3) Orientation & training of new recruits and training & development of existing staff

- 4) Maximizing the potential of both existing and new employees

#### I. Creating a culture of positivity and creativity that will nurture the Talent needed, based on assessing company requirements

Organizations must prepare the right work environment and ambience in order to ensure that the talent of each employee will be drawn out successfully. For this the organization needs to ensure:-

- Commitment of the top, middle and lower level of management towards talent management.



- Clarify and communicate the role that each individual can play in the Talent Management effort.
- Assign roles and build accountabilities of individuals for carrying out their part in Talent Management and achieving results.
- A culture of creativity and innovation must be fostered and rewarded. A company must focus on building an image which will attract, develop and retain people.

## II Attracting the right people

Once the organizational climate is conducive to talent management, it is time to put in place the systems that will help manage the talent and un-tap the hidden potential.

This will involve the following:-

- Clarify what work people do – It is not possible to implement an effective Talent Management program if the elements of the job are not clear. For this, it is necessary to update the job description which describes in detail the work that people do.
- These job descriptions must be tailored to meet the unique needs of the organizations
- Identify what kinds of people are required to do the job. This is done through formulation competency models which describe the qualities of successful people and are heavily influenced by corporate culture.
- Identifying who possesses special knowledge, for example some individuals may possess institutional memory or some special proprietary knowledge of the business.
- Evolve successful and technical succession planning which includes money other aspects, social relationship succession.

## III Orientation & Training

The organization must, at this stage must lay down the basis of talent management. This process will involve.

- Recruit and select appropriate people from both inside and outside the organization. The key rule is to pursue a recruitment strategy which shall out perform the competitor's recruitment strategies.
- Internal recruitment programs should guard against hoarding of talents.
- Selection methods should be examined for appropriateness and focus on linking competencies to success.
- Assess individual potential for promotion and individual values and ethics. This involves determining, if people can perform at higher responsibility levels and is commonly called 'potential assessment.'

## IV Maximizing the potential of Employees

The employee's talent has to be nurtured to realize its full potential. In doing so, the organization should –

- 1) Outline the future talent requirements in detail and align with strategic objectives. Talent requirements are dynamic and as the organizational leaders pursue strategic objectives they must also revise these talent requirements in tune with the future needs.
- 2) Groom individuals and groups for higher levels of responsibilities. This can be done through providing employees on- the- job learning and coaching. The organizations should also encourage team based learning efforts and hone their leadership skills as well.
- 3) Develop retention programs – Organizations must foster systematic retention programs that are geared up to keep the best people. Approach should be consistent and eliminate bias, and focus upon valuing and rewarding the truly talented employees.
- 4) Transfer knowledge and social relationship – organizational leaders should take effective steps to transfer the special knowledge of in-house experts who possess specialized competencies in solving the unique problems confronting the organizations. Such experts can be highly effective mentors when they are willing to transfer this knowledge.
- 5) While transferring social relationship is a highly challenging task, it is very important for organization to transfer this skill and groom potential successors who can continue the social relationships created by organizational employees. Last, but not the least we must reward what is recognized as valuable a crucial aspect of talent management in nurturing talent by rewarding it. The rewards may not necessarily be monetary but may just as well be intangible in terms of job enrichment, status, responsibility enhancements and participation in decision making.

## Steps the Organization must take for effective at Talent Management

Talent Management includes the efforts of employers to help employees work at their best possible level. In order to best manage the current talent and plan for the future the organization can do the following:-



- ❖ **The organization must ensure that employees are clear about what is expected from them in terms of deadlines, practical skills, or job task.**

For this the organization must:

- Conduct a proper job analysis
- Provide a well-written job description that includes job duties as well as required skills and abilities
- Have frequent communication with employees, especially new ones
- Assign an existing employee as a coach or better still a work-buddy for new recruits
- Provide timely and frank feedback

- ❖ **The organization must work on creating an effective Performance Management System**

An effective performance management system is an important part of talent management. To create an effective performance management system the organization must take the following steps:-

- Have a clear HR policy for the frequency of employee performance appraisal. New employees must be appraised more frequently but later an annual appraisal is sufficient.
- The Performance Appraisal should be based upon an understanding of the individual job description, the mission and values of the company,
- Performance appraisal formats must include enumerating an employee's strengths and weaknesses.
- Performance Appraisal must outline suggestions of actionable ways to improve the employees' performance.

- ❖ **The HR Department must maintain extensive work related Employee Data**

For this the organization must:-

- Use electronic records management systems to monitor employee analytics to keep data well organized.
- Use HR software to make more informed HR decisions.
- Base all decisions regarding promotions, raises, and other employee management decisions on analytics from the performance management system. This will help to avoid bias or mistakes if the decisions are based on personal preferences or other unrelated reasons

- ❖ **The Organization must focus on programs to Train, Mentor, and Guide**

Training, ongoing guidance and support makes employees feel like they are supported and valued.

With respect to training, companies can focus on the following:

- Use innovative off-site training opportunities using technology to access both employees and clients without commuting.
- Develop company-specific, continuous training programs for employees.
- Offer departmental and job-specific training.
- Document the training given to employees including any questions that were asked
- Training must be imparted for **employee mentoring**

- ❖ **The Organization must plan for Future HR requirements well in advance**

The future is dynamic and uncertain. This is the reason that **Pipeline planning** must be a part of the talent management strategy of an organization.

- Identify the key positions that must never be left vacant as they may cause a lot of problems if they are left empty.
- Identify top performers on the basis of data analysis at middle and lower levels of the organization.
- Train the top performers to occupy key positions if they become vacant.
- Involve employees in succession planning
- Assess an employee's professional goals and see if he or she can fit into the organization in the future.
- Communicate to the employees about any upcoming position and role changes. The communication should be clear and frequent.

The greatest investment of any company is their employees and every company, whatever its business can profit from the ability to manage its talent well.

## CONCLUSION

In ancient times, the choice about who to hire was made on the basis of who was physically stronger. This was a useful criterion to recruit soldiers to fight in wars, to build the pyramids or to harvest a field. It made perfect sense to choose strong and healthy candidates. This was also easy to do and in fact perhaps we continue to unconsciously do the same as a study showed that CEO's on the Fortune 500 list are about 2 inches taller than the average American!

Talent Management solutions provide the support and direction to employees and their managers which can contribute towards building better organizations. This is because it enables employers to communicate their objectives and



expectations more effectively and employees are able to plan and develop lasting careers by using their understanding of these objectives. All the organizations that undertake proactive steps towards talent management can ensure talent retention and an increase in productivity and performance. Another advantage would be that the talent base developed within the organization can create a buffer against any talent crisis that may occur.

Efforts at Talent Management will thus be useful for every employee in the company help the departments and levels in the organization to integrate. But Talent Management itself must be well structured and an organized effort. It has been found that the organizations that follow a structured approach, use data models, user interface and business process integration shall benefit the maximum from the application of Talent Management.

Any organization looking to applying Talent Management solutions need to do so systematically by assessing its human resource requirements vis-à-vis its business processes, attracting the right people, training and developing the human resource and maximizing their potential. If an organization can successfully visualize how talent management can support their operations and help them to achieve their goals, they can use talent management as a holistic solution.

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## INCLUSIVE OF DISABILITY-A STUDY ON BUD'S SCHEME UNDER KUDUMBASHREE

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### ABSTRACT

*As per Census 2011, in India, out of the 121 million population, about 2.68 million persons are 'disabled' which is 2.21% of the total population. In an era where 'inclusive development' is being emphasised as the right path towards sustainable development, focused initiatives for the welfare of disabled persons are essential. This emphasizes the need for strengthening disability statistics in the Country. At this juncture, Kudumbashree in Kerala initiated the Disability Mainstreaming Program namely Buds. To avoid the sin of labeling and stigmatizing towards the mentally challenged, the school was named as "BUDs". The first BUDs institution was started at Venganoor Panchayat in 2004. With the policy focus on inclusive and integrated education more and more mentally challenged children began to enroll in government schools. The main focal point of the review paper is to give the clear view of Bud's scheme under Kudumbashree and its function. Secondary data was used for compile the study. It could be conclude that, the long term goal of promoting inclusive society for children with disabilities is achieved by Kudumbashree programme. It opens new vistas in development history.*

**KEYWORDS:** Inclusive education, Disability, BUD's school, Kudumbashree, BRC.

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### INTRODUCTION

The term 'disability' has different meanings; the Global Burden of Disease however, uses the term disability to refer to loss of health as conceptualized in terms of functioning capacity in a set of health domains such as mobility, cognition, hearing and vision (WHO, 2004).

The Convention on the Rights of Persons with Disabilities (CRPD, 2006) defines disability as including "Those who have long term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others".

The National Policy for Persons with Disabilities (2006) recognizes that Persons with Disabilities are valuable human resource for the country and seeks to create an environment that

provides equal opportunities, protection of their rights and full participation in society.

### GLOBAL SCENARIO OF DISABILITY

Over a billion people in the world today are estimated to live with some form of disability, which corresponds to about 15% of the world's population or one in seven people. Between 110 million (2.2%) and 190 million (3.8%) people 15 years and older have significant difficulties in functioning, while some 93 million children, or one in 20 of those under 15 years of age live with moderate or severe disability. Furthermore, the rates of disability are increasing in part due to ageing populations and an increase in chronic health conditions, while national patterns of disability are influenced by trends in health conditions and environmental and other factors, such as road



traffic crashes, falls, violence, humanitarian emergencies including natural disasters and conflict, unhealthy diet and substance abuse. Women, older people, and poor people are disproportionately affected by disability with children from poorer households, indigenous populations and those in ethnic minority groups also at significantly higher risk of experiencing disability. The prevalence of disability is also greater in lower-income countries than higher-income countries with an estimated 80% of people with disability living in developing or low-resource countries. Disability is extremely diverse. While some health conditions associated with disability result in poor health and extensive health care needs, others do not (WHO Global Disability Action Plan 2014-2021).

**Table 2: Differently-Abled population as per the Census of India, 2011**

Population, India 2011			Disabled Persons, India 2011		
Persons	Males	Females	Persons	Males	Females
121.08 Cr	62.32 Cr	58.76Cr	2.68 Cr	1.5 Cr	1.18 Cr

Source: Census (2011).

In Millennium Development Goals (MDGs), are not fully focused on disability inclusive. As a result, people with disabilities, who constitute 15% of the global population and are commonly amongst the poorest of the poor, have not fully benefited from many development and humanitarian response programmes. This seriously limits the capacity of such programmes to address the needs of the most vulnerable and excluded – and especially children with disabilities (UNICEF, 2017).

Inclusive education is the need of the hour for developing countries like India to educate children with disabilities. With efforts taken by the government the enrollment of children with disabilities in regular schools has been on the rise in last decade (Maithily, 2014).

Kudumbashree Mission (2019) states that, disability is when a loss or reduction in any physical or psychological function results in a partial or total inability to perform any bodily or mental functions in a manner or within the range considered normal for a human being. Within the range of disabilities, mental challenges are felt as one of the serious problems affecting the family economically and emotionally. Kudumbashree initiated the Disability Mainstreaming Program namely Buds. To avoid the sin of labeling and stigmatizing towards the mentally challenged, the school was named as “BUDs”.

### **BUDS SCHOOL (A SPECIAL SCHOOL FOR DISABLED CHILDREN)**

The birth of the first BUDs school happened at Venganoor Panchayat in 2004, inaugurated by the former honorable chief minister then Sri. AK Antony.

### **INDIAN SCENARIO OF DISABILITY**

As per the Census 2011, In India out of the 121 Cr population, 2.68 Cr persons are ‘disabled’ which is 2.21% of Among the disabled population 56% (1.5 Cr) are males and 44% (1.18 Cr) are females. In the total population, the male and female population is 51% and 49% respectively. Majority (69%) of the disabled population resided in rural areas (1.86 Cr disabled persons in rural areas and 0.81 Cr in urban areas). In the case of total population also, 69% are from rural areas while the remaining 31% resided in urban areas the total population.

The school was unique in its various ways. The entry and exits to these schools stood away from all sorts of discrimination based on religion, caste, class. To avoid the sin of labeling and stigma towards mental retardation the school was named as “BUDs”. The community accepted the center whole heartedly, but could not replicate it as there was no sustained financial support available for BUDs. The project resurrected when the decentralized plan guidelines of 11th plan included BUDs as one of the important projects in support of Persons with disability. It endorsed LSGI to meet some expenses for managing BUDs (Selvi and Pushpa, 2019).

In 2008 Kudumbashree mission took the challenge to organize BUDs schools in other Panchayats with recognition under Persons with Disability Act of 1995. By 2010, the Department of Education approved the initiatives of Kudumbashree and began to sanction grant in aid to BUDs. Now there are 63 approved BUDs school in the state.

With the policy focus on inclusive and integrated education more and more mentally challenged children began to enroll in government schools. This has provided the mentally challenged children an opportunity for schooling in an inclusive atmosphere where they can learn upto the age of 18. However there was no institution to take care of the mentally challenged above the age of 18 especially in rural areas which became another problem and issue for the family. The neighborhood groups began to demand for day care and training for mentally challenged adult persons within the local areas. The Government of Kerala accordingly approved the innovative model. Thus in 2015 BUDs Rehabilitation Center was formed.



The centre focuses on the rehabilitation, training and day care of these mentally challenged persons (Kudumbashree Annual Report, 2018).

### HIGHLIGHTS OF BUDS SCHOOL

BUDS Schools are free and open special schools for mentally challenged children of poor families. All the BUD's schools were owned and managed by the local government institutions under the support and guidance of Kudumbashree Mission and the community structure. BUDS Schools are set up and run according to the guidelines issued by the Government of Kerala.

- BUDS Schools are registered with the Department of Education of the Government of Kerala
- BUDS Schools are eligible for special grants through the Department of Education
- BUDS school teachers undergo special training programmes; manuals are developed for teacher training

- Different departments offer financial assistance to BUDS Schools
- BUDS School children are entitled to special healthcare package
- Regular monitoring of schools by teams of experts and doctors
- Teachers, parents, and members of the LSG committee get training on management of BUDS Schools
- Vehicles for transportation of children are arranged with the support of Social Security Mission
- School level management committee and district level advisory committee are set up for monitoring
- Parent education programmes are conducted
- BUDS schools receive Plan fund support
- LSGs can use maintenance grant for BUDS School.

### Details of BUD's and BRC's

The detailed list of BUDS institutions in all the districts of Kerala as follows.

**Table 1**  
**District wise details of BUDS Institutions**

Number of BUDS Institutions as on 15-March-2018				
Sl.No.	Name of the District	BRC	BUDS	Total
1	Thiruvananthapuram	28	2	30
2	Kollam	13	2	15
3	Pathanamthitta	3	0	3
4	Alappuzha	9	7	16
5	Kottayam	1	0	1
6	Idukki	1	1	2
7	Ernakulam	11	17	28
8	Thrissur	6	2	8
9	Palakkad	6	2	8
10	Malappuram	8	8	16
11	Kozhikode	10	12	22
12	Wayanad	2	1	3
13	Kannur	6	14	20
14	Kasaragod	2	7	9
	<b>Total</b>	<b>106</b>	<b>75</b>	<b>181</b>

Kudumbashree Mission Report-2018

Table 1 show that the district wise details of BUD's school in Kerala. There are 181 BUDS institution in Kerala. A total of 106 BRC (BUDS Rehabilitation Centre) and 75 BUD's schools were functioning. The highest BUDs (30 numbers) schools

were functioning in Thiruvananthapuram district capital of Kerala followed by Ernakulam District (28 numbers).

Kottayam and Idukki district had the least number of BUDs school.



**Table 2**  
**District wise details of BUDs Students in Kerala**

<b>BUDs Students District Wise</b>		
<b>Sl.No</b>	<b>District</b>	<b>No. of students</b>
1	Thiruvananthapuram	91
2	Kollam	67
3	Pathanamthitta	0
4	Alappuzha	308
5	Kottayam	0
6	Idukki	47
7	Ernakulam	684
8	Thrissur	102
9	Palakkad	46
10	Malappuram	412
11	Kozhikode	503
12	Wayanad	41
13	Kannur	601
14	Kasaragod	429
	<b>Total</b>	<b>3,331</b>

(Source: Kudumbashree Report, 2019)

Table 2 depicts that the district wise details of BUDs students in Kerala. A total of 3331 BUDs students were benefited under this school. The highest (684) number of students were benefitted in Ernakulam District, followed by Kannur District (601) numbers of students. Wayanad District had only 41

students under BUD's. Kottayam and Pathanamthitta district have no BUD's hence they have no students were benefitted.

**Table 3**  
**District wise details of BRC Students in Kerala**

<b>BRC Students District Wise</b>		
<b>Sl.No</b>	<b>District</b>	<b>No. of students</b>
1	Thiruvananthapuram	870
2	Kollam	339
3	Pathanamthitta	99
4	Alappuzha	212
5	Kottayam	63
6	Idukki	33
7	Ernakulam	245
8	Thrissur	182
9	Palakkad	203
10	Malappuram	193
11	Kozhikode	236
12	Wayanad	30
13	Kannur	97
14	Kasaragod	38
	<b>Total</b>	<b>2840</b>

(Source: Kudumbashree Report, 2019)



Table 3 shows that the district wise details of BUD's Rehabilitation Centre (BRC) students in Kerala. A total of 2840 BRC students were benefited under this school. The highest (870) number of students were benefitted in Thiruvananthapuram District, followed by Kollam District (339) numbers of students. Wayanad District had only 30 students under BRC followed by Idukki District (33 Students).

## CONCLUSION

The study could be concluded that, parents having a child with special needs experience a variety of stressors and stress reactions related to the child's disability. Parents are known to get impacted in many ways because of having a child with special needs. Their social life is likely to be affected, recreational and leisure activities take a beating, and interpersonal relations with family members may worsen. In most cases, mothers are more affected; poverty adds a new dimension to the stresses faced by such families. BUDS School Project envisages addressing the emotional and economic hardships of poor families with children having special needs.

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# EFFECT OF INTERNATIONAL FINANCIAL REPORTING STANDARDS' (IFRSs) ADOPTION ON ECONOMIC PERFORMANCE OF NIGERIAN QUOTED AGRICULTURE AND TELECOMMUNICATION COMPANIES

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## ABSTRACT

*This study investigated the effect of IFRS adoption on Economic performance of Nigerian quoted Agriculture and Telecommunication companies over the period 2005-2018 representing seven years pre-IFRS and seven years post-IFRS implementation in Nigeria. Three hypotheses were formulated to assist in providing answers to the questions raised in the study. Ex-post facto research design was employed while purposive sampling was used to select 9 companies used for the study. Data were sourced from the annual reports of the companies and tested using simple linear regression at 5% level of significance. The hypotheses were tested using paired sample t-test, at 5% level of significance. Findings show of no significant difference in the reported Earnings before Interest and Taxes (EBIT), Economic Value Added (EVA), and the level of Economic Profit, in pre and post-IFRS transition periods. This implies that IFRS adoption has little or no effect on the economic performance of firms in Nigeria. Our study recommends among others, that IFRS adoption by countries and implementation by companies, should not be based on the expectations of transforming the economic value of entities but on its informational value and other benefits.*

**KEYWORDS:** IFRS adoption, Economic Value Added, Economic profit, EBIT.

## CHAPTER ONE

### 1.1 Background of the Study

The globalization of economic activities necessitated the integration of national economies and demand for high quality, internationally comparable financial information, which will encourage cross border investment and listing in the new globalized and integrated world. Moreover, the past and recent financial scandals that rocked the corporate world, also draws significant attention to the need for sound accounting and financial reporting framework globally and specifically in Nigeria. An International Monetary Fund (IMF) working paper in 2008 put the number of economic crises that have occurred in the developing

world between 1970 and 2007 at 124 (Hakeem, 2013), the economic crises of 2008 etc., and presently, the crash in oil prices and exchange rates which threatens Nigeria's stand as the biggest economy in Africa and the 26<sup>th</sup> in the world. In a bid to strengthen accounting practice globally, in 1973, the International Accounting Standard Committee (IASC) was formulated. Between 1973 and 2001, the IASC issued 41 standards known as the International Accounting Standards (IASs), the committee was later repealed in 2001, and a newly constituted International Accounting Standard Board (IASB) based in London was created. The Board was charged with the same responsibility as the defunct IASC. Among the objectives of the Board is to



formulate, issue and promote the adoption of International Financial Reporting standards (IFRS). IFRSs are principle based set of standards that establishes broad rules as well as dictating treatments (NASB, 2009).

In the past few years, many developed and developing countries have adopted IFRSs as their basis for the preparation of financial reports. Presently, over 130 countries are reported to have adopted or converged with IFRS. Countries such as Armenia, Austria, Belarus, Belgium, Bulgaria, Canada, Denmark, Italy, Poland, Romania, South Korea, United Kingdom (UK), Nigeria, etc. The European Union (EU) took the lead when she mandated all listed companies in the EU to prepare consolidated financial statements from 2005.

The adoption of IFRSs is associated with a lot of challenges for developing countries, such as Nigeria who mandated the adoption for listed firms in 3 phases, starting from January 2012 to 2014, without modifying any institutional or regulatory framework to suit the new standards. Basically, a country's accounting and disclosure system is part of its financial system and generally its institutional infrastructure. This is geared towards the informational and contracting needs of the key parties in the economy and its role in the capital market. According to Albrecht (2010) all accounting standards have economic consequences. Furthermore, reasons are adduced to justify that if an accounting standard has no economic consequences, then the standard is not needed. A close examination of the conceptual framework for financial reporting reveals a little characterization of the economic consequences. Therefore this study is set out to address the economic effects of the mandatory adoption on financial statements, through a comparison of economic performances before and after the introduction of IFRS in the Nigerian accounting system.

## 1.2 Statement of Problem

The bearing of IFRS on economic growth in developing countries which adopted them is conflicting, studies usually document mixed effects bearing in mind the differing status between local standards and IFRS. Woolley (1998) investigated the bearing of IAS on the economic growth of selected Asian countries and came to the conclusion that the average economic growth rate of developing countries when grouped by their approach to adoption or non-adoption of IAS was not significantly different, which underscores the point that adopters were not better of when compared to non-adopters.

Nigeria mandated the full adoption of IFRS, which commenced from 2012 financial year, without modifications to suit the local business, political and

economic environments which could thus, have a negative effect on the economic performance of firms in Nigeria. Though IFRS has the potentials to facilitate cross-border comparability, increase reporting transparency, decrease information costs, reduce information asymmetry and thereby increase liquidity, competition and efficiency of markets (Ball, 2006; Choi & Meek, 2005). Studies have shown that the level of enforcement in adopting countries have a significant impact on the economic consequences of IFRS (Ashrat & Ghani, 2005; Mir & Rahaman, 2005; Ball, 2006; Daske, Hail, Leuz & Verdi, 2008; Armstrong, Barth & Jagolinzer, 2008). Armstrong, Barth, Jagolinzer and Riedl (2007) and Soderstrom and Sun (2007) have found that cultural, political and business differences may also continue to impose significant obstacles in the progress towards a single global financial communication system because a single set of accounting standards cannot reflect the differences in national business practices arising from differences in institutions and cultures.

According to Belkaoui (1994), historically, the rate of growth and development of a nation's economy in both public and private sectors have been tied to a certain extent to the adequacy of the accounting system and the accounting development process in that country. Also, Hooper and Morris (2004) argue that the effectiveness of a company's financial reporting depends on two conditions. First, accounting standards must be well structured, theoretically sound and allow minimum flexibility. And second, there must be in place a set of corporate governance factors to ensure that the accounting standards will be enforced. However, practically in Nigeria there seems to be poor corporate governance framework as highlighted with the reported cases of the failed banks in recent times (Herbert & Tsegba, 2013).

This is indicative of the fact that most companies that appear profitable are not (Daske et al, 2008). Until a business returns a profit that is greater than its cost of capital, it operates at a loss. Never mind that it pays taxes as if it had a genuine profit. The enterprise still returns less to the economy than it devours in resources...until then, it does not create wealth; it destroys it (Drucker, 1995). A company may report accounting profit but loss when economic value is measured (Harper, 2015).

Company may intentionally pay tax to prove that they have made profit for their shareholders and thus a falsification is done with owners, which is not a rare corporate practice. When businesses are doing well in terms of financial performance, it implies greater opportunities for the economy. This is because the profits from business operations generate tax income



which is used for infrastructural and other major development in the economy, including the implementation of economic policies. IFRS is a more principle based and does not provide the same degree of detailed guidance for the preparation of statements unlike the Nigerian Statement of Accounting Standards. Nigeria is a developing country. Developing countries are likely to suffer from corrupt, slow-moving, or ineffectual governments (La Porta, Silanes, Sheifer, & Vishny, 1999). In these countries, the IFRS switching costs are lower than producing and modifying local standards, thus, the chance to adopt an externally developed body of accounting standards which is perceived to be suitable in the short run but with long run effect of retarding organisations' performance with the consequent economic effects (Owolabi & Iyoha, 2012). There are constant changes to IFRS resulting in different versions, as well as different policies on the recognition of a particular financial activity, which somewhat poses some constraint on the intended comparability and might impair true economic value. Thus, there is a need to measure firms' economic performance in pre and post adoption periods using firm-level economic variables as underlying basis to ascertain the effect of the adoption.

### 1.3 Objectives of the Study

The main aim of this study is to ascertain the effect of IFRS adoption on economic performance of firms' in Nigeria. This shall be achieved by addressing the specific objectives below:

1. To determine the extent of difference in the level of Earnings Before Interest and Taxes (EBIT) in pre and post-IFRS transition periods.
2. To ascertain the degree of difference in the level of Economic Value Added (EVA) in the pre and post-IFRS transition periods.
3. To assess the difference in the level of Economic Profit (EP) in the pre and post-IFRS transition periods.

### 1.4 Research Questions

In order to achieve the above stated objectives, the under listed research questions need to be addressed.

1. What is the extent of difference in the level of Earnings Before Interest and Taxes (EBIT) in pre and post-IFRS transition periods?
2. What is the degree of difference in the level of Economic Value Added (EVA) in the pre and post-IFRS transition periods?

3. What is the difference in the level of Economic Profit in the pre and post-IFRS transition periods?

### 1.5 Research Hypotheses

The following null hypotheses were formulated to guide this study in providing answers to the questions and thus achieve the objectives;

#### Hypothesis One

H<sub>0</sub>: There is no statistically significant difference in the level of Earnings before Interest and Taxes (EBIT) in pre and post-IFRS transition periods

#### Hypothesis Two

H<sub>0</sub>: There is no statistically significant difference in the level of Economic Value Added (EVA) in the pre and post-IFRS transition periods

#### Hypothesis Three

H<sub>0</sub>: There is no statistically significant difference in the level of Economic Profit in the pre and post-IFRS transition periods

### 1.6 Scope of the Study

The study is centred on two major Nigerian economic sectors as indicated in their Gross Domestic Product (GDP) contribution just prior to IFRS adoption (2010/2011), the summation of which is more than half of the total Nigerian GDP for the year. According to National Bureau of Statistic (2012), these are; the Agricultural and Telecommunications (Information Communication Technology) sectors.

Therefore, this study is narrowed to companies under these sectors, which are listed on the Nigerian Stock Exchange. This is to ensure that companies under study are IFRS compliant.

The study covers fourteen years, and grouped into two periods as below:

1. Pre-IFRS transition period; 2005, 2006 2007, 2008, 2009, 2010 and 2011.

This is the seven years before IFRS adoption and represents the period in which financial statements were based on Nigerian Generally Accepted Accounting Principles (NGAAP)

2. Post-IFRS transition period; 2012, 2013, 2014, 2015, 2016, 2017 and 2018. This is the first seven years of IFRS adoption and represents the period in which financial statements are based on International Financial Reporting Standards (IFRS).

The division is necessary to establish equilibrium and avoid bias in results. six years was chosen for the pre-IFRS period, and six years also for post IFRS transition period was considered. Thus, a time frame of fourteen years was chosen for the study because most companies were yet to publish their financial statements for 2019 as at the time of this study.



Furthermore, this research is focused on economic performance at firm level which could be termed micro economic and only three performance measures were studied. Thus, Macro economic performance measures like the GDP, Foreign Direct Investment etc., are outside the scope of this study.

### 1.7 Limitations of the Study

Most of the companies under study have not published financial statements for the year end 2019. This study is thus restricted to 2018. The study population is inherently limited to firms in Agricultural and ICT sectors; hence, the study may be influenced by a small number sample size condition as according to Wilson and Tsegba (2013), there may be limitations on account thereof, whereby a study is constrained by a small-number sample size condition.

### 1.8 Significance of the Study

The outcome of this research shall be relevant to;

1. **Developing countries** who are yet to adopt IFRS in making decisions whether to adopt or not to adopt and in knowing the potential consequences of adoption on their earnings before interest and taxes which directly affect tax revenues ,economic value added by entities and the economic profit of entities. These countries include
2. **Academics** who would want to research further on this topic or conduct researches on related topics will also benefit from the outcome of this study. The outcome of this research could be a trigger point for new research areas; it can form part of empirical review in further research and can also be a source of reference in academic researches.
3. **Standard setting Bodies** who are responsible for the development and

modification of accounting standards are not left out as it is obvious this work would be significant to them. This includes the Financial Reporting Council (FRC) of Nigeria, the International Accounting Standards Board, and other foreign Accounting Standard Setters, as it would give them hint on the economic effect of imposed standards on companies' performance and economic value. Thus, gives a clue to the suitability or otherwise of IFRS in Nigeria.

4. Most importantly, this research will be of immense significance to the **Nigerian government** which is directly affected economically by the outcome of this study either negatively or positively. Thus, help her in making further decisions on Accounting Standards with regard to their economic implications.
5. This study lays emphases on EVA, EP (relatively new concepts in accounting) and their measurement procedures. **Companies** can benefit from this study as they will learn to shift focus from profit to creation of economic value and its measurement.

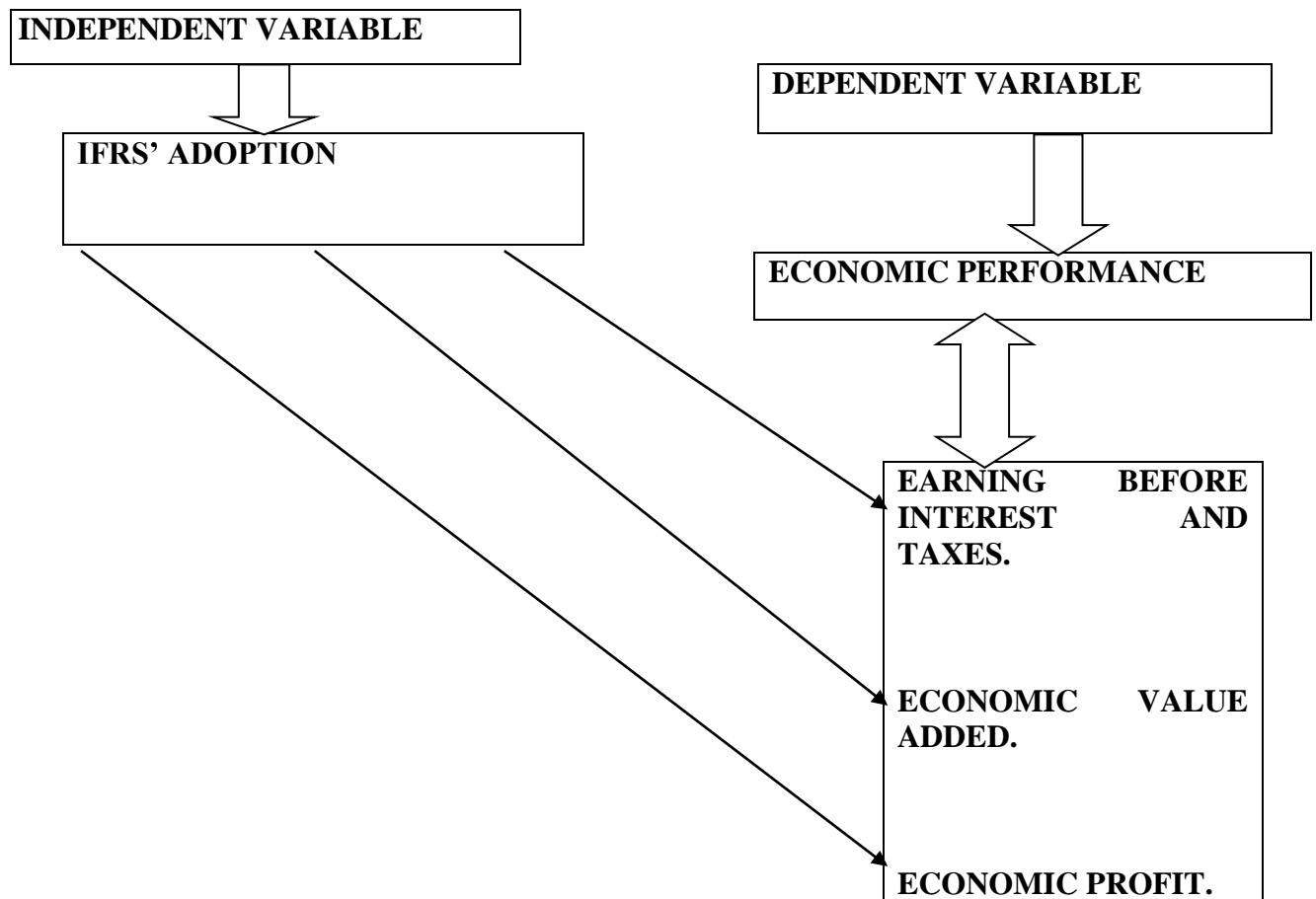
## CHAPTER TWO

### REVIEW OF RELATED LITERATURE

#### 2.1. Conceptual Framework and Review

The framework below was developed to guide in proper conceptualization, review and investigation of the effect of IFRS adoption on Economic Performance.

Figure 1: Conceptualization



Source: Researcher's conceptual framework 2019

### 2.1.1. The Concept of IFRS Reporting

IFRS has been known for years as IAS which was issued since 1973 and lasted until 2000 by the IASC. On April 1, 2001, IASB replaced the IASC and took over their responsibility of developing a single set of high quality, understandable, enforceable and globally accepted financial reporting standards based upon clearly articulated principles (www.ifrs.org, 2015). The IFRS became the outcome. IFRS as used in this study consists of;

1. IAS issue before 2001
2. IFRS issued after 2001
3. Interpretations originated from the International Financial Reporting Interpretations Committee (IFRIC) issued after 2001
4. Standing Interpretations from the Standing Interpretations Committee (SIC) issued before 2001

5. The Framework for the preparation and presentation of Financial Statements which explains the principles underlying IFRS.

IFRS are more comprehensive than their predecessors (IAS) and are considered an improved set of standards (Hicks, 2010; Deloitte, 2010). International agencies such as the World Bank, International Organization of Securities Commission (IOSC) and the International Federation of Accountants (IFAC) promote the adoption of IFRS to create a solid international financial infrastructure, which in turn should stimulate the economics of the countries that adopt it. The result being that as at 2015 over 150 countries have adopted IFRS fully or partially by way of convergence with their local standards or on the move towards adoption ( [www.ifrs.org](http://www.ifrs.org) ). The rate of adoption was noticed to have increased after some international agencies like EU mandated their member





countries to adopt, irrespective of the country's economic status. Currently there are 41 IAS and 9 IFRS number of standards currently in issue. The growth in international trading activities and the need to achieve cross border comparability of financial statements, and a nation's desire to achieve uniformity with other nations, also contribute immensely to the high rate of adoption of IFRS among Nations.

### 2.1.2. Approaches to IFRS Adoption

The approaches which a country or a jurisdiction can utilise for the purpose of IFRS reporting are stated in Teferi and Pasricha (2016), are;

#### Big Bang Approach

This approach is popularly referred to as adoption. This is whereby a country changes its existing accounting system to globally recognize accounting standards called International Financial Reporting Standards (IFRS) by totally replacing all its accounting standards entirely with IFRS. Big bang approach is a strategic decision by a country to adopt IFRS on a single date or, perhaps, a series of dates applied to companies of different sizes, an example here is Nigeria (Jubril, 2012). Under this approach, once IFRS is adopted, all IFRS standards should be complied while preparing financial statements and the existing accounting standard should be replaced with IFRS. Financial analysts and accountants have argued that the impact of simultaneous adoption will be an overwhelming task for preparers and will result in confusion among investors. As stated in Joel (2016), many experts say that the Big Bang approach is probably a more efficient and less painful approach tantamount to ripping off a band-aid quickly. In doing so, businesses will limit their attention to ensuring that the standards continue to be implemented correctly, rather than periodically updating the entire system and knowledge base.

According to IFRS Foundation(2013) in its Adoption guide, adopting IFRS is like starting a family as it requires careful planning, commitment and complete understanding of its implications.

#### Staggered Approach

This approach is commonly referred to as convergence as it involves customising a country's local accounting standards with IFRS over time. Convergence approach, gradual movement is made towards IFRS through customizing with the existing accounting standards and IFRS are applied gradually. Accor to IFRS Foundation Guide (2013), Converging a few local standards to IFRSs each year can allow local preparers and auditors to learn a few topics at a time rather than immersing themselves in the full set of IFRSs and convergence approach can also allow time

for necessary changes in local legal frameworks. According to research performed by the Corporate Executive Board (Jefferson 2008), European companies that adopted IFRS in 2005 with revenues of over \$5 billion spent on average \$3.3 million dollars to implement IFRS. Whereas with the Big Bang approach, costs would incur over a short period of time, the costs would be spread out over a longer period of time under the staggered approach, thus somewhat easing cash flow considerations. This is particularly relevant for smaller businesses that do not have the financial capacity necessary to meet the high upfront capital requirements.

Although implementing the converged standards will cause considerable financial burden, personnel and resources will be also be taxed, limiting their utility for a variety of other tasks including increasing sales, improving efficiencies, and activities related to daily core operations. The big bang approach would require a company to direct their attention almost entirely to the transition process until complete. The staggered approach would require less diversion, but for a prolonged period of time (Joel, 2016).

### 2.1.3. Reasons for IFRS and Benefits of IFRS Adoption

Ikpefan and Akande (2012) asserted that companies have a lot of benefits to derive from conversion to IFRS. They opined that;

Compliance with foreign reporting requirements will help streamline a company's financial reporting. This will help minimize reporting costs as a result of common reporting systems and consistency in statutory reporting. It enables comparison/benchmarking with foreign competitors possible. Besides, adoption of IFRS offers companies' an edge over competitors in the eyes of users. Thirdly, since the adoption of IFRS transcends national boundaries/cross border, acquisitions and joint venture is made possible and there will also be easy access to foreign capital.

Fourthly, companies can trade their shares and securities on stock exchanges world-wide. For instance, present and emerging stock exchanges would require financial statements prepared under IFRS. Globally, investors would be able to make rationale and informed decisions.

Akande (2012) further asserted that convergence of financial statements provides a platform for management to view all companies in a group on a common platform. Thus time and efforts reduced to adjust the accounts in order to comply with the requirements of the national GAAP. Business acquisitions are reflected at fair value than at the carrying values. There will be more objectivity and



transparency in financial statements. A single set of accounting standards worldwide would ensure that auditing firms standardize their training and quality of work that they maintain globally. They summarised by stating that implementation of IFRS would give rise to the following benefits:

i. Uniform application of principles – same language ii. Cross border investments leading to economic growth and development. It will also lead to increase globalization of commerce and trade. iii. Easy comparability of financial statements of two or more companies' worldwide.

iv. Tax authorities will find it easy to assess tax payers for payment and collection. v. Administrative cost of accessing the capital markets would be reduced for companies globally. In addition time and money will be saved by international accounting firms in planning of accounting and audits.

vi. Multinational companies will find it easy to carry out mergers and acquisition, easy access to multinational capital, the cumbersome task of consolidation of group financial statements would be simplified and accounting and audit functions will also be made easy

#### 2.1.4. Concept of Financial Reporting in Nigeria

Before 2012, financial reporting of both private and public entities was regulated by the Nigerian National Accounting Standard Board who issued Accounting standards (Statements of Accounting Standards (SAS) ) from time to time. The SAS formed part of the Nigerian Generally Accepted Accounting Principle (NGAAP). The NASB was the only recognized independent body in Nigeria responsible for the development and issuance of accounting standards. The NASB is the brain child of the Institute of Chartered Accountants of Nigeria (ICAN). It started on 9<sup>th</sup> September 1982 and was made a government parastatal in May 1992 as component of the then Federal Ministry of Trade and Tourism. The House of Representative passed the Bill that gave NASB a national outlook on the 20<sup>th</sup> of May 2003 while the Senate passes her own Bill on 28<sup>th</sup> May 2003 and was passed into law by the then President Olusegun Obasanjo on 10<sup>th</sup> July 2003. The NASB issued over 30 accounting standards. Just like every other accounting standard setting Bodies, the NASB had its criticisms, some of which were valid and constructive (nigerianaccounting,2015).

In 2011, the Federal Executive Council of Nigeria enacted the Financial Reporting Council Act, which in effect nullified the NASB Act and brought the Financial Reporting Council (FRC) of Nigeria into

existence which took over from the NASB and take responsibility for production of accounting standards for use in financial reporting in Nigeria.

In a bid to ensure better financial reporting in a globalized existence and to fulfill membership obligation of foreign institutions, Nigeria adopted the IFRS emanating from an International standards setting Body, while the FRC is left with the responsibility of mandating compliance, given the fact that weaknesses on national accounting and financial reporting system could undermine financial stability and intermediation, and adversely impact on the investment climate. The transition period spanned from 2012 for public companies to 2014 for others establishments in Nigeria including small/medium enterprises. the full adoption of IFRS was in anticipation of the under listed benefits by Jubril (2010):

(a) Promotion of the compilation of meaningful data on the performance of various reporting entities at both public and private levels in Nigeria thereby encouraging comparability and reliability of financial reporting in Nigeria.

(b) Assurance of useful and meaningful decisions on investment portfolio in Nigeria.

(c) Attraction of Foreign Direct Investment (FDI);

(d) Assurance of easier access to external capital for local and domestic companies.

(e) Reduction of the cost of doing business across borders by eliminating the need for supplementary information from Nigerian companies.

(f) Facilitation of easy consolidation of financial information of the same company with offices in different countries.

(g) Easier regulation of financial information of entities in Nigeria.

(h) Enhanced knowledge of global financial reporting standards by tertiary institutions in Nigeria.

Currently, this phased transition process has been completed and IFRS reporting fully effective for all entity. Although, there is still poor system of monitoring to ensure compliance for entities that are not publicly listed.

#### 2.1.5. The concept of Economic Profit and Economic Value Added (EVA) as measures of Economic performance of firms.

Economic Value Added (EVA) is the financial performance measure that comes closer than any other to capturing the true economic output of an enterprise. EVA is the amount of economic value added for the owners by management. EVA is exceptional from other traditional tools in the sense that all other tools mostly depend on information generated by accounting. And we know accounting; more often produces historical



data or distorted data that may have no relation with the real status of the company (WiseGeek, 2016). But, EVA goes for adjustments to accounting data to make it economically viable.

Under conventional accounting, most companies appear profitable but many in fact are not. As Drucker (1995) put the matter in a Harvard Business Review article, "Until a business returns a profit that is greater than its cost of capital, it operates at a loss. Never mind that it pays taxes as if it had a genuine profit. The enterprise still returns less to the economy than it devours in resources...until then it does not create wealth; it destroys it." Company may intentionally pay tax to prove that they have made profit for their shareholders and thus a falsification is done with owners, which is not a rare corporate practice. EVA corrects this error by explicitly recognizing that when managers employ capital they must pay for it, as if it were a wage. It also adjusts all distortions that are very much prevalent in the information generated by conventional accounting, (Nikhil, 2009).

$$EVA = \text{Net Operating Profit After Tax} - \text{Weighted Average Cost of Capital} \times \text{Capital Employed}$$

Economic profit (EP) adjusts accounting profit after taxes to arrive at the actual value created by an entity in an accounting period. This is achievable by adding back tax relief on interest (finance charge), interest charge, on cash items charged on profit (e.g R&D expenditure capitalised) and accounting depreciation while economic depreciation is deducted.

$$EP = \text{Profit After Tax} + (\text{Finance charge less Tax Relief})$$

Therefore, the use of Economic Profit and EVA in this study is to ensure that values of economic substance were actually created in the years under study and taxes paid by companies were really out of real profit by way of additional economic value created for the years.

### 2.1.6. Economic implications of companies' Tax on Earnings Before Interest and Taxes and Economic Value.

Company Income tax is a tool to achieve economic growth in any country. Income tax is accepted not only as a means of raising the required public revenue, but also as an essential fiscal instrument for managing the economy (Burgess, 2003).

The World Bank (1991) notes that of all the taxing systems, income tax plays a major role in generation of revenue and distribution of income in any country. This is tax payable for each year of assessment on the profit of any company at a rate of 30%, these include profit accruing in, derived from or brought into or received from a trade,

business or investment. Also companies paying dividend to its holders are first obliged to pay tax on its profit at the company's tax rate.

Generally, in Nigeria company dividend or other company distribution whether or not of a capital nature made by a Nigerian is liable to tax at source of 10% however, dividend paid in the form of bonus share or script share to individual shareholders are not subject to tax. Also where a company is a shareholder in another company, then such dividend are excluded from the profits of the company for the purpose of computation of the tax.

This makes companies' earnings important in an economy as the size of the earnings determine the size of tax contribution which the entity is to make towards economic growth. The earning of a company before interest and taxes is determined as below;

$$EBIT = \text{Revenue} - \text{Cost of Sales} + \text{Admin, Distribution and other operating expenses}$$

The income tax which a company pays and deducts from its earnings in an accounting period is normally added back to its net operating profit, along with other deductions for intangible costs, in an attempt to determine the entity's real economic profit and the amount of economic value created by the entity.

### 2.1.7. Shortfalls of Developing Countries that could undermine IFRS Adoption effect

A developing country, also called a lower developed country, is a nation with an underdeveloped industrial base, and low human development index which is an index of life expectancy, level of education and per capita income, relative to other countries (Wiki, 2015). The countries classified in this category include Nigeria, Panama, Russia, Qatar, Nicaragua, Malaysia, India, Algeria, Bangladesh, etc (IMF, 2014, World Bank 2013). Developing nations are characterized with low levels of living, low income, income inequality, poor health, and inadequate education leading to low literacy level (Wiki, 2015). According to Economy detail (2010), developing countries are generally known for;

- General poverty: GDP and per capita income are at low level. The general living standard of people is very slow.
- High dependency on Agriculture: Agriculture is the main occupation in developing countries. More than 70% of active labour force is engaged in this primary sector. Population increases and the increased labour stick to agriculture thereby over burdening the firm size.
- Under-utilized natural resources: most of the developing countries are rich in natural resources. However, their exploration and



exploitation is limited. Sometimes foreign companies control them. Generally, raw products are exported at low prices.

- Lack of capital and technology: capital deficiency is another common problem of developing countries. Because the countries are poor, they save less which results in low capital formation. They possess less investment capital. In addition, their existing technology is old and unproductive.
- Dualistic economy: all the sectors of the economy have not been developed. Employment opportunities or activities exist in urban areas whereas traditional production method is used in rural areas. Employment opportunities are less. This dualistic economy result in problems with formulating economic policies.
- Different kind of social groups.
- Lack of basic infrastructure.

Nigeria like every other developing country is believed to lack the enabling environment that would maximise the benefits of IFRS Adoption and implementation particularly during the initial years after adoption. This is asserted by He, Wong and Young (2009) with the opinion that due to market and Institutional settings, the effect of IFRS adoption in emerging markets may differ from that of matured market.

## 2.2. Theoretical Framework

### 2.2.1. Economic Theory of Network

Katz and Shapiro (1985) proposed that there are many products for which the utility that user derives from consumption of the good increases with the number of other agents consuming the good. They argue that the key idea in network theory is that a network dependent product's benefits depend upon the number of other users who are in the same network. From this perspective, the benefits that a given country derives from IFRS adoption can be explained by the magnitude of its economic relations with other partner-countries that have already adopted IFRS. Ramanna and Sletten (2009) asserted that the time series growth in the extent of IFRS adoption across countries could be due to the network related value of IFRS standards. The direct value of IFRS is related to the quality of IFRS standards. Assessing the quality of IFRS standards in emerging economies is viewed at a firm level (e.g value relevant financial information under IFRS for the United Arab Emirates, Alali and Fouts, 2012). Irvin (2008) indicated that trade-partners have been the key player behind the move of the United

Arab Emirates to adopt IFRS. Relying on the economic theory of networks, Ramanna and Sletten (2010) found out that a country is more likely to endorse IFRS if other countries in its geographical region are IFRS adopters.

The presence of network effects in the adoption of IFRS is significant because it means a country can adopt IFRS even if its domestically developed accounting standards are particularly well-suited to its domestic institutions. Moreover, if network effects contribute to the adoption of IFRS, they can sustain its eventual dominance even in the presence of technologically superior innovations (David, 1985). The concept of network effects has recently been used to explain several accounting related phenomena, such as the adoption of stock-option compensation plans (Kedia & Rajgopal, 2009)

### 2.2.2 Institutional Isomorphism Theory

The institutional isomorphism theory of DiMaggio and Powell (1983), reveals that IFRS adoption by developing countries is significantly related to institutional pressures. This theory shows that there are three mechanisms of institutional isomorphic change

#### 1. Coercive Isomorphism;

This shows that pressures from other organizations in which a country is dependent upon anchored by cultural expectations from the society.

Some are governmental mandates; some are derived from contract law, financial reporting requirements "Organizations are increasingly homogeneous within given domains and increasingly organized around rituals of conformity to wider institutions". Large corporations can have similar impact on their subsidiaries.

#### 2. Normative Isomorphism;

this results from pressure brought about by professions and professional Bodies.

These are pressures brought about by professions. This is one mode of legitimization inherent in the licensing and crediting of educational achievement. The other is the inter-organizational networks that span organizations. Norms developed during education are entered into organizations. Inter-hiring between existing industrial firms also encourages isomorphism. People from the same educational backgrounds will approach problems in much the same way. Socialization on the job reinforces these conformities. The similarities caused by these three processes allow firms to interact with each other more easily and to build legitimacy among organizations.

#### 3. Mimetic isomorphism;

which supports that uncertainty encourages imitation.





These are strong predictive factors of developing countries' decision to adopt or not to adopt IFRS. The institutional theory also supports that a country's IFRS adoption decision is motivated more by institutional and social pressures, than it is by economic factors. Belkaoui (1983) asserted that the accounting standards and policies are social products that can not escape the influences of the institutional environment.

#### **Organizational level predictors**

A-1: The more dependent on another organization, the more alike it will become

A-2: The greater the centralization of resource supply, the more it will change to resemble the organizations it is dependent upon

A-3: The more uncertainty the more an organization will model it's structure after successful firms

A-4: The more ambiguous the goals, the more an organization will mimic a successful one to establish legitimacy

A-5: The greater the reliance in using academic credentials to choose staff, the greater will be similar to other organizations. Also the greater the participation of members in professional organizations, to more alike the organizations will be.

#### **Field Level Predictors**

B-1: The greater the extent the field is dependent upon a single source, the higher level of isomorphism.

B-2: The more interaction of the field with the state, the more isomorphism.

B-3: The fewer the number of organizational models, the quicker the isomorphism

B-4: The more technological uncertainty or goal ambiguity, the greater the rate of isomorphism

B-5: More professionalism in the field, more isomorphism.

#### **2.2.3. Agency theory**

Explains the relationship between principals [shareholders] and agents [company executives]. This theory conceives disclosure as a mechanism which decreases the costs resulting from conflicts between managers and share-holders [compensation contracts] and from conflicts between the firm and its creditors [debt contracts]. Therefore disclosure works as a mechanism to control managers' performance. The resource based approach to agency theory argues that a firm is a bundle of intangible asset and tangible assets and a firm's success is dependent upon the efficient deployment of these resources to their best advantage. Investors measure overall performance of a firm as a whole to decide whether to invest in the firm or to exit from it. In other to achieve goal congruence, managers' compensation is often linked with the firm performance. Therefore selection of the right

performance measure is critical to the economic performance of a firm. Value creation and maximization depends on the alignment of the various conflicting goals of the stakeholders. Therefore, to reach a meaningful conclusion, returns generated by the firm in a particular year should be compared with returns from assets with similar risk profile (cross sectional analysis) or returns in a given period compared with returns generated in the past. A firm creates value only if it is able to generate returns higher than its cost of capital. As a consequence of the agency relationship, managers are stimulated to disclose information that would enable the principal measure the economic profit and economic value.

This study is anchored on Economic Theory of Network, Institutional Isomorphism, these two are directly related to the independent variable, and Agency theory, which is directly related to the dependent variables.

#### **2.3. Empirical Reviews**

In one of the earliest attempt to identify country-level determinants of IFRS adoption around the world, Hope et al.,(2006) relied on Coffee's (2002) bonding theory and cost /benefit analysis to predict the association between a country's decision to adopt IFRS and a number of institutional factors, with a sample of 38 developed and emerging economies. As hypothesized, it was documented that countries with weak shareholder protection are more likely to adopt IFRS than countries with strong shareholder protection. The empirical analysis supported the view that countries provision better access to their stock markets for international investors are more likely to adopt IFRS. Zhegal and Mhedhbi (2006) investigated factors that may affect 64 developing countries' decisions to adopt or not to adopt IFRS. The Authors considered the factors of economic growth, education level, the degree of external economic openness, cultural membership in a group of countries, and the existence of a capital market. The results exhibited that developing countries that enjoy the highest literacy rate, that have a capital market, and that belong to an Anglo-American culture are the most motivated to adopt IFRS. Daske, Hail, Leuz and Verdi (2007) examined the economic consequences of requiring IFRS for financial reporting worldwide, and found an increase in market liquidity and equity valuations around the time of the mandatory introduction of IFRS. However, evidence gathered did not reveal the effect on firms' economic value is mixed. Daske et al. (2008) further reported that capital market benefits of IFRS Adoption were more pronounced in countries with strict enforcement regimes and for firms that





voluntarily switched to IFRS. Using a large number of environmental factors, Archambault and Archambault (2009) examined the decision of 120 developed and developing countries to permit or not to permit the use of IFRS for their Listed companies. Their empirical model included factors related to culture, political systems and economic systems. The result showed that countries are more likely to permit IFRS as the level of education and import activities increase. Furthermore, permitting the use of IFRS for Listed companies appeared to be significantly influenced by the level of economic development. Ramanna and Sletten (2009) provided insights into the benefits and costs of IFRS adoption by investigating heterogeneity in countries' decisions to adopt IFRS. They focused their analysis on a sample of 102 non EU countries for a period ranging from 2002-2007. It was found that a country is more likely to endorse IFRS if other countries in its geographical region are IFRS adopters. They also found that the likelihood of a country to adopt IFRS is significantly influenced by the IFRS adoption status of its trade partners. Furthermore, it was discovered that more powerful countries are less likely to surrender their standard setting authority to IASB. They performed an in-depth analysis in line with their previous work in 2009, on the potential effects of economic network in explaining the time series growth of IFRS harmonization across countries. They measured the extent of adoption through five-level ordinary response variables that captures the degree of closeness between countries' local GAAP and IFRS. The results suggested that the level of IFRS adoption in a country is an increasing function of the value of its network, showing that IFRS adoption is self-perpetuating. Clements, Neil, and Stovall (2010) examined the influence of cultural diversity and country size on the IFRS adoption decision of 61 developed and emerging economies. The results reveal that there are no significant cultural differences between the adopters and non adopters. It was found that larger and more powerful countries are more reluctant to adopt IFRS than smaller and less powerful countries. Bogdan, Stefana, Marilen and Gabriel (2010) focused on the possible linkages between adoption of IFRS and the national legislative taxonomy. The authors considered a sample of 162 jurisdictions for the year 2009. As expected, it was found that countries which are characterized by principles and practices-based legislative system are more likely to adopt IFRS. Particularly, full IFRS adoption is more likely to occur for countries with a mono system of common law. Amahalu, Obi, Abiahu and Okosuogwe (2014) examined the effect of IFRS adoption on the financial performance of 15 selected banks quoted on the

Nigerian Stock Exchange, using expose factor research design. The study found out that IFRS adoption has effect on the net income and equity of the banks. It was also found that IFRS adoption has Positive effect on the profitability of the selected banks and positive effect on the level of confidence of global investors and investment analysts.

Asian (2015) examined the impact of IFRS on market performance of quoted manufacturing companies in Nigeria. The research examined whether key indicators of market performance post-IFRS are significantly different from pre-IFRS period. Findings indicate that differences in market performance between Pre and Post IFRS periods are not significant suggesting a weak correlation between adoption of IFRS and market performance of quoted food and beverage manufacturing firms in Nigeria Stock Exchange.

#### 2.4. Gap in Literature

Despite attempts to evaluate the economic consequences and effects of IFRS adoption, emphasis is being laid on adoption effect on market value, profitability, market performance, etc, as revealed in the above empirical review. Also, most of the studies did not pay particular attention to Nigeria regarding the fact of cultural, economic and social differences. To the best of the Researcher's knowledge, there is yet to be empirical evidence on the economic consequence in Nigeria and therefore remains a matter of empirical concern in Nigeria. The effect on economic performance is however, not negligible, consequent to the fact that Nigeria like some other countries have simply mandated IFRS adoption as a matter of fulfilling membership obligation of global accounting bodies like the International Federation of Accountants (IFAC) and/or mandated by World Bank (WB), and International Monetary Fund (IMF), without evaluating its economic effects in their jurisdiction, (Wilson & Tsegba, 2013). Thus the need to evaluate the effect on economic performance of firms in Nigeria, most importantly, the highest GDP sector (Agriculture) and highest GDP growth rate sector (Telecommunication).

### CHAPTER THREE RESEARCH METHODOLOGY

#### 3.1 Research Design

The study employed the Ex-Post Facto research design. This is because; it enables the determination, evaluation and explanation of past events for the purpose of gaining better and more reliable prediction of the future. They examine whether one or more pre-existing conditions could possibly have caused subsequent differences in groups of subjects.



### 3.2. Population of the Study

The population of this study is made up of fourteen companies in two sectors: Agriculture (5) and Information & Communication Technology (9), as Listed on the floor of the Nigerian Stock Exchange as at April 2016 when this study was started.

### 3.3. Sampling and sampling Techniques.

The study made use of the above listed companies because of the manageability of the population size. However, as earlier stated as a limitation, some of the companies were not steadily listed on the Nigerian Stock Exchange in the period 2005-2018 and some financial statements were not accessible or not published with Nigerian Stock Exchange upto 2018, hence no complete financial statements for the entire period covered by the Study.

Therefore, we adopted purposive sampling technique. The sample size is thus limited to only the 9 companies with complete financial statements for the periods under study. These companies are:

#### A. Agricultural sector

1. FTN Cocoa processors plc.
2. Livestock feeds plc.
3. Okomu Oil palm plc.
4. Presco Plc.

#### B. Information Communication Technology (ICT)

5. Chams plc.
6. Courteville Business Solutions plc.

7. E- Tranzact International plc.
8. NCR (Nigeria)plc.
9. Tripple Gee and Company plc.

### 3.4. Sources of Data Collection

The study relied solely on secondary sources of data. This is due to the nature of information required and the secondary sources of data were considered the only means of gathering reliable data. The data were sourced from the Nigerian Stock Exchange Fact book, the National Bureau of Statistics statistical reports and the annual financial statements of the companies under study, for the relevant period.

### 3.5. Procedure for data analyses

The t-test analytical technique was used as according to Uzoagulu (as cited in Amahalu, Obi, Abiahu & Okosuogwe ,2015), it is a parametric statistical tool for testing hypothesis about the difference between means of groups when the sample sizes are small. The hypotheses were tested using paired sample t-test, at 5% level of significance.

Formula:

$$t = \frac{\sum d}{\sqrt{\frac{n(\sum d^2) - (\sum d)^2}{n-1}}}$$

## CHAPTER FOUR

### DATA PRESENTATION AND ANALYSES

#### 4.1. Descriptive Statistics

	N	Mean
COURTVEILLE	7	281989.500
CHAMS	7	-656100.500
LIVESTOCK	7	174014.00
NCR	7	731475.500
OKOMU	7	3365845.500
FTN	7	-58708.500
PRESCO	7	2148231.500
E -TRANZACT	7	-11970.500
TRIPLE GEE	7	53208.500

Source: SPSS Ver. 22

From the table above, the following companies, COURTVEILLE, LIVESTOCK, NCR, OKOMU, PRESCO, and TRIPLE GEE had positive values of EBIT in the pre-IFRS transition period, while CHAMS,

FTN, and E-TRANZACT had negative values in the pre-IFRS transition period.



	<b>N</b>	<b>Mean</b>
COURTVEILLE	7	458754.00
CHAMS	7	1229242.33
LIVESTOCK	7	473117.00
NCR	7	143574.00
OKOMU	7	3107222.33
FTN	7	-338025.33
PRESCO	7	2684218.67
E -TRANZACT	7	243065.00
TRIPLE GEE	7	62040.67

Source: SPSS Ver. 22

From the table above, all the companies, with the exception of FTN had positive values in the post-IFRS transition period.

	<b>N</b>	<b>Mean</b>
COURTVEILLE	7	-28554.00
CHAMS	7	1185728.00
LIVESTOCK	7	43614.00
NCR	7	416705.00
OKOMU	7	1607481.500
FTN	7	-122966.500
PRESCO	7	239272.500
E-TRANZACT	7	28937.500
TRIPPLEGEE	7	5577.500

Source: SPSS Ver. 22

From the table above, the following companies, CHAMS, LIVESTOCK, NCR, OKOMU, PRESCO, E-TRANZACT and TRIPLE GEE had positive values of

EVA in the pre-IFRS transition period, while COURTVEILLE and FTN, had negative values in the pre-IFRS transition period.

	<b>N</b>	<b>Mean</b>
COURTVEILLE	7	120533.00
CHAMS	7	558439.67
LIVESTOCK	7	147693.67
NCR	7	429741.00
OKOMU	7	764563.000
FTN	7	-367067.000
PRESCO	7	-516404.333
E-TRANZACT	7	209389.000
TRIPPLEGEE	7	7538.667

Source: SPSS Ver. 22

From the table above, all the companies, with the exception of FTN and PRESCO had positive values in the post-IFRS transition period.



**Table 4.5: Descriptive Statistics (Pre-IFRS Economic Profit)**

	N	Mean
COURTVEILLE	7	262746.00
CHAMS	7	-646072.500
LIVESTOCK	7	83644.00
NCR	7	502642.500
OKOMU	7	2958279.00
FTN	7	-9489.500
PRESCO	7	1615389.00
E-TRANZACT	7	93693.500
TRIPPLE GEE	7	74515.00

Source: SPSS Ver. 22

From the table above, the following companies, COURTVEILLE, LIVESTOCK, NCR, OKOMU, PRESCO, E-TRANZACT and TRIPLE GEE had positive values of EVA in the pre-IFRS transition

period, while CHAMS and FTN, had negative values in the pre-IFRS transition period.

**Table 4.6: Descriptive Statistics (Post-IFRS Economic Profit)**

	N	Mean
COURTVEILLE	7	438903.33
CHAMS	7	1213606.000
LIVESTOCK	7	296605.33
NCR	7	-267629.667
OKOMU	7	2839010.00
FTN	7	-204285.667
PRESCO	7	1914303.33
E-TRANZACT	7	347531.667
TRIPPLE GEE	7	73507.67

Source: SPSS Ver. 22

From the table above, all the companies, with the exception of NCR and FTN had positive values in the post-IFRS transition period.

#### 4.2. Normality Test

**Table 4.7: Normality Test**

			p-value
EBIT	Shapiro-Wilk W	0.882057	0.278636
	Lilliefors test	0.292375	~ = 0.11
EVA	Shapiro-Wilk W	0.947082	0.716601
	Lilliefors test	0.194635	~ = 0.68
Economic Profit	Shapiro-Wilk W	0.979003	0.946495
	Lilliefors test	0.175329	~ = 0.82

Interpretation: -

The null-hypothesis [ $H_0$ ] of the Shapiro Wilk test is that the population is normally distributed. Thus if the p-value is less than the chosen alpha level [0.05], then the null hypothesis is rejected and there is evidence that the data tested are not from a normally distributed population. In other words, the data are not normal. On the contrary, if the p-value is greater than the chosen alpha level, then the null hypothesis that the data came from a normally distributed population cannot be rejected.



**4.3. Test of Null Hypotheses**

**4.3.1 Test of Hypothesis One:**

H<sub>0</sub>: There is no statistically significant difference in the reported Earnings before Interest and Taxes (EBIT) in pre and post-IFRS transition periods

**Table 4.8: Group Statistics**

	Year of Adoption	N	Mean	Std. Deviation	T
COURTVEILLE	Pre-Adoption	7	281989.500	41649.5000	.009*
	Post-Adoption	7	458754.000	49187.6090	
CHAMS	Pre-Adoption	7	-656100.500	276848.5000	.001*
	Post-Adoption	7	1229242.333	282311.5252	
LIVESTOCK	Pre-Adoption	7	174014.00	54500.000	.023*
	Post-Adoption	7	473117.00	134660.024	
NCR	Pre-Adoption	7	731475.500	372374.5000	.055*
	Post-Adoption	7	143574.000	74264.9131	
OKOMU	Pre-Adoption	7	3365845.500	1419107.5000	.825
	Post-Adoption	7	3107222.333	1262786.7529	
FTN	Pre-Adoption	7	-58708.500	162323.5000	.096*
	Post-Adoption	7	-338025.333	153557.0025	
PRESCO	Pre-Adoption	7	2148231.500	649815.5000	.053*
	Post-Adoption	7	2684218.667	1119290.9598	
E -TRANSACT	Pre-Adoption	7	-11970.500	232654.5000	.166
	Post-Adoption	7	243065.000	119426.3931	
TRIPLE GEE	Pre-Adoption	7	53208.500	1419.5000	.578
	Post-Adoption	7	62040.667	25247.4436	

Source: SPSS Ver. 22

**Table 4.9: Group Statistics of EBIT in pre and post IFRS periods**

	Year of Adoption	N	Mean	Std. Deviation	Std. Error Mean
Earnings before Interest & Taxes	Pre-Adoption	7	6027985.0000	2141297.00000	1236278.39936
	Post-Adoption	7	8063208.6667	663921.16222	383315.06173

Source: SPSS Ver. 22

**Table 4.10: Group Statistics comparison of EBIT in pre and post IFRS periods**

T	Df	Sig. (2-tailed)	95% Confidence Interval of the Difference	
			Lower	Upper
-1.572	4	.191	-5628886.21019	1558438.87686
-1.572	2.381	.237	-6831730.11433	2761282.78100

Source: SPSS Ver. 22

**Table 4.11: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.906 <sup>a</sup>	.821	.642	1280595.26658

a. Predictors: (Constant), Post-IFRS EBIT

Source: SPSS Ver. 22





**Table 4.12: ANOVA<sup>a</sup>**

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	7530381447621.927	1	7530381447621.927	4.592	.278 <sup>b</sup>
Residual	1639924236796.073	1	1639924236796.073		
Total	9170305684418.000	2			

a. Dependent Variable: Pre-IFRS EBIT

b. Predictors: (Constant), Post-IFRS EBIT

Source: SPSS Ver. 22

**Table 4.13. Paired Samples Correlations**

Pair 1	N	Correlation	Sig.
Pre-IFRS EBIT & Post-IFRS EBIT	7	.906	.278

**Table 4.14: Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-17537960.946	11022181.229		-1.591	.357
	Post-IFRS EBIT	2.923	1.364	.906	2.143	.278

a. Dependent Variable: Pre-IFRS EBIT

Source: SPSS Ver. 22

From table 4.8, the t-test [Equal Variances Assumed] value is significant at .05 for COURTVEILLE, CHAMS, LIVESTOCK, NCR, FTN and PRESCO; however, OKOMU, E-TRANZACT and TRIPLE GEE had no significant differences in the pre and post-IFRS transition period. Table 4.11, shows the model summary, the Adjusted R Square value .642, which explains that approximately 64.2 per cent variation in the dependent variable is explained by the independent variable. However, the F value was not significant, with p value (.278) greater than .05.

The t-test results shown in table 4.9 above, the sig. value for t-Equal variances assumed is .191, and that for t-Equal variances not assumed is .237, both

reported values are greater than .05 (the chosen significance level). The study therefore accepts the null hypothesis of no significant difference in the reported Earnings before Interest and Taxes (EBIT) in pre and post-IFRS transition periods.

**4.3.2 Test of Hypothesis Two:**

Ho: There is no statistically significant difference in the level of Economic Value Added (EVA) in the pre and post-IFRS transition periods



**Table 4.15: Group Statistics**

	Year of Adoption	N	Mean	Std. Deviation	T
COURTVEILLE	Pre-Adoption	7	281989.500	41649.5000	.124
	Post-Adoption	7	458754.000	49187.6090	
CHAMS	Pre-Adoption	7	-656100.500	276848.5000	.152
	Post-Adoption	7	1229242.333	282311.5252	
LIVESTOCK	Pre-Adoption	7	174014.00	54500.000	.022*
	Post-Adoption	7	473117.00	134660.024	
NCR	Pre-Adoption	7	731475.500	372374.5000	.972
	Post-Adoption	7	143574.000	74264.9131	
OKOMU	Pre-Adoption	7	3365845.500	1419107.5000	.223
	Post-Adoption	7	3107222.333	1262786.7529	
FTN	Pre-Adoption	7	-58708.500	162323.5000	.079*
	Post-Adoption	7	-338025.333	153557.0025	
PRESCO	Pre-Adoption	7	2148231.500	649815.5000	.482
	Post-Adoption	7	2684218.667	1119290.9598	
E -TRANSACT	Pre-Adoption	7	-11970.500	232654.5000	.204
	Post-Adoption	7	243065.000	119426.3931	
TRIPLE GEE	Pre-Adoption	7	53208.500	1419.5000	.897
	Post-Adoption	7	62040.667	25247.4436	

Source: SPSS Ver. 22

**Table 4.16: Group Statistics of EVA in pre and post IFRS Periods**

	Year of Adoption	N	Mean	Std. Deviation	Std. Error Mean
Economic Value Added	Pre-Adoption	7	3375795.5000	1317147.50000	760455.46369
	Post-Adoption	7	1354426.6667	2248611.28169	1298236.32878

Source: SPSS Ver. 22

**Table 4.17. Group Statistics comparison of EVA in pre and post IFRS Periods**

T	Df	Sig. (2-tailed)	95% Confidence Interval of the Difference	
			Lower	Upper
1.343	4	.250	-2155967.98029	6198705.64696
1.343	3.228	.266	-2581138.93350	6623876.60017

Source: SPSS Ver. 22

From table 4.11, the t test [Equal Variances Assumed] value is significant at .05 for LIVESTOCK, and FTN, while COURTVEILLE, CHAMS, NCR, OKOMU,

PRESCO, E-TRANZACT and TRIPLE GEE had no significant differences in the pre and post-IFRS transition period.

**Table 4.18: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.214 <sup>a</sup>	.046	-.908	1819399.10775

a. Predictors: (Constant), Post-IFRS EVA

Source: SPSS Ver. 22

**Table 4.19: ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	159541960221.807	1	159541960221.807	.048	.862 <sup>b</sup>
Residual	3310213113290.693	1	3310213113290.693		
Total	3469755073512.500	2			

a. Dependent Variable: Pre-IFRS EVA

b. Predictors: (Constant), Post-IFRS EVA

Source: SPSS Ver. 22



**Table 4.20. Paired Samples Correlations**

Pair 1	N	Correlation	Sig.
Pre-IFRS EVA & Post-IFRS EVA	7	.214	.862

**Table 4.21: Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3205672.288	1305334.321		2.456	.246
	Post-IFRS EVA	.126	.572	.214	.220	.862

a. Dependent Variable: Pre-IFRS EVA

Source: SPSS Ver. 22

From table 4.15, the t test [Equal Variances Assumed] value is significant at .05 for LIVESTOCK, and FTN, while COURTVEILLE, CHAMS, NCR, OKOMU, PRESCO, E-TRANZACT and TRIPLE GEE had no significant differences in the pre and post-IFRS transition period. Table 4.16, shows the model summary, the Adjusted R Square value -.908, and the computed F value is .048, which is less than the table F value, moreover the significant value of .862 is greater than .05.

The t-test results are shown in the table above (Table 4.17), the sig. value for t-Equal variances

assumed is .250, and that for t-Equal variances not assumed is .266, both reported values are greater than .05 (the chosen significance level). The study therefore accepts the null hypothesis of no significant difference in the level of Economic Value Added (EVA) in pre and post-IFRS transition periods.

**4.3.3 Test of Hypothesis Three:**

H<sub>0</sub>: There is no statistically significant difference in the level of Economic Profit in the pre and post-IFRS transition periods

**Table 4.22: Group Statistics**

	Year of Adoption	N	Mean	Std. Deviation	T
COURTVEILLE	Pre-Adoption	7	262746.00	37889.000	.053*
	Post-Adoption	7	438903.33	105989.274	
CHAMS	Pre-Adoption	7	-646072.500	270723.5000	.001*
	Post-Adoption	7	1213606.000	272175.3603	
LIVESTOCK	Pre-Adoption	7	83644.00	37605.000	.028*
	Post-Adoption	7	296605.33	102427.367	
NCR	Pre-Adoption	7	502642.500	253872.5000	.148
	Post-Adoption	7	-267629.667	699680.0922	
OKOMU	Pre-Adoption	7	2958279.00	1187976.000	.897
	Post-Adoption	7	2839010.00	924192.448	
FTN	Pre-Adoption	7	-9489.500	139399.5000	.214
	Post-Adoption	7	-204285.667	181158.6469	
PRESCO	Pre-Adoption	7	1615389.00	201160.000	.637
	Post-Adoption	7	1914303.33	995174.776	
E-TRANZACT	Pre-Adoption	7	93693.500	231997.5000	.187
	Post-Adoption	7	347531.667	149831.6241	
TRIPPLE GEE	Pre-Adoption	7	74515.00	1255.000	.806
	Post-Adoption	7	73507.67	6526.454	

Source: SPSS Ver. 22



**Table 4.23: Group Statistics of EP in pre and post IFRS periods**

	Year of Adoption	N	Mean	Std. Deviation	Std. Error Mean
Economic Profit	Pre-Adoption	7	4935347.0000	1575334.00000	909519.50896
	Post-Adoption	7	6651552.0000	1237006.28959	714185.91428

Source: SPSS Ver. 22

**Table 4.24: Group Statistics comparison of EP in pre and post IFRS adoption**

T	Df	Sig. (2-tailed)	95% Confidence Interval of the Difference	
			Lower	Upper
-1.484	4	.212	-4926917.68865	1494507.68865
-1.484	3.787	.216	-4999412.90028	1567002.90028

Source: SPSS Ver. 22

From table 4.22, the t test [Equal Variances Assumed] value is significant at .05 for COURTVEILLE, CHAMS, and LIVESTOCK while NCR, OKOMU,

FTN, PRESCO, E-TRANZACT and TRIPLE GEE had no significant differences in the pre and post-IFRS transition period.

**Table 4.25: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.512 <sup>a</sup>	.262	-.475	1913268.328

a. Predictors: (Constant), Post -IFRS Economic Profit

Source: SPSS Ver. 22

**Table 4.26: ANOVA<sup>a</sup>**

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	1302758726788.365	1	1302758726788.365	.356	.658 <sup>b</sup>
Residual	3660595696323.635	1	3660595696323.635		
Total	4963354423112.000	2			

a. Dependent Variable: Pre-IFRS Economic Profit

b. Predictors: (Constant), Post -IFRS Economic Profit

Source: SPSS Ver. 22

**Table 4.27. Paired Samples Correlations**

Pair 1	N	Correlation	Sig.
Pre-IFRS Economic Profit & Post -IFRS Economic Profit	7	.512	.658

**Table 4.28: Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	595563.338	7358036.292		.081	.949
Post -IFRS Economic Profit	.652	1.094	.512	.597	.658

a. Dependent Variable: Pre-IFRS Economic Profit

Source: SPSS Ver. 22

The t-test results shown in table 4.24 above, the sig. value for t-Equal variances assumed is .212, and that for t-Equal variances not assumed is .216, both reported values are greater than .05 (the chosen significance level). The study therefore accepts the null

hypothesis of no significant difference in the level of Economic Profit in pre and post-IFRS transition periods. From table 4.22, the t test [Equal Variances Assumed] value is significant at .10 for COURTVEILLE, CHAMS, and LIVESTOCK while



NCR, OKOMU, FTN, PRESCO, E-TRANZACT and TRIPLE GEE had no significant differences in the pre and post-IFRS transition period. Table 4.25, shows the model summary, the Adjusted R Square value -.475, and the computed F value is .356, which is less than the table F value, moreover the significant value of .658 is greater than .05.

### Discussion of findings

1. The t-test results shown in table 4.9 above, the sig. value for t-Equal variances assumed is .191, and that for t-Equal variances not assumed is .237, both reported values are greater than .05 (the chosen significance level). The study therefore accepts the null hypothesis of no significant difference in the reported Earnings before Interest and Taxes (EBIT) in pre and post-IFRS transition periods.
2. The t-test results are shown in the table above (Table 4.14), the sig. value for t-Equal variances assumed is .250, and that for t-Equal variances not assumed is .266, both reported values are greater than .05 (the chosen significance level). The study therefore accepts the null hypothesis of no significant difference in the level of Economic Value Added (EVA) in pre and post-IFRS transition periods.
3. The t-test results shown in table 4.19 above, the sig. value for t-Equal variances assumed is .212, and that for t-Equal variances not assumed is .216, both reported values are greater than .05 (the chosen significance level). The study therefore accepts the null hypothesis of no significant difference in the level of Economic Profit in pre and post-IFRS transition periods.

## CHAPTER FIVE SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

### 5.1. Summary of Findings

1. There is no statistically significant difference in the reported Earnings Before Interest and Taxes (EBIT) in pre and post-IFRS transition periods.
2. There is no statistically significant difference in the level of Economic Value Added (EVA) in pre and post-IFRS transition periods.
3. There is no statistically significant difference in the level of Economic Profit in pre and post-IFRS transition periods.

### 5.2. Conclusion

This study was carried out to determine the effect of International Financial Reporting Standards' adoption on the economic performance of firms in Agricultural and Telecommunications sectors. There has been a considerable debate as to whether IFRS is better than Nigerian Generally Accepted Accounting Principles. Better understanding of IFRS is essential to resolving the debate. Consequently, this study was set to further a better understanding of IFRS and its effect on Economic Value Added (EVA), economic profit and Earnings Before Interest and Taxes (EBIT) of selected economic sectors in relation to Nigeria's generally accepted accounting principles (NGAAP). Thus the study made a comparison of pre and post IFRS values of the variables (EVA, EBIT and EP). At the end of the Study, we conclude that there is no significant difference in EVA, EBIT and EP in the pre IFRS transition period with NGAAP and in the post IFRS transition period with IFRS. Thus, this implies that IFRS adoption has little or no effect on the economic performance of firms in Nigeria.

This study therefore support the view that differences between IFRS and NGAAP are not significant, thus, supporting proponents of adoption of IFRS in Nigeria and other developing countries.

### 5.3. Contributions to Knowledge

1. To the best of my knowledge, this study is a first attempt to an evaluation of the effects of IFRS adoption on Economic performance in Nigeria and beyond. Thus the study fills the gap in literature.
2. The study was based on Economic Theory of Network, Institutional Isomorphism Theory and Agency theory, which is a unique combination of the theories, to the best of the researchers' knowledge.
3. Also, the concept of Economic Value Added and Economic Profit employed in the study are relatively new accounting concepts. Hence the Researchers did not only bring the concepts to the fore, but also measured its relationship with IFRS adoption.
4. This study also supports the view of Asian (2015) that there is not much difference between Nigerian GAAP and IFRS, as it regards to reported corporate performance.

### 5.4. Recommendations

1. IFRS adoption should not be based on the expectations of transforming the economic value of entities but on its informational value and other benefits.





2. Government should boost incentive and encourage more investment in the Nigerian Agricultural and ICT sectors to improve their earning ability, economic value and economic profit as they are the key economic sectors in Nigeria.
3. The Financial Reporting Council of Nigeria should develop a platform that would enable firms to directly disclose their economic profit and economic value added in the financial statements so they can easily be monitored over time.

### 5.5. Suggestions for Future Research

1. This study covered only two sectors of the economy; therefore, future research may examine other sectors.
2. The measures of economic performance employed in the study were EVA, EBIT, and EP, future research may be on Gross Domestic Product, Foreign Direct Investment and other economic measures. A study may also be conducted to cover the Nigerian economy generally.
3. Since IFRS continues to develop with continuous modifications, future research will be needed to further evaluate its effect on economic performance, even with the use of same variables used in this study.

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## THIRD GENERATION BIODIESEL: A POTENTIAL SUSTAINABLE ENERGY SOURCE FROM MICROALGAE

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### ABSTRACT

*Biofuel production from renewable sources is generally considered to be one of the most sustainable alternatives to fossil fuels, and a viable means of sustainability for the environment and the economy. Because of their rapid growth rate, CO<sub>2</sub> fixation ability and high lipid production efficiency, microalgae are currently being promoted as an ideal third generation biofuel feedstock; they also do not compete with food or feed crops, and can be grown on non-arable soil. Biofuels can be generated in combination with flue gas CO<sub>2</sub> mitigation, wastewater treatment and high value production. Seawater can be used to achieve microalgal farming employing microalgal organisms as the source. To be a realistic option, a biofuel must have few features such as net energy gain, eco-friendly, economically efficient and implementable in large volumes without affecting resources demand. In this study we present an overview of the use of microalgae for the production of biodiesel, including its cultivation, harvesting, and processing. Further it is suggested that biodiesel is an effective renewable substitute for petroleum diesel.*

**KEYWORDS:** Biodiesel, Biofuels, Carbon emission, Microalgae

### INTRODUCTION

Microalgae are microscopic unicellular organisms able to convert solar energy into chemical energy through photosynthesis.<sup>[1]</sup> sustainable renewable energy development is hotly debated globally as it is increasingly recognized that biofuels derived mainly from food crops and mostly oil seeds are restricted in

their ability to achieve biofuel production targets, mitigation of climate change, and economic growth. Commercial biodiesel is made from animal fat, vegetable oil and frying oil <sup>[2]</sup> Microalgae theoretically provide the greatest long-term opportunity.<sup>[3]</sup> Some species of microalgae can accumulate up to 50-70 percent of oil / lipid by dry weight under acceptable



crop conditions.<sup>[4]</sup> Alternative to microalgae biofuels have been caught up by their cost and high energy output.<sup>[5]</sup> Algae are also grown for live aquaculture feeds in hundreds of system around the world that produce from a few kilos to a maximum of a few tons of biomass per year and are often used in these small-

scale, enclosed farming systems PBRS(photo bio reactor).<sup>[6]</sup> *Spirulina*, *Chlorella*, *Dunaliella* and *Haematococcus* are the major algae currently grown photosynthetically (i.e. with sunlight) for nutritional products.<sup>[6]</sup> In 2003, the global production of biodiesel was estimated at around 1.8 billion liters.<sup>[7]</sup>

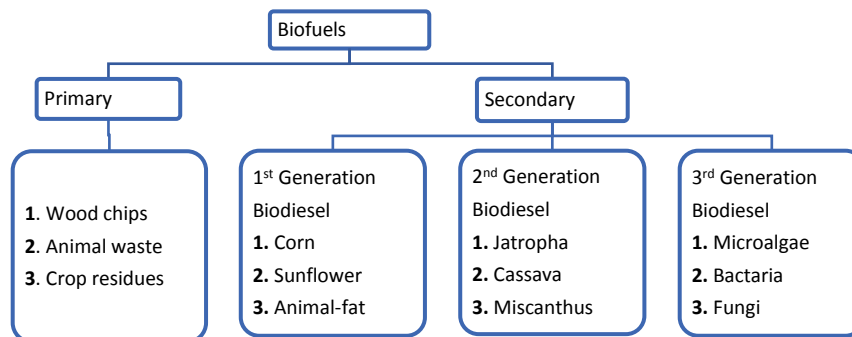


Figure 1: Biofuels classification according to various generation <sup>[18]</sup>

### MICROALGAE AS RAW MATERIAL FOR BIODIESEL AND BIOETHANOL PRODUCTION

Recent studies have shown that microalgal biomass is of sustainable biodiesel's most promising source capable of meeting global demand for fuels. Microalgae based biodiesel production will not compromise food, fodder and other crop-based products.<sup>[4]</sup> Microalgal biomass contains three main components: proteins, carbohydrates, and lipids (oil).<sup>[9]</sup> The biomass composition of various microalgae in terms of lipid content shown in (figure 2).

Much of the on-going research work is focused on a small number of fast-growing microalgal species which have been found to accumulate substantial quantities of lipids, Though under specific conditions. Within the green algae, typical species include

*Chlamydomonas reinhardtii*, *Dunaliella salina*, and various *Chlorella species*, as well as *Botryococcus braunii*, which although slow growing can accumulate large quantities of lipids.<sup>[11]</sup> While many microalgae strains naturally have high lipid content, it is possible to increase that concentration by optimising growth determining factors such as the control of nitrogen level, light intensity, temperature, salinity, CO<sub>2</sub> concentration and harvesting procedure.<sup>[12]</sup> Lipid accumulation refers to increased concentration of lipids within the microalgae cells without consideration of the overall biomass production. Lipid productivity takes into account both the lipid concentration within cells and the biomass produced by these cells and is therefore a more useful indicator of the potential costs of liquid biofuel production.<sup>[13]</sup>

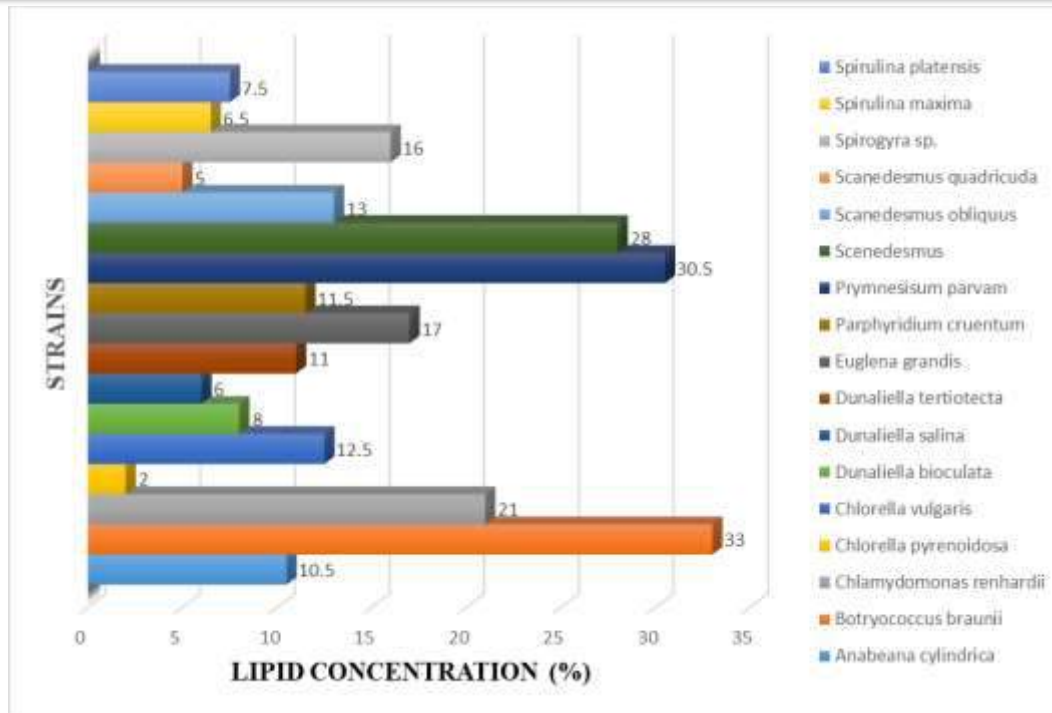


Figure 2: Lipid composition of microalgae expressed on a dry matter basis [9, 10]

### METHOD OF BIODIESEL PRODUCTION

An integrated production of biofuels from microalgae shown in (Figure 3) includes a micro algal

cultivation step followed by the separation of the cells from the growth medium and subsequent lipid extraction for biodiesel production through transesterification. [12]

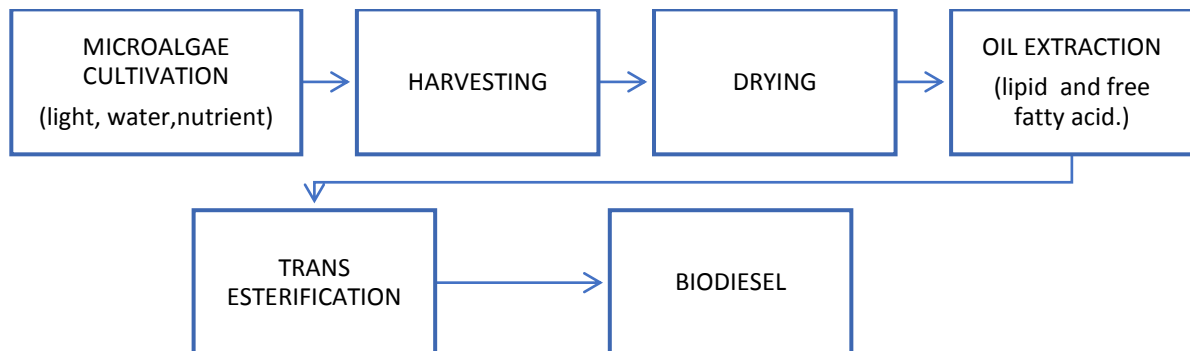


Figure 3: Step-wise procedure for biodiesel production

### Why are algae used to generate bio-fuels?

- The yield of biofuels varies geographically, with regions with favorable productivities offering optimal growth conditions.<sup>[12]</sup>
- Algae is best suited because with an estimated 0.3 to 2.7 percent it needs significantly lower ground. While the use of soybeans will require 73% of the world's land area to meet global demand of oil.<sup>[14]</sup>
- Nonfood-based feedstock resources.
- Use of otherwise nonproductive, nonarable land.
- Use of a wide range of sources of water (fresh, brackish, salty, coastal, wastewater).
- Production of useful co-products and bio-fuels.
- It extends engine life and reduces maintenance requirements because biodiesel has better lubricating properties than fossil diesel.<sup>[15]</sup>





- h. It is safer to handle, being less toxic, more biodegradable, and having a higher flash point.<sup>[15]</sup>
- i. It reduces some exhaust emissions.<sup>[15]</sup>

### SUSTAINABILITY OF 3<sup>rd</sup> GENERATION ALGAL BIOFUELS

No greenhouse gas production and reduced CO<sub>2</sub> emissions are the key potential of Algal biofuel, which absorbs, tolerates and uses significantly higher levels of CO<sub>2</sub> than terrestrial plants and can therefore use CO<sub>2</sub> from petroleum power plants or other industrial sources.<sup>[8]</sup> Both algal biomass or algal oil extracts can be processed into different types of fuel, such as biogas, liquid and gaseous transport fuel, kerosene, ethanol, aviation fuel and biohydrogen, using processing technologies such as anaerobic digestion, pyrolysis, gasification, catalytic cracking and chemical transesterification enzymes.<sup>[16]</sup> Apparently much of the carbon capture and sequestration (CCS) debates are about geological storage of CO<sub>2</sub>. Only by removing carbon from the atmosphere may we reduce carbon capture by reducing the release of new fossil reserves.<sup>[17]</sup> As microalgae grow in aqueous conditions, the direct passage of fuel gasses through this medium is a very efficient way to capture CO<sub>2</sub> in those streams.<sup>[18]</sup> The application of CO<sub>2</sub> directly to terrestrial crops by enclosures is likely to be prohibitively costly, while indirect stimulation of terrestrial species through fuel gasses is an alternative method that can be cost-effective despite being much less direct and less productive.<sup>[17]</sup> A green colonial microalga, A green colonial microalga, the *Botryococcus braunii* is an exceptionally rich renewable source of hydrocarbons. In a study harvested wet microalgae, thermally pretreated with a solvent extraction cycle to improve hydrocarbon recovery.<sup>[19]</sup> Samples which contain a B mixture. *Braunii* and water were held for 10 minutes under 100 ° C. At 90 ° C, the hydrocarbon recovery observed was 97.8 per cent. The real global output of oil from oilseed crops in 2007–2008 was 0.592 t hal for that year.<sup>[20]</sup> Algal biofuels production seems very promising, efficient and sustainable as they can be generated from industrial wastewater and fuel gases. In addition, it sequesters large quantities of CO<sub>2</sub> with less land use than terrestrial crops. This is why many assume these microalgae is the only economic route to biodiesel.<sup>[21,22]</sup> The major factors influencing the effect of biofuels include their contribution to land-use transition, the feedstock used and technology and scale issues. Biofuels provide economic benefits, and can reduce pollution and make a significant contribution to energy security under the right circumstances. Development of the various biofuels has its own benefits, complexities and dangers.<sup>[23]</sup>

### CURRENT ALTERNATIVE FOR MICRO ALGAE PRODUCTION OF TECHNICAL FEEDSTOCK

Microalgae production is limited to small factories in the current decade; worldwide only around 6000 tons of distillate water are extracted autotrophically each year. The key benefits of open ponds are their smoother construction and operation compared with other structures.<sup>[20]</sup> The open ponds are therefore ideal for microalgae processing in hybrid processes along with wastewater treatment. The closed or artificial ponds (circular ponds and raceway ponds) are effective in the production of microalgae where regulation of the processing environment is much better than that of the open ponds or large ponds.<sup>[20]</sup> In addition, some wastewater treatment facilities also use raceway ponds along with microalgae output for water treatment. PBRS (photo bioreactors) are ideally suited for the development of selective strain-specific algal biomass to increase lipid productivity (mg / L / day) and biofuel productivity (daily). PBRS methods are more effective in terms of productivity (kg / m<sup>3</sup>/d), concentration of biomass (kg / m<sup>3</sup>), and yield of oil (m<sup>3</sup>/ha) than raceway production methods.<sup>[4]</sup> Other advantages of photobioreactors include temperature control, improved gas transfer control (CO<sub>2</sub>) and protection from climate-related impacts such as drought, evaporation, and diurnal and seasonal variations in temperature.<sup>[3]</sup> PBRS needs less land than open pond systems, so there are no variations in light intensity when PBRS is positioned horizontally compared to open pond.<sup>[19]</sup> The efficiency of vertically oriented PBRS is around half that of horizontally oriented PBRS, due to the decreased light availability. Air, CO<sub>2</sub>, nutrient, and sunlight are the key contributors to increasing microalgae. Microalgae can be cheap and efficient in desert saltwater ponds and PBRS adjusted at a consistent temperature.<sup>[12]</sup> The use of CO<sub>2</sub> in PBRS is much more effective than in open ponds, where CO<sub>2</sub> can escape into the atmosphere. The PBRS 'biggest downside is the handling of O<sub>2</sub> and it involves degassing stations from O<sub>2</sub>.<sup>1</sup>The horizontal tubular PBRS is therefore effective and useful for the substantial production of specific microalgae for biofuel production.<sup>[12]</sup>

### CONCLUSION

Microalgae deliver high potential, third generation, biofuels such as biodiesel and bioethanol as a sustainable raw material. Technical advancements, particularly developments in the design of photo bioreactors, microalgal biomass extraction, drying and handling become key fields which can improve cost-effectiveness and thus successful commercial application of biofuels. Current challenges are the use



of lignocellulosic biomass (2<sup>nd</sup> generation biofuels), which is available abundantly, by thermal or enzymatic methods. Hopes are placed on 3<sup>rd</sup> generation biofuels which is energetic compounds obtained from microorganisms like algae or cyanobacteria from sunlight. These technologies have not yet reached commercial maturity, and metabolic engineering can support research efforts.

### Conflict of Interest

The authors declare that they have no competing interest.

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# PUBLIC DEBT AND ITS PLACE IN THE MACROECONOMIC POLICY OF THE REPUBLIC OF UZBEKISTAN

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## ABSTRACT

*In this article, the authors consider modern approaches and methodology for defining the concept of public debt in the national economy. The author's interpretation of the economic category of public debt is given on the basis of the system analysis of literary sources. The activities carried out by the government of the Republic of Uzbekistan in the external borrowing market are studied separately, and projects implemented at the expense of the state debt are considered. The necessity of reasonable use of borrowings in long - term and medium-term projects is proved. Based on the analysis of the Japanese Plan to revive economic growth, or the "Three arrows plan" of S. Abe, the directions for regulating public debt for the conditions of the Republic of Uzbekistan are proposed.*

**KEYWORDS:** *Public debt, borrowing, debt composition, state regulation, S. Abe's "Three arrows plan", economy of Uzbekistan.*

## 1.0 INTRODUCTION

In the context of accelerated integration of Uzbekistan into the global financial system in the framework of implementation of the Strategy five priority directions of development of the Republic of Uzbekistan for 2017-2019 maintaining safe levels and efficient management of public debt is one of the basic conditions for sustainable economic growth in the medium and long term. It should be noted that the bulk of the borrowing, brought on behalf of the Republic of Uzbekistan or under its guarantee, aimed at projects to improve the living conditions of the population, as well as projects of development of infrastructure and basic industries. Given the continuing high demand for investment in the economy, these projects are aimed at creating the necessary infrastructure for further economic development, expanding and modernizing production capacities, increasing their competitiveness and developing entrepreneurship among the population. At the same time, taking into account that maintaining public debt at a safe level is one of the main factors for ensuring macroeconomic stability in the future, special importance is attached to improving the efficiency of

public debt management based on international standards.

## 2.0 LITERATURE REVIEW

Public debt is a well-studied area for the country's economy, but the development of new problems that contribute to the increase in public debt requires new methods of solving it. Thus, it is worth studying existing research, which creates certain restrictions for studying it. Many experts have their own point of view when considering and analyzing the national debt in their research papers.

These are the works of such scientists as Cúrdia, V., & Woodford, M.[8], Dolan, E. J., Campbell, K., & Campbell, R. [9], Gomez-Gonzalez, P. [10], Agarkova, L. V., Bagova, D. K., & Keshtova, D. R.[1], Pavlovskaya, E. A. [3], Popova, E. A. [4], Samsonov, N. F., Barannikov, N. P., & Strokova, I. I.[5], Smolenskaya N. I., Smolenskaya N.E.[6], Tursunova, M. M. [7] and others.





### 3.0 RESEARCH METHODOLOGY

The methodological basis of the research is the research approach, analog approach, dialectical approach, situational approach, methods of logical and comparative analysis, observation methods and static methods.

### 4.0 ANALYSIS AND RESULTS

In the modern economy, the financial position of the government and its prospects are determined by the state budget, the amount of its deficit, and the amount of public debt — an aggregate characteristic of this deficit. For the concept of what constitutes a public debt, it is necessary to refer to the legislation of the Republic of Uzbekistan. In article 3 (Basic concepts applied in this Code) The Budget Code of the Republic of Uzbekistan defines public debt as the obligations of the Republic of Uzbekistan arising as a result of internal and external borrowings [2].

State internal borrowing is the attraction of funds from residents of the Republic of Uzbekistan, for which there are obligations of the Republic of Uzbekistan as a borrower or guarantor of repayment of loans by resident borrowers.

State external borrowing is the attraction of funds from foreign sources (foreign States, international organizations, international financial and economic institutions, foreign government financial organizations and other non-residents of the Republic of Uzbekistan), under which the obligations of the Republic of Uzbekistan arise as a borrower or guarantor of repayment of loans by resident borrowers [7].

Now, to analyze accurately public debt and its impact on the government's economy, we need to formulate the essence of public debt. To do this, it is necessary to give several points of view of scientists-economists regarding the economic essence of public debt.

So, according to the definition of C. R. McConnell and S. L. Brue, "the national debt is the total accumulated amount of all positive balances of the Federal government's budgets, minus all deficits that occurred in the country"[21].

According to the authors of the book "Applied Economics" Junior Achievement® : "public debt – the amount of debt owed by the state to individuals and legal entities, foreign States, international organizations and other entities, including accrued interest" [6].

Thus, E. A. Popova believes that "the definition of public debt, which is a legal form of public financial obligations of the state to legal entities and individuals, public legal entities"[4].

According to E. A. Pavlovskaya, "the system of public debt management should be understood as a set of measures directed by the state to determine the necessity, conditions for attracting, servicing and repayment of public loans in order to ensure public interests, without violating the economic security of the state" [3].

According to Dolan, E. J., Campbell, K., & Campbell, R. "public debt is the accumulated amount of budget deficits of previous years" [9].

According to the definition Of N. F. Samsonov, N. L. Barannikov, and N. I. Strokova, "public debt is the sum of arrears on issued and outstanding debt obligations of the state, including interest accrued on them" [5].

Another group of authors, Agarkova, L. V., Bagova, D. K., & Keshtova, D. R., believes that "the state internal debt is the debt obligations of a public legal entity" [1].

In general, we can agree with these concepts of public debt, all of them to some extent give an idea of the public debt. At the same time, they are in principle incomplete and do not express the deeper meaning of this category.

Generalizing and taking into account the literature supply, the most complete, in our opinion, is the following definition:

"Public debt is the total accumulated amount of debt owed on issued and outstanding debt obligations of the state to individuals and legal entities, foreign States, international organizations and other entities, including accrued interest on a certain date."

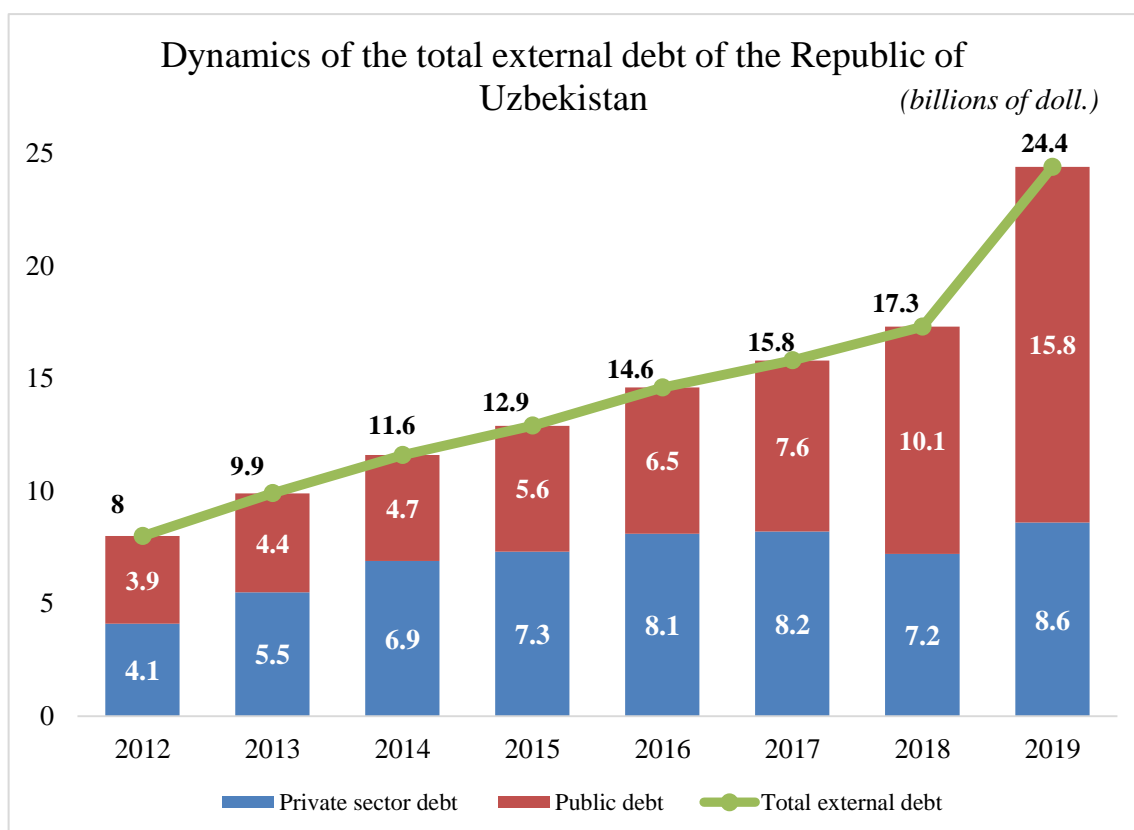
The external debt of the Republic of Uzbekistan is recorded as the balance of debt on foreign borrowings of residents of the Republic of Uzbekistan, as well as accrued but unpaid interest on foreign borrowings. The external debt of the private sector consists of external borrowings received without a guarantee from the government of the Republic of Uzbekistan, including debt on loans submitted by foreign parent companies. Information on the external debt of the private sector is provided by commercial banks. Data on the external debt of the private sector is formed by sectors of the economy (oil and gas, energy, banking, telecommunications, textiles, and other sectors). In addition, banks provide data on forecasts of repayment of principal and interest. [10-23].

The total external debt of the Republic of Uzbekistan as of January 1, 2020 amounted to 24.4 billion dollars, an increase of 40.9% or 7.1 billion dollars in relation to the beginning of 2019, according to the report of the Central Bank. [12].

The increase in debt during 2019 was mainly accounted for by the public sector (\$5.7 billion), of which \$ 1 billion was international bonds. Private sector debt increased by \$ 1.4 billion because of increased borrowing by banks and other sectors of the economy.

It is noted that in 2019, the private sector attracted loans totaling \$ 2.8 billion. Banks (\$2.1 billion), oil and gas and energy companies (\$208.2 million), textile companies (\$131 million), and enterprises in other sectors of the economy (\$391.2 million) mainly carried out borrowing.





**Pic. 2.1.1 Dynamics of the total external debt of the Republic of Uzbekistan**

At the expense of the state debt, 39 projects are currently being implemented to provide drinking water and improve water supply, 30 projects in the field of

education and health, seven projects in the field of housing construction, and others. Here are a few major such projects [13]:

**Table 1 Projects implemented at the expense of government debt**

Project	Deadlines	Development (in millions \$)	What will give
The production of synthetic liquid fuel based on cleaned methane of Shurtan chemical complex	2016–2020	1 063,9	1.52 million tons of fuel will be produced and more than 1,300 jobs will be created.
Construction and modernization of thermal power plants Takhiatash, Navoi and Turakurgan	2015–2020	406,8	Electricity supply in Bukhara, Samarkand and the Fergana valley will be stabilized.
Reconstruction and construction of water supply and Sewerage systems in cities and districts of the Tashkent region	2017–2021	5,7	Drinking water supply to 265 thousand residents of 58 rural localities will be improved, and the coverage of drinking water will be increased from 60 to 92%.
Development of the sewerage system of the city of Jizzakh	2016–2020	14,4	77.2 thousand residents of the city will be able to provide centralized Sewerage services, and the sanitary and epidemiological state of the city will be improved.
Strengthening the material and technical base of higher educational institutions	2017–2022	3,0	It provides for improving the quality of education and providing laboratory equipment for higher



			educational institutions.
Reconstruction of 87 km.a-380 Guzar-Bukhara — Nukus — Beineu highway on the section 228-315 km.	2016–2020	0,2	87 km of roads will be built.
The project of housing construction in rural areas	2017–2020	79,2	2,606 new homes will be built.
Modernization of solid waste management in the city of Samarkand	2017–2021	1,4	It will be possible to process 360 thousand tons of solid household waste per year.

Conclusion: The largest project that was implemented at the expense of the state debt is considered to be "production of synthetic liquid fuel based on purified methane of the Shurtan chemical complex", which will be completed in 2020 and will give 1.52 million tons of fuel and more than 1,300 jobs, which will increase the country's economy significantly. In General, every project that is implemented at the expense of public debt is aimed at improving the lives of the population and increasing the country's income after their terms are over.

However, in order to further improve the system of public debt management of the Republic of Uzbekistan based on international standards and maintain at a level safe for macroeconomic stability and the development of mechanisms to ensure the effective use of advantage, the following measures:

- Jointly, with the World Bank and the International monetary Fund has developed a draft Medium-term strategy of public debt management;
- Based on the instructions of the International monetary Fund on the implementation of fiscal rules, calculations were made for the maximum allowable level of public debt to GDP, as well as the safe level of public debt for macroeconomic stability based on multi-scenario forecasts;
- Measures have been developed to maintain public debt at a level that is safe for macroeconomic stability in the short and long term;
- The process of automation of monitoring, servicing, accounting and reporting of the state debt of the Republic of Uzbekistan continues (the software package "debt management and financial analysis System" - "DMFAS-6" is installed);
- Measures are being implemented to ensure the openness and availability of public debt data;
- In order to prevent the negative impact of public debt risks on the stability of the state budget, additional measures are being developed to improve the system of providing state guarantees based on international experience.

- As for other measures in the field of macroeconomic policy and structural reforms, the draft Decree provides for:
- revision of methods and principles of directed lending within the framework of state targeted programs with the establishment of interest rates from January 1, 2020 at a level not lower than the Central Bank refinancing rate, and from January 1, 2021 free market rates using, if necessary, compensation mechanisms for part of interest expenses;
- measures in the field of fiscal policy aimed at developing "budget rules" and introducing the practice of approving the maximum annual parameter for changes in internal and external public debt from 2020;
- ensuring strict execution of the State budget within the established parameters, as well as consistency of fiscal and monetary policy;
- establishing an order in accordance with which decisions on further economic reform will be based on principles and objectives that ultimately meet the goals of high quality and sustainable economic growth and ensure price stability.

This, in turn, includes the creation of modern industrial, transport and social infrastructure, the completion of the liberalization of regulated prices, the development of a competitive environment, improving the effectiveness of state-owned enterprises ' reforms through the widespread introduction of market mechanisms in their activities, increasing labor productivity and energy efficiency.

*Application of foreign experience in reducing the volume of public debt on the example of Japan.*

In 2013, the country adopted a Plan to revive economic growth, or the "three arrows Plan" of S. Abe. In the "second arrow" section of events, it was supposed to switch to a strategy of flexible budget policy, which allowed the Japanese government to resort to significant investments, despite the excess of the expenditure part of the state budget over the revenue.

**Table 2. S. Abe's "Three arrows plan" (2013-2017)<sup>1</sup>**

"Three arrows plan" by S. Abe "	Plan to revive economic growth	GDP growth rate	
		(plan)	(fact)
Measures to promote the pace of economic development	<p><b>The first arrow</b> – large-scale monetary stimulus</p> <p><b>The second arrow</b> – flexible fiscal policy</p> <p><b>The third arrow</b> is the structural adjustment of the economy (growth strategy).</p>	3,2	0,6

The main goals of the Plan were declared: overcoming long-term deflation; doubling the Bank of Japan's money supply in order to reduce interest rates on loans; creating new demand for goods and services; flexible attitude to budget spending – despite the significant deficit of the state budget, to invest \$ 200 billion in the real economy. In addition, it was planned to increase labor productivity, assist the development of the private sector, small and medium-sized businesses, reduce income taxes, review labor and immigration laws, and other measures.

Since the beginning of the global financial and economic crisis in 2008, Japan and other countries have used methods of financial repression to solve the problem of public debt: maintaining negative real returns on deposits and government bonds [11], placing public debt in government-controlled financial institutions, setting special reserve requirements, as well as restrictions on the movement of investments in the national financial sector.

Japan actively uses the method of non-market placement of government debt in the accounts of dependent financial institutions, usually banks with close ties to the Ministry of Finance and the Central Bank of Japan. Tight control over the financial sector leads to distortion of market mechanisms for determining the return on assets. Financial repression implies some isolation of the country's financial sector from the international financial market and its protection from turbulence and global cataclysms.

Despite the increase in public debt, Japan ranks 3rd in GDP in the world. At the same time, the government's measures to reduce the national debt can only work at low interest rates, but it is worth taking examples for paying off the national debt of the Republic of Uzbekistan.

In the «plan of three arrows» for Uzbekistan, it is worth applying 2 and 3 arrows, because over the course

of 4 years, the increase in the money supply by issuing new monetary units in Uzbekistan occurred. The second arrow directs the government to resort from investments, i.e. to reduce their quantity. Before investing, a country should think about everything from the outside and choose the most suitable one that brings the highest income among the others. The third arrow says that it is necessary to rebuild the country's economy, i.e. choose the sphere that is the universal and suitable for entrepreneurs in the country.

In addition, the current situation with the pandemic in Uzbekistan may affect the amount of public debt and the government's measures for such situations will show how well the country was prepared to deal with emergencies. [16,17,18,19,20].

## 5.0 CONCLUSION

Thus, the study showed that public debt plays an important role in the country's economy. The reduction of public debt in the Republic of Uzbekistan in the conditions of digitalization with a specific drawn up plan gives certain results and at the same time, mechanisms are being developed to ensure the effective use of borrowed funds. The use of foreign experience is also important for the government, since it considers the experience that has already been considered by the leading country in the world and has its results by applying it.

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# THE IMPORTANCE AND DEVELOPMENT OF COURTYARDS IN CENTRAL ASIAN ARCHITECTURE

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## ANNOTATION

*This article describes the history, importance, differences, development, and role of courtyards in Central Asian architecture. Restoration and repair of courtyards in Central Asia, the establishment of defensive zones in all historical monuments, as well as the formation of a system of tourist routes remain a difficult task for today's architecture.*

**KEYWORDS:** *Traditional architecture, courtyard, opposite porches, summer room, terrace.*

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## INTRODUCTION

In the context of Central Asia, it is clear that the courtyard is a key element of housing construction. This can also be seen in the word "yard" instead of the word "home". Housing is divided into external and internal parts (external and internal or "Berun and Darun"). In Berun, the host is engaged in manual labor, receives guests, there is a hotel, warehouse, stables. In Darun, the family spends their whole lives. The type of housing depends on the location conditions. The house is made up of many components and with all its facilities it forms a whole ensemble, which is the basis of the abundance of options. The appearance of housing depends on a whole set of different social, historical, ethnic, natural-climatic factors. The characteristics of each of them, the changes in them lead to changes in the structure of housing. Historical conditions play an important role in the formation of housing types. The division of the feudal lords led to the emergence of local cultural hotbeds and various architectural traditions.[1]

## RESEARCH METHODOLOGY

First Below we give an overview of the types of Uzbek housing.

The Bukhara apartment house is divided into summer rooms facing north and winter rooms facing south or west. Such a design also applies to the outdoor courtyard. Depending on the material supply of the host, several more rooms will be added, which will be divided into western and eastern rooms depending on the direction. A high, open, brick terrace is widely used in the Bukhara house. The tall, multi-columned porch sometimes took on the appearance of a summer room. Another distinctive feature of Bukhara houses is that the courtyard structure is in the form of stairs. The yard is in the form of a well, the highest point is at the height of the summer room, and the device is usually leveled accordingly. Such a composite structure provides the desired climatic regime, increases airflow, improve air exchange and ventilation.[1]

The compositional basis of the Khiva house consists of a rectangular courtyard and opposite porches. There is a high porch facing north, behind it there is a summer room - a palace, next to which





there are other living rooms. In front of the porch is a low farm reverse porch.

A distinctive feature of the planning of houses in the Fergana Valley is that the central room is a symmetrical combination of two rooms in contact with the palace, the facade of the warehouse consists of high-rise window columns and a small porch built along the roof. The central room is spacious and it was used not only as a front room but also as a common room for everyone. This room is often built facing south. Distinctive details of the facade are raised shelves, grille walls.

Shakhrisabz houses are an independent type in terms of their architectural structure. The starting element of the composition is a room with a single-column porch. If there are two rooms in the house, a porch is built between them. In multi-room homes, the main group of rooms is built around the perimeter of the yard.[2]

For traditional residential buildings in Tashkent, a series of rooms with one or two columns and a number of terraces is typical. The room, which is considered the "Fergana" method, also has terraces and terraces with many columns.

The planned solution of the Samarkand house is to build one or two rooms with a narrow front room. Uzbek houses consist of two components: volume and spatial components. There are several compositional solution options for the terrace. In the residential complexes of Central Asian cities (Khiva) were built large courtyards with two terraces, the axes of which were oriented from south to north, the windows of the main summer rooms were the windows of winter rooms facing north and south. The porch in front of the summer room was two stories high, the rest one floor. The large terrace catches a stream of cold air during the hot summer months and directs it downwards. A low porch was built in front, as a result of which part of the courtyard was covered by the roof of the porch.[2]

In Bukhara, there is an terrace or a half terrace type. In multi-room houses, the courtyard surrounded by appliances forms a unique composition with it.

A special feature of the loggia is the ceiling, which is common in Karshi and Shakhrisabz. Such ceilings are covered with a double sloping roof, which occupies the entire width of the roof and provides elliptical ventilation.

The indoor courtyard type is common and comes in a variety of shapes. The indoor courtyard type in Margilan is interesting in its structure, occupying the space between the winter indoor courtyard and the indoor terrace. The use of traditional courtyards not only in traditional residential architecture, but also in public buildings,

and the use of courtyards of architectural complexes is a distinctive feature of Central Asian architecture.

Courtyards have been used in public buildings since time immemorial. The first compositions used in the architecture of Central Asian public buildings are associated with temples. The first courtyard compositions in public buildings can be found in the example of the fire room in "Jarkoton" (XV-IX centuries BC). There were small apartments, fireplace-shaped houses built in the courtyard covered with raw bricks. In the "Kuykirilghan" Tower (2nd century BC, 4th century AD) in the center of the courtyard, surrounded by a round wall, an observatory-like central structure defined the composition of the building.[3]

It is known that in the architecture of public buildings in Central Asia, courtyards had a clear compositional form in the II and II centuries BC. The method of building a regular courtyard in the Fayoztepa temple and the central composition of the "Kuykirilghan" Tower can be seen to have continued in medieval architecture. The further development of courtyard traditions is associated with the Islamic period. According to N.Brunov, it is common for Islamic architecture to have a courtyard with access from all the interior rooms, and these rooms are always connected to the spatial area of the courtyard. It is this feature that unites oriental architectural monuments. Although the first courtyard mosques appeared in Arabia, its various forms were formed in Central Asia. The first courtyard mosques built in Central Asia are still included in the "Arab" style. Our research acknowledges that the architecture of courtyard mosques in Central Asia has been greatly influenced by local fire worshipers, Buddhist temples. For example, the gates of mosques, miyansaray, the sides and fronts are due to the "chartak" architecture, while the galleries are due to the influence of Buddhist "devon" type courtyards. W. W. Barthold first noted that madrassas originated in the east of the Islamic world, in Central Asia, and that it was built on the model of a Buddhist temple. It is also home to madrassas in Balkh Province (Afghanistan), which was famous for Buddhism before the Arab conquest. As E.Herfeld points out, the construction of these new buildings was based on the history of residential, caravanserai and other buildings in Central Asia, using a four-porch courtyard - the Iranian system. According to another theory, the successors of the madrassas were the first medieval Central Asian palaces, which had four entrances and a domed room in the center, later the entrances were converted into a porch, the room in the middle into a courtyard.[3]

Along with the Buddhist temple, the madrassas have common similarities and are limited to building rooms around the courtyard. To protect people, animals, and cargo, they began to build



caravanserais along caravan routes. They are surrounded by walls (usually with two rows of walls), in which towers and half-towers are built, surrounded by a compact rectangular arranged courtyard with many rooms. In modern architecture, courtyard traditions have declined somewhat since the early twentieth century, but until the 1960s, key aspects of architectural heritage were observed.

## CONCLUSION

The As a result of the former Union's interference in the development of agriculture and the arts, the architectural heritage was rejected and the original roots of traditional courtyard architecture were overlooked. The current political and economic processes in the country, a new approach to private, public and state property require a rapid identification of ways of architectural development of historic cities and villages in the new conditions. A new concept is currently being proposed. It is aimed at solving a number of historical, urban and typological problems, as well as radically improving the social conditions of life, improving living conditions, increasing housing, utilities, transport, trade and other services. Its important aspects are the restoration and repair of architectural monuments, the establishment of

defensive zones in all historical sites, as well as the formation of a system of tourist routes. The height of the buildings adjacent to the architectural monuments in the protection zones is 1-2 storeys, where the building system is very dense, which is an example of the traditional architectural variable construction method. By focusing on the courtyard structure, very good microclimatic results can be achieved by lowering the north and east sides of the building and raising the rest, which can lead to very impressive results in modern architecture.

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# FUTURE OF PRINT AND E-NEWSPAPER IN INDIA: A CRITIQUE

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## ABSTRACT

*Print newspapers in India have evolved over the years. The significant readership of print newspaper is an evidence of it being a popular medium among people. Newspapers in India started before independence and gained much attention during the time of freedom struggle with many revolutionaries contributing to the growth of journalism. It became an effective medium to reach the masses. Post independence, print newspapers looked forward to maintaining the newly found freedom. In 1950s, National development became primary goal for the newspapers. Newspapers, by then, had earned the reputation of being a credible source of information. They served as important link between the government and citizens. As post independence many industries were affected by the wave of commercialization, journalism was also not left unaffected. With the coming of satellite television during 1990s there were speculations that print newspapers would go obsolete. But newspapers reinvented themselves and learnt to not only co-exist but also made good profits. The dawn of the digital era saw the birth of e-newspapers. India too followed the suit amidst speculations that print newspapers will go obsolete but once again it reinvented itself and survived the wave of change. This paper attempts to trace the journey of newspaper from print to digital. It also attempts to prognosticate the future of print newspaper and e-newspaper in the Indian subcontinent. The paper concludes that although print newspapers are not going anywhere in the near future owing to their willingness to reinvent themselves, the future of newspaper is digital. The paper also explains the factors responsible for the shift in news consumption habits of the Indian readers. To accomplish the objectives of the study, the researchers conducted a focus group discussion with experts from media industry and academia.*

**KEYWORDS:** *Print newspapers, e-newspapers, new media, digital platforms, vernacular press, localization of news.*

## INTRODUCTION

The earliest form of newspaper was a daily sheet published in Rome; it was known as Acta Diurina meaning Daily Event (Joad Raymond, 1999). According to various studies, the first known print newspaper was found in Beijing. Research evidences point out that Johannes Gutenberg was the first to make use of a printing press. In 1700s it thrived with promoting components. Though the oldest forms of mass media is print newspapers yet, it was never known to be old-styled during the period of its almost 400-years of existence.

Most of the historians have diverse answers on the actual date of publication of the first newspaper in the world, but it is usually accepted that the first structured attempt to offer a similar work happened in ancient Rome. The newsletters were hand written, and

not printed. It informed the usual happenings in and around the capital to the widespread areas of the Roman Empire.

The earliest written news bulletins in all probability appeared in China, with a court gazette issued throughout the T'ang family (618-906 BC) and skim primarily by administration. A later important development usually cited by historians was the issuance of newsletters by the Fugger family of Federal Republic of Germany, a strong tribe of merchants and bankers within the fifteenth and sixteenth centuries.

Modern journalistic practices in Britain initiated during the nineteenth century witnessing the growth of The London Times, which was released in 1785 as The Daily Universal Register but in 1788, its title was changed (International Encyclopedia of



Communications, The Oxford University Press, 1989, pages 179-186). In 1881, the Japanese introduced the newspaper as a means of public communication into Korea. (Altman, 1984)

Among print media, Indian print newspaper is one of the excelling print media in the world. The year 1780 marked an important event in the history of newspaper industry when the Bengal Gazette was published from Calcutta. James Augustus Hickey has acclaimed a special spot in the account Indian press because he started the first print newspaper in India from Calcutta.

The Bombay Herald came into existence in 1789, as the first print newspaper published from Bombay. The Bombay Courier was published in the following year. An important proverb gained popularity, which said 'one can do without a cup of tea in the morning, but not without a morning newspaper'.

## OBJECTIVES

1. To trace the journey of newspaper from print to digital platform.
2. To prognosticate the future of print newspaper and e-newspaper in the Indian subcontinent.
3. To study the factors responsible for the shift in news consumption habits of the Indian readers.

## METHODOLOGY

To achieve the objectives of the study, researchers collected secondary data to trace the journey of newspapers in India. To understand the shift in news consumption habits of Indian readers and future of newspapers in India, researchers conducted a focus group discussion with twelve members from media industry and academia.

## NEWSPAPERS AND INDIAN FREEDOM MOVEMENT

Pre independence, the newspaper was an efficient medium used by nationalists and social reformers. It was used as a medium to influence and shape the opinion of the people and to unveil social evil practices like sati, child marriages, caste system, ban on remarriage of widows, and other such inequalities which were experienced by people in those times. Raja Ram Mohan Roy, realizing the potential of newspapers, spearheaded the movements for social reforms through newspapers like *Sambad Kaumudi* in Bengali and *Mirat-ul-Akhbar* in Persian in 1822. (Nazir, P., 2011.)

The year 1857 is significant for journalism in India as the newspapers owned by Indians and British were separated and the Vernacular Press Act 1876 was passed. (Goyal, 2017). Dadabhai Naoroji, Bal

Gangadhar Tilak, Madan Mohan Malviya, Mahatma Gandhi are some of the most significant names from the history of Indian freedom struggle who connected to the masses through newspapers like Kesari, Mahratta, Harijan, Young India and many more. Newspapers acted as mouth pieces to awaken and motivate Indian citizens during freedom struggle. This was the time when newspapers gained importance in the lives of common people.

Journalists wrote in the newspapers to stimulate the society at large, socially and politically. During the British rule in India, there was strict control and censorship by the government; newspapers were not given the liberty to express opinions against the government. The rule of the East India Company was autocratic; its officers did not welcome criticism. (Eapen, 1967).

Newspapers facilitated in the surfacing of public opinion and in creation of images through robust news reporting, articulate opinions, informing the citizens and in this manner aiding public dialogue on topics of major concern. As a matter of fact, newspapers played a considerable role in the awareness of readers, molding their attitudes, choices and characteristics.

One of the objectives of a newspaper is to recognize the common sentiment and provide expression to it; an added one is to rouse among the readers a desired attitude; the next is to valiantly represent popular flaws (Mahatma Gandhi, Harijan, May 25, 1946). Newspapers attempted to present information and thorough analysis that enabled well-versed citizens to make conscientious choices in an information-saturated society.

## NEWSPAPERS IN THE POST INDEPENDENCE ERA

After independence a professional approach of newspapers replaced the role of serving as a messenger. As they begun providing employment to the people; the newspaper organizations became revenue-oriented. The various technological developments taking place lead to

a readership battle. As the literacy level improved, inquisitiveness to know about the things happening in the surrounding helped newspaper to grow. During the time period of 1970s, newspapers gained the position of being an industry. To add to that, the Indian newspaper industry is among one of the largest newspaper industries in the world. It has a extensive and wealthy legacy. All through these years, the Indian newspaper industry has grown into an influential power. It informs, entertains and also educates the readers making sure that they can completely contribute in the important affairs of the country.



After Independence, Indian newspapers went ahead practicing the function of a *watchdog* and also have been portraying the role of an activating agent to speed up the course of social and economic expansion in the country. Newspapers re adjusted to meet the demands of the changes in the society.

To accelerate rural development in post independence India, charge was jointly taken forward by researchers and newspapers by carrying out a few practices in development journalism. In post-independent India, development journalism was experienced in the form of projects like Project Chattera (1969), and Udayavani (1981-84). Even with these experiments, developmental journalism did not hold much success in Indian journalism. (Murthy, 2000) in his study mentioned that the Indian Press is known for its wide coverage of political news.

### **ROLE OF NEWSPAPERS IN NATIONAL DEVELOPMENT**

In the new found freedom, newspapers were the main sources of local, national and international news. They placed their agenda for open discussions and put forth issues to be considered. Print newspapers were perceived as credible source of information. They served as an important link between the citizens and government. Transparency between government and its citizens helped build trust and stable system. Since newspapers were the key resource of distributing information, they also had the accountability to disperse relevant information on general issues of the nation or state like population planning, health, education, environment and women related issues etc. The press had the responsibility of educating the masses about the functioning of administrative, legal and other departments of the government. (Zahra Khalid & Ahmed, 2014)

Most often, it was observed that the continued existence of newspapers was dependent on circulation and advertising. As circulation was a major factor for catching the attention of advertisements, newspapers approved of strategies to increase circulation. In this progression newspapers classified themselves as profit-making enterprises. As per Veteran journalist Chalapati Rao (1982), the large characteristic of Indian Press was that it was an industry then, which was administered and possessed by other industries. The responsibility of newspapers changed as a response to the shifting needs of their readers and went through a lightening of news in response to other media's coverage of lifestyle, entertainment and so on.

These tasks of newspapers in national development recline in their ability to teach, manipulate, make aware and activate people through

information. For Gandhi, the key to a newspaper's role in affecting social awareness was reliability and credibility. Social obligation was vital. Transparency in all its operations was indispensable to maintain its reputation (Bhattacharjee.2003).

### **NEWSPAPERS IN THE TIMES OF SATELLITE TELEVISION**

Till the time radio and television came into existence, print newspapers enjoyed the status of being the sole news providers. The aged ideas and perceptions that a newspaper correspond to people's conscience or nation's ethos were worn out. Journalism became a profession only in name; in actuality it was functioning as an industry. To combat the challenge from another technology, newspapers reinvented themselves again. They started with changes like more localized content, more entertainment-based content through supplements and use of glossy pages to attract attention from readers. A notable development was use of advanced technology in printing and newspapers were then published in different colors.

The newspapers were very successful in encouraging the rural population to actively contribute in improvement and reawaken their hopes and quiescent common spirit.

The newspapers investigated, analyzed, interpreted and committed itself to development. Instead of a news report, it started practicing an interpretative report. This modification in newspapers made the newspaper significant to the society to position as a public institution, which strived for the welfare of the society.

### **NEWSPAPERS IN THE AGE OF NEW MEDIA**

The World Wide Web opened new dimensions for the information flow with the advent of web resources which have become a rivulet crossing all the borders (Gul & shah, 2008). The magnitude of e-newspapers in the form of e-paper, websites and smartphone applications is increasing on the internet, as it is becoming a favorable channel for diffusion of information.

The Hindu was the first newspaper in India to launch a website in 1995. After one hundred and thirty years of its existence, the newspaper came up with the beta version of its redesigned website at beta.thehindu.com, in August 2009. This rise of e-newspapers was seen as a threat to the existence of print newspapers; instead, the print newspaper has over the years established itself remarkably flexible and adaptable all through.





## RESULTS: FUTURE OF PRINT AND E-NEWSPAPERS IN INDIA

To prognosticate the future of print and e-newspapers in the current scenario and to understand the shift in news reading habits, the researchers conducted a focus group discussion. The group comprised 12 members from the media industry and academia. The experts were professionally affiliated with organizations like The Hindu, The Times Of India, CNN-IBN, Navbharat times Online, ABP News, IIMC Delhi, India Today Media Institute and more.

The highlights of the discussion are stated below:

### 1. Opportunities and Challenges for Newspapers

The panelists agreed that print media is facing a challenge due to the presence of e-newspapers. Although the circulation of print newspapers is decreasing in the Western countries, it has been on a rise in India. Reason for this was considered to be the relationship between literacy growth and rising readership of newspapers, especially vernacular press in India.

It was observed that surge in literacy levels in the recent decades, better income and the professed credibility of written words are some of the reasons newspapers progressed well in India. The reason newspapers began waning in the West is because choice was involved – one has to go to a newsstand and buy a copy. In India, it is delivered at the doorstep.

English language newspapers used to dominate circulation figures in the 1960s. The position began to alter noticeably after the 1990s. There has been exponential rise in the demand for Hindi dailies. Discussing a report from Audit Bureau Circulation (ABC) report (December 2016), the members pointed out that in 2017 three most circulated newspapers were Dainik Jagran and Dainik Bhaskar which were both Hindi dailies and were trailed by The Times of India in English language.

The panelists opined that, credibility of newspaper and less-than-credible content of other media may have also been reason for the rise of newspapers. There are some challenges to print newspapers like rising cost of newsprint, increasing internet penetration even in small towns and villages.

They also shared that in current times Print, Broadcast & Web media supplement each other for co-existence and growth. The panel pointed out that television was growing in the 90s but then came a saturation point. A similar trend may follow for e-newspapers also. As technology is evolving, there will be something new. The experts noted that Indians do not want to pay much to consume news. They also raised concerns about the revenue model of newspapers

which is largely based on advertisement and advised that it needs to be changed.

As there are numerous languages in India, a major concern for e-newspapers is to cover untouched areas in India. Members shared that many e-newspapers were making efforts to reach regional languages news consumers like print newspapers. They appreciated that ToI news site gives an option to convert language and connect with readers which enhances the readership but it is a challenge for the readers are not well acquainted with technology. It was observed during discussion that in India print has edge over e-newspaper because people want read in detail.

E –newspaper gives advantage of expressing oneself as a reader, this held an important outcome of the discussion. During the FGD it was shared that currently most young audience do not read or watch long news stories, so in video formats also short bulletins of news stories are prepared and shared on the web.

The portability of e-newspapers was regarded as an important factor as a reason for shift in news consumption habits.

Growth of newspapers in the country is an indicator of the fact that the readership has increased and people want variety, substance and professionalism in the content. The existent challenge for the newspapers is to reach and connect with the common people, conferring their issues and opinions. Newspapers have emerged as a credible source of information for the majority of people from time to time.

### 2. Factors Responsible for the Shift in News Consumption Habits of the Indian Readers

Growth in newspaper readership in India depicts higher preference towards local language newspapers. A prominent change is apparent in the rural population during the past five decades as they turn out to be one of the most significant customer groups with augmented income levels and varying choices and preferences. Another reason for growth of print newspaper circulation is the coverage of local news by regional language newspapers has given circulation the much need momentum as it provided the people in the rural areas a medium to express their grievances and aspirations. Localization paved way for multi-edition newspapers where publishers accumulated national news with local news and intensified their news content variety, with supplements. The successful performance of hyper localization of news content is also credited to readers' choice to read content in their first language.

Low priced Indian newspapers are often paired with discounts or complimentary supplement/edition which rules out price as a barrier for the readers. This helps in creating brand loyalty which is often utilized



by advertisers. While there are many websites where one can get updated news and information newspapers have adapted to the change allowing readers to read their favourite newspaper on the mobile devices. As discussed, one can access e-newspapers of India directly on laptop or mobile devices and get the same experience that one had through the print version.

The rise in print newspapers circulation in India is majorly seen among Hindi language newspapers and vernacular press. To get in touch with outsized population the Indian print newspapers put together efforts to publish in their regional languages in small towns. Keeping in view the in growth in Hindi and vernacular press, leading newspapers have started their regional-language newspapers. The English-language newspapers cater to more contented and urban readers who are more exposed to the forthcoming changes due to new media technology.

The panelists discussed that recent circulation reports of print newspapers in India show the immense clasp of Indian languages. They shared that overall circulation of the newspapers increased about 7 percent, this was largely determined by expansion of Hindi language newspapers (around 9 percent) and other language newspapers (almost 10 percent) in comparison with the large but constant English language newspapers (about 4percent).

### 3. Future of Print Newspapers

The focus group shared that presently they did not see any threat so long as the newspapers reinvent and innovate. They did not see them dying so soon. But citing caution, they said that print newspapers will have to accept the reality that gradually the day will come. Digitization is taking place at a fast pace. India is a large country with huge disparities. Digitization will take time but it will catch up. So it is wise to take advantage of the time gap and prepare for the digital age fully. The panelists believed that print newspaper organisations should be prepared to brace the change. The future is certainly digital (platform), they added.

Newspaper is an important tool in shaping the growth and development of any society in this modern world. In the Indian context, there are a number of means of mass communication which have been instrumental in bridging the communication gap between people that contributes to the air of awareness in a society. The newspaper industry stands out as an influential body which contributes to the development of the nation. The industry is soul of any democratic nation. Daily newspapers provide huge contribution towards the economic and industrial development of a country. Indian daily newspaper is the order of the morning for eager news hungry readers across the country. By garnering an increasing number of subscribers in the form of readers, newspapers clearly

reflect the individuality of a reader and the country as well. The growth in the circulation of newspapers in the country results in the overall economic prosperity of the country, inspiring it to higher levels.

## SUGGESTIONS

Based on the study, researchers suggest that print newspapers are facing challenges at present due to the outbreak of pandemic. It is suggested that opting for digital platforms to connect with the readers is a pertinent approach. Another effective way to connect with more readers is through their local languages and with more localized investigative news stories. Further studies based on consumption patterns of vernacular press in rural areas may provide more clarity.

## CONCLUSION

Digital age is the latest challenge to the existence of print newspapers. The current crisis due to the pandemic has added to the worries of the print newspapers as many newspaper organizations have laid off journalists, discontinued print editions and are witnessing a dip in circulation (due to risk of spreading of virus). Over the years, print newspaper has reinvented itself to remain in the business of news but the future of newspaper reading is digital. This can be attributed to various reasons like increasing internet penetration in India and peoples' need to be constantly updated by convenient access to news. India is at the threshold of becoming the youngest nation and youth is more inclined towards the use of technology. Digital platforms undoubtedly have a bright future in India but newspapers also hold strong readership especially in regional languages. Print newspapers may not go completely obsolete in the near future but future of news consumption definitely is digital.

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## ISSUES OF STUDYING THE LEXICO-SEMANTIC FEATURES OF TURKISH WORDS IN THE RUSSIAN LANGUAGE

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### ANNATATION

*This article discusses the lexical and semantic features of loanwords from Turkish to Russian.*

**KEY WORDS AND PHRASES:** *written language and culture, semantic language plasma.*

## ВОПРОСЫ ИЗУЧЕНИЯ ЛЕКСИКО-СЕМАНТИЧЕСКОЙ ОСОБЕННОСТИ ТЮРКСКИХ СЛОВ В РУССКОМ ЯЗЫКЕ

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### Аннотация

*В данной статье рассматриваются лексические и семантические особенности заимствованных слов из турецких в русский.*

**Ключевые слова и фразы:** *письменный язык и культура, семантическая плазма языка.*

### DISCUSSION

Turkic words came to modern Russian at various times from a variety of languages. The first major poetic works written in the Turkic language was the poem of Yusuf Balashovskogo "Kutadgu Bilig" ("Knowledge that gives happiness») XI, poem Ahmad ADIB Yugnaky "Atabat al-hakaik", which

was copied by the scribe of Zainul Abidin Ibn Sultanah al-Guragon-al-Husayn. Prior to this, the poem was called "Hibat ul-Haqaiq" ("Gift of truth"). The writing of the Turkic language was developed on the basis of the languages of Uyghur, Karluk and other tribes, among them the Oghuz took an important place. Later, the Karluk tribes and some



of the Oghuz tribes merged with the Uyghurs, creating a common written language and culture. In the XIV-XV centuries, two main Turkic languages developed: Uyghur-Karluk and Kipchak-Oguz. In the same century, two literary languages were formed: the Central Asian Turks and the Volga and Ural Turks. These languages are closely related to the heyday of the Golden Horde and its cultural centers (Sarai, Sygnak and Urgench).

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When studying borrowings from individual languages, you should answer the following questions: 1) When, in connection with what historical events and what kind of vocabulary was borrowed from this language (household, military, political, scientific, etc.)? 2) How was the borrowing (oral or written, directly from this language or through an intermediary language)? 3. What are the external signs, signs by which we can know that the word came to us from this language (it is not always easy to answer the last question, especially if we are talking about very old borrowings and these signs have been erased)? Even if the etymology of the word is perfectly clear, there may be different answers to the question: what is the origin of the word? The one who says it will be right. What's the word *сундук* (*chest*) it came from the Turkic language, and the one who refers this word to the number of borrowings from the Arabic language is not mistaken.

It should be noted that the contradiction here is apparent, imaginary. The fact is that the word chest entered our vocabulary in the XV century from the Turkic language, but in the Turkic language it appeared under the influence of Arabic. So the near etymology of this word is Turkic, the far etymology is Arabic. In such cases, it is said that the word came

from Arabic through Turkic. Word diamond. Russian borrowed from the Turkic languages, most likely from Tatar. Tartar *алмас* Almas) borrowed from the Arabic language. Arab *almas, olmas* it goes back to the Greek adamas - "indestructible".

It should be noted that all peoples change words and borrow them from each other. But not all foreign words that have entered the language retain their meaning. Here is a small history of the word *диван* (divan).

Sofa (furniture), borrowed from French in the XIX century. French divan - "sofa, sofa" has its original source in Iran-divan- "raised floor covered with carpet". In the Turkic language, the word Devon-divan meant "the wisdom of the book, the source of wisdom, a collection of poems, writing, wise advice".

Goethe, admiring the poetic culture of the East, created a number of works United in a cycle called "the Western-Eastern divan". In this case, the word sofa is used in the sense of "collection of poems".

In the 60s in Leningrad (Saint Petersburg), the Department of manuscripts of the Saltykov-Shchedrin public library received a parcel from Central Asia. It contained a small brick. A very rare handwritten book was immured in the brick, which was called "Diwan hikmetov", which means "Collection of wisdom".

The author of the manuscript, Ahmad Yassawi (1105-1166), lived about 800 years ago. He was very Asian. Sufi poet and preacher who influenced the development of Turkic-language poetry. The book contains songs rewritten in the XIII century by this ancient singer. But the word "divan" also had another meaning in the Turkic languages - "Council of dignitaries under the Sultan", later - "a room for meetings, conferences, in which the state Council with wide Eastern "sedamits" met. The nearest neighbors of the Turks, Bulgarians and Croats, began to use the word sofa in the sense of "reception room for guests".

As the word continued its way further West, to the Italians and French, it changed its meaning again: it is no longer "a room for receiving guests", but "furniture in the room" where they receive. With this meaning, the word sofa came to us from the French. In Polish, sofa means "carpet", i.e. what lies on the sofa, what covers the furniture, which we currently call a sofa.

In Russian, there are two different meanings of the word sofa. One-borrowed directly from the Turkic languages - "collection of poems, advice of the wise", the other-passed a long way through the Western languages - "upholstered furniture for information and lying". In linguistics, the lexical and semantic features of Turkic words are still fully revealed, and their lexical, semantic, phonetic and





morphological features should be mastered. As we already know, there are two main ways of forming vocabulary: the direct way in which the so-called native words of the language arise from the elements present in the language; a borrowing path in which new words come from outside, from other languages, i.e. directly and indirectly.

Russian language, enriched by borrowed words, remains basically Indo-European-Slavic-Russian. This was one of the important reasons for preserving the Russian language's unique national character.

It should be noted that it is not always possible to distinguish between the concept of "native" and "borrowed" in the language. First, the etymology of some words has not yet been clarified in modern Russian. Secondly, the words whose etymology is generally known, can all be considered borrowed? Can, for example, the word Elevator operator be considered a loan? It would seem that everything is clear: the root of the word of English origin (English.lift), the suffix *-ер* – French (-eur), which is part of words such as: Director, conductor, miner, fitter, juggler, etc. The word is clearly not native. But the thing is, what's the word *лифтер* (*Elevator master*) not in English or French. Most likely, this word (despite its foreign appearance) arose in the Russian language from the English root and the French suffix.

By virtue of active economic, political, and military activities. Russian people's cultural and similar ties with other peoples, the Russian language has penetrated and strengthened in its system quite a significant number of foreign language lexical elements. Russian phonetics and grammar, the rules of Russian word production, and the semantic system were used to process everything taken from the outside in the Russian language. These are words like *школа* (*school*) (from Latin through Polish), *карандаш* (*pencil*) (from the Turkic languages), *студент* (*student*) (from the German language) *оазис* (from Latin) and many others.

Usually, borrowings come from languages that have had long-term communication with native speakers. Russian has a lot of borrowings from Turkic, for example, *баклажан*, *кумыс*, *арба*, *казак*, *кумач*, *каланча*, *лапша*, *плов*, *чебурек*, *ярлык*, *баширак*, *башлык*, *штани*, *утюг*, *кирпич* (eggplant, kumys, cart, Cossack, bun, Kalancha, noodles, pilaf, cheburek, label, Shoe, Shoe, pants, iron, brick, etc).

Very often, a word in the process of borrowing passes from one language to another. Such borrowing is called "indirect", and words that pass from language to language are called "itinerant" by some linguists. So, for example, in Eastern Slavic speech,

there are Turkic words like: *zhenchug-pearl*, (n-m) *heel-heel*(K-g), *Tanga-money* (m-d), etc.

Russian linguists write that the above words entered the Russian language directly from the Tatar language in the XIII-XIV centuries, and some of these words entered the Russian language even earlier, for example, some Turkic-Tatar words are found in the "Word about Igor's regiment", created in the XII century.

Turkic words entered the Russian language orally. They entered the Russian language due to various circumstances, i.e. as a result of early trade, cultural and similar connections. Among the Turkic borrowings, words from the Tatar language have a large place, which is explained by historical conditions (the long-term Tatar-Mongol invasion). Turkic words are borrowed mainly from the languages of the Polovtsians, Turks, and Tatars. They mean:

- items of nomadic life: *кибитка*, *арба*, *кабак*, *ковер*, *шалаш*, *таз*, *чугун*, *кошма* etc. (the tent, the wagon, the tavern, carpet, Shalev, hand basin, cast iron, felt, etc).

- items of clothing and jewelry: *армяк*, *башлык*, *кушак*, *калпак*, *чалма*, *халат*, *жемчуг*, *бирюза*, *чулок*, *каблук* etc (armyak, bashlyk, sash, Kalpak, turban, robe, pearls, turquoise, stocking, heel)

- items of weapons and equipment: *кинжал*, *колчан*, *аркан*, *кабура* etc; (the dagger, quiver, the lasso, Cabourg)

- horses and their revenge: *лошадь*, *буланый*, *бурый*, *гнедой*, *каурый*; (*horse*, *bun*, *brown*, *Bay*, *brown*;) )

- animals, birds, plants: *барсук*, *кабан*, *табун*, *сазан*, *изюм*, *камыш* etc ; (badger, boar, herd, carp, raisins, reeds;)

- name of food and drinks: *лапша*, *балык*, *шашлык*, *халва*, *кавардак*, *кумыс* etc; (*noodles*, *salmon*, *kebab*, *halva*, *mess*, *Mare*;) )

- concept from the sphere of social structure and trade: *орда*, *хан*, *караул*, *мечеть*, *батрак*, *казак* etc; (*Horde*, *Khan*, *guard*, *mosque*, *farmhand*, *Cossack*;) )

- disdainful names : *балбес*, *балда*, *болван*, *ереалаш* etc . (dunce, blockhead, idiot, areolas etc)

Some Arabic and Persian words came to us through the Turkic languages: *базар*, *бахча*, *сарай*, *бурка*, *бусы*, *сарафан*, *алмаз*, *кафтан*, *чемодан*, *бахрома*, *магарыч*, *визирь* etc . (*Bazar*, *melon*, *Saray*, *burka*, *beads*, *sarafan*, *diamond*, *Kaftan*, *suitcase*, *fringe*, *magarych*, *vizier*, etc)

The process of borrowing can be due to both non-linguistic and linguistic reasons. Non-linguistic reasons are of a socio-historical nature – diverse ties between peoples: trade, economic, political, and



cultural. As a result of such connections, the process of moving words from one language to another occurs. The semantic feature of a foreign language word is the variety of its meanings in the source language. Of which one or more has been translated into Russian.

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## RESEARCH OF THE WORD-EDUCATIONAL STRUCTURE OF THE RUSSIAN LANGUAGE

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### ANNOTATION

*This article is devoted to the study of identification strategies for units with an atypical and unique derivational structure (derivational anomalies) by native speakers.*

**KEY WORDS:** *linguistics, word formation, aspects of the language, language phenomena, morphemes, hypothesis, morphological strategy.*

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## ИССЛЕДОВАНИЕ СЛОВООБРАЗОВАТЕЛЬНОЙ СТРУКТУРЫ РУССКОГО ЯЗЫКА

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### Аннотация

*Данная статья посвящена исследованию стратегий идентификации единиц с нетиповой и уникальной словообразовательной структурой (словообразовательных аномалий) носителями языка.*

**Ключевые слова:** *лингвистика, словообразование, аспекты языка, языковые феномены, морфемы, гипотеза, морфонологическая стратегия.*

### DISCUSSION

Any developed national language has considerable potential, not only for the implementation of its systemic laws, but also for generating various deviations from linguistic norms and rules that do not lead to the destruction of the system, but, on the contrary, are an expression of its creative potential. Therefore, the study of various kinds of violations and deviations from the known

laws of the functioning of the language (language anomalies) allows a deeper understanding of both the nature of the object itself and the level of knowledge about it.

The study of the problem of linguistic anomaly in linguistics is impossible without resorting to the orthological aspect. As I. A. Shidlovskaya notes, on the one hand, "a norm is a series of identical, homogeneous phenomena," on the other



hand, “uniqueness is something that goes beyond this series, beyond the norm, is a special variant of the norm” [1, p. 5 -6]. One of the first linguists to draw attention to this pattern was L. V. Shcherba. It was he who, in the article “On the Three-Dimensional Aspect of Linguistic Phenomena and on an Experiment in Linguistics”, proposed the term “negative linguistic material”, by which he understood primarily unsuccessful statements in speech (“they don’t say so”) [2, p. 24 to 39]. L. V. Shcherba noted that the ontological essence of this phenomenon is determined through the dichotomy “norm - abnormality”: in the absence of a conscious norm, negative language material is also absent. Numerous examples of violations of the language norm are characteristic primarily for the sphere of oral speech activity, where the majority of errors are socially justified, habitual and do not stop the attention of the addressee in everyday speech. Therefore, the definition of a language anomaly in the orthological vein as “a dialectically contradictory unity of the unconventional use of a unit or model of a language and the creative potential of such use in speech practice” seems logical [3, p. 8].

The problem of establishing the essence, scope and boundaries of linguistic anomaly does not lose its relevance in modern linguistics. As L. A. Araeva notes in her works, researchers constantly encounter linguistic phenomena that do not fit into strict rules, but they cannot be ignored, since they turn out to be too widespread, “making up to a certain extent a systemic phenomenon rather than an exception to rules” [4, p. 39]. Such a statement turns out to be relevant not only in relation to polymotivation (it was discussed in the article by L. A. Araeva), but also to most language anomalies, which appear to be such only from the point of view of the current state of the norms and rules of the Russian literary language system (cf. analysis of language anomalies in various communicative spheres of written language, for example, in the texts of the Unified State Examination [4, pp. 31–36], advertising [9]).

At the level of the language, anomaly seems, according to many researchers, a natural phenomenon, due to a number of reasons, both linguistic and extralinguistic in nature - systemic-linguistic, sociolinguistic and communicative-pragmatic. Anomalies are often not innovations proper, but the result of the existing etymological picture, that is, “a kind of incorporation into the synchrony of reflexes of the historical development of the language or the interference of the literary language and non-literary subsystems of Russian speech, as well as borrowings” [3, p. 34].

Unique morphemes (uniforms) are also a kind of violations and deviations from the known laws of language functioning (more precisely, the word-

formation subsystem), therefore, we can correlate the concept of derivative with an atypical and unique word-formation structure with the term “word-formation anomaly”. Derivative lexical units that result from the structural, semantic and pragmatic transformation of a standard word-formation unit or model are related to word-building anomalies in our work. As a rule, the structure of such units contains unique or unproductive morphemes.

On the one hand, words with unique elements are derivatives, motivated units of the language, which are both related in form and meaning to their generators, conditioned by them, dependent on them. On the other hand, their performance is framed non-standard, or rather, unformed. As noted by A. N. Tikhonov, words with unique elements stand out against the background of the entire system of motivated words precisely with the inferiority of expressing their derivatives [5, p. 653].

The most common in linguistics is the point of view dating back to the work of E. A. Zemskaya, according to which the unifix does not have a morphemic status, since it does not have the meaning and the property of repeatability [6, p. 3 - 13]. This concept is confirmed in the works of N. D. Golev, who notes that uniforms are the form of motivators (by motivants we mean “means that distinguish between the original unit or motivator and the secondary unit due to the motivator” [7, p. 106]) that occupy an intermediate position between the phonetic and word-formation level (for example, the transmission nomination on the television channel MUZ-TV Crisis-Shmizis is formed by phonetic reduction, which gives the word a comic-dismissive semantics).

The opposite point of view is substantiated in the works of G. O. Vinokur, N. M. Shansky, A. I. Moiseev, A. N. Tikhonov, L. V. Ratsiburskaya, V. G. Golovin and others. An interesting point of view is A. N. Rostova [8], relying in her works on the data of metalanguage consciousness (NLM) of native speakers. As noted by A.N. Rostova, despite the lack of seriality and repeatability of semantic and formal relations that determine the measure of automatism of reproduction (or work) in the speech of language units, derived units that have non-repeating, irregular types of relations are reproduced in speech and recorded in MEAT. The meanings of similar words related to the peripheral semantic theme can be realized both through the motivating word and as integral, not correlated with the meaning of the motivating components, cf. :. The snake leaves the skin - crawler [9, p. 150].

The hypothesis of our study is the experimental confirmation of the thesis that words with a unique or atypical structure are derived and motivated units in the minds of native speakers (have a morphemic status). The experiment is designed to



prove the probabilistic nature of a clear assignment of lexical units to a certain degree of separability (according to the classification of M.V. Panov - E.A. Zemsky) and the need to single out another alternative classification based on the data of a psycholinguistic experiment.

The analysis of experimental data showed that the morpho-derivational identification strategy is dominant in the interpretation of stimulus words. This strategy primarily reflects the principles of word-building motivation, the derivability of not only formally fixed, but also the implicit components of semantics. When native speakers turn to a morpho-derivational strategy, the polymorphism factor becomes relevant, revealing the dominant role of derivational separability of a derived sign, which allows confirming the status of unique elements as full-fledged language signs. We have assigned the following methods of recognition of a stimulus word to this strategy:

- a) through the use of the reference part of the derivative word (cf. : zhrapin - one who snores; one who snores badly; a person who snores at night; a person who snores; a person who constantly snores; a person who snores; snoring, associated with the disease; a medicine for snoring; a medicine for snoring; something related to snoring, etc.);
- b) based on the word-building model of the word stimulus; at the same time, awareness of the meaning of the lexical unit can occur with implicit support for a specific word-formation model, by pointing to it through marker words by type, it seems (cf. : zhrapin - a name by the type of sleeping pill; it looks like a medicine);
- c) by reference to a certain category associated with double reference (the term E.S. Kubryakova) of a derived word: to linguistic knowledge (recognition of word-formation models, significant morphemic components, sound-letter complexes) and phenomenological (summing up under a certain rubric of experience, a mental category) . Cf. : zhrapin - a medicine; sleeping pills, medications; medicine for sleep; something from the pharmacy; something to fall asleep; Chemical substance; tablets; surname; maybe an employee and others.

Phonosemantic and morphological identification strategies were less relevant in the material obtained, which was due to the presence in the individual's internal vocabulary of certain identification samples responsible for storing information about word-formation models presented for analysis.

A morphological strategy is an adjustment of a derivative word-stimulus - replacing its form, or the word as a whole, with a more suitable form, from the point of view of a native speaker, or with a more suitable (familiar) word. So, based on the perception of the word by informants, it is possible to clarify the individual spelling of the stimulus word for cotton

experience as clap of hooves, clap of hoofs, clap of experience. To one of the varieties of the morphological strategy of identifying a new word, we attributed the strategy of attracting knowledge of a foreign language [10, p. 214], which consists in comparing the components of the international character of the initial derivative with their meaning in the source language supposed by the informant, which clarifies the volume of the semantic field of stimulus words, cf. : polyswin - the city of wines (cf. English police - the city).

A special place in the analysis of experimental material is occupied by a reactive strategy, which is actualized in the case when the subsequent lexeme is a kind of "reaction" to the previous / subsequent context: its semantics are revealed by assigning lexical units to the values from the presented list of stimulus words that are already "included" in the language consciousness of the subjects [10, p. 152 - 153]. A similar strategy of awareness of informants is associated with the iconic nature of the presentation of the material: the location of stimulus words on separate lines corresponding to the mode of the past (for the initial, first word of the list) and the future (for the final, last word of the list).

Thus, the analysis of the experimental material showed that all stimulus words, even in the conditions of zero environment (lack of context), expand their semantic potential due to the support of native speakers on their word-formation model, thereby the original units realize the meanings available in their motivational space.

For native speakers, the likelihood of predicting and understanding the derivational structure of the foundations of the first and subsequent degrees of separability is almost equivalent. Derivatives of an atypical derivative structure are of great difficulty for identification, because, unlike the foundations of the second and fifth degrees of separability, their uniqueness is implicit in nature. Such examples prove the probabilistic nature of a clear assignment of uniforms to the core or periphery of the language system; apparently, we need to talk about highlighting another - intermediate - degree of separability, which will include derivatives that have absolute formal division of the base and repeatability of the affix part (1 degree) , with the unity of the semantics of the latter (3 degree).

On the whole, the theoretical and practical significance of the problems discussed in linguistics related to language anomalies is dictated primarily by their relevance to the general context of studies of linguistic development trends, discussion of the normative description of the language and assessment of the language situation. In particular, according to N. M. Shansky, "the importance of a comprehensive analysis of irregular affixes and models for understanding the word-formation system of the





modern Russian language .... is due to the fact that without this an accurate and accurate description of regular models is impossible" [11, p. 157]. Therefore, word-building anomalies should be considered not only as a violation of the system rules of the language, but also as material reflecting the dynamic nature of the language norm.

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## ENTREPRENEURSHIP EDUCATION AND MANAGERIAL COMPETENCE AMONG SMES IN ANAMBRA STATE, NIGERIA.

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### ABSTRACT

*Business activities among traders in Anambra State seem to be changing from what it was formerly known for especially the Small Scale businesses. This is because of globalization, inadequate financial resources, poor business connections, paucity of experience, inability to cope with competition, poor sales and high stock of inventory, high operating costs as a result of poor infrastructure, inefficient management, poor business education. This study set out to ascertain the extent to which entrepreneurship education affects managerial competence among traders in Anambra State; to ascertain the effect of participating in business workshop on performance of SMES in Anambra State; and to determine the effect of acquired technical know-how on the turnover of SMES in Anambra State. Research questions and hypotheses were set in line with the objectives of the study. The study adopted a survey research design and a sample size of 196 respondents were drawn from a total population of 386 SMEs of the two selected cities in Anambra State. Although 180 copies of the questionnaire were correctly filled, returned and used for the analysis. Descriptive statistics was used for the analysis. Findings showed that there is a significant positive relationship between performance of SMES and entrepreneurship education as indicated by r-value of  $r = 0.79$  at 0.05 level of significance. Also, acquired technical know-how has improved traders' business turnover showing a value of  $r = 0.75$  at 0.05 level of significance. The study concluded that entrepreneurship education is the major ingredient that traders in Anambra State need in order to improve their business, technical know-how, mindset, turnover and other aspects of their businesses to achieve maximum profit. The study recommended that government of Anambra State need to create a conducive entrepreneurship centers within the business eco-systems to enable SMEs operators attend workshops when slated. Government agencies in charge of Trade and Commerce in Anambra State need to guide and assist traders by offering them financial aid, infrastructure as required and less taxation.*



### 1.1 BACKGROUND OF THE STUDY

Anambra State remains the only State with high population density of mainly businessmen and women (Onwuejeogwu 2008). Business activities in the State before the early 90s made the State a popular one in West African Markets. Today's business activity among traders in Anambra State seems to be changing from what it was formerly known for (especially the Small Scale businesses). This is basically because of globalization, inadequate financial resources, poor business connections, lack of adequate experience, inability to cope with competition, poor sales and high stock of inventory, high operating costs as a result of poor infrastructure, inefficient management, poor business education (Afam 1999). Educational background and other demographic characteristics make some investors feel more competent than others in understanding the area of financial information and opportunities available to them. This of course makes the medium/large scale investors more opportune than Small Scale Business Investors due to their educational background. This according to Afam (1999) means that the level of education of traders are poor. In essence, these group of traders need to be enlightened in order to make them competent in contemporary business environment, equip them with necessary skills to cope with economic challenges in today's business world.

A trader has been described as a person whose job is to buy and sell things. Also, a trader is an individual who engages in the buying and selling of financial assets in any financial market, either for him or on behalf of another person/institution. Despite the issue of economic challenges facing today's business world of which Anambra State is not an exception, traders need managerial competence in business in order to progress. These businessmen are mostly those medium/large scale investors that have expanded their business knowledge or mindset. They have employees including apprentices and customers. They remain confident and can withstand any business challenges since they have the necessary skills, abilities, knowledge and other competencies which underlie effective performance. However, medium/large scale investors as mentioned above are much more equipped with managerial skills and technical know-how required in business environment for the actualization of their goal(s). Aderemi (2007) states that those owner-managers of small businesses who had undergone training in entrepreneurship programs have exhibited superior managerial practice and venture growth when compared to owner-managers who had not undergone such training programmes. These

groups of traders/investors (those who had undergone entrepreneurship training) are more connected, have significantly large sales and value added than less connected traders.

The issue remains how these skills can be inculcated into traders – small scale business investors in Anambra State to improve their performances, and increase the revenue generation in the State. This calls for initiative to use the power of education to enhance the individual traders' mindset, and raise awareness of entrepreneurship as a viable alternative for traders. Upon this background it becomes crucial to research on 'entrepreneurship education and managerial competence among traders in Anambra State'.

### 1.2 STATEMENT OF THE PROBLEM

Nigeria's recent economic recession brought about deep challenges on many fronts, particularly in the already fragile entrepreneurial front and the much sought-after private sector. Anambra traders (entrepreneurs) seem to be generally products of home-grown apprenticeship schemes. They depend largely on traditional, in-house methods and practices. This accounts for the severe effects on their businesses when disaster calls or when business trend is disrupted. It also accounts for the difficulty they exhibit in charting new courses. This difficulty became glaringly evident with market fire disasters and occasional government crackdowns (for example, the Niger Bridge Head Drug Market crackdown during the fake drug syndrome), which drove many businesses to fold up and their proprietors into abject poverty. In a similar way, the negative effect of recession on small and medium scale businesses, the bastion of private sector entrepreneurship, and the bulwark of Anambra State's business activities, have persisted and have even increased, notwithstanding efforts by all and sundry to address the established determinants of entrepreneurial success. These determinants include funding, incentive schemes and private property rights.

One area yet to be explored by many researchers and which requires urgent investigative attention, with a view to policy action that may lead to the goal, is entrepreneurship education. Entrepreneurship Education is critical to successful enterprise setting due primarily to the fact that enterprise setting devoid of entrepreneurship education has greater chances of failure due to poor preparation for the challenges linked with business Start-ups, Ndubuisi-Okolo, Anigbogu and Onwuzuligbo (2014). It can be argued that with adequate entrepreneurship education, traders can respond to economic challenges and globalization trends in a manner that assures business survival,



growth and competence. They can in fact change course when fortune crash or prospects dim, and as such can grow their businesses and prosper, irrespective of challenges emanating from within or without polity. How has it been with traders in Anambra State, a leading entrepreneurship State in Nigeria? This is what this study intends to establish.

### 1.3 OBJECTIVES OF THE STUDY

The general objective of the study is to ascertain the extent to which entrepreneurship education affects managerial competence among traders in Anambra State. Specifically, the study sets to achieve the following objectives:

1. To ascertain the effect of participating in business workshop on performance of small and medium scale enterprises in Anambra State.
2. To evaluate the effect of acquired technical know-how on turnover of Small Scale enterprises in Anambra State.

### 1.4 RESEARCH QUESTIONS

1. What is the relationship between performance of small and medium scale enterprises and entrepreneurship education?
2. To what extent has traders' business turnover improved through acquired technical know-how?

### 1.5 RESEARCH HYPOTHESES

H<sub>01</sub> There is no significant relationship between performance of small and medium scale enterprises and entrepreneurship education.

H<sub>02</sub> Acquired technical know-how has not improved traders' business turnover.

### 1.6 SIGNIFICANCE OF THE STUDY

This study will provide traders especially Small Scale Investors in Anambra State with knowledge on the effect of entrepreneurship education on their entrepreneurial and managerial competence. This will enable them to identify the challenges and prevailing factors militating against their success, and equip them with the necessary skills to proceed to take appropriate actions towards alleviating or solving them.

It will be of great benefit to unemployed graduates intending to engage in business ventures. It will unveil business secrets to them that will move them from job seekers to job providers.

This study will also be an eye-opener to the government of Anambra State to the areas in which they can assist the traders to improve their businesses

thereby increasing their profit as well as the internal revenue generated in the State.

Finally, it will be significant to future researchers and academic institutions as it will serve as a reference material.

### 1.7 SCOPE OF THE STUDY

To achieve a useful and research-oriented study, the research was delimited to major business cities (Roads) in Anambra State: Awka and Onitsha.

### 1.8 LIMITATIONS OF THE STUDY

The researcher encountered setbacks due to fear and unfriendly attitude of the respondents. Some of the respondents refused to open-up and rejected the questionnaire due to ignorance. But the problem was mitigated by counseling and convincing them of the benefit they will derive from the study and assuring them that it is not meant for increment in their tax rate. This prompted their assistance in completing the questionnaire and opening up to the researcher.

## REVIEW OF RELATED LITERATURE

### 2.1 Conceptual Review

#### 2.1.1 Concept of Entrepreneurship Education

An Entrepreneur is a person who makes money by starting or running business especially when this involves making financial risks (Advanced Learners Dictionary 8<sup>th</sup> Ed.). This word 'entrepreneur' comes from the Latin word "*entreprendre*" meaning to do something. It was originally used in the middle ages in the sense of a "person" who is active, who gets things done (Hoselitz 1951). Sehgal (2011) refers to an entrepreneur as one who creates his own business that is, a person who organizes, operates and assumes the risk of a business venture. He added that an entrepreneur is one who perceives a need and then brings together manpower, material and capital required to meet the need. He can be a trader, enterpriser, speculator or tycoon. An entrepreneur is also "one who can transform raw materials into goods and services, who can effectively utilize physical and financial resources for creating wealth, income and employment, who can innovate new products standard or upgrade existing product(s) for creating new markets and new customers. An entrepreneur can also be viewed as a change agent, an innovator who is also a risk taker, who exploits business opportunities in his environment and utilizes resources effectively to develop new technologies, produces new products and services to maximize his profits while contributing significantly to society's development. Ayatse (2013) added that the entrepreneur is one who is imbued with



the ability, skill, competence and knowledge to organize a business venture with the desire to achieve valued goals or results”.

Entrepreneurship is “the act of starting a company, arranging business deals and taking risks in order to make profit through the education skills acquired. It is a process of starting a business within or outside one’s environment.

### Entrepreneurship Education

Education is generally acknowledged as the panacea for socio-economic development in any country. Its importance in development activities of any nation cannot be over-emphasized. Adam (2017) stressed that “education is a sure pathway to liberation of the mind and the importance of socio-economic development in any nation. That is why many governments and international agencies are constantly making serious efforts both in developed and developing countries to develop the educational sector. Although a number of achievements have been made in this regard in Nigeria, a lot still need to be done to meet the ever increasing demands and challenges posed by rising business failure in today’s business ecosystem. Thus, Obandan (2013) opined that under the present circumstances the need for education as a driver of development has become self-evident and inescapable. When people are poorly trained or are without skills, then education has failed to serve effectively as a growth driver. This means that major aim of education is to ensure that learning needs of both old and young people are met through equitable access to appropriate learning and life skills. In line with this Ayatse (2013) added that “education should be designed with a view to create and enhance the supply of entrepreneurial initiative and activities. That is to inculcate the spirit of entrepreneurship in the people via education”. Indeed, to achieve it there must be serious adjustment of policies in line with demand of the present time.

Entrepreneurship Education is an educational programme that provides the students with knowledge, skills and motivation needed to start small and medium scale businesses. In other words, it promotes innovation, introduces new products or services and makes strategies which help the student to become outstanding entrepreneurs (Adam, 2013). Adam added that it is an educational discipline that prepares people especially youths to be responsible, enterprising, innovative and creative personalities who become entrepreneurs or entrepreneurial thinkers that contribute to economic development and sustainable communities. It is a programme designed to provide discipline to an individual to assume the responsibility and the risk for a business operation with the expectation of making a profit. If this succeeds the entrepreneur reaps profits and if it fails, he/she bears the loss. Thus,

Entrepreneurship education provides creative, innovative skills and knowledge needed to start and grow a business enterprise. It prepares individuals to create and successfully operate a business enterprise. Entrepreneurship education contributes in many ways towards creating new jobs, wealth, and income generation for both government and individuals.

### Managerial Competence

Competency has a number of definitions which depend on the specific task to be performed by individuals under different conditions. It was popularized first by Boyatzis (1982) as a capacity that exists in a person that leads to behavior that meets the job demands within the parameters of organizational environment, and that, in turn brings about desired results”. It is composed of knowledge, skills, abilities and other characteristics which underlie effective or successful job performance. Managerial Competencies are the skills, motives and attitudes necessary to a job, and include such characteristics as communication skills, problem solving, customer focus and the ability to work within a team ([www.ehow.com](http://www.ehow.com)) Konigova (2012) supports this by defining managerial competency as activities, knowledge, skills or attitudes and perhaps personal characteristics necessary to improve management performance.

### 2.2 Theoretical Framework

This research study is anchored on the following theories: McClland theory of Needs in which he stated that the n’ach people desire success and are afraid of failure. They desire challenging but achievable goals (Ezimme 2009). Kwabena (2014) added that achievement theory explained that human beings have a need to succeed, accomplish, excel or achieve; Alderfer’s ERG theory which suggested that people can have the drive to fulfill three needs (need for Existence, Relatedness and growth) at a time and pursue them simultaneously; Personality traits theory which indicates stable qualities that a person shows in most situations. It gives a clue of the inborn or trait potentials – such as entrepreneurs tend to be more opportunity driven, hardworking, optimistic, they show intense commitment and perseverance, they rely on competitive desire to excel and win, they tend to be dissatisfied with the status quo and desire improvement, they are transformational in nature, they are lifelong learners and use failure as a tool and springboard, they believe that they can personally make a difference, they are individuals of integrity and above all visionary. Personality Traits theory looks at individual characteristics or behaviours and concludes that he/she has the inborn quality to become an entrepreneur (Kwabena 2014).

Furthermore, the study is anchored on Sociological entrepreneurship theory which focuses on





the social context that is on building social relationships and bonds that promote trust and not opportunism. This theory states that entrepreneur should not take undue advantage of people to be successful rather success comes as a result of keeping faith with the people (Kwabena 2014).

The relevance of these theories to the study is that traders' attitude to business performance depends on the entrepreneurship training/education and skills they have acquired which positively change their mindset for maximum achievement/profitability.

McClelland theory suit this study in the sense that through the desire for success traders tends to seek for enlightenment on how to plan, execute their business, they try to dig out the secret of business success through education/training in order to maximize their profit level. With the knowledge they acquire, fear of failure disappears and the zeal for success increases in them. On the other hand, Alderfer's ERG theory assists traders (SMES) in socialization. Having good business relationship with others, that is, knowing the need for more business connections and not sticking to one business (which may not be booming), thereby achieving business growth through its positive business performance.

### 2.3 Empirical Review/ studies

Angga et al (2017) did a study on the effect of entrepreneurship education on entrepreneurial intention mediated by motivation and attitude among management students. The aim of the study was to investigate the effect of entrepreneurship education on entrepreneurial intention among students. The research employed descriptive correlation design and a population of 230 students were taken randomly as sample from 540 students enrolled in three study programs. Path analysis utilizing LISREL 8.50 for windows is used to examine relationship among variables. Research findings revealed that entrepreneurial intention is indirectly affected by entrepreneurship education, meaning that students' entrepreneurial motivation and attitude are two important mediating variables.

Ezeanokwasa (2014) conducted a study on Human resource development and organizational performance. The objective of the study was to evaluate the effect of human resource development on organization performance in Anambra State. A total of 100 participants responded to the questionnaire that measures human resource development and organizational performance. Chi-square statistical method was used to analyze the data collected which compares respondents, actual responses/observation with expected answers. Results indicated that there is a relationship between Human Development and Organizational performance. It provides an insight for the management to use this development as a tool for organizational effectiveness and profitability.

### Gap in Knowledge

Researchers discovered paucity of empirical literature on entrepreneurship education and managerial competency among SMEs in Anambra State. This discovery precipitated the innate desire to delve into the topic in order to establish the relations between some decomposed variables of entrepreneurship education and managerial competency. This becomes the lacuna this study intends to fill.

## METHODOLOGY

### 3.1 Research Design

The study employed descriptive survey research design which aimed at collecting detailed and factual information that described the phenomenon associated with the subject matter. This survey design became appropriate for this study because data is gathered directly from the respondents using structured questionnaire, interview and observation (Onyeizugbe, 2013).

### 3.2 Population of the Study

The total population of the study is 386 comprising traders (owners of the business), apprentices and managers of the two selected cities.


**Table 1: Population of traders in the selected Cities**

S/N	CATEGORY	ONITSHA	AWKA	TOTAL
1	Owners	161	153	314
2	Apprentice	24	20	44
3	Managers	16	12	28
	TOTAL	201	185	386

### 3.3 Sample Size and Sample Technique

In order to ensure fairness in the sampling of data required for investigation, the study randomized the entire population of 386. This is to enable sample score in the population of interest the chances of being included in the sample selection. To determine the sample size (n) from the population of the study, Taro Yamane's (1964) formula was utilized thus:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{386}{1 + 386(0.0025)}$$

$$n = \frac{386}{1 + 0.965}$$

$$n = \frac{386}{1.965}$$

$$n = 196.4 = 196 \text{ respondents}$$

Therefore, 196 were selected from the two selected cities as research respondents for the study. In order to determine the sample of each category of traders from each city Bowley's Proportionate Sample Allocation Techniques was employed. The formula is given below as:

$$n^i = \frac{n^x \times k}{n}$$

Where  $n^i$  = Proportionate sample size for the  $i$ th ( $i = 1, 2$ ) cities

$n^x$  = Sample size derived using equation (1)

$k$  = Proportion population for the  $i$ th of the cities ( $i = 1, 2$ )

$N$  = Aggregate population of traders of selected cities

Onitsha managers

$$no_1 = \frac{196 \times 16}{386} = \frac{3136}{386} = 8.12 \approx 8 \text{ respondents}$$

Therefore, 8 managers were selected from Onitsha as research respondents.

Apprentices

$$no_2 = \frac{196 \times 24}{386} = \frac{4704}{386} = 12.1 \approx 12 \text{ respondents}$$

Therefore, 12 apprentices were selected from Onitsha as research respondents.

Owners

$$no_3 = \frac{196 \times 161}{386} = \frac{31,556}{386} = 81.75 \approx 82 \text{ respondents}$$

Therefore, 82 owners were selected from Onitsha as research respondents.



Awka city Managers

$$no_1 = \frac{196 \times 12}{386} = \frac{2352}{386} = 6.0 \approx 6 \text{ respondents}$$

Therefore, 6 managers were selected from Awka city as research respondents.

Apprentices

$$no_2 = \frac{196 \times 20}{386} = \frac{3920}{386} = 10.1 \approx 10 \text{ respondents}$$

Therefore, 10 apprentices were selected from Awka city as research respondents.

Owners

$$no_3 = \frac{196 \times 153}{386} = \frac{29988}{386} = 77.6 \approx 78 \text{ respondents}$$

Therefore, 78 owners were selected from Awka as research respondents.

**Table 2: Sample of Respondents from the selected Cities**

Traders category	Onitsha	Awka	Total Sample
Owners	82	78	160
Apprentices	12	10	22
Managers	8	6	14
<b>TOTAL</b>	<b>102</b>	<b>94</b>	<b>196</b>

### 3.4 Sources of Data

In carrying out this research study the data were collected from both Primary and Secondary sources. The primary data was generated through the use of structured questionnaire to elicit required information. Copies of which were administered and the participants were placed on objective response for each statement on a Five Point Likert Scale ranging from Strongly Agree = 5, Agree = 4, Disagree = 3, Strongly Disagree = 2 to Undecided = 1.

### 3.5 Validity of the Instrument

To test the validity of the instrument (questionnaire), content validity test was done. Content validity was established by asking recognized experts in the field to review the survey instrument for clarity, comprehension, and consistency of question format. The research instrument was adjusted according to the suggestions and recommendations from the experts.

### 3.6 Reliability of the Instrument

The instrument was subjected to test-retest method and was also confirmed using Cronbach Coefficient Alpha to adjudge its good fit for the study. The result was 0.709 as shown below:

Reliability Analysis: The reliability of the research instrument was ascertained using Cronbach Alpha Coefficient and factor analysis.

**Table 3 Reliability Statistics**

Cronbach Alpha	No of items
.709	16

A cronbach # alpha coefficient was obtained which showed that instrument is reliable.

Table 4 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.720
Bartlett's Test of Sphericity Approx. Chi-Square	1.503E3
Df	150
Sig.	.000

The p-value of 0.000 from the KMO and Bartlett's Test also showed that the individual variables in the research instrument are sufficiently correlated.

### 3.7 Method of Data Analysis

The data gathered from the structured questionnaire were presented using descriptive statistics in graphs, charts and figures. A test of significance was conducted to determine the acceptance or rejection of the stated hypotheses first using the Pearson Product Moment Correlation Coefficient ® to determine the strength of relationship between the dependent variable X (entrepreneurship education) and independent variable Y (managerial competence).

It value is between  $-1 < r > +1$ .

$$r = \frac{n \sum xy - (\sum x)(\sum y)}{\sqrt{n(\sum x^2) - (\sum x)^2} \sqrt{n(\sum y^2) - (\sum y)^2}}$$

Where,

r = Correlation Coefficient

x = Dependent Variables

y = Independent variables

n = Number of Scores

To establish the significance of the result of the correlation analysis, the t – statistics was used and is expressed thus:

$$T = \frac{N/I}{\sqrt{1-r}}$$

Decision Rule

Reject  $H_0$  if the computed value of Z is greater than the critical value of Z ( $Z_c > Z_t$ ). Do not reject  $H_0$  if otherwise.;



## ANALYSIS

The analyses of the data collected in the study are presented as follows:

**Table 1 Questionnaire Response Rate**

Questionnaire	Number	Percentage %
Questionnaire Administered	196	100
Questionnaire not returned	16	8.16
Questionnaire returned	180	91.84

Source: field Survey, 2018

Table 1 above indicates that one hundred and ninety six (196) copies questionnaire was distributed to the respondents out of which one hundred and eighty (180) were completely filled and returned. This shows that the response rate for the survey is 91.84% hence 190 copies (91.84%) of the questionnaire were used for the analysis.

### Hypothesis Testing

Data gathered for the two hypotheses are as follows:

Generation of Data for the first hypothesis

$H_{01}$ : There is no significant relationship between performance of Small/Medium Scale enterprises and entrepreneurship education.

$H_{a1}$ : There is significant relationship between performance of Small/Medium Scale enterprises and entrepreneurship education.

**Table 2**

**Summary of response to Questionnaire items relating to Hypothesis one:**

Questionnaire Items	No. of Respondents	Sum of Response for (x)	Number of Response for (y)
1-4 (PSMSE)	180	1914	
1-4 (EEDU)	180		2603

Table 2 shows that the summary of responses to questionnaire items to hypothesis one, which will be used to test hypothesis one. Details of the responses to these questionnaire items are presented in appendix 1. Table 2 shows that the sum of the responses to PSMSE (X) is  $\Sigma x = 1914$  while the sum of responses for EEDU (y) is  $\Sigma y = 2603$  for the 180 respondents.

### Generation of Data for Test of Hypotheses 2

$H_{02}$ : Acquired technical know-how has not improved traders' business turnover.

$H_{a2}$ : Acquired technical know-how has improved traders' business turnover.

**Table 3:**

**Summary of Response to Questionnaire items relating to Hypothesis two**

Questionnaire items	No. of Respondents	Sum of Response for (x)	No. of Response for (y)
1-4 (ATK)	180	1945	
1-4 (TBS)	180		2509

### Test for Hypothesis One

Step 1 Research Question

To what extent has performance of Small/Medium Scale enterprises (PSMSE) relates to entrepreneurship education (EEDU)?

Step 2 Assumption.

The test of this hypothesis is based on the assumption that :

- a. The sampling distribution of the scores of the respondents is normal.
- ii. Sampling distribution of the sum of the scores are independent.

Step 3





$H_{01}$  There is no significant relationship between performance of Small/Medium Scale enterprises and entrepreneurship education.

$H_{a1}$  There is significant relationship between performance of Small/Medium Scale enterprises and entrepreneurship education.

Computation of  $r$ ,  $r^2$  and  $t_c$

**Table 4**  
**Test of hypothesis 1: summary of data derived from Appendix 1**

Sample size	$\sum x$	$\sum y$	$\sum xy$	$\sum x^2$	$\sum y^2$
180	1914	2603	28144	20820	38389

Table 3 shows the summary of independent variable (x) and the dependent variable (y). Computations needed to test hypothesis 1. Details of the data used in this computation are shown in appendix 4. Number of respondents = 180,  $\sum x = 1914$ ,  $\sum y = 2603$ ,  $\sum x^2 = 20820$ ,  $\sum xy = 28144$  and  $\sum y^2 = 38389$

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{(n(\sum x^2) - (\sum x)^2)(n\sum y^2 - (\sum y)^2)}}$$

$$r = \frac{196(28144) - (1914)(2603)}{\sqrt{[180(20820) - (1914)^2][180(38389) - (2603)^2]}}$$

$$r = 0.7874 = 0.79$$

Coefficient of Determination

$$r^2 = 0.6241 = 0.62$$

$$t_c = r \sqrt{\frac{n-2}{1-r^2}}$$

$$= 0.79 \sqrt{\frac{180-2}{1-0.62}}$$

$$= 10.88$$

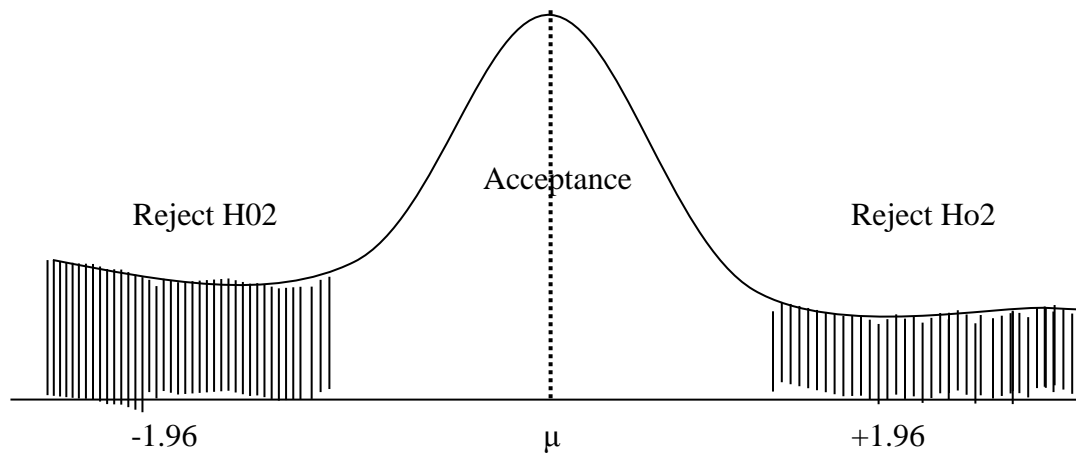
For hypothesis 1:  $r = 0.79$ ,  $r^2 = 0.62$  and  $t_c = 10.88$

Step 5: Decision Rule

At 0.05 level of significance reject  $H_0$  if the computed t-value exceeds the critical t-value or is less than the negative critical t-value.



Figure 1



**Figure 1: Student Distribution Curve showing Rejection and Acceptance Decision Regions for Hypothesis 1.**

Step 6: Decision:

At 0.05 level of significance, the calculated t-value of 10.88 is greater than the critical t-value of 1.96, so the study rejects the null hypothesis (there is no significant relationship between performance of small and medium scale enterprises and entrepreneurship education) and accept the alternate hypothesis (there is significant relationship between performance of small and medium scale enterprises and entrepreneurship education).

Step 7: Interpretation:

There is significant relationship between performance of small and medium scale enterprises and entrepreneurship education.

## Test of Hypothesis Two

Step 1

Research question

To what extent has traders' business turnover improved through acquired technical know-how?

Step 2

Assumption

The test of this hypothesis is based on the assumption that

- The sampling distribution of the scores of the respondents is normal
- Sampling distribution of the sum of the scores and independent

Step 3: Statement of the Hypothesis

$H_{02}$  Acquired technical know-how has not improved traders' business turnover

$H_{a2}$  Acquired technical know-how has improved traders' business turnover.

Step 4

Test of Hypothesis 2: Summary of data derived from Appendix 2.

Table 5

Sample size (x)	$\sum x$	$\sum y$	$\sum xy$	$\sum x^2$	$\sum y^2$
180	1945	2599	28305	21365	37867

Source: Field survey 2018



Table 5 shows that summary of independent variable (x) and dependent variable (y) computation needed to test hypothesis two. Details of the data used in this computation are presented in appendix 2.

$$r = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{(n\sum x^2 - (\sum x)^2)(n\sum y^2 - (\sum y)^2)}}$$

$$r = \frac{180(28305) - (1945)(2597)}{\sqrt{(180(21365) - (1945)^2)(180(37867) - (2597)^2)}}$$

$$r = 0.75091$$

Coefficient of Determination

$$r = 0.75, r^2 = 0.58$$

$$t_c = r \sqrt{\frac{n-2}{1-r^2}}$$

$$= 0.75 \sqrt{\frac{180-2}{1-0.56}}$$

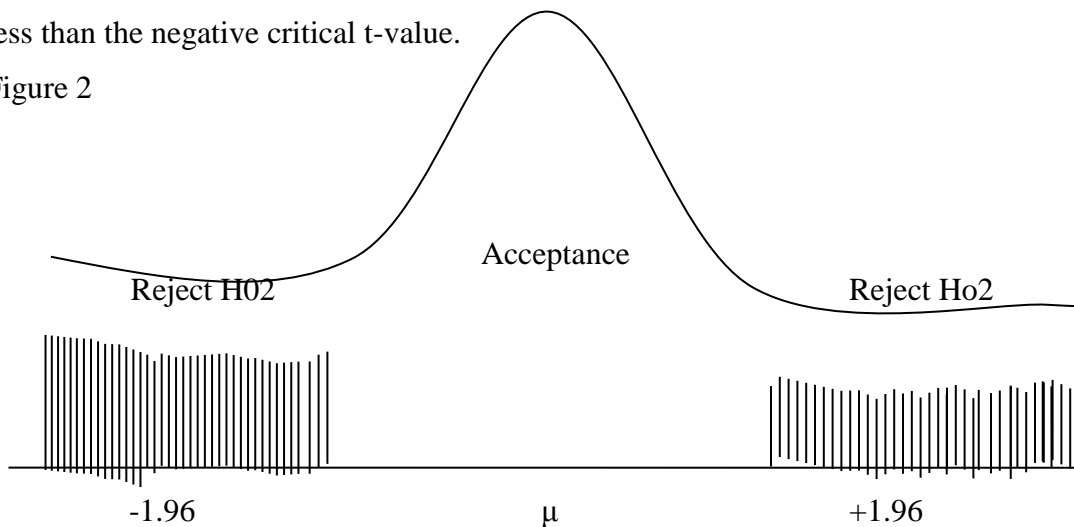
$$= 15.08$$

For hypothesis two we have  $r = 0.75, r^2 = 0.56, t_c = 15.06$

#### Step 5 Decision rule:

At 0.05 level of significance, reject  $H_0$  if the computed t-value exceeds the critical t-value or is less than the negative critical t-value.

Figure 2



**Figure 2: Student Distribution Curve showing Rejection and Acceptance Decision Regions for Hypothesis 2.**



### Step 6: Decision

At 0.05 level of significance, the calculated t-value of 15.05 is greater than the critical t-value of 1.96, so the study rejects the null hypothesis (Acquired technical know-how has not improved traders' business turnover) and accepted the alternate hypothesis (Acquired technical know-how has improved traders' turnover).

Step 7: **Interpretation:** Acquired technical know-how has improved traders' business turnover.

## SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

### 5.1 Summary of Findings

The results showed that there is a significant relationship between

1. Performance of small and medium scale enterprises and entrepreneurship education  $r = 0.79$  at 0.05 level of significance.
2. Also, acquired technical know-how has improved traders' business turnover indicating  $r = 0.75$  at 0.05 level of significance.

### 5.2 Conclusion

The study confirms that entrepreneurship education is a very great tool in every business firm (SMES) that wants to survive in Anambra State. Findings showed that entrepreneurship education is the major ingredient that traders in Anambra State need in order to improve their business, technical know-how, mindset, turnover and other aspects of business in general in order to achieve maximum profit.

### 5.3 Recommendations

Based on the findings of the study, the following recommendations are considered suitable:

1. To actualize the major aim of this work, the small scale investors (traders) need to be enlightened more on both entrepreneurship – making them to be more versatile in business in order to be able to effect changes when need be; and equip them with the necessary managerial competence/skills for managing the day-to-day affairs of their businesses in the face of incessant economic challenges in today's businesses.
2. Government of Anambra State need to create a conducive entrepreneurship centre within the business ecosystem to enable traders attend free workshops when scheduled. Traders can be informed about benefits of participating/attending business workshops through social media before slating any.
3. The workshops should be very close to the targeted markets. Government agencies in

charge of trade and commerce in Anambra State should guide and assist traders by offering them financial aid, infrastructure as required and less taxation.

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## USAGE OF INTERNET FOR HEALTH INFORMATION SEEKING AMONG ELDERLY IN MALAYSIA

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### ABSTRACT

*Introduction: The Internet is rapidly growing and becoming an easier to access to technology. It functions as important part of almost everyone's daily life including elderly. Objective: The study was aimed to investigate the patterns of internet usage among elderly. Methods: A cross-sectional study was conducted in 23 Elderly Activity Centre throughout Malaysia from August 2017 to October 2017. This centre is a place for senior citizens to conduct routinely/daily activities in the community. It is an oriented service especially for senior citizens. Results: A total of 1400 individuals were sampled in this study, unfortunately the elderly turned up only 799 (57.1%) which aged 60 and above. A self-administered with minimal guidance and face to face interview by trained research assistants were used in this study. The study showed of the total 799 respondents, only 258 (33.0%) who use the internet. Those using the Internet are 89 (30.2%) male and 169 (69.8%) female, respectively. Most of them are government retirees (47.7%). The study found that the reasons of the elderly seeking health information through the internet because it was free (66.3%) as well as easy and fast (56.2%). The study also found that the type of health information sought is information on certain diseases such as cancer, diabetes, hypertension and others (20.9%). With regards to the places of internet access, about 86.8% of the respondents having the internet access at home, followed by internet service provider 42.6% and by Elderly Activity Centre, itself 14.7%. Only 3.5% and 5.8% of respondents access internet at Cyber Cafe and friend's house respectively. The highest showed that respondents access internet several times in a month 25.5% followed by everyday 22.5% and twice or thrice in a week 17.4%. Overall, 53.5% of elderly claimed internet can be a very helpful resource for finding health information. Discussion: Elderly in Malaysia are becoming more tech-savvy. This change is advantage as it can be used to address and manage health issues and geriatrics care for elderly through strategic dissemination of health information as well as to motivate positive health behaviour through use of technology.*

**KEYWORDS:** *Elderly, Internet Use, Health Information Seeking.*



## INTRODUCTION

Elderly would be considered as a majority population of many countries. The growth of numbers of elderly is swiftly going higher than the whole number of the world population in every region around the world. The lowered of birth rate, the improvement of health care, better living condition also help lengthen people lives and simultaneously increasing numbers of Elderly (Loipha 2014). In Malaysia, numbers of elderly and the ratio have been increasing continuously. In 2017, 6.2% of Malaysians representing the elderly (> 65 years) from current population of 32.3 million and expected to hit 13.6% by 2030 (MHAS 2018).

Nowadays, the Internet is rapidly growing and becoming an easier to access to technology. It functions as important part of almost everyone's daily life including elderly. The Internet is used as an effective communication and it assists the boost of social collaborations, provides more channels of learning and interacting among people in the field of education, business and make things more possible to create new forms of activities (Hasim & Salman 2010).

According to 2018 statistic, the usage of the Internet is constantly increasing 55.1% of the world population (Internet World Stats 2018), for Malaysia itself, there are now 32.3 million people or 78.3% of its population using the internet (Internet World Stats 2018). It is believed that there are many benefits of surfing the Internet; to fulfil elderly lives, to strengthened a better relationship among family's members and to narrow down the age gap relationship (Omsaung 2000). In addition, the Internet shows the changes of their world societies, energizes people and makes them feel younger and be trendier, and it adds more new friends into our daily life circles (Boonoon n.d).

Although the internet is believed to create better living conditions and is necessary of life-long learning tool that able to upgrade the elderly quality of lives in today's modern world, but in actual studies have shown looking for health information has been one of the most popular online activities among adults, and even among adolescents. But the online health information seeking behaviour of elderly has not been studied as closely as that of other age groups. In Malaysia, there are limited studies on Internet use among elderly. In accordance to a survey conducted by Malaysian Communications and Multimedia Commission (MCMC 2016) revealed that the groups of pre-teen and teens (up to 19 years old) and adults (20-49 years old) gained the highest portion of Internet use (81.5%) as compared to those who were 50 years old or above with only 18.5% based on population. This huge gap between both generations is considered as "a digital divided problem"; therefore, to assist the elderly to be able to

use the Internet as a part of their lives is becoming essential.

A study by the National Population and Family Development (2014) found that 10.4% of 4,059 senior citizens who participated in this study used Internet services with an average of two hours a day. Facilities of Internet service include social networks such as Facebook, WhatsApp, Twitter, and Instagram (68.2%), e-mail (52.2%), blogs and websites (45.6%), and online banking (15.4%).

A collaborative study between MCMC and Institute for Health Behavioural Research (IHBR), Ministry of Health Malaysia was conducted in 2017, regarding a study on seeking health information among Malaysians. The findings showed that 77.2% respondents searched for health information online. The most common health-related information that users were seeking were on 'symptoms and diseases' (91.4%), followed by 'healthcare tips' (89.8%), and 'treatment method' (83.5%). Over half of them were looking for 'medications/drugs information' (73.3%), as well as 'place to get treatment'. Furthermore, it was found that 82.7% trusted the health-related information found online regardless of the source. Only 5.7% felt otherwise, while the remaining 11.7% were neutral.

The internet is an important resource for health information (Dumitru et al. 2007). However, this does not tell us whether the Internet is used frequently or infrequently, why and how the Internet was used for gathering health information. It also does not address how the use of the Internet is compared to other sources of health information and whether the elderly would prefer to obtain health information from some other sources. This study was to identify health information seeking behaviour through Internet use among elderly. If we know about why and how elderly seek health information, we can more efficiently and effectively empower elderly by using the right information resource at the right time.

## METHODS

A cross-sectional study was conducted in 23 Elderly Activity Centre throughout Malaysia from August 2017 to October 2017. Elderly activity centre is a place for seniors to conduct routinely/daily activities in the community. It is an oriented service especially for senior citizens. The development of the service involved collaboration between the Department of the Ministry of Women, Family and Community Development and other government agency and non-governmental organizations (NGOs).

Two-stage cluster sampling was used for this study. A total of 1400 individuals were sampled in this study; aged 60 years and above. Data were gathered using self-administered questionnaires as well as face to face interview. The questionnaires



were adapted from previous studies (Maab 2011; Allen 2013; Loipha 2014). These questionnaires have been translated, pre-tested and validated accordingly to suit into the local settings and a pilot study has been embarked prior to the actual study. The questionnaire consists of two part, namely socio-demographics and questions to measure the use of internet in seeking health information among the elderly. The software program Statistical Package for the Social Sciences (SPSS) version 21.0 was used to perform statistical analysis. A descriptive analysis was used to illustrate the participation among elderly who use the internet.

## RESULTS

### 1. Demographic Characteristics of Respondents

Table 1 presents the demographic data gathered from respondents. A total of 799

respondents from 23 PAWE localities were involved in this study with 69.8% females and 30.2% male. Majority of the respondents were Malays 45.0% and followed by Chinese 31.4%. According to age groups, 36.5% were aged 60-64 years old while 31.2% were aged 65-69 years old. Furthermore, 46.0% have secondary education and 34.3% of them have primary education. In term of monthly income, 37.9% of the respondents had income less than RM1000. When viewed by occupational status, about 47.7% were retirees and 46.8% were unemployed. In term of marital status, most of the respondents were married (64.7%) followed by divorced/widow/widower (29.0%) and 5.6% were never married. A total of 65.3% of the 792 respondents reported that within the previous six months, their health has been good while another 34.7% felt that their health has been moderate.

**Table 1 Demographic of respondents (N=799)**

Characteristics		Frequency, n (%)
<b>Age groups (in years)</b>	60-64	292(36.5)
	65-69	249(31.2)
	70-74	134(16.8)
	75-79	81(10.1)
	80-84	33(4.1)
	85-89	2(0.3)
<b>Gender</b>	Male	241(30.2)
	Female	558(69.8)
<b>Ethnicity</b>	Malay	360(45.0)
	Chinese	251(31.4)
	Indian	32(4.0)
	Bumiputra Sabah	52(6.5)
	Bumiputra Sarawak	102(20.3)
	Others	3(0.4)
<b>Educational level</b>	No formal education	87(10.9)
	Primary education	274(34.3)
	Secondary education	367(46.0)
	Tertiary education	69(8.6)
<b>Monthly Income</b>	No income	258(32.3)
	Less than RM1000	303(37.9)
	RM1001-RM3000	185(23.1)
	RM3001-RM5000	34(4.3)
	RM5001 and above	8(1.0)
<b>Occupational Status</b>	Unemployed	374(46.8)
	Retired	381(47.7)
	Employed	33(4.1)
<b>Marital Status</b>	Never married	45(5.6)
	Married	517(64.7)



	Divorcee/Widow/Widower	231(29.0)
<b>Health Status (n=792)</b>		
	Good	517(65.3)
	Moderate	275(34.7)
	Poor	0

## 2. The Elderly Internet Usage behaviour

As shown in Table 2, out of 799 respondents, only 258 (32.3%) reported that they had used the internet. In relation to internet usage, it was found that most of the respondents have been using the Internet for more than 3 years (67.1%), 18.6% have 1-3 years of experience and 10.6% have used it less than a year. Respondents were also asked tools for

surfing, 86.4% indicated that they used smartphone to surf the internet.

Internet access was broadly defined to include use at home, elderly activity centre, workplace or any other location. Most elderly had accessed the internet (86.8%) at their home. The frequency of the internet using time period: Most elderly access internet several times in a month (25.5%), followed by everyday (22.5%) and 2-3 times in a week (17.4%).

**Table 2 The Elderly Usage Behaviour (n=258)**

<b>The Elderly Usage Behaviour</b>	<b>Frequency, n (%)</b>
<b>Internet Usage</b>	
Yes	258(32.3)
No	541(67.7)
<b>Duration of Internet Usage</b>	
Less than a year	27(10.6)
1 - 3 years	48(18.6)
More than 3 years	173(67.1)
<b>Tools for surfing</b>	
Smartphone	223(86.4)
Tablet	31(12.0)
Computer Laptop	83(32.2)
Computer Desktop	61(23.6)
Others	1(0.39)
<b>Internet Access</b>	
Home	224(86.8)
Elderly Activity Centre	38(14.7)
Restaurant/Food court	31(12.0)
Cyber Cafe	9(3.5)
Internet Service Provider	110(42.6)
Workplace	14(5.4)
Friends' House	15(5.8)
Other	14(5.4)
<b>Frequency of Internet Usage</b>	
Everyday	58 (22.5)
2-3 times a week	45(17.4)
Once a week	31(12.0)
Once a month	28(10.9)
Several times in a month	66 (25.5)



### 3. Experiences of using the Internet as a resource among Elderly

#### 3.1 Reasons for Using the Internet

The main reason that most elderly liked about the Internet was that they could get an update on the current news (88.4%) and seek for health information on the internet (86.4%). Data also illustrated that 45.7% of respondents browsing the internet were mailing activities, followed by 41.1% respondents reported seek information about movies, music and television shows. Findings are described below and displayed in Table 3.

#### 3.2 Internet Health Seeking Purposes

In regards to internet health seeking purposes, the study identified the top three reasons were personal health problem 67.8%, followed by free information 66.3% and fast/convenient 56.2%. Other common purpose of internet health seeking behaviour

were because of various sources 47.7%, others health problem 46.1%, complete and accurate 43.0%, privacy 24.4% and the least was 0.7% for other purposes.

(Table 3).

#### 3.3 Action Taken After Getting Health Information in the Internet

Additional outcomes from the information found online were also sought. It was noted that 43.0% of respondents always preferred to discuss with their families, while 41.9% of respondents always seek treatment from a doctor. On the other hand, 36.4% of respondents always triggered by their curiosity to find out on the causes and treatments of health information problem (Table 3).

**Table 3 Experiences of using the Internet as a resource among Elderly**

Experiences	Frequency, n (%)
<b>Reasons for using the Internet</b>	
Health Information	223(86.4)
Current News	228(88.4)
Mailing	118(45.7)
Sale & Purchase Transaction.	66(25.6)
Sport News	74(28.7)
Film/Music/TV Shows	106(41.1)
Stock Exchange Info	24(9.3)
Online Games	35(13.6)
Song Downloads	42(16.6)
<b>Internet Health Seeking Purposes</b>	
Free Information	171(66.3)
Personal Health Problem	175(67.8)
Others Health Problem	119(46.1)
Fast/Convenient	145(56.2)
Complete & Accurate	111(43.0)
Privacy	63(24.4)
Various Sources	123(47.7)
Other purposes	2(0.7)

Action Taken After Getting Health Information in The Internet	Frequency, n (%)
Discuss with friends	81(31.4)
Discuss with family	111(43.0)
Discuss with doctor	54(20.9)
Curiosity	94(36.4)
Comply with appointment	95(36.8)
No treatment needed	19(7.4)
Get doctor treatment	108(41.9)
Get traditional treatment	22(8.5)





#### 4. Type of Health Information Seeking

As shown in Table 4, 39.9% of the respondents seeking for violence information compared to others when seeking health information

in the internet. Meanwhile, the respondents less search for sexual harassment 4.3% (Table 4).

**Table 4 Type of health of information seeking**

Type of Health Information	Frequency, n (%)
Dementia	19(7.4)
HIV/AIDS (STD)	21(8.1)
Pregnancy/Birth	10(3.9)
Drug/ Alcohol	10(3.0)
Smoking	13(5.0)
Depression/Mental Illness Eating Problem	23(8.9)
Skin Care	80(31.0)
Health Clinic	45(17.4)
Weight Problem	37(14.3)
Disease Information	54(20.9)
Violence	103(39.9)
Sexual Harassment	11(4.3)
Eyesight Problem	15(5.8)
Hearing Problem	53(20.5)
Others	38(14.7)

#### 5. Barriers of Using Internet

Outcomes from the study illustrated barriers of using Internet: Most elderly claimed that too much information difficulty for them to find information that they want (39.1%). They also claimed that using

internet can caused a risk of getting wrong advice 36.0%, and unnecessary information and elusive information (both aspects were equal 25.9%) (Table 5).

**Table 5 Barriers of using Internet**

Barriers of Using Internet	Frequency, n (%)
Information not relevance	41(15.9)
IT illiteracy	69(26.7)
Too much information	101(39.1)
Risk of getting wrong advice	93(36.0)
Information leak	46(17.8)
Risk of discussion	38(14.7)
Unnecessary information	67(25.9)
Refuse to see a doctor	34(13.2)
Elusive Information	67(25.9)
Internet bills burden	54(20.9)
Others	5(1.9)

#### 6. Health Portal Ever Surfed

The most top three health portal been surfed by respondent were MOH Portal 34.5%, Nutrition Division Portal 27.5% and MyHEALTH Portal 19.4% (Table 6).



**Table 6 Health portal ever surfed**

Health Portal Ever Surfed	Frequency, n (%)
Ministry of Health Portal	89(34.5)
Pharmacy Portal	39(15.1)
Health Education Division Website	46(17.8)
MyHEALTH Portal	50(19.4)
'Tak Nak Merokok' Portal	14(5.4)
Pharmacy Services Portal	24(9.3)
Nutrition Division Portal	71(27.5)
Traditional & Complimentary Medicine Portal	32(12.4)
Others	22(8.5)

**7. The Usefulness Internet Health Information**

Specifically, 53.5% respondents who reported using the internet stated that the health information that they found online was very useful, only 3.5%

answered it as less useful and 0.8% as not useful at all (Table 7).

**Table 7 The Usefulness Internet Health Information**

The usefulness Internet health information	Frequency, n (%)
Very Useful	138(53.5)
Useful	96(37.2)
Less Useful	9(3.5)
Not at all useful	2(0.8)

**DISCUSSION**

Internet use is no longer limited to younger people. Over the past years, elderly people have started using the Internet as older persons represent a large group of users that has steadily grown since 2000 (Pierce, 2009). In this study, it is revealed that nine out of ten of the elderly use the Internet to get an update on the current news as compared to seeking for health information online. The reason is because people are inclined to want to know the current issues occurring worldwide; however, health becomes a priority when it is needed.

The study also enquired about the factors that the elderly takes into consideration when looking health information online. A majority of the elderly look for disease information and eating problems as compared to others when seeking health information in the Internet. Given that most of the elderly suffer from a variety of illnesses, that is why finding information related to the disease is a priority and this is followed by nutrition.

The top three reasons why the elderly use online health information is to gain personal health problems, free information, and fast/convenient. This finding is consistent with previous studies whereby the Internet offers suitable, various, and cheap information as noted by Horgan and Sweeney (2010). While online health information has been influential for some elderly people, many others said they found it very useful to them.

The Internet can offer vast information; unfortunately, there are barriers to access the Internet such as too much information to choose from, risk of

getting wrong advice, and unsure on how to find the information, thus making them trust and rely on the health staff to obtain health information. These may be the reasons why they do not turn to the Internet more often. This shows that the health staff members play a vital role in disseminating health information.

This study concludes that the Internet is assuming a more important role in the lives of the elderly and that its use is not only limited to current news and leisure purposes, but also used for life-supporting and sustaining purposes including searching for health information.

**CONCLUSION**

Increase of internet-based dependency, use and literacy can be concluded for elderly in Malaysia as they are becoming more tech-savvy. This change is an advantage as it can be used to address and manage health issues and geriatric care for elderly through strategic dissemination of health information as well as to motivate positive health behaviour through use of technology. Although the findings of this survey should be considered preliminary, elderly who seek health information seem likely to use the Internet. Internet can be useful platform for ageing population as it caters health information. Future research should investigate how to reach seniors who prefer not to use the Internet for health information.

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### Conflict of interest

None

### Ethics of Study

Ethical approval was obtained from Medical Research & Ethical Committee, Ministry of Health, Malaysia with NMRR ID (16-2726-32123).

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# INNOVATIVE APPROACHES IN HUMAN RESOURCE MANAGEMENT OF THE MODERN COMPANY

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## ABSTRACT

*The article discusses the basic strategic concepts of human resources management (HRM) and their impact on the development of innovative activities in the organization. Currently, the key to achieving a constant competitive advantage of the company is given to the growth of innovation. Despite certain differences in a number of HRM concepts, for the most part, they have accentuated forms of employee participation in management.*

*This article will be useful to researchers involved in the problems of human resource management in innovative organizations.*

**KEYWORDS:** *human resources management, innovation, innovation activities, digital technology*

## INTRODUCTION

Implemented in any organization innovation is a complex process involving multiple internal subsystems, and has a borderline performance indicator implementation. Currently, neither the economic literature nor the legislative - normative base is not a generally accepted terminology in the field of innovation, similar to at the moment, there are no universal indicators to assess the effectiveness of any implemented or the implemented innovation.

The definition of innovation as provided for in international standards on science, technology and innovation statistics is as follows: *An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.*"

The concept of organizational innovation, thus, in fact, encompasses the entire range of products, processes, or approaches to social services that are new to this specific organization, regardless of whether they were used ever in other organizations. The goal of innovation – improve of the performance of the organization as a whole. The work of the individual subsystems of the organization as a result of implementing innovations has been undergoing significant changes, the activities of other subsystems are affected partially or not at all changed. Human resources management innovations (HRMI) applies to management innovations that have

specific properties that affect how and when you can calculate their effectiveness.

Today, the key to achieving a constant competitive advantage of the company is given to the growth of innovation. Many experts believe that the main goal of HRM is to stimulate the involvement of employees in innovative activities. Guest emphasizes that the goal of HRM is to create a behavioral resulting lever - involvement, motivation, cooperation, and partnership.

## IDENTIFICATION OF PREVIOUSLY UNSOLVED PARTS OF THE OVERALL PROBLEM

In modern science and practice of personnel management there is a constant process of improvement, updating and search of new approaches, concepts, ideas in the sphere of work with employees of the enterprises and the organizations. At the same time insufficient studying of questions of innovative digital HRM leads to that needs of the companies in them completely are not satisfied that reduces efficiency of their action.

Modern approaches, based on an innovative vision of personnel management, cover a wide range of issues lying in the spheres of socio-psychological, cultural, administrative and other aspects of human resources management. Undoubtedly, each of existing approaches is urged to improve this or that direction of management of the personnel for the purpose of improvement of its quality as a whole and

efficiency of realization of management functions in particular that in turn demands more profound research of such innovative approaches and actions.

### INNOVATION IN HUMAN RESOURCES MANAGEMENT

In organizations facing increasing global competition and changes in their environment, Human Resource Development (HRD) is more relevant than ever before. Such external pressures ask for employees that have the skills, knowledge, and ability to perform optimally. The facilitate that, organizations may need to apply innovative Human Resource Management (HRM) practices. By using innovative HR policies and practices, organizations aim at ensuring the autonomy and skills enhancement of employees to enable them to perform well in changing circumstances.

We describe HRM innovation as a new idea adapted to the human resources programs, systems and practices of a firm with the intention of adding value (at least indirectly) to the decision-making firm. This determination covers both novelty and assumed value added that is considered important for organizational innovation. Intentional value addition here is a contextual, subjective assessment of the novelty and adequacy of a program, system or practice.

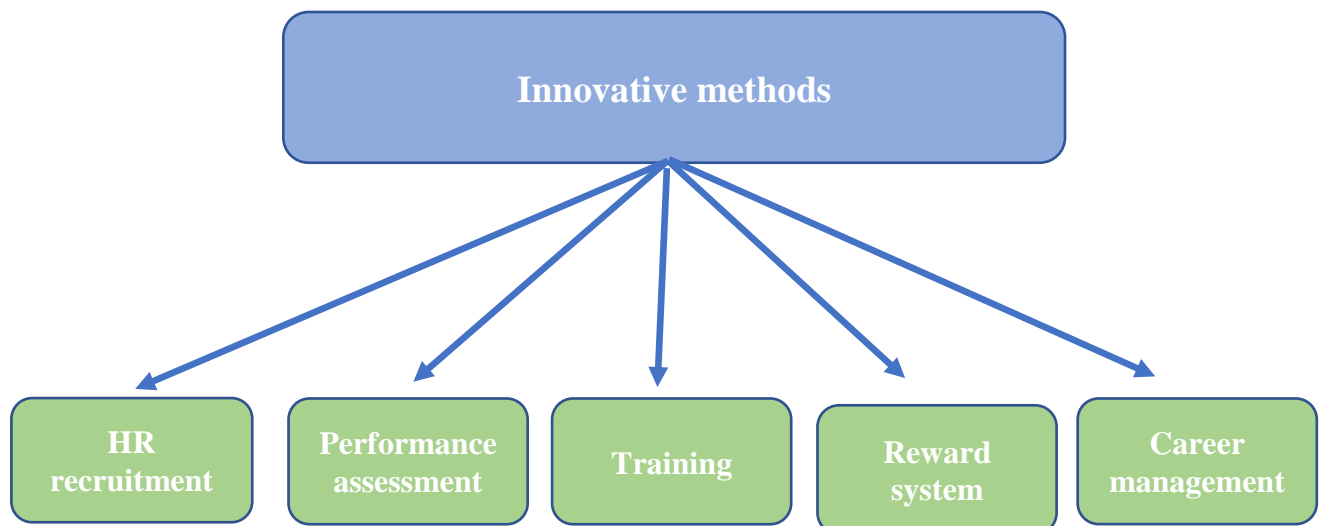
The Oslo Manual states that “the introduction of a new organizational method into the business practices of a firm, workplace or external relationship”, which either supports other forms of innovation within an organization or is new to an organization or industry, is called organizational innovation. Thus, HRMI refers to non-technical organizational innovation. Innovation tends to be differentiated by type and degree. HRM literature provides empirical evidence on different types of HRMI, such as innovations in recruitment and selection, learning and development, performance

management, and compensation and compensation. The degree of innovativeness depends on the degree of novelty of the changes involved and the amount of knowledge embedded in them. Innovations based on current knowledge and knowledge areas and aimed at making minor improvements in the current environment are considered incremental, while radical innovations include innovative, discontinued knowledge and disruptive changes in the status quo.

Companies need to implement new technologies, change organizational structures, business processes, work culture and procedures to meet customer needs. The HR department is responsible for providing a skilled workforce to facilitate organizational change, as well as maintaining organizational flexibility and adaptability. Human Resources plays an important role in driving organizational change. And they must guide discussion, the flow of knowledge, information and learning throughout the organization to achieve success.

As the global economy becomes increasingly unstable than ever before, the formation of competitive advantages on the basis of innovation is becoming more critical at the enterprise level, and this requires new, innovative methods of HRM. One of the most important factors of success of use of human potential as the person becomes the most expensive factor of manufacture. Despite a significant number of researches made by domestic scientists, many theoretical and methodological aspects of realization of the process of the formation of innovative potential of the personnel are not disclosed to the full extent. Therefore, we offer to consider the mechanism of the formation of innovative potential of the HR and its development at the enterprise concerning available resource opportunities (Figure 1).

Figure 1. The framework for the innovative approaches in HRM.







In order for innovation activities to develop, the head of the organization must provide the staff with continuous training, such as mastering general and innovative management, advanced technologies, as well as conducting surveys before major innovative changes, motivating staff to innovation

### INTRODUCTION OF DIGITAL TECHNOLOGY IN HRM

Currently, many companies have started using digital HRM technologies, which focus on automating as many processes as possible. Enterprises and organizations make extensive use of call centers and interactive voice response systems, which are telephone technology where a touch phone is used to interact with a database to retrieve information from it or enter data. HMR technologies in the future will consist of early access to accurate current information, and the ability to access this information through multiple systems will provide organizations with a strategic advantage. It is expected that the management function will give up its role as the sole owner of staff information, so that other employees can use this information to solve their problems using web-based systems. This new

system will not necessarily mean a reduction in management staff: the new system will allow HR specialists to focus on transforming information into knowledge that can be used by the organization for decision-making. A recent study by Hackett Group, a business process consulting firm, has shown that high-performance organizations that use digital technology in the management process spend 25% less on HRM compared to other companies.

There is no doubt that digital technology has simplified and accelerated the collection and transfer of information, as well as communication with employees. More importantly, they have the potential to reduce the administrative burden on the HR department so that it can better focus on more relevant HR functions, such as providing managers with the expertise needed to make more effective decisions related to HR.

At the same time, digital HRM is more than just the creation of special programs. It also includes the development of a new mobile platform that can be used for hundreds of applications: for attendance records, employee health improvement programs in hazardous industries, new personnel recruitment systems, etc.

**Table 1. The differences between the old and the new management system [3].**

Old rules	New rules
HR departments focus on process design and harmonization to create standard HR practices	HR departments focus on optimizing employee productivity, engagement, teamwork, and career growth
HR selects a cloud vendor and implements out-of-the-box practices to create scale	HR builds innovative, company-specific programs, develops apps, and leverages the platform for scale
HR technology teams focus on ERP implementation and integrated analytics, with a focus on "ease of use"	HR technology team moves beyond ERP to develop digital capabilities and mobile apps with a focus on "productivity at work"
HR centers of excellence focus on process design and process excellence	HR centers of excellence leverage AI, chat, apps, and other advanced technologies to scale and empower employees
HR programs are designed for scale and consistency around the world	HR programs target employee segments, personas, and specific groups, providing them with journey maps relevant to their jobs and careers
HR focuses on "self-service" as a way to scale services and support	HR focuses on "enablement" to help people get work done in more effective and productive ways
HR builds an employee "self-service portal" as a technology platform that makes it easy to find transactional needs and programs	HR builds an integrated "employee experience platform" using digital apps, case management, AI, and bots to support ongoing employee needs



Global trends in the transformation of personnel management today are:

1. HR departments use IT-systems for personnel management, which leads to structural changes in the organization.

For example, employees and line managers can analyze and perform administrative tasks related to work in the same flexible and convenient way that they manage their lives when digital consumers are out of work.

3. Digitization allows employees to transfer data to employees so they can "sell" internal messages more efficiently.

4. As HRM becomes technological, it can help strategically position the business.

5. HRM has become an integral part of the growing productivity of the top line.

6. Redefining career and training concepts: helping companies in their continuous training process.

7. Changing the way candidates are recruited: using social media.

8. Development of HRM-analysis as a business discipline that helps to ensure the financial efficiency of the company and its operating activities.

9. Preservation of the problems of equality of opportunity (gender and multi-nationalism issues).

10. Strengthening the workforce: cognitive computing, robotics and artificial intelligence.

The digital age and the knowledge economy have shaped dramatic changes in the corporate world. Organizations are now facing harsh competition in a dynamic, uncertain, transforming and complex environment. In order to achieve competitive advantage and even to survive, firms are highly dependent on their ability to adapt and respond to the environment, flexibility and ability to implement new ideas and products. A company that follows creative and innovative strategies must have employees who adhere to a kind of entrepreneurial and innovative behavior. Therefore, it is important to properly understand what really makes people in the workplace behave in an innovative way and how firms can shape this type of behavior. Human resource management is believed to be firmly rooted in business strategies aimed at effectively supporting innovation. Another emerging area of research interest in human resource management is flexible human resource management, as it allows firms to stretch out and adapt to changing, uncertain and diverse requirements, both internally and externally. Flexible human resource management is considered to be a very important aspect of a firm's flexibility, as it shapes the attributes of employees (skills, abilities, characteristics and behavior) to meet changing environmental conditions. Mainly in flexible human resource management, employees are encouraged to use and absorb new and effective knowledge from

their environment and are given the opportunity to flexibly adjust structures, employment regimes and incentive and training plans.

## CONCLUSION

Thus, the article considered modern approaches to the definition, classification and evaluation of the effectiveness of innovations in personnel management.

Innovation in HR is a type of managerial innovation, which means their close connection with the social environment and the need to take into account the synergetic effect in assessing the results of such innovations.

2. There are two main concepts in the scientific literature that form the basis for the evaluation of the effectiveness of HR and are found in publications in this area:

- Efficiency of HR is estimated from the point of view of unity of processes of management and manufacture; the contribution of directly HR to efficiency of manufacture, according to participants of interrogation, cannot be measured and is not measured;

- HR management efficiency is assessed as a measurement of the contribution to the overall performance of the organization.

Quantifying this contribution is difficult because there are no reporting indicators with which it can be measured regularly.

Thus, most of the HR management efficiency assessment methods are based on the first concept, i.e., the assessment is made not so much of the contribution of the HR management system to the production efficiency as of its qualitative impact on such efficiency. Efficiency at the level of the company as a whole as an integral indicator can be transformed into many others at lower levels reflecting the efficiency of specific HR management systems/subsystems.

In practice, organizations face difficulties in evaluating the effectiveness of innovations in human resource management. Existing methods are perceived as inefficient in terms of obtaining causal links between innovation and its end result. There is a need to use indicators that clearly reflect the impact of the innovation in human resources management on the performance of the company or clearly reflect the extent to which the organization has achieved its goals as a result of such innovation.

## The main recommendations along the way may be the following

1. The perception of the employee as a customer: the promise of a relevant brand to the employees.



2. Digital imperative: a gradual transition to internet platforms; a digital digitalization based on social, mobility and analytics and cloud approaches.

3. Use of digital technologies at all stages of HRM: recruitment, dismissal, rewarding, development, adaptation, etc.

4. To ensure the necessary experience of the employees throughout their life cycle through free access to the necessary data, closer cooperation, social learning and direct links to aspirations.

5. The adoption of an analytical way of life that goes beyond simply measuring things and comparing them with past data, to obtain greater intellectual power not only to achieve business results, but also to create them together.

6. Transition to unified HR management platforms based on one technology, one user experience and one data model focused on tracking the progress of employees, rewarding them appropriately and providing them with the tools they need to succeed.

7. Sharing experiences and digital strategies across the enterprise, creating a community of practice.

8. Emphasis on access to results and solutions in real time.

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## FORMATION OF SPIRITUAL CULTURE IN THE UPBRINGING OF MODERN YOUTH

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### DISCUSSION

The global changes that have taken place over the past decades in Uzbek society have affected all spheres of life: economics, politics, social institutions and spiritual relations. Youth as a subject of social and spiritual relations at the present stage of rethinking cultural values has its own specifics and characteristics. Among them, the most important essential characteristic of this subject is cultural socialization, professional and civic formation. The formation of the spiritual culture of Uzbek youth is crucial for the life of not only the younger generation, but also of society as a whole. Persistent life orientations are a necessary condition for the adaptation of youth in the complex modern world and the development of their own life strategies. Spiritual culture determines the possibility of awareness of what is happening, the dialogue of social groups, reducing the likelihood of youth manipulating destructive forces.

Youth is the main strategic resource of renewed Uzbekistan. Today's Uzbek youth is participating in the modernization of the country, in carrying out reforms.

Constantly changing living conditions compel young people to adapt to new realities, to conduct a constant search for new forms of identity, to develop their life position, and to create their own spiritual world. Positive spiritual development. The youth is impossible without a conscious attitude to these processes, without an effective policy in this area. The formation of moral foundations, instilling in the younger generation an interest in culture and art, the development of the spiritual potential of youth is recognized by the political and state elite of Uzbekistan as a priority in the field of education and culture. First of all, the state policy in the formation of the values of the worldview of young people identifies the following components: moral and legal norms, citizenship, patriotism, the attitude towards self-development, tolerance, environmental

awareness. Educational institutions that have undergone and are undergoing significant changes in the current situation continue to play a decisive role in shaping the spiritual culture of youth. Not only the preservation and enhancement of the intellectual potential of society, but the transfer of spiritual experience of previous generations and the development by young people of their life values, beliefs and awareness of their interests takes place largely in the process of learning. Higher education as the final stage of the entire educational system is of decisive importance in the formation of spiritual culture. A distinctive feature of students can be considered its innovative potential. The contradiction between universalism and specialization as global vectors of development of the social institution of higher education determines the dynamics of educational and professional motivations, orientation and attitudes of young people. Therefore, today a fundamentally new approach is emerging to the mutual influence of the processes of formation of spiritual culture and processes in the field of higher education. It focuses the problem of personality with its constant desire for self-knowledge, self-development in order to consciously choose an individual life strategy and lifestyle. The transition from an industrial society to an information society and the processes of individualization associated with it determine the requirement to study the impact of higher education on the reproduction of the social type of person.

The relevance of the study of the formation of the spiritual culture of students is caused by three main circumstances. Firstly, the need to study the shifts and changes taking place in society in the mechanism of the formation of the spiritual culture of students. The hierarchy of values and the spiritual activities of new generations of students differ significantly from the value-normative system of previous generations. Secondly, the innovative role of students in youth culture and the special place of





higher education as a factor in the formation of the spiritual culture of students. Thirdly, taking into account the specific qualities and characteristics of students as a special social group, a study of youth spiritual culture can determine the parameters of the prospects for the spiritual development of society.

The problems of the formation of the spiritual culture of students are at the crossroads of related areas of humanitarian knowledge: firstly, such sciences as - philosophy, sociology, cultural studies, psychology; secondly, various areas of sociology - the sociology of youth, the sociology of culture and the sociology of education.

The development of various aspects of general sociological theories of culture, the interaction of culture and society, the problems of generational change has a long tradition in philosophy, sociology, and psychology, which are presented in the works of A. Weber, M. Weber, E. Durkheim, K. Mannheim, K. Marx, M. Mead, A. Mola, E. Fromm and several other scientists. Problems relating to the formation of spiritual culture were considered by these and other authors from various worldviews, cultural and historical traditions and schools, methodological and conceptual foundations. A special role, in many respects the opposite of the sociological approach, in the philosophical understanding of spirituality, as liberation from "fallen sociality", was played. So, the ideas of self-knowledge, self-affirmation and self-realization of personality, the formation of spiritual higher social institution. In the study of the formation of the spiritual culture of modern youth and the dynamics of spiritual values in society in connection with the process of generational change, a certain place is occupied by theories of modernity and postmodernity in postclassical sociology. New values corresponding to social changes, experienced as a result of globalization processes by all mankind, as a rule, are organically perceived by young people and are modeling in relation to everything to society. These ideas found their development in the works of scientists: W. Beck, P. Drucker, R. Ingelhart, M. Castells. In foreign science, a deep and comprehensive analysis of such views is given in the monograph by V.I. Chuprov, Yu.A. Zubok, K. Williams. "Youth in a risk society" and Tooth Yu.A. "The problem of risk in the sociology of youth", which reflects the search by Uzbek youth for moral support and social benchmarks in a changing modern world. The scientific, sociological approach to youth as a specific group of society, taking into account the complex of circumstances and characteristics of the lifestyle and culture of youth has been reflected in the works of many native sociologists and scientists of other humanitarian fields. So the questions of the influence on the formation of the spiritual culture of various factors, including higher education, inherent

in the various stages of the historical development of the country's porridge, have been thoroughly studied by native science. The main problems of these studies: students in the social structure; the functions of students in the system of social division of labor; student lifestyle features; life plans; internal differentiation of students.

The works of the above-mentioned researchers, in particular, touched on the social aspects of the cultural self-identification of youth. The influence of deformations of the value-normative system on the strengthening of the processes of individualization of the consciousness of youth occurring in the background, destruction of rigid traditional forms of social control and the absence of new moral boundaries was studied.

In conjunction with the socio-educational environment, issues of youth adaptation were considered. Applied studies of the higher education system reflect the current problems of universities and contribute to the refinement of hypotheses and the construction of theories of the average level, including the problems of the institutional influence of higher education institutions on the formation of the spiritual culture of students, especially in terms of its professional component. The analysis of requests, expectations and preferences of young generations in the field of culture makes it possible to create a holistic view of the development of leisure stereotypes of behavior.

At the same time, questions related to the role and specificity of students as a carrier of the cultural potential of society remain open. This is connected with the main problem of this study, that is, with the existing contradiction between the objective need of society for a highly developed spiritual culture of student youth as an active carrier of the cultural potential of society and the real spiritual level of student youth that does not meet the needs of modern Uzbek society. Taking into account the special role of higher education, which determines the trends and prospects of socio-cultural development of society, we can assess the degree of influence of specific factors on the formation of various components of spiritual culture, make a forecast about possible socio-cultural changes that may occur in the process of generational change.

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# PREDICTION OF THE FLOW PATTERN TO TWO PHASES, VAPOR-LIQUID IN HORIZONTAL PIPES

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## ABSTRACT

*Flow pattern prediction is a priority for evaluating pressure drops in the two-phase flow. This article presents a review of some of the maps used to predict the type of flow present when vapors and liquids circulate in parallel current through horizontal pipes. Examples of the application are also presented.*

**KEYWORDS:** *Two-phase flow, flow of vapors and liquids in horizontal pipes, flow patterns, maps.*

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## 1. INTRODUCTION

Knowledge of the parallel current flow of gases and liquids is essential for the design and operation of pipes where this phenomenon occurs, as well as in the design and operation of many equipment used in material processing. Chemical reactors, re-boilers, partial capacitors, and mass contact devices are typical examples of equipment in which gas and liquid flow in parallel currents. The design of these process equipment also requires knowledge of pressure drops, but in turn it is necessary to predict the heat and mass transfer coefficients for proper performance. In the design of two-phase flow pipes, the engineer is primarily concerned with the calculation of pressure drop, which can be estimated quite accurately. It has been recognized for years that in order to improve the prediction of the different constituent parameters of this phenomenon, which are the volumetric fraction of each phase (holdup), pressure drop, heat and mass transfer, as well as other hydraulic parameters, it was necessary to consider the detailed structure of the flow configuration. These configurations, which are related to the distribution of phases within the pipe, are called flow patterns or regions.

Many experimental and theoretical work has been carried out to predict pressure drop and the type of flow pattern produced in pipes, but so far no general correlation has been found, similar to friction factor vs. graphs. This is due to the existence of a certain number

of complications that make it difficult to use a single correlation. The largest of them in two-phase flow is the variety of flow patterns that can occur. The type of flow pattern found depends on fluid properties, flow rates, and equipment geometry.

Although no general correlation has been found applicable to all flow types, correlations have been developed for specific flow patterns. Flow patterns are empirically correlated based on the flows and properties of fluids. The mechanism of momentum transfer varies with the flow pattern, but it remains to be clarified whether the visual description of the pattern is sufficient to identify the regions where these mechanisms change. The boundaries between patterns are not accurate as there is a gradual change and, in many cases, these borders depend on the particular interpretations of the different researchers. The prediction of pressure drop is made by correlations of different kinds. The first to propose one of them was Lockhart and Martinelli <sup>[1]</sup>, which depends on the type of flow. Currently there are semi-empirical correlations independent of the flow pattern present in the pipe, which brings us closer to the development of a general model of gas-liquid biphasic flow in the perhaps not distant future.



## 1.1. FLOW PATTERNS IN HORIZONTAL PIPES

There are basically seven general types of flow patterns in horizontal pipes (Figure 1). These patterns, arranged in increasing order of gas flow to a constant liquid flow, are as follows:

### Bubble flow

This flow is characterized by gas bubbles scattered in the liquid, which move at the top of the pipe at approximately the same liquid rate. It comes with surface gas speeds from 0.3 to 3 m/s and surface liquid speeds between 1.5 and 5 m/s. If the liquid speed is high, the bubbles are scattered throughout the tube, knowing this pattern as froth flow or scattered bubble flow.

### Plug flow

Alternate liquid and gas plugs or pistons are present. The gas moves at the top of the pipe due to the force of gravity. It occurs at surface gas speeds of less than 0.9 m/s and surface liquid speeds of less than 0.6 m/s. It is also often called elongated bubble flow or piston flow.

### Stratified flow

In this case the liquid flows into the bottom of the pipe and the gas at the top, producing a smooth and uniform gas-liquid interface. It occurs when the surface velocity of the liquid is less than 0.15 m/s and that of the gas fluctuates between 0.6 and 3 m/s. It is also known as stratified smooth flow.

### Wave flow

It is similar to stratified, only in this case there are waves traveling in the direction of the flow. It

occurs when the surface speed of the liquid is less than 0.3 m/s and that of the gas greater than 5 m/s. It is also often called stratified wavy flow.

### Slug flow

By further increasing the speed of the gas, the height of the waves increases to the point where they touch the upper inner surface of the tube and form a frothy battering ram. The speed of these battering rams is greater than the average speed of the liquid. Liquid battering rams cause severe vibrations in the equipment used due to the impact of the liquid at high speed against connections and returns. It also causes erosion in the internal walls of the system through which it flows. This type of flow should therefore be avoided. It comes in a wide range of surface speeds of both gas and liquid. It is also known as peak flow, pulsating flow, or tapping flow.

### Annular flow

The liquid flows into a film around the inner wall of the tube, with the gas in the center. A portion of the liquid is dragged in the form of small droplets through the gaseous center. Occurs at surface gas speeds greater than 6 m/s. It is also known as film flow.

### Dispersed flow

In this flow pattern virtually all liquid is dragged in the form of droplets in the gas. It occurs at surface gas speeds greater than 60 m/s. It is also often referred to as mist flow or fog flow or spray flow. When some portions of the inner wall of the tube are covered by a thin film of liquid, it is known as annular-mist flow.



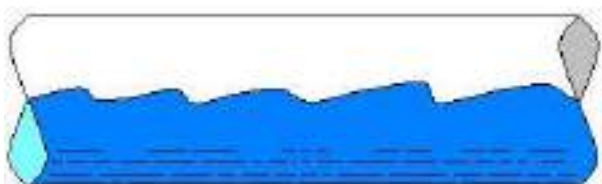
Bubble flow



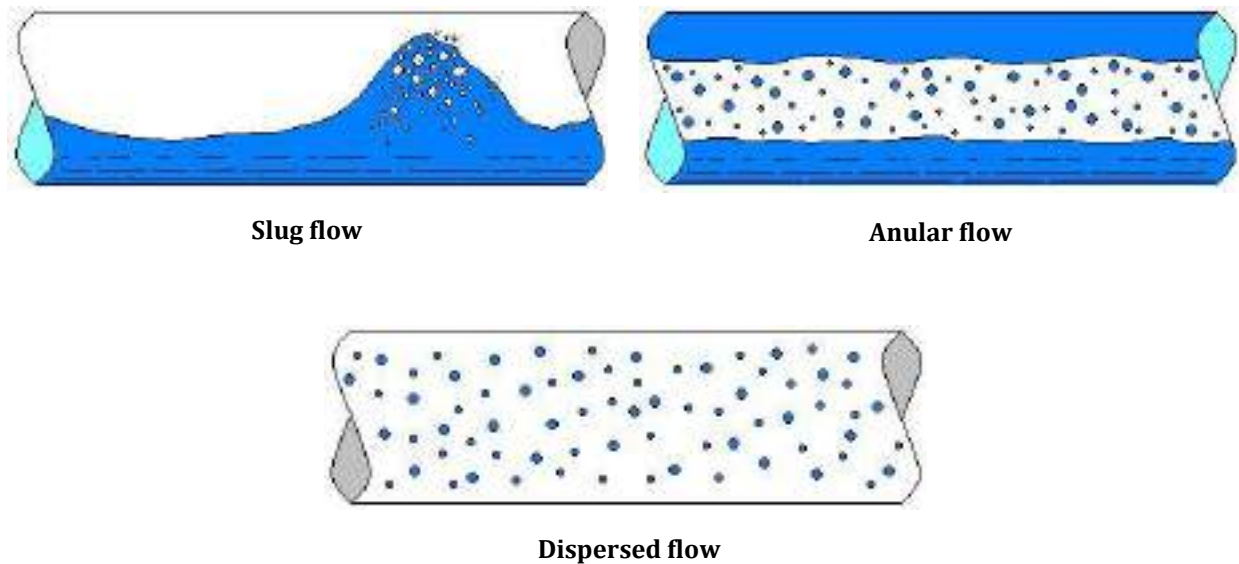
Plug flow



Stratified flow



Wave flow



**Figure 1.- Flow patterns to two phase gas-liquid system in horizontal pipes.**

## 2. PREDICTION OF FLOW PATTERNS IN HORIZONTAL PIPES

The calculation of the pressure drop in the two phases flow depends on the flow pattern, therefore the first stage of the calculation requires the prediction of that pattern. The identification of flow patterns is perhaps one of the two-phase fluid flow areas that has caused the most controversy, due to the dependence on the technique used in experimentation (these can range from visuals, high-speed photography, high-resolution video, to pressure fluctuation detectors). Numerous charts have been prepared to roughly predict the pattern from flow conditions, fluid properties, and tube geometry.

From those charts, also called flow pattern maps, the engineer can predict with a certain degree of approximation what type of flow occurs in a given problem. Baker [2] presented one of these maps for horizontal flow from data provided by various authors (Figure 2). The edges, boundaries, or boundaries between the flow patterns present in this map are

shown as functions of the speed mass of the gas phase and the mass flow ratio of both phases. These borders are not actually lines but transition zones between different flow patterns. When using it, the designer should be aware that the map provides an approximate idea of the most likely flow pattern to be obtained.

The map in Figure 2 was drawn from air and water data at atmospheric pressure and at room temperature. In order to use it for any other system, Baker used correction factors that would adjust the physical properties of water and air to those of other fluids and other pressure and temperature conditions. The data used by Baker correspond to experiments in pipes ranging in diameter from 1 inch to 4 inches. The regions of the different flow patterns do not change significantly for pipe diameters greater than 4 inches, but for diameters less than 1 inch, the wave flow region tends to disappear, modifying the areas corresponding to the stratified and annular flows.



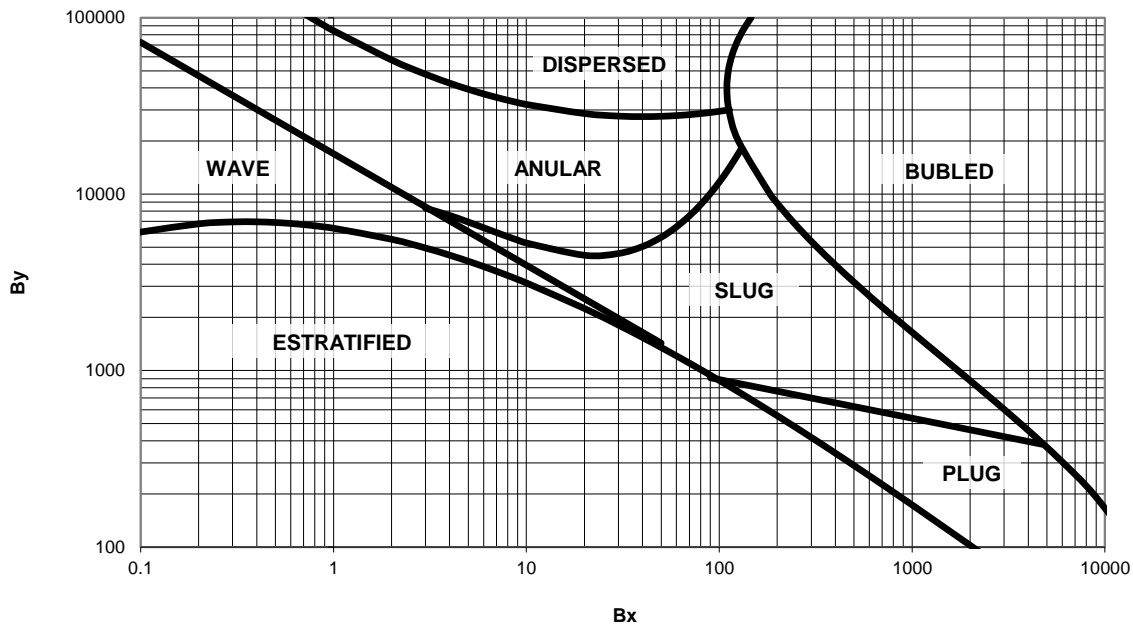


Figure 2.- Map of Baker patterns for horizontal flow in gas-liquid systems. (1954)

To determine the flow pattern using the Baker map, the Baker parameters ( $B_x$  and  $B_y$ ) must first be calculated, which determines the expected flow type on the graph:

$$B_x = 0.0341 \frac{W_L \rho_G^{1/2} \mu_L^{1/3}}{W_G \sigma_L \rho_L^{1/6}} \left[ \text{cp}^{1/3} \right] \quad (1)$$

$$B_y = 7.092 \frac{W_G}{A \sqrt{\rho_G \rho_L}} \left[ \frac{\text{lb}}{\text{hft}^2} \right] \quad (2)$$

Where:  $B_x$  and  $B_y$ 's abscissa and ordinate of Baker's map.

$\rho_L$  - density of the liquid in  $\text{kg/m}^3$ . ;  $\rho_G$  - gas density in  $\text{kg/m}^3$ .

$\mu_L$  - viscosity of the liquid in centipoise. ;  $\sigma_L$  - surface tension of the liquid in  $\text{kgf/m}$ .

$A$  - cross-sectional area of the tube flow in  $\text{m}^2$ .  $W_L$  - mass flow of the liquid in  $\text{kg/h}$ .  $W_G$  - mass flow of the gas in  $\text{kg/h}$ .

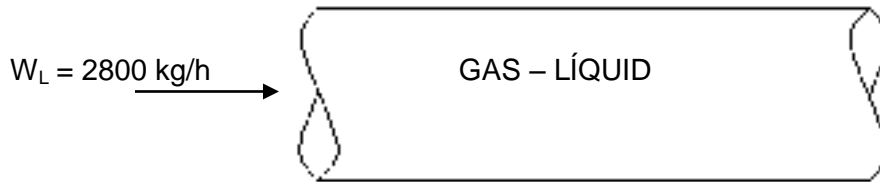
Note: the units of each coordinate and the units of the variables present there. To transform  $\text{dina/cm}$  to  $\text{kgf/m}$ , multiply by  $1.02 \times 10^{-4}$

#### Example 1

What will be the expected flow pattern in a 6-inch horizontal pipe 40 through which 2800  $\text{kg/h}$  of liquid flow with a density of  $834 \text{ kg/m}^3$ , viscosity of  $0.1 \text{ cp}$  and surface tension of  $6.25 \text{ dinas/cm}$ ? 9800  $\text{kg/h}$  of steam with  $30.75 \text{ kg/m}^3$  density and a viscosity of  $0.01 \text{ cp}$  flow through the pipe.?



### 1.-TRASLATION



### 2.-Planning

#### 2.1.-Discussion.

The type of flow present must be found by using Baker's parameters and map.

#### 2.2.-Baker Parameters.

$$B_x = 0.0341 \frac{W_L \rho_G^{1/2} \mu_L^{1/3}}{W_G \sigma_L \rho_L^{1/6}} \left[ \text{cp}^{1/3} \right] \quad B_y = 7.092 \frac{W_G}{A \sqrt{\rho_G \rho_L}} \left[ \frac{\text{lb}}{\text{hft}^2} \right]$$

## 3. CALCULS

### 3.1.-Baker parameters

For a 6" nominal diameter pipe card 40, its internal diameter is:

$$D = 6.065 \text{ in} = 0.154 \text{ m}$$

$$A = \frac{\pi}{4} D^2 = 0.018639 \text{ m}^2$$

$$B_y = 7.092 \frac{9800 \frac{\text{kg}}{\text{h}}}{0.018639 \text{ m}^2 \sqrt{30.75 \frac{\text{kg}}{\text{m}^3} \left( 834 \frac{\text{kg}}{\text{m}^3} \right)}} = 23284$$

$$\sigma_L = 6.25 \text{ dina/cm} = 6.37 \times 10^{-4} \text{ kgf/m}$$

$$B_x = 0.0341 \frac{\left( \frac{2800 \frac{\text{kg}}{\text{h}}}{9800 \frac{\text{kg}}{\text{h}}} \right) \left( 30.75 \frac{\text{kg}}{\text{m}^3} \right)^{1/2} (0.1 \text{ cp})^{1/3}}{6.37 \times 10^{-4} \frac{\text{kgf}}{\text{m}} \left( 834 \frac{\text{kg}}{\text{m}^3} \right)^{1/6}} = 12.83$$

### 3.2.Determination of the flow type.

With the values of  $B_x$  and  $B_y$ , the flow pattern corresponding to the intersection of these values is located on the Baker map. You can see that the intersection occurs in the annular flow region.

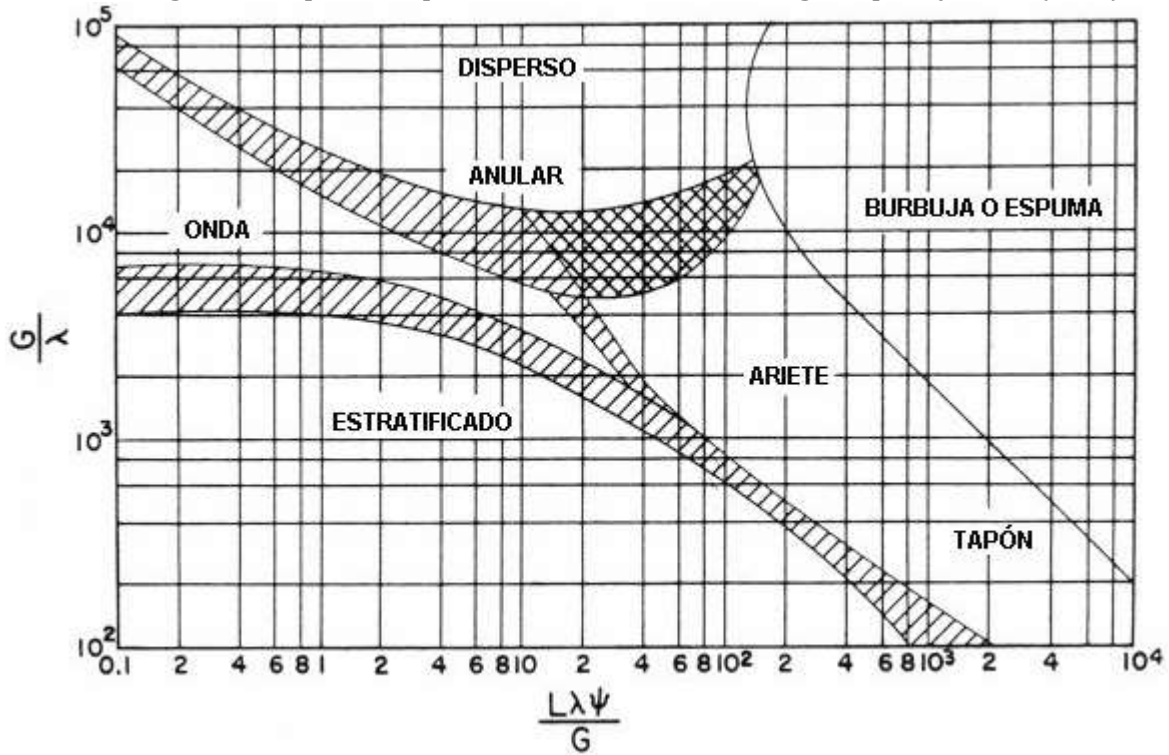
## 4. RESULT

The flow obtained is annular.

As the boundaries of the different flow patterns are not very well delimited, in practice some modified versions of Baker's map have appeared, including one due to Scott [3] showing the boundaries of uncertainty:



Figure 4.- Map of Scott patterns for horizontal flow in gas-liquid systems. (1963)



Where:

$$\frac{L\lambda\psi}{G} = Bx \tag{9}$$

$$\frac{G}{\lambda} = By \tag{10}$$

$$\lambda = \left[ \left( \frac{\rho_G}{0.075} \right) \left( \frac{\rho_L}{62.3} \right) \right]^{1/2} \tag{11}$$

$$\psi = \left( \frac{73}{\sigma_L} \right) \left[ \mu_L \left( \frac{62.3}{\rho_L} \right)^2 \right]^{1/3} \tag{12}$$



L – Mass velocity liquid phase in lb/(h ft<sup>2</sup>). G - Mass velocity gas phase in lb/(h ft<sup>2</sup>).

$\rho_L$  - liquid density in lb/ft<sup>3</sup>. ;  $\rho_G$  - gas density in lb/ft<sup>3</sup>. ;

$\mu_L$  - viscosity of the liquid in centipoise. ;  $\sigma_L$  – surface tension of the liquid in dina/cm.

Surface Velocity graphs have been used more frequently in recent years, in which the boundaries of

different flow regimes are presented with better precision. These graphs include those of Govier [4], Mandhane [5] and Taitel [6], which plots the surface velocity of the gas against that of the liquid. A modification of these maps is that presented by González Ortiz [9] (Figure 5), which was elaborated from experiments conducted with air-water systems.

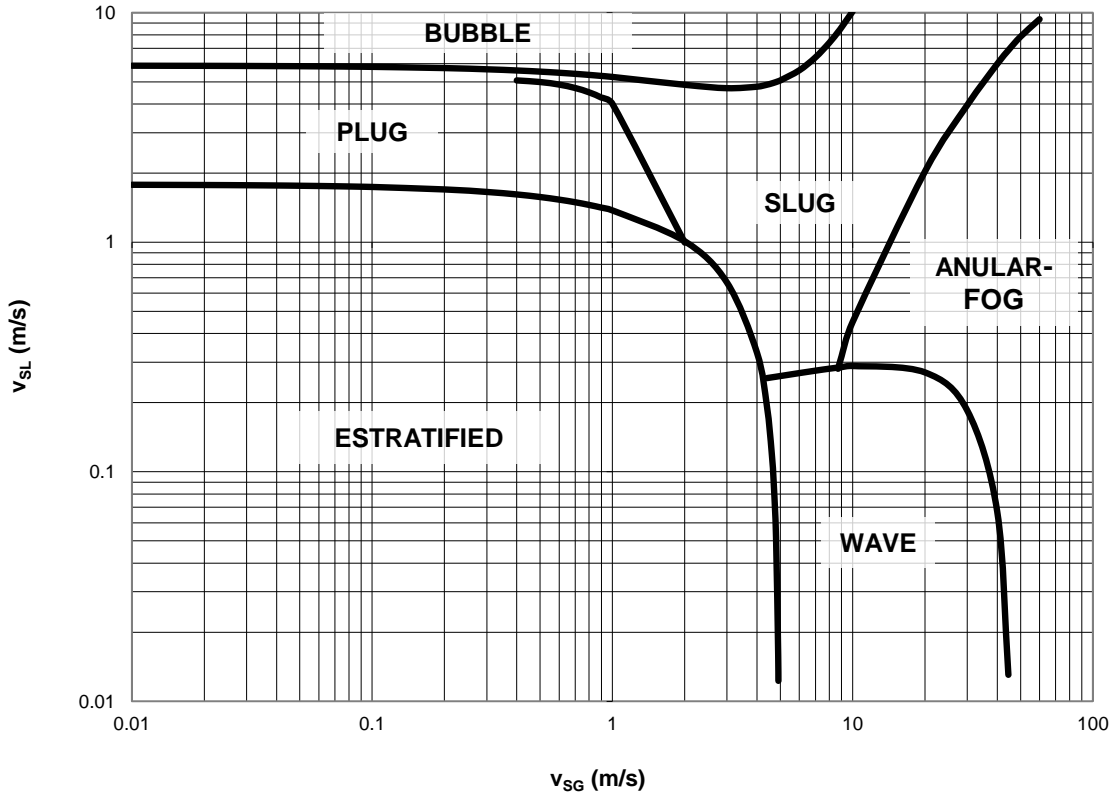


Figure 5.- Map of Gonzalez Ortiz patterns for horizontal flow in gas-liquid systems. (1995)

Such maps emerged when we noted that the factors of correction of properties relative to air and water generally have a unit value. In this way, surface speed maps are applicable for any system other than air-water. Surface velocity [7] in two-phase flow is the one

$$v_s = \frac{Q}{3600 A} = \frac{W}{3600 \rho A} \quad (13)$$

Where:

Vs - surface velocity of the fluid in m/s. ; Q - volumetric flow of the fluid in m<sup>3</sup>/h.

A - transverse area of the pipe in m<sup>2</sup>. ; W - mass flow of fluid in kg/h

that the fluid would have if it was flowing alone through the pipe, therefore it is equal to the volumetric flow or flow divided between the transverse area of the pipe:

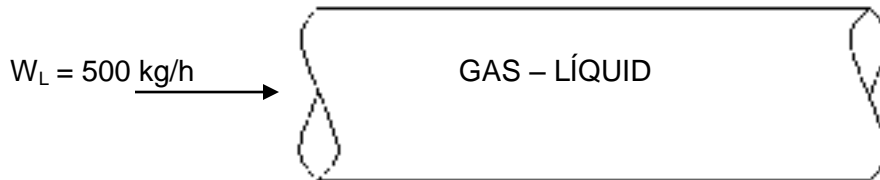
**Example 2**

A mixture of liquid and steam flows through a 3-inch-diameter 40 horizontal pipe. If the steam flow is 1350 kg/h , and the liquid flow is 500 kg/h, evaluate the type of flow that arises if the properties of the fluids are: vapor density 1.25 kg/m<sup>3</sup>; liquid density 1000 kg/m<sup>3</sup>;



liquid viscosity 1 cp; surface tension of the liquid 15 dinas/cm.

### 1.-Translation



## 2.Planning.

### 2.1.-Discussion.

To obtain the flow pattern, Baker and González Ortiz maps will be used.

### 2.2.-Baker Parameters.

$$B_x = 0.0341 \frac{W_L \rho_G^{1/2} \mu_L^{1/3}}{W_G \sigma_L \rho_L^{1/6}} \left[ \text{cp}^{1/3} \right] \quad B_y = 7.092 \frac{W_G}{A \sqrt{\rho_G \rho_L}} \left[ \frac{\text{lb}}{\text{hft}^2} \right]$$

### 2.3.- Surface velocity.

$$v_{SG} = \frac{W_G}{3600 \rho_G A} \left[ \frac{\text{m}}{\text{s}} \right] \quad v_{SL} = \frac{W_L}{3600 \rho_L A} \left[ \frac{\text{m}}{\text{s}} \right]$$

## 3.-CALCULATIONS.

### 3.1.-Getting the flow pattern using Baker's map.

$$D = 3.068 \text{ in} = 0.0779 \text{ m}$$

$$A = 0.004769 \text{ m}^2$$

$$\sigma_L = 15 \text{ dina/cm} = 1.53 \times 10^{-3} \text{ kgf/m}$$

$$B_x = 2.918$$

$$B_y = 56777$$

On Baker's map, the coordinates  $B_x$  and  $B_y$  indicate scattered flow, but the point is almost over the boundary edge with the annular flow.

### 3.2.-Getting the flow pattern with the map of González Ortiz

$$v_{SG} = \frac{1350 \frac{\text{kg}}{\text{h}}}{3600 \frac{\text{s}}{\text{h}} \left( 1.25 \frac{\text{kg}}{\text{m}^3} \right) (0.004769 \text{ m}^2)} = 62.91 \frac{\text{m}}{\text{s}}$$





$$v_{SL} = \frac{500 \frac{\text{kg}}{\text{h}}}{3600 \frac{\text{s}}{\text{h}} \left( 1000 \frac{\text{kg}}{\text{m}^3} \right) (0.004769 \text{m}^2)} = 0.0291 \frac{\text{m}}{\text{s}}$$

On Gonzalez Ortiz's map, the resulting flow is annular-fog, but the intersection of the coordinates is near the border with the wave flow.

### 3.RESULT

The most likely flow pattern is dispersed, due to the coincidence of this flow on both maps, but the possibility of the development of annular or wave flows within the pipe is not ruled out.

Baker and González Ortiz's maps, among many others, have been developed to determine the different flow patterns for Newtonian gas-liquid systems. Similarly, Chhabra and Richardson [8] made a map (Figure 7), based on Mandhane [5], in order to include the flow of non-Newtonian gas-liquid systems. This map is a graph of surface speeds, such as that of González Ortiz, and applies for pseudoplastic and dilating liquids (liquids whose behavior is given by the law of power), and for viscoelastic liquids (polymeric

solutions), that is, applies for liquids whose viscosity does not depend on time. As Newtonian liquids behave according to the law of power (with exponent equal to 1), then this map also applies to Newtonian gas-liquid systems. For more details regarding non-Newtonian liquids and their rheology, the reader is recommended to consult the works of Valiente Barderas<sup>[10]</sup>, Schetz and Fuhs<sup>[11]</sup>, and Chhabra and Richardson<sup>[8]</sup>.

The boundaries between the flow patterns in the map in Figure 7 are also neither lines but transition regions. The intermittent flow on this map covers plug and battering ram flows. To design systems where non-Newtonian gas-liquid mixtures flow, using this map, it is advisable to avoid this flow region due to its instability and possible damage to the pipe caused by plugs or battering rams. This is achieved by properly selecting the surface speeds of both phases, which are a function of the most common flows of the liquid and gas.

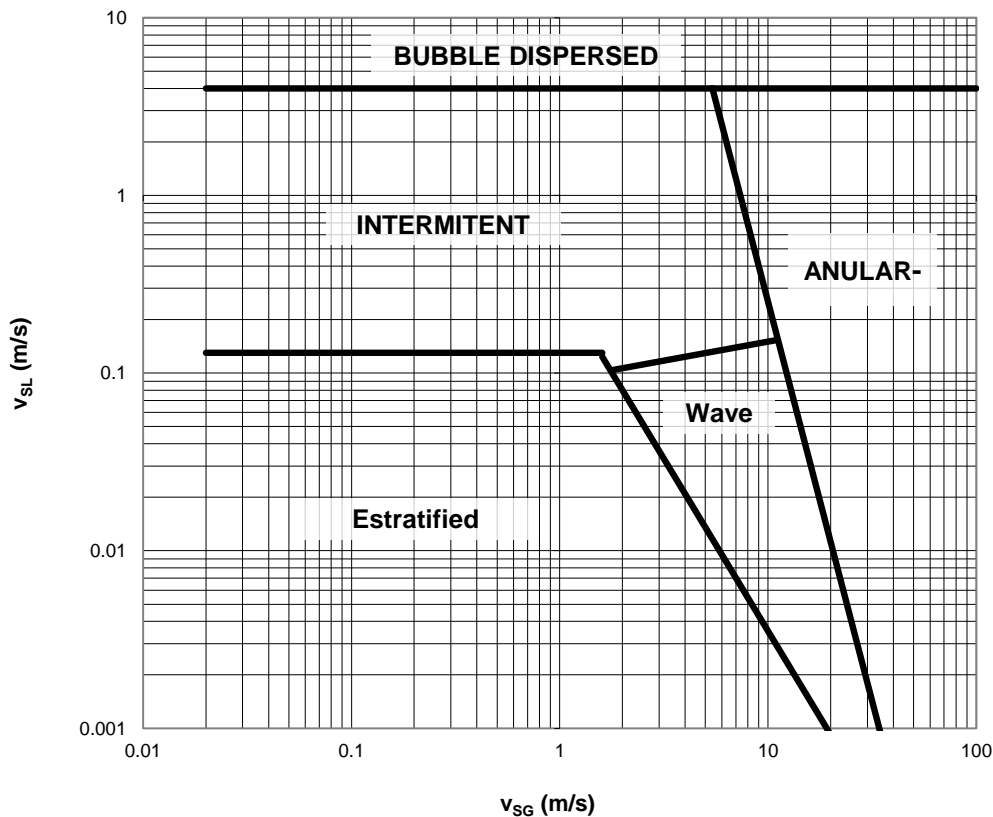


Figure 7.- Chhabra-Richardson pattern map for horizontal flow in gas-liquid systems. (1984)

#### 4. CONCLUSIONS

For the prediction of the type of flow to two phases when circulating vapors in parallel current with liquids inside horizontal pipes is very useful the application of so-called flow pattern maps, some of them based on fluid speeds and others on more complex equations and combinations of variables. For more information on other maps of horizontal flow patterns to two gas-liquid phases, it is advisable to consult the works of Nuñez Alva <sup>[12]</sup> and the Varela Juárez <sup>[13]</sup> brothers, as well as the appropriate addresses on the Internet and You Tube.

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## PROBLEMS STUDY OF COMPARATIVE-TYPOLOGICAL ANALYSIS OF LYRICAL WORKS

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### ABSTRACT

*The article considers the problem of community and creative influence, defines the points of contact of creativity on the example of the works of the American poet Walt Whitman and the Uzbek poet Aybek. Special attention is paid to the comparative-typological analysis of some poems.*

**KEYWORDS AND EXPRESSIONS:** *American literature, talented poet, poetic forms and rhymes, social problems, poetic gift, socio-political problems.*

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## ПРОБЛЕМЫ ИЗУЧЕНИЕ СРАВНИТЕЛЬНО-ТИПОЛОГИЧЕСКИХ АНАЛИЗОВ ЛИРИЧЕСКИХ ПРОИЗВЕДЕНИЙ

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### Аннотация

*В статье рассмотрена проблема общности и творческого влияния, определяются точки соприкосновения творчества на примере произведений американского поэта Уолта Уитмена и узбекского поэта Айбека. Особое внимание в ней уделяется сравнительно-типологическому анализу некоторых стихотворений.*

**Ключевые слова и выражения:** *американская литература, талантливый поэт, поэтические формы и рифмы, социальные проблемы, поэтический дар, социально-политические проблемы.*



## DISCUSSION

Walt Whitman (1819-1892) is the foremost representative of American literature, a talented poet who managed to say his new word in English-language poetry. In his works devoid of strict poetic forms and rhymes, he reflected acute and topical social problems. He created a number of poems that harmoniously combine the war that began in 1861 between the South and North of America, with the image of beautiful, unique landscapes and panoramas.

Aybek got acquainted with the works of this talented owner of the poetic gift in the twenties of the XX century and was delighted with the gallery of images created by him. Indeed, in Walt Whitman's poems you can find a hunted runaway Negro slave, a beautiful Indian woman, a ruined New York cab driver, artisans and blacksmiths, farmers and brave sailors. Also, to a certain extent, the influence of Walt Whitman's poems on the formation of Aibek's style, which displays socio-political problems through the prism of images of tender feelings, is felt. In the poems "the Sound of musical instruments"(1922), "the Feeling of the night"(1924) through the image of feelings displays their attitude to socio-political problems. His style is reflected in the image of the region turned into ruins, against a background of bleak feelings. As a result of the aggressive policy of the Soviet state the country was reduced to ruins and this is evident in the following lines of the verse:

On crushed houses, fallen roofs  
 Dreams cry.  
 In the edge of poverty and need  
 Quietly moans sorrow, eternal suffering.  
 From the ruins of the fence  
 A silent moan rises [1.25].

Or in the poem "Evening Ferghana" against the background of the evening landscape of a beautiful valley with wide hilly steppes, where the silhouettes of mountains loom on the horizon, where the moon sprinkles silver rays, a lyric hero suddenly bursts in, dissatisfied with the aggressive policy of the Soviets, suffering at the sight of everything that is happening in Ferghana. The expert on Aibek's work is Professor H. Yakubov rightly emphasized that "in the poems "Winter evenings", "the Appearance of twilight", "Evening Ferghana", "waiting", "Persuasive request", "Feeling of night", "on the mother's grave", "Gardener", "birds Fly", "Autumn and the girl" in the image of the landscape, one feels hopelessness and despair. The feeling of loneliness, sad cares with every breath compresses the bleeding, wounded soul of the poet" [2.12]. In the following lines from the poem "Evening Ferghana", notes of protest are loudly heard

The mountains are as lonely as spring,  
 Empty, wide gardens as my soul.  
 She was crying silently,  
 And my heart was torn by it. [1.18]

In philosophical poems depicting the infinity and eternity of nature, Walt Whitman also created lines in which the sounds of a drum call for a fight with planters "Play", drum, play! » [3.25].

Walt Whitman entered American literature as a democratic poet. In his poems, he showed images of ordinary people-farmers, workers, sailors, participants in the civil war of 1861-1865, fighters for the liberation of slaves. Walt Whitman's lyrical hero speaks on behalf of the common people, expresses their experiences and feelings. The image of the eternity and beauty of the universe, the purity, transparency and inexhaustibility of the morning dawn:

The city sleeps, and the village was asleep,  
 Live sleep, how much, and the dead awake,  
 how many it is necessary,  
 An old man sleeps with his wife, and a young  
 man sleeps with his wife,  
 And all of them will flow into me, I will flow  
 into them.

And they are all me.  
 Out of them out of all and out of every one I will  
 make this song about myself, –  
 directly affected the creation of the following Aibek  
 lines:

The weary day went to bed,  
 Away from the birdsong gardens.  
 The voices of some muezzins are quiet,  
 Trembling dissipate into emptiness. [1.93] –  
 And, the continuous movement of the universe, its  
 sounds, color transformations, the spiral movement  
 of eternity are reflected in the last lines of the poem:

The old farmer shaking the Arba,  
 He drove past me quietly.  
 Black roads... watching the imagination of a  
 young

On the sky Golden-eyed beauty..., -  
 The poem "brier" (1936) also praises the  
 Majesty and selflessness of the brier. The  
 steadfastness and steadfastness of the wild rose is  
 celebrated as the creation of wild mountains, which  
 makes the silvery snows shed bitter tears. The poem  
 depicts a beautiful, unique picture of nature that the  
 poet saw in the Chimgan mountains. And it seems  
 that there is a hint of a continuing policy of  
 repression. When a society that sheds the innocent  
 blood of thousands of people, we see on the bosom of  
 the wild mountains representatives of the  
 intelligentsia who give people a boon.

From the last  
 Turquoise mountain air  
 Gently shines all his creativity.  
 An amazing creation of wild mountains.





High, high dancing brier,  
Glad to give the sun a bouquet of flowers! –  
This poem involuntarily resembles an image from Walt Whitman's poem "the First dandelion". The poem exalts the ability, grace of the dandelion, which breaks through the winter appearance and confronts a society based on politicking and wealth.

Aybek and his contemporaries lived and worked at a time when those who exalted and glorified their people were called "nationalists", and those who at the expense of humiliating other peoples glorified "big brother" were called "patriots". But they were deeply aware that the stability of society depends entirely on the friendliness and love of people, and world peace depends on the friendship between peoples. These factors can explain the fact that the idea of glorifying the friendship of peoples runs through the work of Aybek. Maybe it was the idea of glorifying friendship between peoples that drew Aybek's special attention to the works of the American poet.

Under the influence of Walt Whitman's poem "in the arms of sorrow and thoughts", where the idea of glorifying the friendship of peoples is sung on major notes, the Uzbek poet creates poems "to the Warlike Spanish people", "War and peace", "Truthful", "the Capital of Pakistan", "to a Pakistani woman", "a Camp for emigrants".

Walt Whitman, along with the statement of the idea that the stability of society, its development and cohesion are associated with the friendship of people, also emphasizes the creative reflection of the idea in the following lines:

I see a wonderful ball, not rushing through space...

I see a magical shift of light and shadow,  
I see distant countries, as close as their native inhabitants,  
like my country to me.

When analyzing the influence of Walt Whitman's work on Aybek, we should not lose sight of the following fact – Aybek's poetry is in all respects not inferior to the poetry of the American poet, and in some aspects even surpasses it. If by the dictates of fate these two great masters of the word, who lived in different parts of the world at different times, if there were translators who translated the works of Uzbek poets into English, undoubtedly, Whitman would also be impressed by the works of Aybek, would study the secrets of his skill. When studying and defining common sides in the works of Walt Whitman and Aybek, the following words of Jamal Kamol are important: "in our opinion, the unified pathos of Aybek's poetry, in his individual style, plays a defining role in two important points connected with each other:

1) aims always and everywhere to see and assert grace, in a certain degree a principle

proceeding from his original belief that "a poem is a moral beauty»;

2) have an epic view within the lyric genre, the principle of seeing, illuminating the lyric state with an epic view, the lyric picture»[4.111-112]. The above aspects can be seen in the works of Walt Whitman. In his poem "Miracle" in this form reveals the wonder received from a world full of secrets. The universe-which is constantly in motion, boundless space, the complex world of man, the feeling of delight from the iridescent colors of nature is also the basis of Aybek's poems. In the poem "Four of nature", the poet reveals natural phenomena, admires the transfusion of colors of the seasons

I can't get enough-the sun is on the horizon  
I get drunk when they float in the sky  
Scarlet clouds.

After a long time I remain in thought. [11.314]

At the time when the alarm sounded that "we do not expect from nature mercy and benevolence" Aybek praises the person who is a particle of the universe, and emphasizes that there are a great many things and phenomena that humanity is not able to understand. The feeling of surprise is vocally expressed in the following lines of the poem: "Everyone's eyes are happy at the sight of a green leaf, at the sight of a delicate flower. Does a particle of the sun create incomprehensible magic, art?"

Another point of contact between the works of Walt Whitman and Aybek is the primacy of unshakeable optimism. This is observed in the similarity of the poets' life paths. In the last years of their lives, despite the fact that they were both bedridden with paralysis, they continued to write optimistic works. The following point of view of Professor N. Karimov about this period of Aybek's life is important: "because he lived at the time when the names of Chulpon and Fitrat were blackened, and during his life, and even after his death, he was not evaluated in a worthy way. However, during his lifetime, he was repeatedly awarded various titles and awards for his creative activity. These titles and awards for other writers could serve as a defense against any attacks. But due to the fact that the fight against Aybek, these attacks were directed from above, the defense was shattered and the 46-year-old writer was paralyzed, bedridden for the rest of his life. Despite the fact that he severely damaged his tongue and hands, until his last breath, he continued to engage in creative work»[5.298]. But despite all the peripetia of fate, all the hardships Aybek never complained, did not complain about society or people, but on the contrary, even in his last lines there is a spirit of optimism "Half the sky was covered by a rainbow, what a charming nature! The sky is full of pleasure and joy, what is it-sadness and grief!" [11.330]



Thus, in the works of Walt Whitman and Ibsen, there is the following commonality and creative influence:

- In images and interpretations of the universe full of magic and miracles, in peculiar expressions of a sense of wonder;

- Reflection on the background of feelings of socio-political issues;

- Achievement of an epic scale within the lyric genre, the ability to show the possibilities of lyric-epic images through story poems;

- In socio-political, philosophical, moral and poems dedicated to the phenomena of nature, there is a priority of optimism.

There is no doubt that the works of these great masters will continue to serve faithfully to strengthen cultural, literary and friendly relations between our peoples.

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## FORMS OF SELF-EMPLOYMENT IN THE LABOR MARKET

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### ABSTRACT

*The article provides scientific observations on the reduction of aggregate demand, quarantine and restrictions due to the global spread of coronavirus, as well as some factors that reduce the negative impact on employment and income. While studying the forms of self-employment in recession conditions, unconventional approaches to the development and evaluation of their legal, economic and social criteria have been proposed.*

**KEYWORDS:** recession, labor market, self-employment, private farming, private entrepreneurship, personal labor.

### INTRODUCTION

Quarantine and restrictions in order to protect the health of the population due to the spread of coronavirus infection worldwide have led to a sharp decline in production, a significant decline in business and entrepreneurship, and an ultimate reduction in income and employment. The recession and the decline in aggregate demand will further exacerbate the disparities and sharpness of the labor market in the Republic of Uzbekistan, which has excess labor resources. In particular, the impact of the pandemic restrictions on the employment of businesses and the population is leading to a sharp increase in the share of the unoccupied labor force in the country at the expense of those who operate informally. According to official statistics, "for the first time in 2019, the number of people employed in the official sector increased by 3.7% compared to 2018 and amounted to 5,712.1 thousand people. The number of people employed in the informal sector (excluding migrant workers) was 5,368.3 thousand"[8].

In order to provide social protection to the population and to support economic and entrepreneurial entities in the recession period, the President of the Republic of Uzbekistan issued Resolutions, besides government decisions and orders were made. Resolutions were:

1. "On additional measures to support the population, sectors of the economy and businesses during the coronavirus pandemic" was issued on April 3, 2020, No. PR-5978
2. "On priority measures to mitigate the negative impact of the coronavirus pandemic

and the global crisis on the economy" was issued on March 19, 2020 No. PR-5969

These legal and normative documents set the task of effective use of appropriate methods and mechanisms of socio-economic support of the population in the conditions of a sharp decline in aggregate demand, the timely solution will directly provide employment and income to the population.

### MATERIALS AND THEIR DISCUSSIONS

However, globally, it is still keeping important to ensure that employment of the population is provided, in spite of the limited opportunities and conditions at home, where economic and labor activity is limited. Some aspects of this problem are fully covered in the research work on employment of the population in conditions of limited labor movement and resources [3,4,5,6].

The main direction of the effective use of existing labor resources in the conditions of recession and quarantine is the state support, development and widespread promotion of employment in the private labor sector. In our opinion, the significant share of young people in the economically active population of our country, the psychological barriers to entry of women into the labor market, and a lack of interest in the traditional way of working with young children outside the household have a significant impact on employment in the "private labor" sector.

Russian scientist Patsiorkovsky V.V in his research draws attention to the fact that the labor activity of about 40 million people in the Russian Federation is carried out directly through self-



employment, and more fully reveals its theoretical and practical aspects. According to his study, this self-employment is mainly carried out in three forms: individual entrepreneurship, private farming and micro-self-employment [5]. Although we consider that the forms of employment in this approach are more comprehensive, we do not consider it appropriate to include the phrase "micro-self-employment" used by the economist in economic terms.

There are a number of approaches in the research of local and foreign scientists devoted to the scientific study of issues related to self-employment in the labor market [3,4,5,6]. There are a number of scholars, Abdurahmonov K., Kholmuminov Sh., Arabov N., Tashpulatov A. and others, that widely disseminated scientific and theoretical aspects of labor economics and employment issues in our country. and other aspects and manifestations of self-employment. However, these studies do not fully cover the socio-economic significance, main directions, trends, forms and other aspects of the sharp decline in production, the forced restriction of labor activity and jobs, and self-employment in quarantine cases.

Academician Abdurahmonov K. summed them up when discussing the issues of self-employment: "Employment on private farms is an integral part of the rural way of life, an element of the rural people's way of life. When working on the land, the farmer feels like a master. It requires diligence and entrepreneurship, which is why in the future, if market relations develop, there will be a private farm, but its composition, form and methods of operation may change. People engaged in such activities are provided with tax and credit benefits, and work experience in a personal household is included as the period of employment." [3].

Some economists have widely used the terms "domestic labor" and "individual labor activity" as alternative forms of self-employment in scientific research [4]. Of course, in the context of the digital economy, globalization, the Internet and other communication systems, there is no need or opportunity to limit the forms and methods of self-employment. However, there are cases when it is necessary to determine the legal status of traditional forms of self-employment. These include the disclosure of employment statistics, the creation of appropriate working conditions, taxation, and the provision of a guaranteed retirement pension.

There is not the definition, forms and features of self-employment of citizens in the National legislation, in particular, the Civil Code of the Republic of Uzbekistan, the Labor Code, the Law of Employment. However, Article 2, paragraph 6, of the Law of Employment states: "... self-employed, including entrepreneurs, artisans, family members,

farmers, cooperatives, farmers and others formed legally"- defined as employers [1].

At the same time, in other normative-legal documents, the definition of self-employment, which is a form of self-employment, and the definition of concepts and concepts in the field of private gardening, were discussed, but the status of other areas of self-employment were not explained. For the first time, the legal expression of self-employment is reflected in the Resolution of the President of the Republic of Uzbekistan dated March 5, 2019 No. PR-4227 which stated "On the state order to ensure employment and create new jobs in 2019." nevertheless, definition, forms, criteria and signs are still not given [2].

In our opinion, it is expedient to interpret self-employment in the national labor market as "private labor", which is more widespread and widespread than individual entrepreneurship and private farms. This field of activity includes employment in the production of local and traditional products (home-based work, confectionery, handicrafts, etc.), as well as in various services (outsourcing, freelancing, tutoring, delivery, recruitment, etc.).

The types of activities in the labor market, which require high technology and skills, such as IT, transport, communications, services, consumer services, can be assessed as individual entrepreneurship and business-related employment. Self-employment can also be transformed into other forms of personal work.

Among the citizens who are informally self-employed in the native labor market, engaged in day-to-day and part-time work are craftsmen (various industries), repairmen (various industries), private (rented) people and haulers, haulers, porters and porters. (various fields), bakers (various fields), waiters, hairdressers, cosmetologists, manicurists, etc. caregivers, care for the sick and the elderly, housekeeping, plumbing and electrical work, car repair and washing, tutoring, dry cleaning, pesticides, cleaners, security guards, videographers, security guards and other services. recipients and others.

The main forms of self-employment in the native labor market, where the supply of labor is in excess of demand, and their comparative description have been developed (Table 1). The descriptive features of each of the proposed forms are of a recommendatory nature, and the statistical figures contained in them are taken from the Internet [7, 8, 9,10,11,12].

In the research, the description of private farming and private entrepreneurship, areas of activity, characteristics, legal and economic criteria, as well as other aspects are generally expressed, while the self-employment of citizens.



### Forms of self-employment

#### DESCRIPTION

1.	Descriptive features	Private farm	Private entrepreneurship	Private labor
2.	Purpose	Lifestyle	Owning private business	Necessity
3.	Task	Reproduction	Economic Development	To provide family needs
4.	Reason	Necessity	Personal Interest	Satisfaction
5.	Legal status	Defined partially	Defined clearly	Undefined
6.	Registration Procedure	Exist	Exist	Not Exist
7.	Commercial Activity	Small-scale Commodity	Active entrepreneurship	Financial support of the family
8.	Hiring labor	Family members	Up to 3	None
9.	Forms of activity	Unlimited	Limited	Unlimited
10.	Taxation process	Controlled	Controlled	Uncontrolled
11.	Social protection	Partially protected	Protected	Unprotected
12.	Form of cash	Mainly in cash	In cash	Material and in cash
13.	Quantity	More than 5000 k*	More than 250 k*	About 6000 k*
14.	Condition during the recession	Unlimited	limited	Partially limited

The table shows that the legal, economic and social status of citizens working in the private labor sector is not clearly defined.

### CONCLUSION

In the context of the ongoing recession, it is necessary to develop and implement measures for the official registration of informal employment, taking into account the powers and capabilities of public authorities in the implementation of labor relations in the legal field. It is recommended to use the following measures:

- Determining the current status and quantitative parameters of official employment in enterprises operating in the field of production and exchange. As a result, in times of recession, the government will be able to support enterprises that provide traditional employment.

- Identify key areas of labor supply through monitoring of employment, unemployment and the level of households. Identification of areas and areas of activity necessary for families and households and ensuring their free operation and income, provided that they follow the established rules.

- Introduce a procedure for allowing business owners and business entities to continue their activities at the same time as the official registration of employees, taking into account the gradual removal of quarantine restrictions. As a result, there is an opportunity to clarify the specific indicators of informal employment in the labor

market, to develop mechanisms for their official registration and social security.

- Introduce mechanisms for allocating grants and low-interest loans to self-employed people in the private sector and in the private labor sector to reduce poverty and unemployment;

- Development, publication, distribution, promotion, etc. of methodological and practical recommendations that provide information on traditional, non-traditional and modern forms of self-employment in the private labor sector. Along with traditional and modern forms of employment in the period of reduction of production and decline in aggregate demand, the use of socially useful and profitable forms of labor in the household and the family, along with the economic benefits, is an important benefit to society as a whole.

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# PEDAGOGICAL FOUNDATIONS OF THE ORGANIZATION OF SPIRITUAL AND MORAL EDUCATION

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## ANNOTATION

*Currently, there is a need for further improvement of moral and spiritual educational work among young people. Without morality, man cannot be a conscious social being. Therefore, moral education occupies a fundamental place in the comprehensive and free development of the individual.*

**KEY WORDS:** moral and spiritual educational, thinkers, education, evasion, spirituality, extinction, students, youth, reason.

## INTRODUCTION

The main task of education are moral, free-thinking and physical development of the individual, creating opportunities for the full disclosure of its abilities. This was reported by scientists and thinkers of the East such as, "Kutadgu Bilig" Yusuf Khos Hadjib, "Hibbat ul-khakoyik" Ahmad Yugnaki, "Gulistan" Muslihiddin Saadi, "Koshusnoma" Unsure Malia of Kaykovus, "the morality of Jaloliddin Davani" of Imam Ismail Bukhari, "Comeu-as Sahih", "al-adab al-mufrad", "At-term" cunnan", "Jawahiri of wisdom "by Abu Nasr forobi," Fazil Shahri", "Treatise on happiness", "memory of past generations" by Abu Rayhan Beruni, " data collection for the study of Jawahiri", " India", "a Treatise on ethics" by Abu Ali Ibn Sina", It found its expression in such works as " the sage", "Treasure of knowledge", "treatise on ethics".

It is known that from time immemorial, our ancestors paid serious attention to the issues of human education, and this tradition was passed down from generation to generation, improving and enriching the avoidance of new methods. Even now, a person's spirituality depends on education. Ill-bred spirituality finds security, like a building without a Foundation, in which there is no right to comment on this case. Therefore, there is a strong decline in the educational process throughout the country.

Also, the formation of personal spirituality is

carried out in all educational institutions together with the family. This means that the family, preschool education, school and other educational institutions are responsible for the formation of moral qualities of the individual. The team of teachers of schools and extracurricular educational institutions (students, class teachers, Directors of spiritual and educational work, children's leaders, etc.) Always has the duty to teach students to lead a life based on universal rules of behavior.

It is desirable that the activities carried out within the framework of moral education of students should be carried out using the following forms and methods:

- "Methods that affect the minds of students" - organization of comics, narratives, lectures and seminars, conversations on spiritual and moral topics, beliefs, demonstration of examples, discussions, meetings, press conferences, competitions. working with press materials, educational and auxiliary literature.

- Moral behavior, methods that contribute to the enrichment of life experience in this regard-official and labor games, competitions and posters, magazines on moral topics, preparation of albums. the solution to the moral problem situations, etc.



## OBJECTIVES

In the organization of spiritual and moral education, the vision of work, based on the following tools, gives an effective result: personal support for students, the process of forming public opinion, mass media, fiction, demonstration of models, visual weapons, spiritual and moral relations.

In the system of spiritual and moral education, conversations on spiritual and moral topics are of particular importance. Such conversations can be colorful in terms of content. The main task of conducting conversations about moral content is social and moral attitude, which is expressed in teaching students to find a certain attitude, to give a correct assessment of their content in relation to various employees.

Spiritual and moral conversations serve as a means of providing (and strengthening them) information about the moral imagination, understanding, deepening, clarifying knowledge, and new information for students.

## METHODOLOGY

The topic of conversations in the spiritual and moral context is determined by the spirituality of a person—from the General idea of morality, the level of education of students, as well as their interests and needs. In some cases, an event may be the subject of conversation. The interviewer develops his plan or main questions, which he informs the participants of the conversation in advance, determines the speakers on some issues, and prepares the speech for the speech. Appropriate literature is recommended for conducting an interview. For interviews, evidence is collected based on examples described in readers' biographies and fiction.

The conversation begins with an introductory question from the host, and feedback from the participants is listened to. Based on the comments made, the conversation material will be filled in, summarized and summarized.

The implementation of narratives with the participation of a group or the demonstration of theatrical performances on a particular topic will further increase the power of influence. The conversation should take place in a friendly and positive emotional environment. The interviewer should listen carefully to readers' responses, encourage those responses that are acceptable, and correct those responses that are inappropriate within the framework of etiquette.

Discussions also play an important role in ensuring the moral and ethical excellence of students. Discussions on spiritual and moral topics serve to give students a correct assessment of a particular situation, about employees, teach them to think about it, as well as to form an image of it. Discussion regulates the course of thought, teaches students to

think independently, organize discussions, listen to their partner, put forward their own opinion and defend it figuratively, while at the same time admitting their mistakes.

## STATISTICAL DESIGN

The group will work out 5-6 questions together with class activists for discussion. Participants gain a pre-determined weight. In the course of discussion, the word must be bright and lively. You are not allowed to read the finished text. At the end of the discussion, the opinions are summarized, corrected, and supplemented. Knowing the audience, working with group and class activists, and inviting experts to the discussion will ensure the success and educational impact of the discussion. The discussion is clear and does not require a final decision.

Persuasion is a method of education, one of the main methods of forming the spiritual and moral worldview of the reader. In the method of persuasion, the teacher influences the minds, consent, oratory, and will of the students. Form positive qualities of morality and other people in their character through maturation, reduce vices. Protects against negative qualities. Persuasion is a method based on universal values, national traditions and traditions, and a philosophical worldview to which a person is formed based on a deep understanding of the ideology of national independence and its true essence.

Positive personal example is a method that can occupy a special place in the formation of the personality of students, which is the most subjective way to influence a person through the personality.

The content of moral education is manifested primarily in the practical activities of students, in their studies, work, public Affairs, in the nature of their relationships, in the acquisition of methods of interaction, norms of behavior.

Moral education is carried out throughout the life of a person, taking into account age, and the sphere (the sphere of family, friends and associates), which negatively affects the correct orientation of the pupil. The method and methods of moral education have a special feature in the organization of such special work as conducting moral lessons for students. Giving moral knowledge fulfills several educational tasks: it gives a broad idea of the moral frames of human life and culture.

Based on concepts such as moral imagination, vision, reasoning, evaluation, moral values are influenced by ascension, i.e.:

- this will help students observe and enrich their moral experience;
- corrects knowledge gained about ethics from various sources;



- creates the ground for the moral education of the individual.

When organizing moral knowledge, it is necessary to take into account the age characteristics of students, their personal moral experiences, the level of awareness of moral norms, their relationship with the moral requirements of acquired knowledge in the field of morality.

Educational work is important in the activities carried out within the framework of moral education of students. One of the main and decisive factors in the organization of educational work is the training session, which should be based on the following areas of pedagogy. These include the following:

- class, group, love satining refined ointment;
- class, group dichos.

At present, long-term pedagogical research and work based on the best practices of specialists in this field, the correct orientation of the younger generation to life is one of the most pressing issues of our time, because the purposeful impact on them, first of all, the definition and careful planning of the content of educational hours of future teachers, classification by educational hours, as well as our national and universal values, is an indicator of great success.

"In the world of beauty". The essence of beauty in students, the difference between beauty and hunuk, ethical and aesthetic views, in clothing, in marriage, in work, in morality, in address and speech, in culture, in various fields of art, in poetry, in modern production pay attention to the signs of beauty in areas such as mining.

"A healthy mind in health". Pay attention to the fact that, depending on the age and personal characteristics of students, hygiene standards are observed, beauty, culture and personal health are the key to personal perfection.

"Psychological themes". Students focus on such concepts as conscience, duty, friendship, civil unrest, psychological self-preparation for the upcoming profession, assimilation and self-education, etc.

"Environmental education" is a gift of nature from students the responsibility for wealth should be assigned to those who are content with the concepts of preserving, reproducing and protecting their feelings for them to present and future generations.

It should be selected from popular Newspapers and magazines, pamphlets, samples of fiction on pedagogy and parenting, films, diafilms and slides, radio and television programs, topics aimed at educating the perfect person, covering the most important topical issues of our time, as well as life examples for students, for class hours, groups. Then it will be possible to attribute that the creative activity of the students of the class will be provided.

## RESULTS

During such periods, the productive use of technical tools and didactic-reproductive materials will undoubtedly lead to higher positive results of classroom training hours. A class, group, or study hour is an integral part of educational work, and for students, a class, group, or supervisor is a practical and creative activity.

First of all, the teacher must thoroughly prepare for the training that will be conducted in a class, group, or study hour with the selected text. In the process of teaching, the teacher should imbue their goal in the minds of students through various pedagogical influences, such as being an example with impressionable and expressive speech that can fill their hearts. Because school children are tired of the dry Oasis. A class, group, or educational Watch can be taken by a class, group, leader, or class, group, or one of the activists.

When determining the duration of classes, group study hours, it is recommended to take into account the personal characteristics of a teenage student and conduct them on a strict schedule once a week, while observing the rules of hygiene and health protection.

## SUGGESTIONS

The structure of the class group training hours. From the point of view of the class structure, group study hours, the content of your own leprosy, the main basic materials on which the plan - summary is compiled, there are 4 parts, namely: :

- introduction;
- main part;
- artistic part;
- it will consist of the final part.

## CONCLUSION

In conclusion, we can say that human perfection is formed in the course of a very complex and continuous process. His upbringing is directly influenced by his parents, school, neighbors, friends, community organizations, the environment, the media, art, literature, nature, and hockey. It is carried out in such a state that through the sphere of their interaction, the education of the individual and the unity of education are ensured.

The main goal of education is to develop and implement effective organizational and pedagogical forms and means based on the rich national, spiritual and historical traditions, customs and universal values of the people.

The main vaztsf of education is the development of the akla's personality, moral, free-thinking and physical, creating opportunities to fully reveal their abilities. To do this, you must: - preparing young people for free thinking, facilitating their understanding of the meaning of life, the



formation of self-government and control, a purposeful approach to their personal life, awakening in them a sense of unity of purpose and action:

- to acquaint readers with national and universal values, the rich spiritual heritage of our Motherland, the formation of requirements for the acquisition of cultural and secular knowledge, the qualification of dressing, education and the formation of aesthetic ideas;

- identify the knowledge and creative abilities of each teenager, develop them, introduce them to human activities in various fields;

- the formation of norms of humanitarian etiquette (understanding each other, intolerance of kindness, compassion, racial and national discrimination), the widespread use of educational tools, such as manners of treatment (injustice, deception, slander, intolerance);

- patriotism, secular thinking, long-term relationships with people living in our society-the study of communication, which is always a thing for your people, the state, its protection, respect for your state and the symbols of other States;

- education of respect for the legal social ethics and rules of life, the development of civil and social responsibility that determines the unique aspects of the individual, self-improvement of the country in which he lives, dedication to the sustainable development of humanity, environmental education.

It is also necessary to awaken the student's interest in the study of science, since the qualities of thirst for knowledge are an integral part of moral education. The role of a child in his group is determined from the very beginning by the success of his studies, the attitude of people around him is determined, success in reading raises the moral education of a child to a high level.

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# MASS TRANSFER COEFFICIENTS IN AN ABSORBER RECTOR IN THE UNIT OPERATIONS LABORATORY, THE TEMPERATURE PROFILE (2)

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## ABSTRACT

*In the first article Mass Transfer Coefficients in an Absorber Reactor in the Unit Operations Laboratory (1) reference [4], it was developed by students of the Faculty of Chemistry of the National Autonomous University of Mexico, UNAM. Students now obtain the temperature profile along the column by posing and solving the differential equation of energy balance (heat) that is a function of the temperatures of the liquid with the position  $TL = TL(z)$  and compare the results with experimental values that were obtained with thermocouples distributed every 22 cm throughout the top of the column. To solve the energy equation numerically, it is necessary to use the matter balance program developed in reference [4], to calculate the value of the individual coefficient of mass transfer on the liquid side  $k_L$  and with this value obtain the absorption speed in the presence of a chemical reaction at the interface using successive iterations of calculation and thus numerically solving the temperature profile of the liquid vs. the position in the column. With this type of experimentation, the teaching by competences is reinforced, a necessary teaching that a chemical engineer must possess.*

**KEYWORDS:** Balances of matter and energy in absorption with chemical reaction. MEA-H<sub>2</sub>O / CO<sub>2</sub>-air reaction system. Thermodynamic balance between phases in the presence of chemical reaction. Teaching by competencies.

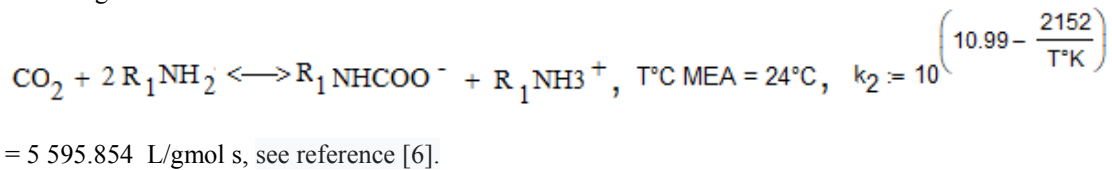
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## 1. INTRODUCTION

Chemical engineering education today is based on so-called competencies. Professional competencies are those that are learned during the career and that include the specific knowledge of the same, as well as the professional skills and attitudes of the students. The UNAM Chemical Engineering Laboratory is one of the places where these skills can be developed and refined through the development of laboratory experimentations, since during these apprenticeships' students must use their knowledge and apply it, as well as develop your personal skills and attitudes. In this laboratory unit operations are studied among other disciplines. There chemical engineering students experiment in various equipment, one of which is the absorption tower. In it, students are asked to experimentally find the individual gas-transfer and liquid-side mass transfer coefficients in the presence of a chemical reaction and to compare the temperature profiles of the theoretical models and experimental temperature data throughout the column.

## 2.- THEORETICAL FOUNDATIONS

It was mentioned in the first article [4] the system (MEA-H<sub>2</sub>O / CO<sub>2</sub>-AIR) that has a reaction mechanism made up of consecutive reversible reactions, but when adding and canceling the partial terms they generate the following 2nd order reaction and exothermic.



To study now the proposed model of heat as a function of liquid temperatures and the position TL = TL (z) within the column, the students of the Faculty of Chemistry used an absorption tower located in the Chemical Engineering Laboratory of the Faculty of Chemistry of the National Autonomous University of Mexico, UNAM. To do this, it was necessary to vary the experimental operating conditions to make observations and consider possible theoretical and practical simplifications.

For example:

- The reaction is fast enough to develop in the film of the liquid. This study is contemplated in the first article [4].
- The reaction is exothermic and increases the internal temperature in the column with increasing liquid phase feed flow.

2.1 To propose the models of the balance of matter [4] and now that of energy (heat), use Fig. (1)

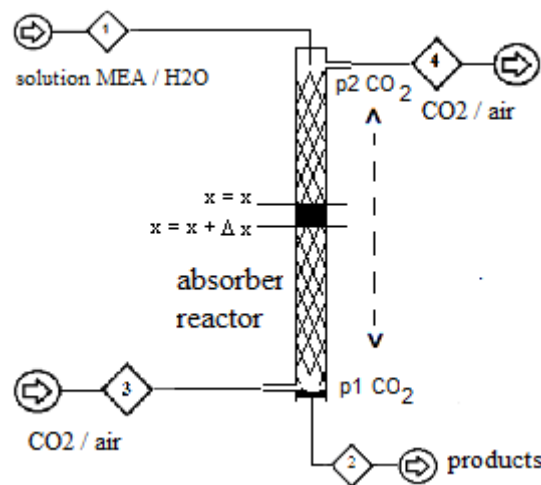


Fig. (1) Absorber Reactor

Assumptions:

- When using high mass flows of MEA / H<sub>2</sub>O, the reaction behaves like a pseudo-primer order with respect to solute A (CO<sub>2</sub>), [4].
- The longitudinal speed of the liquid is constant, there is no radial or angular speed, [4].
- Radial mixing is perfect, there are no radial concentration gradients.
- Axial diffusion is negligible, compared to convective axial effects.
- The density of the system is practically constant.
- The molar volumetric concentration of the soluble gas in the liquid in the column = 0, all CO<sub>2</sub> reacts in the liquid film.
- The partial pressures along the column have values very close to the values of equilibrium pressures at the interface.
- There are no radial or angular molar fluxes in the absorber-reactor, only longitudinal and temporary.
- Control of mass transfer resides in the film of the liquid phase.

COMMENTARY. - The changes in the z positions along the absorber-reactor of Fig. (1) are obtained by the following differential equation by solving for the z position, for this the partial pressures at the inlet and outlet of the column of known height h.

$$\frac{d^2 p_{CO_2}}{dz^2} = 0$$

border conditions (1)

$$\left. \begin{aligned} p_{CO_2} &= p_{1CO_2} \text{ to } z = 0 \\ p_{CO_2} &= p_{2CO_2} \text{ to } z = h \end{aligned} \right\} \text{solution} \rightarrow p_{CO_2} = \left( \frac{p_{2CO_2} - p_{1CO_2}}{h} \right) z + p_{1CO_2}$$

2.2- The following differential mass balance can be proposed for CO<sub>2</sub> in the liquid phase in the absorber reactor [4]:

$$\begin{aligned} -D_L \varepsilon A_T \left. \frac{\partial [A_0]}{\partial z} \right|_z + \varepsilon A_T L [A_0] \Big|_z + R_A a \Delta z A_T &= -D_L \varepsilon A_T \left. \frac{\partial [A_0]}{\partial z} \right|_{z+\Delta z} + \\ \varepsilon A_T L [A_0] \Big|_{z+\Delta z} + \varepsilon A_T \Delta z \frac{\partial [A_0]}{\partial t} - r \varepsilon A_T \Delta z & \end{aligned} \quad (2)$$

Dividing between the control volume (  $\varepsilon A_T \Delta z$  ) and taking limits equation (4) is obtained

$$\lim_{\Delta z \rightarrow 0} \left\{ D_L \left. \frac{\partial [A_0]}{\partial z} \right|_{z+\Delta z} - D_L \left. \frac{\partial [A_0]}{\partial z} \right|_z - \frac{L [A_0] \Big|_{z+\Delta z} - L [A_0] \Big|_z}{\Delta z} \right\} = \frac{\partial [A_0]}{\partial t} - \frac{R_A a}{\varepsilon} - r \quad (3)$$

If there is no accumulation in the permanent regime, and disregarding the convective and diffusive terms of the absorbed CO<sub>2</sub>, compared to the reaction in the film, and if also the absorption speed with reaction is appreciably greater than the physical absorption speed, we obtain:

$$\cancel{L \frac{\partial [A_0]}{\partial z}} + \cancel{\frac{\partial [A_0]}{\partial t}} - \frac{R_A a}{\varepsilon} - r = \cancel{D_L \frac{\partial^2 [A_0]}{\partial z^2}} \quad (4)$$

convection    accumulation    Absorption    reaction    diffusion  
 with reaction

$$\boxed{-\frac{R_A a}{\varepsilon} - r = 0} \quad (5)$$

2.3.- The following differential mass balance can also be proposed for the monoethanolamine in the liquid phase in the absorber reactor:

$$\varepsilon A_T L [B_0] \Big|_z = \varepsilon A_T L [B_0] \Big|_{z+\Delta z} - r \varepsilon A_T \Delta z \quad (6)$$

Dividing by the control volume (  $\varepsilon A_T \Delta z$  ) and taking limits to equation (6) is obtained

$$\lim_{\Delta z \rightarrow 0} \left\{ \frac{L [B_0] \Big|_{z+\Delta z} - L [B_0] \Big|_z}{\Delta z} \right\} = r$$

$\Delta z \rightarrow 0$

The differential balance for amine is:

$$\boxed{L \frac{d[B_0]}{dz} = r} \quad (7)$$

By equating (5) and (7) we arrive at

$$-\frac{R_A a}{\varepsilon} = L \frac{d[B_0]}{dz}$$

$$L d[B_0] = -\frac{R_A a}{\varepsilon} dz \quad (8)$$

Integrating equation (8) from the top to the bottom of the column we obtain:

$$\boxed{h = -\frac{L \varepsilon}{a} \int_{B_0 \text{ top}}^{B_0 \text{ bottom}} \frac{d[B_0]}{R_A}} \quad \text{ó} \quad \boxed{h = \frac{L \varepsilon}{a} \int_{B_0 \text{ bottom}}^{B_0 \text{ top}} \frac{d[B_0]}{R_A}} \quad (9)$$

2.4- Energy balance on the volume differential element located in some arbitrary distance z of Fig. (1), See reference [1].

Rapid flow of incoming energy = Rapid flow of exiting energy + Accumulated energy - Generated energy - Exchanged energy

If the total energy flux in z is defined as the sum of the diffusive and convective fluxes

$$e_z = q_z + \rho_L C_{pL} v_z (T_L - T_R) \quad (10)$$

Where is the reference temperature (for example, that of the environment)

$$q_z = \frac{Q_z}{A_T} = -k_{axial} \frac{dT_L}{dz} \quad (11)$$

The heat generated by the reaction is:

$$\Phi_H = r (-\Delta H_r), \text{ where } \Delta H_r \text{ is the enthalpy change due to the reaction and } r \text{ is the reaction speed} = -k_{Am} [Am] [CO_2]$$

An equivalent form of this term is to use the diffusive absorption-reaction flux through the interface, where the speed of reaction in the liquid phase does not occur in the bulk of the liquid but in the interfacial region [5], since It is a fast reaction that depends on the diffusive absorption flux.

$$\Phi_H = R_A a (\Delta H_{abs}) \quad (12)$$

Where the heat of absorption  $\Delta H_{abs} = (84.68 - 0.1135 \times T_L + 0.0027 \times T_L^2)$  in [kjoules / gmol] reported by Hanne M. Kvamsdal and Magne Hillestad [2], [3]. TL is the temperature of the liquid in the absorber reactor in [° C] and a is the specific gas-liquid interface area [m<sup>2</sup>/m<sup>3</sup>]

The volumetric heat loss to the neighborhoods of the column is calculated as:

$$Q_V = -h_{walls} a (T_L - T_{amb})$$

$$\text{Where } h_{walls} = 1000 \times 4.05 \times 10^{-3} \times \left( \frac{\rho_g V_g}{D_{hyd}} \right)^{0.5} (Cp_g)^{0.33} \text{ in [W/m}^2 \text{ K]} \quad (13)$$

$$\rho_g = [kg / m^3], \quad V_g = [m/s], \quad D_{hyd} = [m], \quad Cp_g = [j/m^3 K]$$

The foundations of this coefficient are found in the work of Hanne M. Kvamsdal and Magne Hillestad [2], [3], TL is the temperature of the liquid in the tower and T<sub>amb</sub> is the ambient temperature.

Substituting the previous equations in the general energy balance described above, the following is obtained:

$$A_T q_z|_z + A_T \rho_L C_{pL} v_z (T_L - T_R)|_z = A_T q_z|_{z+\Delta z} + A_T \rho_L C_{pL} v_z (T_L - T_R)|_{z+\Delta z}$$

$$+ \Delta z A_T \rho_L C_{pL} \frac{dT_L}{dt} - \Delta z A_T \Phi_H - \Delta z A_T Q_V \quad (14)$$



Dividing equation (14) by the control volume  $(A_T \Delta z)$  and taking the limit when  $\Delta z \rightarrow 0$ , the following differential equation is obtained:

$$-k_{axial} \frac{\partial^2 T}{\partial z^2} + \rho_L C_{pL} v_z \frac{\partial T}{\partial z} + \rho_L C_{pL} \frac{\partial T}{\partial t} - \Phi_H - Q_v = 0$$

diffusion o
convection
accumulation
generation
energy
(15)

conduction



exchange

If in equation (15) the term axial conduction is neglected and if this reactor operates continuously in a stable state, then there is no accumulation of energy, it also operates as non-adiabatic and non-isothermal. The following model is obtained:

$$-k_{axial} \frac{\partial^2 T}{\partial z^2} + \rho_L C_{pL} v_z \frac{\partial T}{\partial z} + \rho_L C_{pL} \frac{\partial T}{\partial t} - \Phi_H - Q_v = 0$$

diffusion o
convection
acumulation
generation
energy

conduction



exchange

$$\boxed{\frac{dT}{dz} = \frac{\Phi_H + Q_v}{V_z \rho_L C_{pL}}} \tag{16}$$

where  $v_z = \frac{\text{volumeric flow}}{\text{cross flow area beetwen packages}}$ ,  $\rho_L$  is the density of the liquid and  $C_{pL}$  is the specific heat at constant pressure of the liquid.



### 3.- EXPERIMENTAL DATA AND CALCULATIONS

The equipment used for experimentation was as follows

**The equipment has the following specifications:**  
 Internal column diameter: 5.08 cm  
 Flow cross-sectional area (ATF): 14.66 cm<sup>2</sup>  
 Packed height: 106 cm  
 Construction material: Glass  
 Packaging: External diameter, internal diameter and length glass Raschig rings 0.703 cm 0.545 cm 0.854 cm  
 Chromatograph: Gow-Mac electrical conductivity  
 Fraction of hollows  $\epsilon = 0.70$   
 $a = 0.839 \text{ cm}^2/\text{cm}^3$   
 $a_t = 7.169 \text{ cm}^2/\text{cm}^3$   
 Six thermocouples installed each through the column 22 cm

Absorption tower brand PIGNAT in the Chemical Engineering Laboratory

**Fig. (2) Absorber Reactor**

3.1 In experimentation the students obtained the following results shown in the Table (1)

**Table (1).** Experimental Temperature Data

The experimental values of the temperatures were obtained by means of six thermocouples distributed every 22 cm throughout the column, these are interconnected to a MODEM located in the right corner of the equipment and then to the central computer of the Chemical Engineering Laboratory.

Position z (cm)	Temperatures (°C)		
	5 L / h	8 L / h	10 L /h
0	24.1	24.2	24.2
22	28.1	28.5	29.0
44	31.2	32.0	32.4
66	33.2	33.7	35.2
88	34.4	34.6	38.0
110	34.4	36.4	38.9

**Table (1).** Experimental Data of Flows and Concentrations

Feeding air temperature = 24 °C. Temperature of the fed CO<sub>2</sub> = 23 °C. Hollow fraction  $\varepsilon = 0.70$ . Inlet air density =  $1.204 \cdot 10^{-3} \text{ g / cm}^3$ . Cross flow area between packages = 14.66 cm<sup>2</sup>. Inlet CO<sub>2</sub> density =  $1.885 \cdot 10^{-3} \text{ g / cm}^3$  Density of the liquid mixture fed  $1.004 \text{ g / cm}^3$

Feed flow (L / h)	Concentration MEA N = gmol / Lsol		Concentration MEA (% in mass) % mass = 6.064 (N) + 0.0231 (g MEA / g solution)		Q <sub>air</sub> (m <sup>3</sup> / h)	Q CO <sub>2</sub> (L / h)
	entrance	exit	entrance	exit		
5	2.76 N	1.28 N	16.76 %	7.78 %	2.606	257.127
8		1.35 N		8.20 %		
10		1.70 N		10.33 %		

**3.2** Evaluation of the terms of the heat balance of the Eq. (16) using the experimental data in Table (1).

$\frac{\partial T}{\partial z} = \frac{\Phi_H + Q_V}{v_z \rho_L C_{pL}}$	$\frac{^\circ\text{C}}{\text{cm}} = \frac{\frac{\text{cal}}{\text{s} \cdot \text{cm}^3} + \frac{\text{cal}}{\text{s} \cdot \text{cm}^3}}{\frac{\text{cm}}{\text{s}} \cdot \frac{\text{gmol}}{\text{cm}^3} \cdot \frac{\text{cal}}{\text{gmol} \cdot ^\circ\text{C}}}$
<p><b>The speed of the liquid <math>v_z</math></b></p> $V_z := \frac{\text{Le} \cdot \frac{1}{3600} \cdot \frac{1000}{1}}{\text{ATF}}$ $\frac{\text{cm}}{\text{s}} = \frac{\frac{\text{L}}{\text{h}} \cdot \frac{1\text{h}}{3600 \cdot \text{s}} \cdot \frac{1000\text{cm}^3}{\text{L}}}{\text{cm}^2}$ $V_z = 0.095 \frac{\text{cm}}{\text{s}}$	
<p><b>The heat capacity of the constant pressure-fed liquid CPL</b></p> <p>TLe := 24 °C</p> <p>TLe°K := TLe + 273.15</p> $C_{p\text{H}_2\text{O}} := (92.053 - 3.9953 \cdot 10^{-2} \cdot \text{TLe}^\circ\text{K} - 2.1103 \cdot 10^{-4} \cdot \text{TLe}^\circ\text{K}^2 + 5.3469 \cdot 10^{-7} \cdot \text{TLe}^\circ\text{K}^3) \cdot 0.2369$ $\frac{\text{cal}}{\text{gmol} \cdot ^\circ\text{C}} = \frac{\text{Joule}}{\text{gmol} \cdot ^\circ\text{K}} \cdot \frac{0.23901 \cdot \text{cal}}{1 \cdot \text{Joule}}$ $C_{p\text{H}_2\text{O}} = 17.904 \frac{\text{cal}}{\text{gmol} \cdot ^\circ\text{C}}$	



$$T_{Le} := 24 \text{ } ^\circ\text{C}$$

$$T_{Le}^{\circ\text{K}} := T_{Le} + 273.15$$

$$C_{p_{H_2O}} := \left( 92.053 - 3.995310^{-2} \cdot T_{Le}^{\circ\text{K}} - 2.110310^{-4} \cdot T_{Le}^{\circ\text{K}^2} + 5.346910^{-7} \cdot T_{Le}^{\circ\text{K}^3} \right) \cdot 0.2369$$

$$\frac{\text{cal}}{\text{gmd} \cdot ^\circ\text{C}} = \frac{\text{Joule}}{\text{gmd} \cdot ^\circ\text{K}} \cdot \frac{0.23901 \text{ cal}}{1 \cdot \text{Joule}}$$

$$C_{p_{H_2O}} = 17.904 \frac{\text{cal}}{\text{gmd} \cdot ^\circ\text{C}}$$

$$C_{p_{MEA}} := \left( 23.11 + 1.2283 T_{Le}^{\circ\text{K}} - 3.121810^{-3} \cdot T_{Le}^{\circ\text{K}^2} + 3.071410^{-6} \cdot T_{Le}^{\circ\text{K}^3} \right) \cdot 0.23901$$

$$C_{p_{MEA}} = 46.138 \frac{\text{cal}}{\text{gmd} \cdot ^\circ\text{C}}$$

$$C_{pL} := \left[ C_{p_{MEA}} \cdot x_{\text{MolarMEA}} + C_{p_{H_2O}} \cdot (1 - x_{\text{MolarMEA}}) \right]$$

$$C_{pL} = 19.486 \frac{\text{cal}}{\text{gmd} \cdot ^\circ\text{C}}$$

The density of the fed liquid  $\rho_L$

$$\rho_L := \rho_L \cdot \frac{1}{P_{M_{MEA.H_2O}}}$$

$$\frac{\text{gmd} \cdot \text{mezcla}}{\text{cm}^3} = \frac{\text{g} \cdot \text{mezcla}}{\text{cm}^3} \cdot \frac{\text{gmd} \cdot \text{mezcla}}{\text{g} \cdot \text{mezcla}}$$

$$\rho_L = 0.049 \frac{\text{gmol mezcla}}{\text{cm}^3 \text{ mezcla}}$$

Volumetric heat flow through the walls of the column  $Q_v$

$$Q_v = -h_{\text{walls}} \cdot a \cdot (T_L - T_{\text{Amb}})$$

$T_L$  = Variable temperature along the function column (z)

$T_{\text{Amb}} = 24 \text{ } ^\circ\text{C}$

$$a = 0.839 \frac{\text{cm}^2}{\text{cm}^3}$$

The heat transfer coefficient

$$h_{\text{walls}} = 1000 \times 4.05 \times 10^{-3} \times \left( \frac{\rho_g V_g}{D_{\text{hyd}}} \right)^{0.5} (C_{p_g})^{0.33}$$

The hydraulic diameter of tower	<p>Cross flow area ATF = 14.66cm<sup>2</sup></p> $R_{\text{torre}} := \sqrt{\frac{\text{ATF} \cdot \left(\frac{1}{100}\right)^2}{\pi}}$ $D_{\text{hyd}} := 2(R_{\text{torre}})$ $D_{\text{hyd}} = 0.043 \text{ m}$
Density of the gaseous mixture fed to the tower	<p>T°Cco2 = 23 °C      T°Cair = 24 °C</p> $\rho_{\text{CO}_2} := -5 \cdot 10^{-6} \cdot T^{\circ}\text{Cco}_2 + 0.002 \quad \frac{\text{g}}{\text{cm}^3}$ $\rho_{\text{AIR}} := -4 \cdot 10^{-6} \cdot T^{\circ}\text{Caire} + 0.0013 \quad \frac{\text{g}}{\text{cm}^3}$ $\rho_g := [\rho_{\text{CO}_2} \cdot y_{\text{MolarCO}_2e} + \rho_{\text{AIR}} \cdot (1 - y_{\text{MolarCO}_2e})] \cdot \left(\frac{100}{1}\right)^3 \cdot \frac{1}{1000}$ $\frac{\text{kg}}{\text{m}^3 \text{mezcla}} = \frac{\text{g}}{\text{cm}^3} \cdot \left(\frac{100\text{cm}}{1\text{m}}\right)^3 \cdot \frac{1\text{kg}}{1000\text{g}}$ $\rho_g = 1.284 \quad \frac{\text{kg} \cdot \text{mixture}}{\text{m}^3 \cdot \text{mixture}}$
Speed of gaseous mixture fed to the tower	$Q_{\text{air}} := 2.606 \quad \frac{\text{m}^3}{\text{h}} \quad Q_{\text{co}_2} := 257.127 \quad \frac{\text{L}}{\text{h}} \quad \text{ATF} = 14.66 \quad \text{cm}^2$ <p>Tair := 24 °C      T°Cco2 := 23 °C</p> <p>Calculate <math>G = 1.284 \quad \frac{\text{kgmol} \cdot \text{Mixture}}{\text{h}}</math></p> <p>Calculate <math>PM_{\text{Air.CO}_2} = 30.757 \quad \frac{\text{kg} \cdot \text{Mixture}}{\text{kgmol} \cdot \text{Mixture}}</math></p> <p>Calculate <math>\rho_g = 1.284 \quad \frac{\text{kg} \cdot \text{Mixture}}{\text{m}^3 \cdot \text{Mixture}}</math></p> $V_g := G \cdot \frac{1}{3600} \cdot (PM_{\text{Aire.CO}_2}) \cdot \frac{1}{\rho_g} \cdot \frac{1}{\text{ATF}} \cdot 100^2$ $\frac{\text{m}}{\text{s}} = \frac{\text{kgmol} \cdot \text{mezcla}}{\text{h}} \cdot \frac{1\text{h}}{3600 \cdot \text{s}} \cdot \frac{\text{kg}}{\text{kgmol}} \cdot \frac{\text{m}^3}{\text{kg}} \cdot \frac{1}{\text{cm}^2} \cdot \left(\frac{100\text{cm}}{1\text{m}}\right)^2$ $V_g = 0.536 \quad \frac{\text{m}}{\text{s}} \quad \text{In these units it is asked in the correlation}$



Heating capacity at constant pressure of the inlet gas to the tower

$$T^{\circ}\text{Cair} := 24 \quad ^{\circ}\text{C}$$

$$\text{Calculate } C_{p\text{CO}_2} := 38.387 \frac{\text{joule}}{\text{gmol} \cdot ^{\circ}\text{C}}$$

$$\text{Calculate } C_{p\text{AIR}} := 29.138 \frac{\text{joule}}{\text{gmolAIRE} \cdot ^{\circ}\text{C}}$$

$$C_{p_g} := [C_{p\text{CO}_2} \cdot y_{\text{MolarCO}_2e} + C_{p\text{AIR}} \cdot (1 - y_{\text{MolarCO}_2e})]$$

$$\frac{\text{Joules}}{\text{m}^3 \cdot ^{\circ}\text{K}} = \left( \frac{1}{PM_{\text{Aire.CO}_2}} \cdot \rho_g \cdot 1000 \right) \left( \frac{1}{PM_{\text{Aire.CO}_2}} \cdot \rho_g \cdot 1000 \right) \cdot \left( \frac{\text{joule}}{\text{gmolCO}_2 \cdot ^{\circ}\text{C}} \cdot \frac{\text{gmolCO}_2}{\text{gmolmezcla}} + \frac{\text{joule}}{\text{gmolAIRE} \cdot ^{\circ}\text{C}} \cdot \frac{\text{gmolAIRE}}{\text{gmolmezcla}} \right) \cdot \left( \frac{\text{gmolmezcla}}{\text{gmezcla}} \cdot \frac{\text{kg} \cdot \text{mezcla}}{\text{m}^3 \cdot \text{mezcla}} \cdot \frac{1000\text{g}}{1\text{kg}} \right)$$

$$C_{p_g} = 1261.403 \frac{\text{Joules}}{\text{m}^3 \cdot ^{\circ}\text{K}} \quad \text{are required in these units, see article from Hanne M. Kvmsdal, page 15}$$

Substituting

$$h_{\text{walls}} := \left[ 1000 \cdot 4.05 \cdot 10^{-3} \cdot \left( \frac{\rho_g \cdot V_g}{D_{\text{hyd}}} \right)^{0.5} \cdot (C_{p_g})^{0.33} \right] \cdot \frac{1}{(1000)} \cdot 239.006 \cdot \frac{1}{100^2}$$

$$\frac{\text{cal}}{\text{s} \cdot \text{cm}^2 \cdot ^{\circ}\text{C}} = \frac{\text{W}}{\text{m}^2 \cdot ^{\circ}\text{K}} \cdot \frac{1\text{kw}}{1000\text{W}} \cdot \frac{239.006 \cdot \frac{\text{cal}}{\text{s}}}{1\text{kw}} \cdot \left( \frac{1\text{m}}{100\text{cm}} \right)^2$$

$$h_{\text{walls}} = 0.0041 \frac{\text{cal}}{\text{s} \cdot \text{cm}^2 \cdot ^{\circ}\text{C}} \\ a = 0.839 \text{ cm}^2/\text{cm}^3$$

Heat generated by the reaction

$$\Phi_H = R_A a (-\Delta H_r) \quad \text{Hanne M. Kvmsdal Correlation, page 15 is used}$$

$$\Delta H_r = \Delta H_{\text{absorption}} \quad \text{Hanne M. Kvmsdal Correlation, page 14 is used}$$

$$\Delta H_{\text{abs}} = (84.68 - 0.1135 \cdot T + 0.0027 \cdot T^2) \cdot 1000 \cdot 0.23901$$

$$\frac{\text{cal}}{\text{gmol}} = \frac{\text{kJ}}{\text{gmol}} \cdot \frac{1000\text{J}}{1\text{kJ}} \cdot \frac{0.23901\text{cal}}{1\text{J}}$$

$$R_A := -1 \cdot 10^{-12} \cdot z^3 + 3 \cdot 10^{-11} \cdot z^2 + 2 \cdot 10^{-8} \cdot z + 1 \cdot 10^{-6} \quad \frac{\text{gmolCO}_2}{\text{s} \cdot \text{cm}^2}$$

Relationship obtained with the Appendix A program



#### 4.- RESULTS

##### 4.1 The theoretical and experimental temperature profiles obtained by students

It was resolved Eq. (16)  $\frac{dT}{dz} = \frac{\Phi_H + Q_V}{v_z \rho_L C_{pL}}$  numerically using the "Mathematica-Wolfram Research"

program to find the functionality of the temperatures of the liquid phase within the column Vs. the position z the entire length of the reactor-absorber for each experiment of 5, 8 and 10 L / h of fed MEA / H<sub>2</sub>O solution. The program with the theoretical results of the first experimentation is attached in Fig. (3).

$$\Delta H_{abs} = (84.68 - 0.1135 * T[z] + 0.0027 * T[z]^2) * 1000 * 0.23901;$$

$$RA = -1 * 10^{-12} * z^3 + 3 * 10^{-11} * z^2 + 2 * 10^{-8} * z + 1 * 10^{-6};$$

$$a = 0.839;$$

$$h_{wall} = 0.0041;$$

$$T_{amb} = 24;$$

$$Q_v = -h_{wall} * a * (T[z] - T_{amb});$$

$$V_z = 0.095;$$

$$\rho_L = 0.049;$$

$$C_{pL} = 19.486;$$

$$\text{sol} = \text{NDSolve} [ \{ T' [z] == (\Delta H_{abs} * RA * a + Q_v) / (V_z * \rho_L * C_{pL}), T[0] == T_{amb} \}, T, \{z, 0, 110\} ]$$

$$\text{Plot} [ \text{Evaluate} [ T[z] /. \text{sol} ], \{z, 0, 110\}, \text{AxesLabel} \rightarrow \{ "Z [cm]", "T [°C]" \} ]$$

$$\text{TableForm} [ \{ \{ "z" \text{ cm}, T \text{ °C} \} \}, \text{TableDepth} \rightarrow 2 ]$$

$$\text{Table} [ \{z, T[z] /. \text{sol}\}, \{z, 0, 110, 10\} // \text{TableForm}$$

$$\{ \{ T \rightarrow \text{InterpolatingFunction} \} \}$$

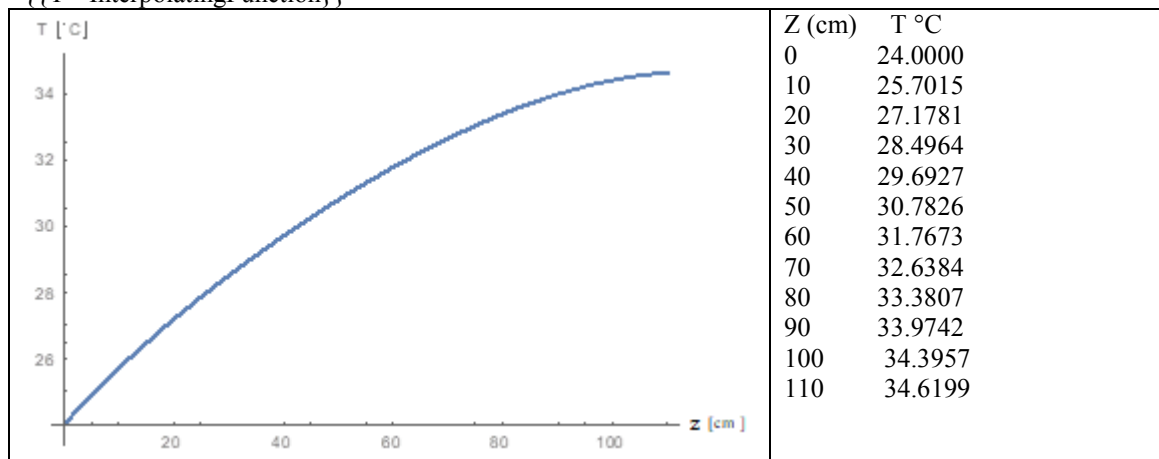
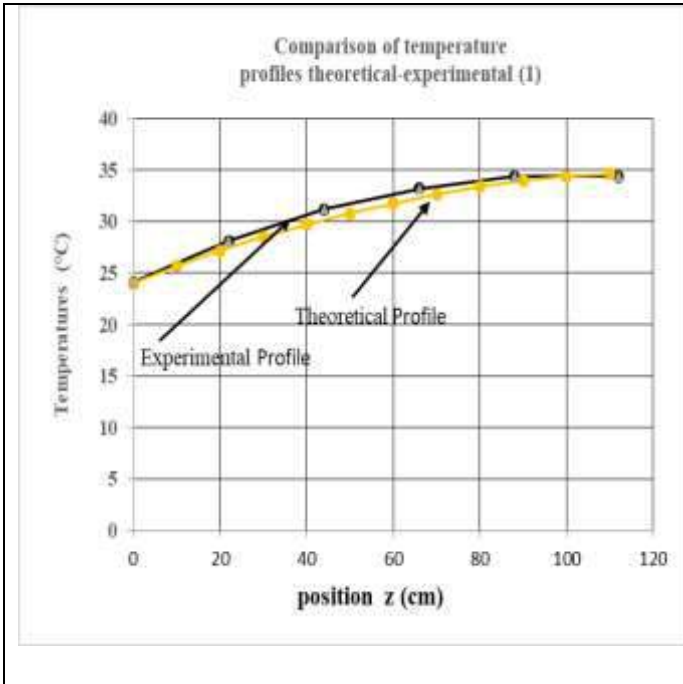
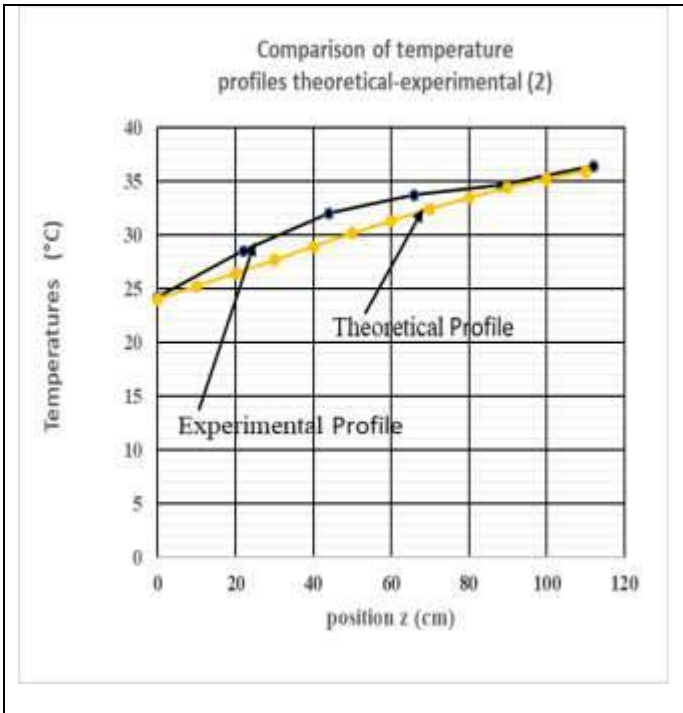


Fig. (3) Theoretical results of the model

In the Fig. (4) the graphical profiles of comparisons of the theoretical and experimental liquid temperatures are shown.



z (cm)	TL (°C)
0	24.1
22	28.1
44	31.2
66	33.2
88	34.4
112	34.4
0	24
10	25.7015
20	27.1781
30	28.4964
40	29.6927
50	30.7826
60	31.7673
70	32.6384
80	33.3807
90	33.9742
100	34
110	34.6199



z (cm)	TL (°C)
0	24.2
22	28.5
44	32
66	33.7
88	34.6
112	36.4
0	24
10	25.1878
20	26.4221
30	27.6743
40	28.92
50	30.1379
60	31.3093
70	32.4174
80	33.447
90	34.3839
100	35
110	35.9247

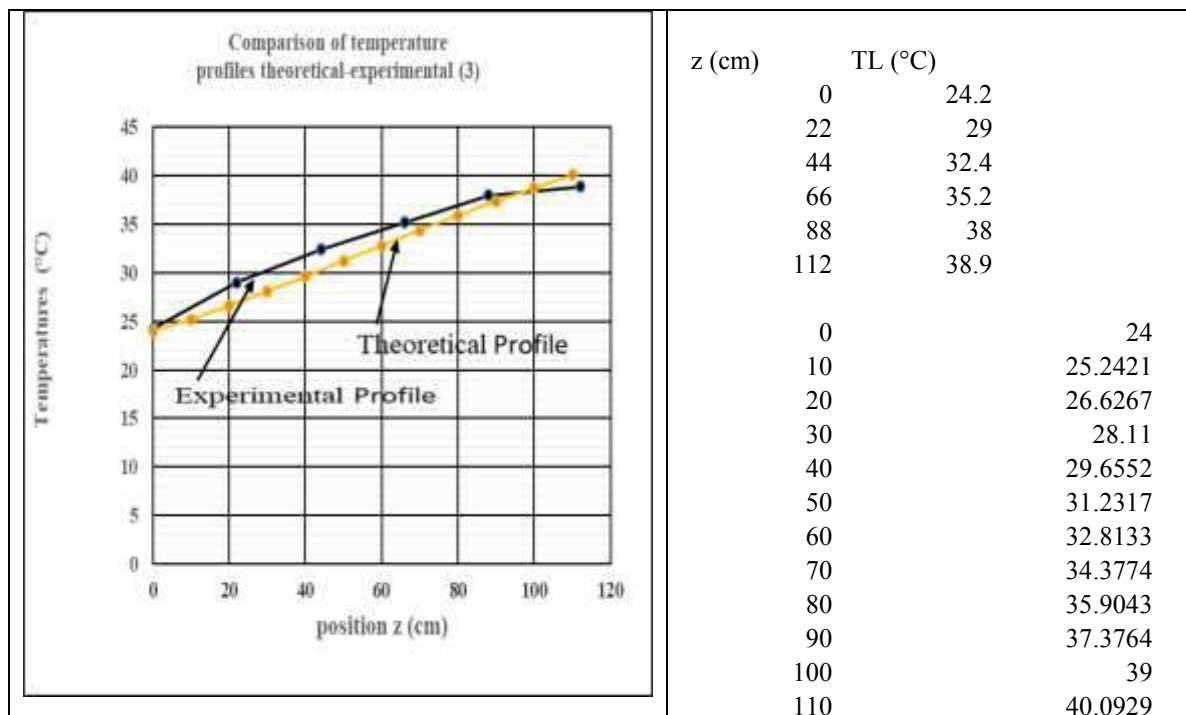


Fig. (4) Comparison of theoretical and experimental curves of liquid temperatures in the column TL (°C) Vs. position z (cm)

## 5.- CONCLUSIONS

In this experimental study, the students of the Faculty of Chemistry obtained the temperature profiles as shown in Fig. (4), they compare the values in the steady state of temperatures Vs. position of both the model and the values experimental.

It can be seen that increasing the flow of the MEA / H<sub>2</sub>O (5, 8, 10) L / h solution increases the temperatures of the phases within the column, this is because initially any element of the interfacial surface is exposed to the penetration of the solute for a time t, but by increasing the flows of liquid fed *Le* residence times decrease  $\tau = ATF \times h / Le$  and the surface elements are replaced faster and faster by fresh CO<sub>2</sub> from the gaseous phase, causing an increase in the diffusive flux *R<sub>A</sub>* at the interface and that as the amount of CO<sub>2</sub> in the liquid phase increases, the reaction that is exothermic is It will be favored by the limiting reagent transferred, increasing the temperatures inside the column more and more.

## 6.- NOMENCLATURA

[A<sub>0</sub>] = CO<sub>2</sub> concentration in the liquid phase bulk: gmol CO<sub>2</sub> / L solution

a = Effective interfacial area per unit of volume packed: cm<sup>2</sup>/cm<sup>3</sup>

a<sub>t</sub> = Area of total packing surface per unit volume packed: cm<sup>2</sup>/cm<sup>3</sup>

A<sub>T</sub> = Cross area of the column: cm<sup>2</sup>

ATF = Cross-sectional area of flow between packaging: cm<sup>2</sup>

[A\*] = CO<sub>2</sub> interfacial concentration in the film model: gmol CO<sub>2</sub> / L solution

[Bo] = MEA concentration in bulk within the liquid phase: gmol MEA / L solution

BPS = Amina free without reacting at the selected point in the column: gmol MEA / L solution

C\* = Concentración del equilibrio termodinámico: gmol MEA / cm<sup>3</sup> solution

Cp<sub>g</sub> = Specific heat at constant gas pressure: joules/m<sup>3</sup> °K; Note. - These are the units required by the correlation (13). [2]

Cp<sub>L</sub> = Specific heat at constant pressure from the liquid mixture: cal / gmol mezcla °C

D<sub>L</sub> = CO<sub>2</sub> diffusion coefficient in the liquid phase: cm<sup>2</sup>/s

D<sub>hyd</sub> = Hydraulic column diameter: cm

E = Enhancement factor

E1 = Enhancement factor formula parameter

Ei = Enhancement factor formula parameter assessed at the interface



GPS = Mass speed at the selected point: gmol mixture /s cm<sup>2</sup>  
 G's = Mass feed air speed: gmol aire /s cm<sup>2</sup>  
 G<sub>CO<sub>2</sub></sub> = Mass feeded CO<sub>2</sub> speed: gmol CO<sub>2</sub> /s cm<sup>2</sup>  
 h = Absorption-reaction column height: cm  
*h walls* = Interfacial heat transfer film coefficient on the walls of the column: watts/m<sup>2</sup> K  
 k<sub>G a</sub> = Individual and temporal volumetric coefficient on the gas phase side: gmolCO<sub>2</sub> /s cm<sup>3</sup> atm  
 k<sub>L a</sub> = Individual and temporal volumetric coefficient on the liquid phase side: 1/ s  
*Le* = Flow of the liquid flow fed: L/ s  
 L = Mass liquid speed: cm<sup>3</sup> solution/ cm<sup>2</sup> s  
 m = Thermodynamic equilibrium ratio: cm<sup>3</sup> atm / gmol CO<sub>2</sub>  
 Pop = Operating pressure in Mexico City: (0.771) atm  
 PM = Molecular mass: g A/gmol A  
 p<sub>CO<sub>2</sub></sub> = Partial CO<sub>2</sub> pressure: atm  
 p\* = Thermodynamic equilibrium pressure: atm  
 Q<sub>CO<sub>2</sub></sub> = Carbon dioxide flow: L/h  
 Q<sub>AIR</sub> = Airflow: m<sup>3</sup> / h  
 Q<sub>V</sub> = Volumetric heat to column neighborhoods: cal/ s cm<sup>3</sup>  
 r = Rapid reaction: (cm<sup>3</sup>/gmol)<sup>-1+n</sup> /s  
 R<sub>A</sub> = Rapid absorption with chemical reaction through the interface: gmol A/ s cm<sup>2</sup>  
 t = Operating time: s  
*Tamb* = Environmental temperature: °C  
 TL = Temperature of the liquid in the column: °C  
 V<sub>g</sub> = Speed of the gas mixture in the column: m/s  
 V<sub>Z</sub> = Speed of liquid mixing in the column: cm/s  
 X<sub>Molar MEA</sub> = Molar fraction of MEA: gmol MEA / gmol mezcla líquida  
 W<sub>MEA</sub> = MEA mass fraction: g MEA /g mezcla  
 Z = Arbitrary position in the absorption column: cm  
 z = Stoichiometric reaction factor  
 Δ*H<sub>r</sub>* = Change of enthalpy due to reaction: cal/gmol  
 Δ*H<sub>abs</sub>* = Change of enthalpy due to absorption with chemical reaction: cal/gmol  
 Φ<sub>H</sub> = Volumetric heat generated by the reaction: cal/s cm<sup>3</sup>  
 ε = fraction of gaps between the absorption column packaging  
 ρ<sub>G</sub> = Density of the gas phase: g/cm<sup>3</sup>  
 ρ<sub>L</sub> = Liquid mixture density: gmol/cm<sup>3</sup>

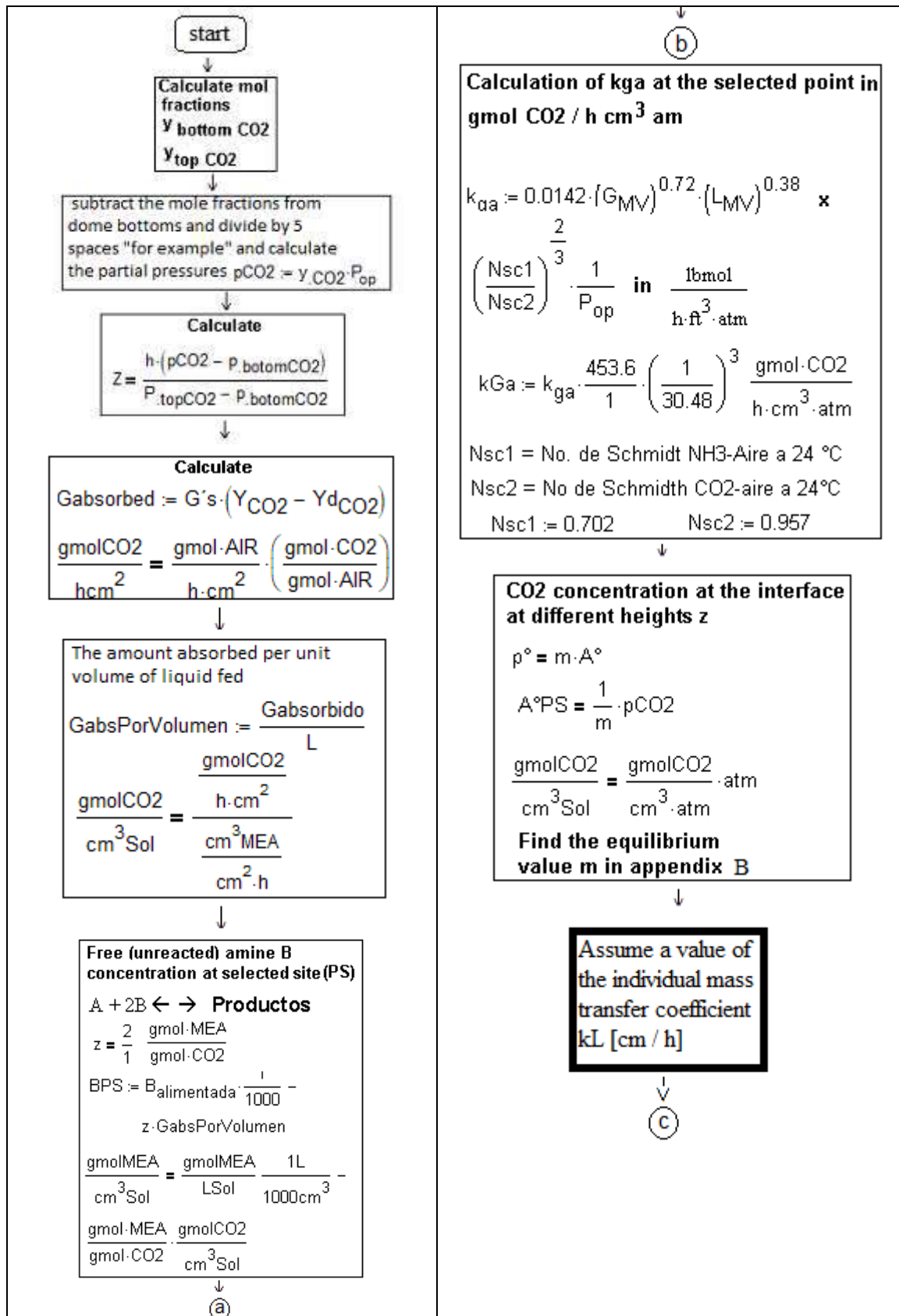
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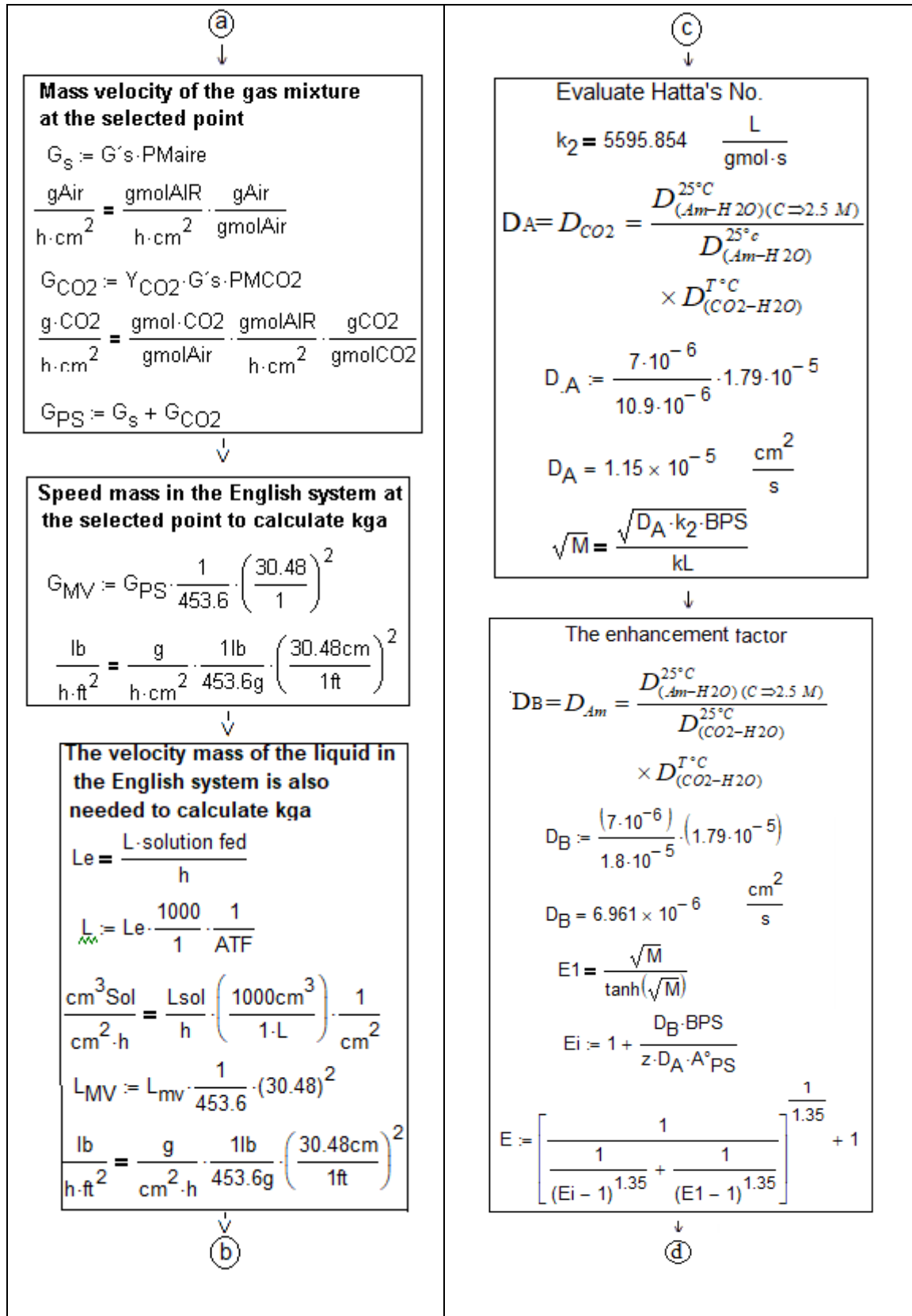
## APPENDIX A

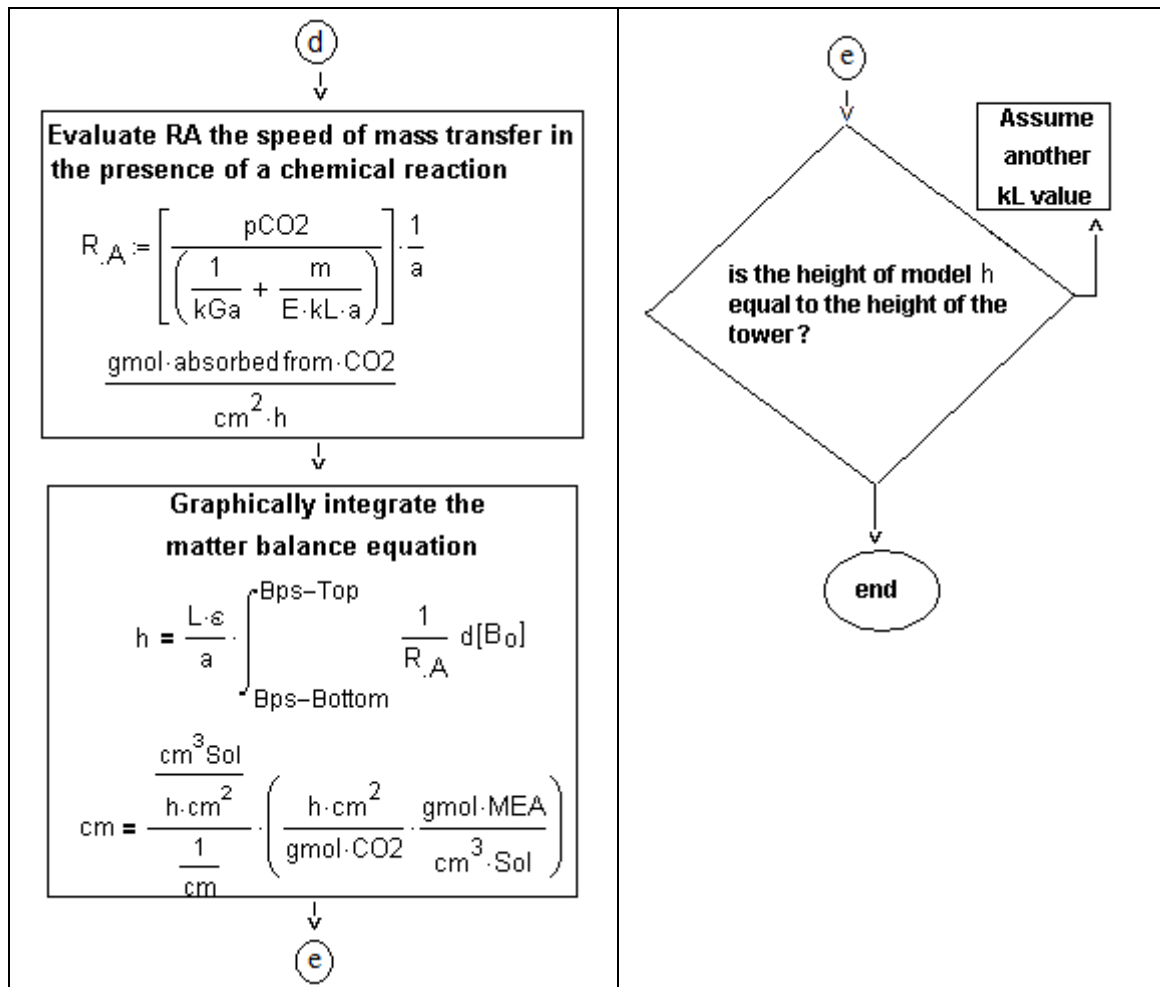
To determine quantitatively Φ<sub>H</sub> = R<sub>A</sub> a (Δ*H<sub>abs</sub>*) it is necessary to calculate the ratio of the diffusive absorption flux with chemical reaction as a function of the z position along the tower and the individual

coefficient of mass transfer on the liquid side  $k_L$ . For this, students used the experimental information from Table (1) and the next program used in reference [4].









When the above program equates the height **h** of the mass balance model with the height of the absorption column, students complete the program and report the values of the individual liquid-side mass transfer coefficient **kL** and the fluxes of mass transfer in the presence of chemical reaction at the **RA** interface to different positions **z** along the column.

<b>5 L/h</b>	$z = \begin{pmatrix} 0 \\ 21.16 \\ 42.321 \\ 63.679 \\ 84.84 \\ 106 \end{pmatrix}$ <p style="text-align: center;">cm</p>	$R_A = \begin{pmatrix} 1.347 \times 10^{-6} \\ 1.744 \times 10^{-6} \\ 2.053 \times 10^{-6} \\ 2.233 \times 10^{-6} \\ 2.203 \times 10^{-6} \\ 1.828 \times 10^{-6} \end{pmatrix}$ <p style="text-align: center;">gmolCO<sub>2</sub> / s cm<sup>2</sup></p>
<b>kL = 48.7 cm / h</b>		

$$R_A := -1 \cdot 10^{-12} \cdot z^3 + 3 \cdot 10^{-11} \cdot z^2 + 2 \cdot 10^{-8} \cdot z + 1 \cdot 10^{-6}$$

<b>8 L/h</b>	$z = \begin{pmatrix} 0 \\ 21.16 \\ 42.321 \\ 63.679 \\ 84.84 \\ 106 \end{pmatrix}$	$R_A = \begin{pmatrix} 1.247 \times 10^{-6} \\ 1.769 \times 10^{-6} \\ 2.2 \times 10^{-6} \\ 2.519 \times 10^{-6} \\ 2.714 \times 10^{-6} \\ 2.758 \times 10^{-6} \end{pmatrix}$



$kL = 40.8$ $cm / h$	$cm$ $gmolCO_2 / s cm^2$ $R_A := -7 \cdot 10^{-14} \cdot z^3 - 1 \cdot 10^{-10} \cdot z^2 + 2 \cdot 10^{-8} \cdot z + 1 \cdot 10^{-6}$
-------------------------	---

$10 L/h$	$z = \begin{pmatrix} 0 \\ 21.16 \\ 42.321 \\ 63.679 \\ 84.84 \\ 106 \end{pmatrix}$	$R_A = \begin{pmatrix} 1.069 \times 10^{-6} \\ 1.792 \times 10^{-6} \\ 2.447 \times 10^{-6} \\ 3.022 \times 10^{-6} \\ 3.494 \times 10^{-6} \\ 3.847 \times 10^{-6} \end{pmatrix}$
$kL = 66.8$ $cm / h$		
	$cm$ $gmolCO_2 / s cm^2$ $R_A := 9 \cdot 10^{-14} \cdot z^3 - 1 \cdot 10^{-10} \cdot z^2 + 2 \cdot 10^{-8} \cdot z + 1 \cdot 10^{-6}$	

### APENDICE B

**B.1** Thermodynamic equilibrium data for the system (monoethanolamine/water) - (carbon dioxide / air), in the presence of chemical reaction, reports it **Donal L. Katz [5]**.

$T = 37.77 \text{ }^\circ\text{C} = 100 \text{ }^\circ\text{F}$					
$X^* = \frac{gmol CO_2}{gmol MEA}$	$p^* = mm Hg$				
0	0	0.53994	34.728	0.64304	276.72
0.05	0	0.56128	56.058	0.64934	294.67
0.10	0	0.57409	70.811	0.65562	317.51
0.15	0	0.58262	85.535	0.66383	379.47
0.20	0	0.58902	103.50	0.66587	397.4
0.25	0	0.59756	126.37	0.67212	425.12
0.30	0	0.60183	142.7	0.67408	457.72
0.35	0	0.61037	162.31	0.68032	488.71
0.4	0	0.61677	180.27	0.68447	509.91
0.43908	0	0.62424	200.05	0.6865	531.1
0.46951	3.2785	0.62843	214.74	0.690	555.56
0.49885	9.9449	0.63261	231.05	0.69687	576.54
		0.63676	253.88		

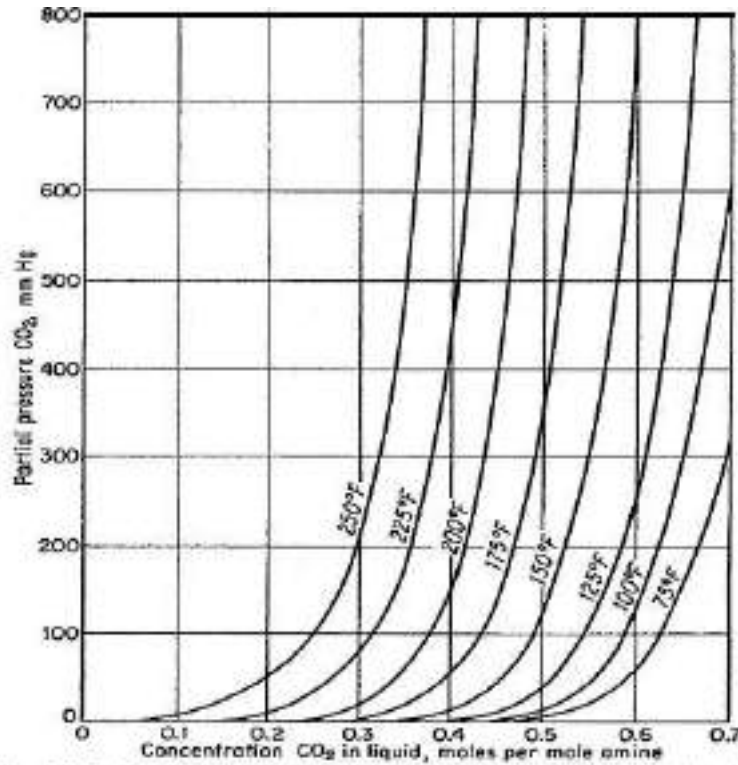


Fig. 16-36. Equilibrium pressure of CO<sub>2</sub> from 15 wt % monoethanolamine solution. (Kohl, 16-45; Mason and Dodge, 16-52. Courtesy AIChE.)

Fig. (5)

The students of the Chemical Engineering Laboratory of the Faculty of Chemistry used the experimental temperature data from the Experimental Data Table (1) and selected the curve at 100 ° F in Fig. (5) to obtain the equilibrium relationship for this experimentation. This requires changing the units of the coordinate axes according to the following diagram in Fig. (6).

<p> <math>P^*_{\text{partial}} \text{ (mm Hg)} \rightarrow P^*_{\text{partial}} \text{ (atmospheres)}</math>              to 100 °F = 37.77 °C              at 15 % mass MEA              34.728              0.53994  <math>\frac{\text{gmol CO}_2}{\text{gmol (MEA)}} \rightarrow C^* = \frac{\text{gmol CO}_2}{\text{cm}^3 \text{ solution}}</math> </p>	<p>As the solution reported by Donal L. Katz [5], it is 15% by mass, 0.15 g MEA / g solution the students took a base of 100 g solution.</p> <p>For the monoethanolamina</p> $\text{gmol MEA} = 100 \frac{15}{100} \frac{1}{61.084}$ $\text{gmol MEA} = \text{g solution} \left( \frac{\text{g MEA}}{\text{g solution}} \right) \frac{\text{gmol MEA}}{\text{g MEA}}$ $\text{gmol MEA} = 0.246$ <p>b) For the water</p> $\text{gmol water} = 100 \frac{85}{100} \frac{1}{18}$ $\text{gmol water} = 4.722$
---	---

Fig. (6)

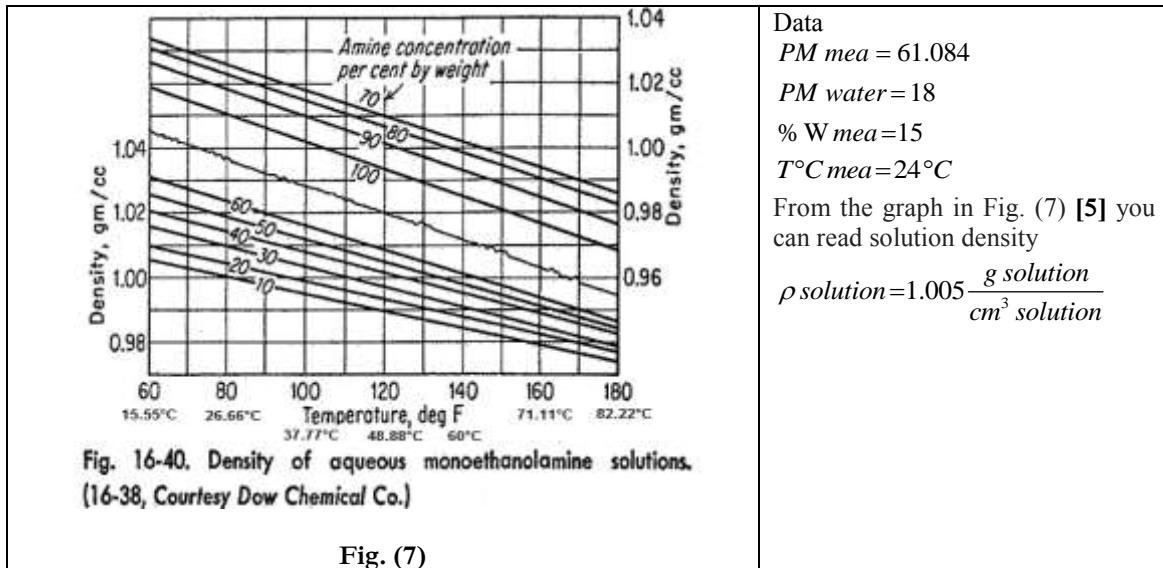


Fig. (7)

Calculations

$$x \text{ Molar mea} = 0.0494 \frac{\text{gmol mea}}{\text{gmol solution}}$$

$$PM \text{ solution} = x \text{ Molar mea} \times PM \text{ mea} + (1 - x \text{ Molar mea}) \times PM \text{ water}$$

$$PM \text{ solution} = 20.13 \frac{\text{g solution}}{\text{gmol solution}}$$

$$\rho \text{ Molar Solution} = \rho \text{ solution} \times \frac{1}{PM \text{ solution}}$$

$$\rho \text{ Molar Solution} = 0.05 \frac{\text{gmol solution}}{\text{cm}^3 \text{ solution}} = \frac{\text{gmol water}}{\text{cm}^3 \text{ water}}$$

Changes in the abscisas

$$0.53994 \frac{\text{gmol CO}_2}{\text{gmol MEA}} \frac{0.246 \text{ gmol MEA}}{4.722 \text{ gmol H}_2\text{O}} \frac{0.5 \text{ gmol solution}}{\text{cm}^3 \text{ solution}} = 0.0014 \frac{\text{gmol CO}_2}{\text{cm}^3 \text{ solution}}$$

Changes in the ordinates

$$p^* \text{ atm} = p^* \text{ mm Hg} \frac{1 \text{ atm}}{760 \text{ mm Hg}}$$

Table of Results (1) shows the unit changes for the ordinates and the abscissa

T = 37.77 °C = 100 °F		T = 37.77 °C = 100 °F	
$X^* = \frac{\text{gmol CO}_2}{\text{gmol MEA}}$	$p^* = \text{mm Hg}$	$c^* = \frac{\text{gmol CO}_2}{\text{cm}^3 \text{ solución}}$	$p^* = \text{atm}$
0	0	0	0
0.05	0	0.00013	0
0.10	0	0.00026	0
0.15	0	0.00039	0
0.20	0	0.00052	0
0.25	0	0.00065	0
0.30	0	0.00078	0
0.35	0	0.00091	0





0.4	0	0.00104	0
0.43908	0	0.00114	0
0.46951	3.2785	0.00122	0.00431
0.49885	9.9449	0.0013	0.01309
0.51433	18.255	0.00134	0.02402
0.525	24.847	0.00137	0.03269
0.53994	34.728	0.0014	0.04569
0.56128	56.058	0.00146	0.07376
0.57409	70.811	0.00149	0.09317
0.58262	85.535	0.00152	0.11255
0.58902	103.50	0.00153	0.13618
0.59756	126.37	0.00155	0.16628
0.60183	142.7	0.00157	0.18776
0.61037	162.31	0.00159	0.21357
0.61677	180.27	0.0016	0.2372
0.62424	200.05	0.00162	0.26322
0.62843	214.74	0.00163	0.28255
0.63261	231.05	0.00165	0.30401
0.63676	253.88	0.00166	0.33405
0.64304	276.72	0.00167	0.36411
0.64934	294.67	0.00169	0.38772
0.65562	317.51	0.00171	0.41778
0.66383	379.47	0.00173	0.4993
0.66587	397.4	0.00173	0.52289
0.67212	425.12	0.00175	0.55937
0.67408	457.72	0.00175	0.60226
0.68032	488.71	0.00177	0.64304
0.68447	509.91	0.00178	0.67093
0.6865	531.1	0.00179	0.69882
0.690	555.56	0.00179	0.731
0.69687	576.54	0.00181	0.75861

### B.2 Cálculo de la equilibrium relationships $m \left[ \frac{\text{atm}}{(\text{gmol } CO_2 / \text{cm}^3 \text{ sol})} \right]$

h = 106 cm  
 Pop = 0.771 atm  
 P1 = 0.0643 atm  
 P2 = 0.023 atm  
 Pop ≡ pCO2 atm

Molar fractions were calculated in the tower  $y_{top} = 0.02998$  and  $y_{bottom} = 0.0834$  using Table (1) of Experimental Data, and were divided into five spaces, with these values the partial pCO<sub>2</sub> pressures were calculated

$y_{TopCO2} = 0.02998$   
 $y_{CO2} := \begin{pmatrix} 0.0298 \\ 0.0405 \\ 0.0512 \\ 0.062 \\ 0.0727 \\ 0.0834 \end{pmatrix}$   
 $y_{bottomCO2} = 0.0834$

$y_{CO2} \cdot P_{op} := p_{CO2}$

$p_{CO2} = \begin{pmatrix} 0.023 \\ 0.0312 \\ 0.0395 \\ 0.0478 \\ 0.0561 \\ 0.0643 \end{pmatrix}$   
 bottom p1 = 0.0643 atm

Top p2 = 0.023 atm

Applying Eq. (1)

$$P_{op} = p_1 + \frac{p_2 - p_1}{h} \cdot Z$$

$$Z = \frac{h \cdot (p_{CO_2} - p_1)}{p_2 - p_1}$$

$$Z = \begin{pmatrix} 0 \\ 21.16 \\ 42.321 \\ 63.679 \\ 84.84 \\ 106 \end{pmatrix} \text{ cm}$$

The students of the Chemical Engineering Laboratory found that the potential model adjusts the curvilinear data of the equilibrium

$c^* = \frac{gmolCO_2}{cm^3 \text{ solución}}$	$p^* = atm$
0.00122	0.00431
⋮	⋮
0.00181	0.75861

Top  $p_2 = 0.023 \text{ atm}$

$$p_{CO_2} = \begin{pmatrix} 0.023 \\ 0.0312 \\ 0.0395 \\ 0.0478 \\ 0.0561 \\ 0.0643 \end{pmatrix}$$

bottom  $p_1 = 0.0643 \text{ atm}$

and found the corresponding concentration values  $c^* = (p^*/a)^{1/b}$ .

In the potential model they substituted the values of the partial pressures

Finally, the students represented these values as in Fig. (8) with ordinates ( $p_{CO_2} = p^*$ ) vs. abscissa  $C^*$  obtaining a practically linear profile from which the equilibrium relations  $m$  were calculated for the three experiments as shown in the Results Table (2).

Linear model :  $y = m x + b$

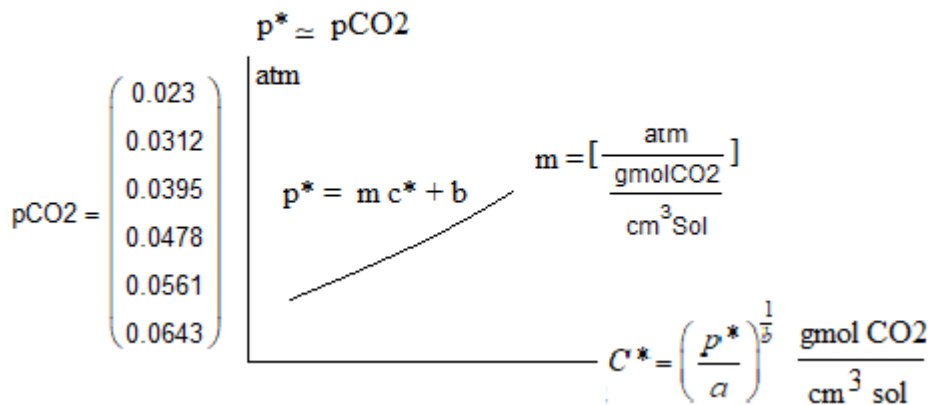


Fig. (8)

Results Table (2)

Flow of feeding (L / h)	Equilibrium relationships $m$ [atm/(gmol CO <sub>2</sub> /cm <sup>3</sup> sol)]
5	404.141
8	371.312
10	335.176



# MAHALLA INSTITUTE - THE FOUNDATION OF CIVIL SOCIETY OF UZBEKISTAN

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## ANNOTATION

*The article tells about the important social institutions of the Uzbek people for thousands of years - the historical stages of development of the mahalla, the state of the Soviet period, and the modern features of securing independence and democratic development.*

**KEY WORDS:** *reform, social life, social institution, governance, neighborhood, self-government, neighborhood institution, democratic development, civil society, elections.*

## INTRODUCTION

In the democratic society being built in Uzbekistan, the neighbourhood, that is, the national model of civil self-governance, is recognized directly as an institution of democracy. Its legal basis is clearly defined in Article 105 of the Constitution of the Republic of Uzbekistan: "In the towns, villages and streets, as well as in its neighborhoods, citizens' assemblies are self-governing bodies, electing a chairman (aksakal) and his advisers for a period of two and a half years". [1].

The interest in scientific study of this issue has only increased after the establishment of a new, fair democratic society in a number of developed countries, including the Republic of Uzbekistan.

Some theoretical and practical problems related to this topic are from Uzbek legal scholars Sh.I.Jalilov [2], A.Saidov [3], K.Komilov [4], M. Suvonkulov [5], S.Sultonov [6], A.Toolaganov [7], G.Malikova [8], G.Ismailova [9], Z.Reymova [10], historians G.Umarova [11], R.R. Shamsutdinov and A.Ishakov [12].

## MATERIALS AND METHODS

The methods of comparative-critical study, analysis, historical and logical analysis of problematic historical, political, philosophical, sociological, psychological, and pedagogical literature were used in the study.

## OBJECTIVES

Neighborhood is a unique form of social life of people in Uzbekistan, formed over centuries. History shows that there have been neighborhoods in our country since ancient times, The Muzrabad district of Surkhandarya region crosses the Sherabad Desert, an archaeological monument in the area near the river Ulanbulaksay, Academician Ahmadali Askarov, who conducted archaeological research in Sopollitepa in 1969-74, says that the area of Sopollitepa is about 3 hectares, and its central part is about 1 hectare. The residential complexes in the fortress are located along its inner walls; They are divided into 8 neighborhoods along the streets. [13].

Literature shows that neighborhoods have a millennium history. For example, Narshakhi in his book "History of Bukhara" returns to the fact that there were several mahallas in Bukhara 1100 years ago. In his work "Hayrat ul-abror", Alisher Navoi describes the neighborhood as "a suburban town", noting that the city of Herat is made up of "one hundred towns", that is, neighborhoods. The example of the neighborhood where Navoi lived shows how high the human qualities such as brotherhood, kindness, mentorship and discipleship are. The great thinker Alisher Navoi left warm memories and clear ideas about the neighborhoods. In his Majolisun-nafois book, Alisher Navoi writes about the neighborhoods.

"Dost Mohammad is from the Margoni neighborhood. It is good for poetry and problems". A.



Navoi writes that there is respect, equality among neighborhoods, and that horns and gadgets are well cared for. Historically, A. Navoi also lived in this neighborhood. It says about the location of the yard in which Navoi is located: "It was on the western border with the southern border of this enclosed courtyard."

In short, the great ones were kind to the neighborhood and people they lived in. Navoi has been living in Herghan's Morgan neighborhood and has made it the most beautiful place in the city. Many of his great works were also born in this neighborhood [14].

We see that during the period when Turkestan was colonized by the Russian Empire, the rule of the country was based on violence and kept as a permanent method. The Russian government has always emphasized that the Turkestan peoples "will not be subject to their will and consent" and that the country should be completely free. On this basis, Turkestan established a system of governorship of the general. The head of the district in the system of urban and rural management is the precinct officer, who is subordinated to the elders of the makhalla, fifty leaders and ten leaders. Thus, the governor-general of Turkestan kept control of his military and civilian power in his hands. The system of local government was in the hands of the Russian authorities. The Russian administration's "self-government and suffrage" is a form of brutality, which in its hands is in control of the case.[15].

An example of Tashkent is the ancient local system of local government. Generally, mahalla residents were more likely to be engaged in crafts, trade or agricultural activities, depending on the nature and nature of the area in which they live. Large neighborhoods with rich historical traditions include Oktepa, Okmachit, Balandmachit, Devonbegi, Kukcha, Almazar, Isfara Guzar, Altintepa, Agaabad, Samarkand Gate, Kamolon, Deep Bridge, Okchi, Uzbek and other mahallas [16].

At the beginning of the 20th century, the mahallas were ruled by the centurion (elders) elected by the chiefs of the ministers - the commanders. The centurion and his assistants supervised all public affairs and ceremonies in the neighborhood, as well as representing the interests of the community in city councils and city offices.

## METHODOLOGY

The main objectives of the makhallas are to hold rituals, to organize and beautify their territory, to educate the younger generation in a spirit of public order, to maintain order in society, to control the observance of all traditional norms, to adhere to customs and punish those who violate community obligations. Neighborhood authorities have organized public works related to the cleaning of the ditches, the

construction of streets and the improvement of the neighborhood. All this was done together by hashar.

The Soviet government regarded the neighborhood as a ruse in the past. From this he proceeded to establish a policy of building a "progressive" industrial society here by abolishing traditional national rule. Since the early 20s, the Soviet government has sought to limit and subjugate the functions of the makhalla, which has had an impact on the activities of the neighborhood. However, the mall has demonstrated its survival and has withstood any attacks on the traditional way of life and communication and attempts to eliminate them. He preserved old customs and rituals.

In the 20-30s, the neighborhood was involved in an "attack" on old life - in attempting to release paranoids and liberate women. At the same time, the eradication of illiteracy in the neighborhood has played an important role in educating the masses, improving the places (building roads, teahouses, schools).

On April 17, 1932, for the first time in Uzbekistan, a Charter of the Urban Committee was issued. In 1935-36, neighborhood committees were established under the chairmanship of an elder in the neighborhood to oversee all public affairs.

The Soviet government, which opposed many traditional Uzbek structures, had to retreat from the struggle with the neighborhood. This power did not go to the mall. In 1932 the "Provision on neighborhood committees in the cities of Uzbekistan" was issued. In 1938 the assault on the neighborhood was stopped altogether. It was decided that they should exist alongside new socialist structures and complement these structures [17].

In August 1961, the Regulation "On mahalla committees in the cities, villages, villages and villages of the Republic" issued by the Supreme Soviet of the Republic of Uzbekistan was not granted the status of a legal entity. "Neighborhood committees could not engage in any financial activity". The rights and powers of the neighborhood were limited.

After Uzbekistan gained independence, the attitude towards neighborhood changed dramatically. In accordance with Article 105 of the Constitution of the Republic of Uzbekistan and the Law on Citizens' Self-Government Bodies adopted in the Senate in 1993, neighborhoods have legal status and are part of the local government. The neighborhoods, as the legal backbone of the state, have their own property, financial budget, and book-keeping account. According to this law, each neighborhood can create its own charter, open small businesses, sell its own products, distribute part of it free to the needs of the neighborhood, provide employment and cultural services to its residents.



According to the Decree of the President of the Republic of Uzbekistan dated October 10, 2013 No PQ-2050 "On the organization of training courses for training of civil self-government employees", the organization of professional and managerial skills, legal and socio-economic knowledge, their non-profit organizations, as well as the Council of Ministers of the Republic of Karakalpakstan, with the aim of facilitating the improvement of its activities aimed at the formation and development of mechanisms of social partnership with public authorities and administration;

The regional and Tashkent city governments organized training courses for civil servants in the form of public educational institutions. All the above-mentioned legal acts are, first of all, the legal basis for the implementation of the principle "From a strong state to a strong civil society". After all, in our country, the institution of citizens' self-government as one of the most important parts of civil society is an important factor in the immediate development of the institution of makhalla, which is unique to us. Consequently, the development of the mahalla institution on the basis of the Citizens' Self-Government Institute, its transformation into the center of family business and the transfer of a number of other functions to the community are characterized by the following features:

First, increasing the role of the neighborhood on the basis of the Institute of Civil Self-Government fully corresponds with the national mentality and centuries-old traditions and management traditions of our people;

Secondly, the institution of neighborhood unmatched in any other country in the world is emerging as the most important part of civil society institutions in the country and plays a leading role in its development;

Thirdly, the introduction of community structures in the neighborhood should ensure that peace and tranquility in the country should begin directly with neighborhood, with each family living there;

## RESULTS

Today, gatherings of citizens, which are functioning independently, are an important institution in the formation of civil society as self-governing bodies. On February 3, 2017, President of the Republic of Uzbekistan Shavkat Mirziyoev signed a decree "On measures to further improve the institution of neighborhood". This decree marks a new stage in the further development of the mahalla institute [18]. It is also planned to increase staff and strengthen material and technical base of "Nuroni" and "Mahalla" foundations by the President; additional measures will be taken to further enhance their role and place in the life of our society". [19].

## CONCLUSION

In conclusion first of all, it is related to the study and objective assessment of the reform process in the field of self-government in Uzbekistan;

Secondly, the extensive study, research and further intensification of the work done in this area on the historical roots, development, role and role of the bodies of self-governance in the country;

Third, it is known from history that the works and ideas of thinkers who lived during the medieval Renaissance in the East were related to the study of their ideas about fair civil society;

Fourth, to increase the legal culture of citizens in the process of building civil society and to increase their activity in self-government bodies;

Fifth, it is determined by the need to develop conclusions, proposals and recommendations aimed at further deepening of the role and role of self-governance bodies in the formation of civil society.

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## IMAM BUKHARI'S VIEW ON THE "SIQA" (RELIABLE) NARRATORS OF HADITH (ON THE BASIS OF AL-TARIKH AL-KABIR)

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### ABSTRACT

*"al-Tarikh al-kabir" is an important work of Imam Bukhari, which covers most of the hadith sciences and written as the result of many years of work. In this work, along with a brief biographical information about the narrators, there are notes on their assessments according to other scholars of "jarh and ta'dil" (field of hadith sciences about narrators' faults and personal positive qualities). In the article the use of the term and its place according to Imam Bukhari, as well as the acceptance of the author's view by other hadith scholars are analyzed. At the same time, the issue of the fact that the narrations of the narrators praised by this term in the al-Tarikh al-kabir are quoted in the hadith collections of Imam Bukhari and other famous muhaddiths also studied. After all, these two aspects are also important in knowing the specific method of Imam Bukhari, as well as in determining its recognition by other muhaddiths.*

**KEY WORDS:** *al-Tarikh al-kabir, jarh and ta'dil (criticism and praise) siqa, sahih, hasan, sahihayn (the two sahihs), siyah sitta (the most reliable six books).*

### DISCUSSION

The term "Siqa" (reliable) is considered to be one of the expressions related to the adjustment of the narrator, that is, their personal qualities, such as justice<sup>i</sup> and memory. The word "siqa" means "trusted" in Arabic and is used by the scholars of "mustalah al-hadith" to refer to a narrator who embodies such qualities as justice, conquest and perfection. These qualities have been used in places where it can be said with full confidence whether one can trust him in the acceptance of narrations of the narrators, whether he is from the fabricators or not, whether he has forgotten the narrations he has heard, whether he can narrate as he heard the narratives. Imam al-Zahabi elaborated on the necessity of these three qualities. In particular, in the science of hadith, the justice of the narrator is as important as the fact that the witness must be fair in order to be heard. According to him, if the narrator has personal qualities such as conquest and perfection along with justice, he is called "siqa". If he is told to know the hadiths and narrate a lot, he is called a hafiz<sup>ii</sup>. It is clear from this that the fact that the narrator is considered a "siqa" is the basis for the acceptance of his narrations as basis to sharia ruling despite the fact

that the narrator is either alone narrates inconsistently with the narration of other narrators. The hadith scholar Ibn Abu Hatim also touched on the issue of accepting the narration of the Siqa narrator and said that his narration will undoubtedly be accepted as an evidence<sup>iii</sup>.

There is also one more subtle aspect to this issue, which is that "siqa" does not require the narrator to be free of all negative qualities. That is, the narrator's personal shortcomings, which do not detract from his justice, reduce his narrations from the level of "sahih" to the level of "hasan", but do not lower him from the level of "siqa". At the same time, this refers to the fact that the definition given by Imam Zahabi to the "siqa" is not one of the same accepted definitions by all muhaddiths. For example, Ali ibn Madini said about Ayman ibn Nabil, "He was siqa, but not strong," while Ya'qub ibn Sufyan said about Ajal ibn Abdullah Kindi, "Siqa. There is a weakness in his hadith"<sup>iv</sup>. The degree of "ta'dil" to which the term "Siqa" is considered by scholars can also be seen in the validity of this view. In particular, the mukhaddis such as ibn Abu Hutim, Ibn Salah and Navawi put the term "siqa" in the first rank of "ta'dil", while Zahabi and Iraqis put it in the second



rank, Ibn Hajar and Suyuti puts it in the third rank, while Sakhawi and Sindi marked it as the fourth rank of "ta'dil". The reason for this discrepancy is that these hadith scholars added other words to the term "siqa" and considered it to have divided itself into several levels. For example, al-Zahabi added "sabt" to the word "siqa" and put it in the first level of "ta'dil"<sup>v</sup>.

A study of the use of the term "siqa" by Imam Bukhari in relation to the narrators in al-Tarikh al-Kabir revealed that 42 narrators were praised by the term.<sup>vi</sup> Of these 42 narrators, 9 (21%) were from Yahya ibn Said Qattan, 5 (12%) were from Waqi, 4 (10%) were from Ali ibn Madini, 3 (7%) were from Muhammad ibn Ishaq, 2 (5%) from Sufyan ibn Uyayna, 1 (2%) from Abu Laman, Abu Hafis Tinnisi, Ahmad, Ishaq, Yahya ibn Main, Habban, Sufyan, Abdullah Jufi, Abdullah ibn Numayr, Abdulwahid, Amr ibn Ali, Muhammad ibn Abu Bakr, Muslim, Yazid ibn Zuray, narrated from Yazid ibn Harun as "siqa". About 4 (10%) the author of the sentence is not mentioned. This leads to the conclusion that the ruling on these 4 narrators belongs to Imam Bukhari himself.

It can be seen that the imams of "jarh and ta'dil" gave different assessments about Muhammad ibn Dirham, who is described in the book as "siqa". For example, Ibn Main narrates in Tarikh that Yahya said about Muhammad ibn Dirham, "laysa bi-siqa" (not siqa)<sup>vii</sup>. According to Ibn al-Jawzi, Yahya al-Azdi said about this narrator, "Laysa bishay," while Murra called him "not siqa." Dorakutni called him a "weak" narrator<sup>viii</sup>. Although Imam Bukhari and Imam Muslim did not narrate from this narrator, it can be seen that his only narration from Ka'b ibn Abdur-Rahman was included in the hadith collections by hadith scholars such as Abu Dawud, Ibn Khuzaymah, Tabarani and Bayhaqi<sup>ix</sup>. Based on the above, it can be said that Imam Bukhari did not agree with the assessment of Yahya ibn Main and put forward his own view, that is, Muhammad is "siqa". Hadith scholars such as Abu Dawud, Ibn Khuzaymah, Tabarani and Bayhaqi followed the opinion of Imam Bukhari and included the narration of Muhammad ibn Dirham in their hadith collections. Those who followed Ibn Main's opinion did not include the narration of this narrator in their collections.

There are no narrations in the hadith collections from Muhammad ibn Abdullah ibn Talha al-Khuzai, who is assessed to be "siqa" by Ali ibn Madini in the book.

Muhammad ibn Abdullah ibn Abdurrahman Abu Sa'sa'a, mentioned by Imam Bukhari as one of the "siqa" narrators, can be seen in the books about hadith narrators and collections of hadiths as referring to his grandfather and not to his father, and in the form of Muhammad ibn Abdurrahman<sup>x</sup>.

Various terms for this narrator have been used in the works of several hadith scholars. For example, in Ibn Shahin's "Tarikh asma al-siqat", he was praised as "siqa"<sup>xi</sup>. Daraqutni mentioned that according to Imam Bukhari and Muslim, he was a person whose narration was authentic<sup>xii</sup>. The Hadith collections contain the narration of Muhammad ibn Abdurrahman about Sadaqah (Zakah), and this narration is presented in the collections such as Imam Bukhari's Al-Jome' al-Sahih, Ibn Maja's Sunan, Nasai's al-Sunan al-Kubra<sup>xiii</sup>. The fact that no criticism is used about this narrator in the sources of "jarh and ta'dil" is also the reason why Imam Bukhari included his narration in his collection.

In the al-Tarikh al-kabir, Muhammad ibn Abdul Wahhab Kufi is also described as a "siqa" narrator. Al-Bukhari narrates that Aaron was the son of Ibrahim, that he came from Isfahan to Kufa and was Abu Yahya Sa'laba ibn Qays Qannad's mawla<sup>xiv</sup>. After that, he cites the narration narrated by Mis'ar from Ismail ibn Abu Khalid, from Sha'bi, from Yahya Ibn Talha, from his mother Su'da Murriya. In this narration, 'Umar passed by Talha ibn Ubaydullah and said to him, "I heard the Messenger of Allah, may Allah bless him and grant him peace, saying "There is a saying that a slave did not say when he died. If (there is) a light on his page". He said, "I know him, he meant his uncles." It is clear from this commentary that the hadith refers to Abu Talib, and that this word is the word of faith. Ibn Qaysarani commented on this hadith narrated by Muhammad ibn Abdul Wahhab and said that it was a "strange" hadith. In particular, it was narrated only by Misar ibn Kidam from Ismail, and only Harun ibn Is'haq narrated it from Muhammad ibn Abdul Wahhab<sup>xv</sup>. According to the definition of the term 'siqa', its "gharib" (strange) hadith is can be assessed as a hasan or a sahih hadith and can be the basis for a sharia ruling. The hadith scholars who spoke about this narrator said that he was also known as "Sukkari" and that he was one of the narrators whose assessed a "siqa" and "la basa bihi"<sup>xvi</sup>. In the book "Al-Wafi bil-wafayat" it is noted that he was praised as a "righteous person" and Termiziy, Nasai and Ibn Majah were narrated from him<sup>xvii</sup>.

The Imam Bukhari quoted Ibn main's "siqa" assessment on Abdullah ibn Muaz. At the same time, he accentuated that Abdurazzak assessed him as "kazzab" (liar) and Hisham ibn Yusuf called him "saduq"<sup>xviii</sup>. Hafiz Mizzi also refers to this narrator and quotes the contradictory assessments of several famous hadith scholars about him. For example, Abu Zur'a Razi described 'Abdullah ibn Mu'az as a "liar" and at the same time said that he was "more reliable" than Abdurazzaq. Imam Muslim described him as "siqa, saduq." Abu Ahmad ibn Adi said that he hoped that Abdullah was "la basa bihi". Ibn Hibban included him in his al-Siqat, while Imam Ahmad ibn



Hanbal said that he saw him in Makkah and did not write anything from him<sup>xix</sup>. From the above, it can be concluded that the hadith scholars have used contradictory terms about Abdullah, that is, some have praised him, while others have criticized. There are several narrations of Abdullah in the hadith collections. The reason for the absence of his narration in "Sahihayn" may be the contradictory assessments of hadith scholars about him. However, his narrations are included in al-Tirmidhi's "Sunan" which one of "sifah sitta" (the most reliable six books) and Hakim Naisaburi's al-Mustadrak, a collection of hadiths that meet the requirements of two sheikhs, but are not included in their "sahih"s. In particular, in the Sunan of Imam al-Tirmidhi, there is a narration from Mu'adh ibn Jabal, which was narrated from 'Abdullah ibn Mu'adh from Ma'mar. The author emphasizes that this narration is on the level of "hasan, sahih"<sup>xx</sup>. Hakim cited three of his narrations and accentuated that all of them are "sahih" according to the terms of the "two sheikhs", but are not included any of 'Abdullah's narrations<sup>xxi</sup>.

From the analysis of the above 5 narrators, it can be said that narrations of the "siqa" narrator are acceptable and can be used as sharia's evidence. The fact that the narrator has some negative qualities does not mean that his narrations should be rejected, lowering him from the level of "siqa". This is the reason why the hadith scholars have placed this term on different levels of the praise of the narrators. Narrations of hadith narrators who assessed as "siqa" in Imam al-Bukhari's "al-Tarikh al-Kabir" and praised by other hadiths scholars are included in "two sahih"s, otherwise they are not included in these two collections.

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# PECULIARITIES OF THE METHODOLOGY OF TEACHING THE UZBEK LANGUAGE TO FOREIGN STUDENTS IN HIGHER EDUCATION INSTITUTIONS

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## ABSTRACT

*The article is devoted to the peculiarities of the methodology of teaching the Uzbek language to foreign students in higher education institutions. The article analyzes the methodological guidelines, methods and scientific views of linguists and scholars on the teaching of language as a foreign language.*

**KEYWORDS:** *Uzbek language, method, methodology, foreign language, foreign student, teacher work style, speaking skills, speech, reading, listening comprehension, speaking, writing, verbal method, excursion, communicative, speech devices.*

## INTRODUCTION

If we look at the data on the Internet, the population of the planet speaks 7111 languages. Only one percent of these languages (70 languages) are spoken by 90 percent of the world's population. The rest are endangered languages spoken by very small populations. Every two weeks, one language on Earth disappears altogether.

Happily, our language is in that stable 1 percent. Uzbek language is spoken by about 40 million people around the world. This means that one in every 200 people on Earth speaks Uzbek. In other words, Uzbek is one of the 40 most widely spoken languages on the planet. (Each of these languages is spoken by at least 30 million people).

Let's take a look at the history of our language. According to experts, the history of the Uzbek language spans several thousand years. Its earliest roots go back to dozens of ancient Turkic peoples living in Central Asia - Sak, Hunnu, Kangli, Chigil, Yagma, Qarluq, Kipchak.

The Orkhon-Enasay monuments of the VII-VIII centuries, along with all Turkic peoples, are our ancient wealth and heritage. Our great ancestor Bilga Hakan wrote a testament to future generations in the ancient Turkic language in his inscription in 711: "O Turkish people. Understand yourself, return to yourself, and you will rise!"

In the Middle Ages, scholars such as Mahmud Kashgari, Yusuf Khas Hajib, Ahmad Yugnaki, Ahmad Yassavi wrote their works in Turkish and contributed to the development of our language. The

great thinker Hazrat Alisher Navoi truly strengthened the foundation of today's Uzbek literary language. At his initiative, our native language became the state language of Khorasan. For the first time, Navoi created "Khamisa" in Uzbek, created great devons and proved that it is not inferior to other languages. In his poems he sang not only the richness and elegance of the Uzbek language, but also the national image and values of the Uzbek people [Rustam Jabborov <http://21asr.uz/post>]

## RELEVANCE OF THE TOPIC

Today, the higher education system in Uzbekistan is entering a new stage of development. In accordance with the Decree of the President of the Republic of Uzbekistan Sh.M. Mirziyoyev of October 8, 2019 "On Approving the Concept of Development of the Higher Education System of the Republic of Uzbekistan until 2030", first of all, much attention is paid to pressing issues of education, such as including at least 10 higher education institutions in the list of higher education institutions for the first 1000 places in the ranking of internationally recognized organizations, including the National University of Uzbekistan and Samarkand State University in the list of higher education institutions in the first 500 places, raising the content of higher education to a qualitatively new level, creating a system of training highly qualified personnel who will make a worthy contribution to the sustainable development of the social sphere and economy, who can find their place in the labor market, increasing





the investment attractiveness of higher education, attracting foreign educational and scientific technologies. [Decree of the President of the Republic of Uzbekistan Sh.M.Mirziyoev dated October 8, 2019 No PF-5847 "On approval of the Concept of development of the higher education system of the Republic of Uzbekistan until 2030"]

**The content of the issue.** Raising the content of higher education to a qualitatively new level will also attract the attention of foreign students to higher education institutions of our country. At present, in many higher educational institutions of Uzbekistan, along with the youth of our country, foreign students are diligently studying. It should be noted that in the modern education of foreign students in our country, the professors of higher education institutions are responsible for the deep knowledge of languages and their ability to convey them to students. At the same time, one of the most important issues today is teaching the history of the Uzbek people, rich spiritual values, Uzbek language as a foreign language, and developing students' speech in the Uzbek language to foreign students. This requires specialists in the field of education to pay special attention to the specifics of the methodology of teaching the Uzbek language to foreign students.

First of all, if we look at the history of the origin of the word 'methodology', the word 'methodology' is derived from the Greek word 'methodos', which means 'way'. It should be noted that the word is currently used in two senses:

1. *A set of methods, techniques, forms of the teacher's work in the study of any subject (i.e. the teacher's art skills and language).*
2. *To study the possibilities and means to achieve the maximum level of the science learning process. (i.e. the study of theory on any subject).*

The object of our attention below is the methodology of the theory of teaching the Uzbek language to foreign students.

The experience of methodological science practice emphasizes that the development of science and practice is fully interrelated. It is well known that theory is always enriched by practice. Methodology is a theoretical and applied science of this art. The teacher's ability to adapt the overall methodology is certainly of great value.

The main goal of the methodology is to identify the most relevant, most urgent topics of the language as a foreign language in the learning process. It should be borne in mind that the learning process in language learning consists of a number of components:

1. Language learner, student, listener and others.
2. Language teacher, specialist.

3. A science subject and teaching that connects a language learner, a student, a listener, and others with a language teacher, a specialist. [M.P.Chesnokova. **Method of teaching the Russian language as a foreign language.** - Moscow, MADI, 2015. p. 12-15]

The methodology studies each of these components separately and interconnected. The method of linking written and oral speech in the delivery of topics to the student in the Uzbek language as a foreign language in the student audience gives very good results. Therefore, in the formation of the methodology for this category of students, the main task of communication aimed at learning the Uzbek language, that is, the development of speech activity in the Uzbek language - reading, speaking, listening, writing. It is clear that we will not get the desired result if the teacher cannot link these processes.

It is known that language education involves the acquisition of a certain amount of knowledge at each stage of education. The basis of the knowledge to be mastered is language materials, consisting of phonetic, lexical, grammatical information specified in the curriculum, which are distributed separately for each semester period in accordance with the requirements of the state educational standard. In the learning process, it is important for students to develop speaking skills based on this knowledge. If this knowledge is not properly distributed between semesters, continuity of educational content cannot be achieved. Speech skills are generated through 4 main types of activities: reading, listening comprehension, speaking, and writing skills, and help students develop the ability to apply the knowledge they have acquired independently and consistently in practical speaking activities - speaking skills. According to the well-known psychologist IA Zimnyaya, "skill is the achievement of high perfection of actions and automation of speech processes as a result of exercise." Indeed, the process of speaking, communicating, requires the most effective level of lexical, grammatical, and phonetic formalization of thought - the development of highly automated speaking skills, i.e., speaking skills. The development of oral speech skills in oral communication is the basis of the communicative goal, because it is through the ability to listen, speak, read, write - the ability to exchange information in a second language, communicate verbally and in writing appears.

There are two other important aspects to consider when teaching a language as a foreign language or a second language: teaching the language in a place where there is no language environment and teaching the language in a language environment. The first case concerns the study and teaching of foreign languages, while the second case involves the



teaching of the state language of a country to representatives of different languages living in that country. In particular, the teaching of the Uzbek language to people of different nationalities living in Uzbekistan, or the teaching of Russian and Hindi to people of different nationalities living in multi-ethnic countries such as Russia and India

Teaching the Uzbek language to people of other nationalities is associated with the creation of Russian-style schools in Turkestan, and as methodologist S. Nazarova noted, before 1917, Mullah Solikhoja Kichkinhodzhayev, S.M.Gramenitsky, Usmon Dadamuhamedov, Muhammadrasul Rasulov, Ali Askar Kalinin, Saidrasul Saidazizdov, Muhammad Amin Muhammad Karimov, Kamoliddin Kakhkhorov taught the Uzbek language to Russian in Russian-style schools, and the first textbooks on teaching the Uzbek language for people of other nationalities living in Turkestan was associated with the activities of these schools. [Nazarova S. **Methods of teaching Uzbek language. Tashkent: Teacher, 1992. -p.19**].

It is extremely important to whom knowledge, skills and abilities are provided in the educational process, i.e. who is the subject of education. Therefore, in language education, the teaching of language as a mother tongue and the teaching of a foreign language (or teaching as a second language) are studied separately.

Psychologist L.S. Vygotsky expressed the following opinion about the contradiction between the pedagogical and psychological methods of teaching the mother tongue and the second language: "Learning the mother tongue is carried out from the bottom up, and learning a foreign language from the top down". This can be interpreted as follows: in the bottom-up direction, that is, from the analysis of specific linguistic phenomena to their generalization, and in the top-down direction, from the generalizations (rules) to their practice. This means that the information to be given, the content of the rules, the form and place of the presentation will have to be selected according to which aspect of the language is being studied and distributed accordingly. Of course, when a language is taught as a foreign language or a second language, knowledge is required to be conveyed in a communicative way, that is, within the lexical and grammatical minimums that ensure certain communication, rather than as deep and extensive as in the linguistic aspect. [Zimnyaya I. A. **Psychological aspects of teaching speaking a foreign language. - Moscow: Moscow State University, 1998. -268 p.**]

Since when teaching a language as a foreign or second language, the main attention is paid to the speech aspects of the language, there are many

problematic issues, that methodologists and psychologists deal with. Psychologists point out that the way in which students acquire secondary language skills occurs through primary - native language skills and abilities. The formation of speaking skills in a second language depends, first of all, on the formation of skills in using language tools that help to express ideas in that language, and the ability to freely and harmoniously use them in the process of speech communication, and this ability is formed in a person on the basis of speech skills built on the skills of the native language. [Nazarova S. **Methods of teaching Uzbek language. Tashkent: Teacher, 1992. -p.25**]

Interactive teaching methods used in teaching Uzbek to foreign students, the purpose of the method is to analyze existing theoretical knowledge and practical experience, find ways to solve the problem by comparing, consolidating, repeating, assessing knowledge, forming independent, critical and non-standard thinking.

In addition, the teacher, of course, must have a good understanding of the golden rule of methodology, i.e. to whom? what? for what purpose? how? he must teach, then it is necessary to use a new teaching model, organized with the help of modern educational technologies, to provide these planned materials. For this, in the educational process, it will be necessary to use not only active methods of interaction between teacher and student, but also interactive methods that provide interaction between students, that is, develop a draft educational dialogue and polylogy.

The main task of language education is to increase the vocabulary of the Uzbek language, grammatically and methodologically correct and appropriate use of this vocabulary, to express their ideas clearly, accurately, logically, logically, reasonably and effectively, as well as:

- organization of education on the basis of a systematic approach;
- individual approach to each subject of education;
- accepting the teacher as the organizer of educational activities, students as competent advisors and assistants;
- search for and solve problems in the educational process, the use of active and interactive methods aimed at applying knowledge in practice;
- establish a wide range of forms of teamwork and small group work;
- widespread use of information technology in the educational process, along with traditional means of education;
- to know and actively apply methods aimed at directing students to work independently.



If we describe situations that may involve teaching methods, one of which is that the teacher creates a model that suits the students in a leadership role in the lesson, in an environment where students work together as a team and encourage them to make the right decisions. Either the teacher can see himself or herself as a member of that team, or the teacher takes full control of the lesson and leads the students, or he or she acts in sync with the team that is organized in the classroom. All of these can be considered as components of teaching methods. [Zimiyaya I.A. *Psychological aspects of teaching speaking a foreign language*. - Moscow: Moscow State University, 1998. -p.29]

Educational methods can be divided into the following groups according to the organization of learning activities, transmission, reception, comprehension, memorization of educational information, ensuring the practical application of acquired knowledge, the formation of practical skills and competencies:

- verbal (methods of verbal transmission and reception of information by hearing or oral methods - story, speech, conversation, etc.);
- methods of visual transmission and reception of educational information (visual methods - visual, demonstration, etc.);
- providing educational information through practical work (practical methods - exercises, laboratory experiments, etc.).

Games can also be a key strategy to motivate students on any curriculum. If a teacher starts a lesson by saying, "We're going to play a game in class today," the whole audience is more likely to focus on themselves. Here, the game attracts the attention of students and increases the likelihood of learning more through it. In addition, games are also considered as an additional motivating factor.

One of the non-traditional forms of lessons is an excursion. Excursion is a form of education that provides a thorough mastery of knowledge that illuminates the content of a particular process, event or activity on the basis of direct observation. Excursions are radically different from the auditorium-lesson system, as well as practical classes. During the excursion, people move from one place to another. Foreign students ask questions from time to time during the process of observing the object, writing down the necessary information. At the end of the excursion, the teacher conducts a conversation, linking today's observations to previously mastered materials. Writing a statement or essay in Uzbek on the basis of excursion materials will help to make the results of the tour more effective.

The use of audio-video equipment, educational videos is also an important tool in the perfect teaching of the Uzbek language to foreign students.

At the same time, it is necessary to create full conditions for teachers to conduct their lessons in classrooms fully equipped with technical means.

For a teacher today, in-depth theoretical knowledge in his field is not enough, one must be a specialist who can use modern forms of education, innovative and information technologies, identify problems, restore ideas, make decisions, know the methods and tools of pedagogical management.

In fact, the main purpose of teaching Uzbek to foreign students is not to teach Uzbek students the grammar of the Uzbek language, but to develop in them Uzbek speaking skills. This requires the teaching of various speech devices, the necessary grammatical knowledge, and the rules of connection of words and phrases should be taught based on the need for speech, the purpose of expression of ideas. This means that teaching a language as a mother tongue and teaching a language as a foreign language are different and have their own peculiarities.

## CONCLUSIONS

In conclusion, it is no exaggeration to say that the international competence levels of education and the application of advanced methods and practices in the education system of developed countries in the teaching of Uzbek language in the future will pass a school of advanced practice for professionals.

## RECOMMENDATIONS

Of course, textbooks on science are also important in the introduction of advanced pedagogical technologies in the educational process, the implementation of the communicative-speech principle in the classroom.

The focus of Uzbek language textbooks for foreign students on the formation of practical speaking skills is, of course, the achievement of our textbooks. However, in addition to these achievements, today we do not have almost perfect textbooks on teaching Uzbek to foreign students.

It is true that in higher education institutions of our country, subjects for foreign students are often taught in English. However, these students live in our country, interact with their peers and compatriots, organize excursions around the country, enjoy the rich and unique material and spiritual masterpieces of our history, as well as listen to radio and television products. In this regard, we must not forget that the goal of creating a culture of speech in the Uzbek language among foreign students by studying the Uzbek language is, first of all, by creating textbooks "Uzbek as a Foreign Language" and using them in the lessons.



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## APPLYING INTERACTIVE METHODS IN DEVELOPING STUDENTS' READING SKILLS

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### ABSTRACT

*The article is devoted to the problem of applying modern methods and techniques in developing students' reading skills in teaching a foreign (English) language. The effectiveness of foreign language teaching methods is also discussed, as it contributes to the formation and development of various abilities, skills, general educational and professional competencies that are important for a modern specialist. The author of article considers that interactive learning methods allow to intensify the process of understanding, mastering and creative application of knowledge in solving practical problems.*

**KEY WORDS:** *reading, foreign language classes, students, learning process, skills, develop, non-philological, professional, scientific, literate, practical use, interactive, select, didactic, interactive teaching methods.*

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### INTRODUCTION

In a person's life and professional activity, reading plays an important role as a means of cognition and communication, as well as helping to shape his personality. In today's ever-increasing flow of information, the need for reading is obvious to any professional. Literate reading in a foreign language is all the more necessary as it contributes to a significant reduction in the time taken to obtain and process information, and thus ensures the practical use of the foreign language. A specialist of any profile, working in the national economy, should be able to review fluently the literature on the specialty, find the necessary information on the necessary question, understand the instructions for using this or that device, as well as be able to read publicistic and popular scientific literature.

Lessons on development of reading skills at a foreign language (English) lessons in a technical university, as a rule, take place purely intuitively or rather by traditional method. Consequently, at practical lessons we meet a variety of methods that range from very effective to sometimes senseless. Decisions about methodological techniques are often given to the case or the intuitive didactic skill of the teacher. Teaching reading in a foreign language should enable students to meet their needs for information contained in a foreign language text.

Moreover, knowledge of vocabulary and grammar does not play a decisive role in selecting information from a text. It is obvious that reading instruction should contain more training in reading skills than in grammar and vocabulary [8].

Accumulation of scientific and special vocabulary, assimilation of grammatical constructions starts from the first semester of studying a foreign language at university. It is necessary to start as early as possible the work on activation of communicative means, their involvement in a spoken speech of students.

At the initial stage of study the number of passively assimilated language units, as a rule, is ahead of the possibilities of their active use by students in their independent speech. Considerable semantic complexity of a statement comes into conflict with students' lack of readiness to use actively the necessary minimum of lexical and grammatical means in their own speech. One of the teacher's tasks is to teach students to combine their language skills independently in order to achieve communication objectives. Monological speech includes oral summary, excursion, report, lecture. Spontaneity of speech can only be achieved by repeatedly constructing statements from individual elements and then gradually shifting attention from the language form to the content. These details





should be constantly included in students' speeches during the training process.

Texts for learning should have an appropriate degree of difficulty, originality, a certain degree of saturation of terminological vocabulary. When selecting the literature, the teacher should prepare a set of classroom exercises as well as exercises for homework with increasing difficulties. A sentence should be built from the simple one, which includes the subject and the spoken one, to the more complex one, which contains additional members of the sentence. This approach will allow the student to move from memorizing individual words, ready-made speech samples, to constructing and combining them independently, and then to applying them spontaneously in speech.

In the process of teaching a foreign language at a technical university of a great importance is the motivation of students, which can be divided into two types. The first one is the so-called perspective motivation, i.e. awareness of distant learning objectives, its usefulness for a future work. In order to develop this type of motivation, it is necessary to explain to students how much help they can get from knowing a foreign language in the process of working in their future profession. The second type of motivation includes "procedural motivation", which causes students to be interested in carrying out educational activities. This type is the most important as it provides a high level of cognitive activity [1].

All used educational texts should be interesting to students by their content, include new valuable extra-linguistic information that meets their intellectual and individual characteristics [4]. For the development of positive motivation and the development of a general positive, personality-oriented attitude to the study of a foreign language is a favorable psychological environment in the classroom. It should be relaxed, psychological barriers that cause students to fear communication in a foreign language for fear of making mistakes should be removed.

The problem of selection of educational material to be assimilated remains topical throughout the lessons, as in a technical university text is the main source of information, as well as the basis for expressing students' own thoughts. First of all, the focus should be on the communicative means of language, which provide an exchange of scientific information that the student is studying. Since the student is constantly working with texts, acquiring reading skills and understanding of scientific specialized texts, he uses the vocabulary and grammar he finds in the text if necessary. In practice, however, it often happens that scientific texts use lexical and grammatical forms related to the

"periphery" of scientific speech and can be replaced without prejudice to frequently used.

In raising students' motivation to study a foreign language interactive methods of teaching should be applied. Interactive method ("inter" is mutual, "act" is to act) - means to interact, to be in a mode of conversation, dialogue with someone. In other words, unlike active methods, interactive methods focus on the wider interaction of learners not only with the teacher, but also with each other and the dominance of student activity in the learning process. The teacher's place in interactive lessons is limited to the direction students are taking to achieve the objectives of the class. Lessons conducted in the interactive mode, allow to include all students in the active work, ensure that each student is involved in solving problems. As a result, the weak gain some self-confidence, the strong feel the benefits, helping fellow students to understand the material [9].

While in the traditional system of education the teacher and the textbook were the main and most competent sources of knowledge, in the new paradigm the teacher acts as an organizer of independent cognitive activity of students, a competent consultant and assistant, and students receive knowledge as a result of their active cognitive activity. In the process of working interactively, they develop communication skills, the ability to cooperate and interact, and develop critical thinking, which is necessary for their future professional activity.

Modern pedagogical science is rich in a wide range of interactive approaches, among which are the following: creative tasks; work in small groups; educational games (role-playing, simulation, business games and educational games); project methods (social projects, competitions, radio and newspapers, films, exhibitions, performances); warm-ups; study and consolidation of a new material (interactive lecture, work with visual aids, video and audio materials, "student as a teacher", "everyone teaches everyone", mosaic, use of questions, Socratic dialogue); discussion of complex and controversial issues and problems ("Scale of Opinion", projection techniques, "One-two- all together", "Change of Position", "Discussion in the style of TV talk show", debates, symposium); Problem solving ("Solution tree", "Brainstorm", "Case analysis", "Negotiations and mediation", "Stairs and snakes"); cluster, comparative diagram, puzzle, targeted reading and a number of others [3].

Let us dwell in more detail on some methodological techniques applied in developing reading skills:

"Fishbone" (or "fish skeleton"): students work on the content of the read or studied material and fill in the "fish skeleton" on the following sample: head - the question of the topic, the upper



bones - the basic concepts of the topic, the lower bones - the essence of the concept, the tail - the answer to the question. Records should be short, represent key words or phrases reflecting the essence.

"INSERT" method (understood as "interactive marking system for effective reading and reflection"). When working with the text, students are divided into groups. Each receives a subtopic or part of the text for development. It is suggested to make notes in the margins ("V" - already knew, "+" - new, "-" thought otherwise, "?" - did not understand). Then there is information exchange and discussion in the group. The whole team reports on the studied topic.

"Dictation of words' meaning" method. Description: the reception of extra-active learning. An interesting way of vocabulary dictation, when the teacher dictates not the words studied in the text, but their meaning. Students must define words by their meanings and write them down. This technique requires students to have a certain vocabulary and perform a variety of lexical exercises in the preparatory phase [6].

Some rules for organizing interactive learning should be kept in mind: all participants in the educational process should be involved to some extent. For this purpose, it is useful to use technologies that allow for the inclusion of all participants in the discussion process. It is necessary to take care of the psychological preparation of participants. The point is that not everyone who comes to the class is ready to be directly involved in this or that form of work. It is said that there is a known fixation, stiffness, and traditional behavior. In this regard, warm-ups, constant encouragement of students for active participation in the work, providing an opportunity for self-realization are useful. There should not be many students learning interactive technology. The number of participants and the quality of training can be a direct factor. It is important that everyone is heard and that each group is given the opportunity to speak on a problem. Pay attention to the preparation of the workspace. The audience should be prepared so that participants can easily transplant to work in large and small groups. Some comfort should be provided for students in the room. Tables should be placed so that each student can address a small group. It is a good idea to have the materials required for creative work prepared in advance. Talk to the students about the procedure for the class and the speaking time. It is useful to recall that all participants should be tolerant of any point of view, respecting everyone's right to free speech. Divide the participants of the seminar into groups. Initially, it is better to build on a voluntary basis. Then it is appropriate to use the principle of random choice [5].

## CONCLUSION

Thus, learning with the use of interactive educational technologies implies a different logic from the usual educational process: not from theory to practice, but from the formation of new experience to its theoretical understanding through application. Interactive learning methods allow to intensify the process of understanding, mastering and creative application of knowledge in solving practical problems. If forms and methods of interactive training are applied regularly, productive approaches to mastering of the information are formed in learners, fear to express the wrong assumption disappears (as error does not entail a negative estimation) and trustful relations with the teacher are established. Interactive learning increases the motivation and involvement of participants in solving the problems discussed, which gives an emotional impetus to the subsequent search activity of participants, encourages them to take concrete actions, the learning process becomes more meaningful. Interactive learning shapes the ability to think outside the box, to see the problem situation in their own way, to justify their positions, their life values; develops such features as the ability to listen to a different point of view, the ability to cooperate, to enter into partnership, while showing tolerance and goodwill towards their opponents.

But there are also some negative aspects to the use of interactive methods. Indeed, the idea of active learning requires "reflection" and theoretical refinement. Today active learning is blamed for the lack of a clear theoretical concept, for mixing different approaches and methods under one name (in particular, there is no generally accepted classification of methods). Practitioners using active learning methods note the existence of certain barriers to their use. There are the following barriers when using active learning methods:

- difficulty in presenting a large amount of material in the classroom;
- active learning requires too much time to prepare for the class;
- it seems impossible to use active learning methods in a large classroom;
- the possibility of negative consequences: the attitude of colleagues to new approaches; the impact of student assessment on the work of the teacher.

There is another barrier - student resistance to new approaches and methods. And the more students' experience of learning activities, the more resistance they may encounter in the classroom. In my opinion, these barriers should be taken into account when planning your lesson and you should be prepared to make certain efforts to overcome them.



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# DEVELOPMENT OF SPONTANEOUS FOREIGN LANGUAGE SPEECH IN THE PROCESS OF TEACHING A FOREIGN LANGUAGE

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## ABSTRACT

*The target article discusses the problem of spontaneous foreign language speech development in the process of a foreign language teaching in a technical university. Features of selection of language material and methods of teaching are considered which help to bring students closer to the conditions of foreign language use in real life situations. The author of the article suggests the main directions of modernization of the process of practical training of unprepared spontaneous foreign language speech.*

**KEYWORDS:** *Spontaneous speech development, foreign language, learning process, technical directions, teaching methods and techniques, selection of language material, students, technical, communication, speech activity.*

## DISCUSSION

It is known that everyone wants to speak fluently a foreign language when starting learning it. It follows that speaking plays one of the most important roles in learning a foreign language. Traditionally, teaching a foreign language in a non-linguistic university was focused on reading, understanding and translation of special texts, as well as studying the problems of scientific style syntax. Now it is necessary to think about shifting the emphasis in teaching to the development of speaking skills on professional topics and scientific discussions [1].

Speech is defined as "a type of activity of members of society, which is manifested in the use of language (both orally and in writing) in the processes of communication and thinking. Speech activity is carried out in accordance with certain rules (lexical phonetic, morphological and syntactical) inherent in a given language" [4].

Learning to speak is an important but also complex process as there are difficulties that arise in learning to speak:

1) Most students are shy about speaking a foreign language for fear of making mistakes. This is especially true in the early stages, as they are afraid to be criticized by the teacher and students.

2. Students are afraid that their vocabulary is not sufficient to enter into communication.

3. Students do not have enough information on the subject under discussion and in their native language.

4. In a pair-work, students often switch to using their native language and make many mistakes.

To solve the problem of speech development, all teaching of a foreign language should be even more subordinated to the principle of speech orientation. Speech orientation refers to the construction of the learning process in which students use a foreign language as a means of communication in conditions as close to life as possible. In other words, both the selection of language material and the methods of working with it should bring the student as close as possible to the conditions of language use in real life situations [2].

The main directions of modernization of the process of teaching spontaneous foreign language speech are: the correct organization of the development of speech skills and abilities; increasing the efficiency of independent and laboratory work of students and a wide introduction of modern technical means of teaching [5]; intensification of the whole educational process [7].

Development of speech skills and abilities is impossible without the correct solution of the question about the system of exercises, which should





be applied in teaching students a foreign language. The main work on automation of speech skills falls on classroom classes. Before practicing speech skills, it is necessary to introduce and activate certain knowledge - phonetic, lexical and grammatical - and to develop the skills to use certain language material. Students then perform exercises that prepare them for spontaneous speech, such as reproducing a listened unfamiliar text on a question, plan, or picture in class; interpreting a text; formulating the main idea of a text or paragraph in a short form; posing questions to a text; translations; prepared oral presentations, reports, abstracting a foreign text read at a rapid pace, transmitting the content of a slide presentation, etc. These exercises allow you to put students in a speech situation that allows them to use previously acquired language material in the flow of speech.

Spontaneous speech is characterized by unpreparedness not only of the language form, but also of the content of the statement, as this speech makes the student express his thoughts or understand other people's speech depending on the emerging speech situation and respond quickly to its changes [8]. Such training is possible only if there is a language environment, a language team, which is a language group led by an instructor.

In the process of searching for ways to improve the skills and abilities of unprepared speech, the need to use a special type of classes - free speech classes is identified. However, the traditional method of this type of lessons does not always correspond to its name, as it does not provide a genuine ability to speak freely on a topic. To prove this point, let us turn to the traditional method of conducting a lesson on free speech. Usually the teacher in advance recommends to students an educational material: educational texts, the articles published both in domestic, and in a foreign press, separate stories, phonograms, various directories etc. Students prepare reports, short stories, paraphrases by topics. In fact, the lesson of free conversation turns into a test of pre-prepared messages. Sometimes students' answers are enlivened by questions from the instructor and other students, individual clarifications, student involvement in explanations of mistakes, and brief assessments of speeches.

This type of lesson organization can't have a significant effect on the development of students' unprepared speech for the following reasons:

- there is no lively, relaxed conversation among students in this type of class, which is the most effective form for developing the skills and abilities of students to communicate spontaneously;
- teachers do not create a real environment or an analogue for organizing conversation, so students do not feel the need to express their thoughts.

- the uniformity in the teaching of this type of lessons reduces the interest and activity of students.

The diversity of texts, their cognitive value, as well as the gradual transition from the everyday aspects of conversation to deeper problems, contribute to the broadening of students' horizons. To master the spoken language, systematic work is also needed to develop the ability to think logically and convincingly in a foreign language. This skill can be developed through certain exercises. Above all, however, these qualities are developed through discussions [9]. A lot of discussions, arguments, and discussions are the best training for the ability to express oneself clearly in the language. The conversations and preparation for them will teach students to clearly articulate their point of view and to find arguments to justify it.

The development of untrained foreign language speech is also effective through the use of specially selected material for individual reading. For individual reading classes, students are initially asked to highlight key issues in the text they read. Episodes from the text are selected for these questions, i.e. students do not simply convey the content of the text, but interpret it according to their understanding of the author's intention. The work is gradually becoming more complicated. The teacher begins to interrupt the sequence of messages with questions to the whole group. Students should answer these questions using the appropriate part of their prepared message. Soon students begin to supplement the messages of their classmates on their own initiative, using the material they have prepared, and then, following the example of the instructor, begin to ask questions. The set of consistent messages gradually becomes a conversation.

As students' horizons expand, the content of the conversation changes. Students should move from describing facts, events, and specific information to assessing them, formulating their own opinion, to discussing and arguing about them. The more serious and in-depth issue is discussed, the deeper and more subtle the language requires. At the same time, students' interest in the content of classes encourages active learning of language forms.

## CONCLUSION

Thus, the purpose of foreign language teaching is to form communicative and professional competence of students for its practical realization in oral speech.

The substantive and linguistic value of training exercises is of great importance in teaching speaking is, speech situations, as well as role and business games, on the basis of which students are taught to speak. It is necessary to teach students to





think independently, to argue and ask a teacher questions, to use creative games. At the lessons it is desirable to widely use situational tasks, various methods of communicatively-oriented learning: exchange of opinions, discussions, improvisation, free communication of participants.

Therefore teaching students spontaneous unprepared foreign language skills should be seen as a unified process of improving students' level of thinking and the related level of speech development as a means of communication and thinking.

*encountered-in-learning-english-for-specific-purposes*

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# SPECIFIC FEATURES OF GENDER APPROACH IN TEACHING A FOREIGN LANGUAGE

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## ABSTRACT

*The article under discussion describes specific features of gender approach in teaching a foreign language (English). The author of the article analyzes the models of foreign language teaching, taking into account the gender characteristics of students. In particular, the importance of gender education in teaching a foreign language, its role in the formation of communicative motivation, and the development of foreign language communicative competence are investigated in the target article.*

**KEY WORDS:** *Gender approach, learners, motivation, gender features, motivation of teaching a foreign language, development, education, intellectual, significant changes.*

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## INTRODUCTION

In recent years, much attention has been paid to the concept of "gender" in science and society. History, philosophy, sociology, linguistics, culturology, ethnography, pedagogy and psychology are engaged in gender studies. Pedagogical experience shows that quite significant changes have taken place in the educational space, there is a clear polarization of intellectual abilities of a person, the so-called "middle", which was previously oriented to many teachers, has disappeared. Such an unstable state of affairs in the educational space forces a teacher to look for new approaches and methods to learning and new relationships between teachers and students [12].

In psychological science there is a clear distinction of concepts: gender (biological sex) and gender (social sex). Gender is a biological phenomenon that describes the functional biological differences in the reproductive systems of living beings, including humans. The term "sex" should be used to describe the complex of reproductive, somatic, behavioral characteristics that define an individual as a man or woman. As a biological phenomenon, sex is the subject of natural sciences as well as psychophysiology and general psychology of sex. Biological sex exists objectively, but in the consciousness of an individual it is represented in the form of subjective knowledge determined by social

notions, social stereotypes, cultural patterns of behavior that are associated with belonging to a certain sex, communication and interaction practices that take into account the differences between men and women, as well as the use of sex for social and personal purposes. In this aspect, gender exists independently, regardless of biological characteristics and is defined by social and interpersonal relations, and here the term "gender" is more appropriate. Thus, the term "gender" is used when it is important to highlight the social and cultural differences that occur in the behavior of men and women. These can be differences in group status: domination (usually men), subordination (usually women), in the social roles performed (motherhood, fatherhood), in the level of social activity: professional activity (traditionally considered the prerogative of men), domestic work (the prerogative of women), although in the modern world, the activity of many women is directed not only to the household, but also to professional activity [5].

## LITERATURE REVIEW

A number of psychological and pedagogical studies study gender specific features of personal development and learning. Thus, from the point of view of S. L. Bem, gender can be considered as a certain cultural (gender) scheme, to which an individual of a certain sex correlates himself [1]. From L.A. Golovey's point of view, gender is a social



institution. From the point of view of L.A. Golovey's ethnomethodological concept, gender is a social institution [2]. Garfinkel's ethno-methodological conception of gender is considered as "people's communicative intervention" [3].

L.V. Kaznachevskaya studied the differences between girls and boys on two levels: cognitive and psychological. Her work shows that at the cognitive level, when processing educational material for young men, the quality of the material is more important than its volume; for young men, rather than for girls, is characterized by subject and instrumental activity; also young men are more inclined to independent research and practical activity; when choosing between the possible and the real, young men are more inclined to the area of the possible and are interested in virtuality and computer technologies. The spirit of competition and wrestling is more typical for young men. At the psychological level, boys are more dependent on their future professional activity than girls, and more susceptible to the syndrome of mixing roles [5].

In contrast to young men, when processing educational material, girls prefer quantity, are more inclined to verbal activity, show more interest in topics related to the personality, and girls are more rational in choosing between the areas of possible and actual. Girls also have a competitive spirit, but compared to each other. On the psychological level, girls' self-consciousness is determined by interpersonal relations; in the process of self-affirmation, they see not a goal but a means, more receptive to changes in the surrounding reality, more sensitive and vulnerable [7].

In E.P. Ilyin's opinion, boys' professional self-determination is conditioned by a common life perspective, while girls' life and professional self-determination are not connected with each other, girls' self-determination is, as a rule, situational and emotional, and the worldview is less holistic in comparison with boys'. This phenomenon is explained by the difference in the formation of self-image of girls and boys [4].

I.S. Kletsina believes that young men are more pragmatic in their choice of work. They try to choose a job that will give them power, benefit, and independence [6]. L.A. Golovey concludes that social and artistic orientation prevails among girls in professional terms, and entrepreneurial and research orientation prevails among young men [2].

According to T.E. Ovchinnikova, the implementation of the gender approach in foreign language lessons means that the teacher should have a clear idea of the essence of the categories "masculinity" and "femininity" [7]. The notions of "masculinity" and "femininity" reflect normative notions of what men and women should be, what they should do, and what their role in society should

be. Masculinity and femininity are only indirectly related to the biological sex of the individual; these categories are social. In psychological science, there are various systems for measuring masculinity and femininity. The earliest system was developed by L. Terman and C. Cox-Miles in 1936. The researchers attributed such features as the presence of a loud voice, love of hunting, disobedience in childhood, resistance to physical pain. Directly opposite qualities were recognized as feminine. These qualities blended in with traditional models of masculinity and femininity.

## METHODOLOGY

Various psychological methods are used to identify the gender characteristics of those studying a foreign language: observation, experiment, questionnaires, interviews, tests, modeling, etc. They study the most well-known sets of personal characteristics: extraversion, openness to cognition, caring, conscientiousness, which usually reveal gender differences. They have test norms for boys/men and girls/women.

From the point of view of a number of authors, gender peculiarities should also be taken into account in the process of teaching a foreign language [4]. Scientific knowledge about gender characteristics, the dynamics of the formation of the psychological sex, and the main features of gender manifestations in communication, behavior and educational activities contribute to the implementation of the principle of taking into account the individual and age characteristics of students in teaching a foreign language and the implementation of a differentiated approach in the educational process. The gender approach in foreign language teaching contributes to the solution of problems faced by teachers during classes, drawing their attention to their own gender characteristics and expanding their self-awareness and possibilities for reflection on their mental organization and themselves as subjects in the teaching process.

During foreign language classes, collective, generally significant norms are learned, and they become part of the personality and subconsciously guide its behaviour.

The formation of gender psychology varies between men and women, in both cases the roles of father and mother are significant, and this is due to the differences in these roles. There is a widespread opinion that the mother in the family creates an emotional climate, on which the formation of the learner's spiritual well-being depends to a large extent, and the father plays a role in the normalization of the learner's world, in the formation of a system of values, basic ethical assessments, as well as a picture of himself, which directly affects the



formation of personality. The father contributes to an adequate self-relationship, which allows them to cope better with cognitive and interpersonal tasks than learners raised without the father or with his inadequate influence.

Learners learn social norms and values through the process of imitating and identifying themselves with their parents. These processes are particularly important as they are not understood by learners and are not controlled by parents. The learner is guided by the example of the parents, tries to become like them, adopts the peculiarities of the parent's semi-regular behavior.

Thus, the family is the first and basic environment in which a person receives information about his or her field, what the opposite sex is, and gender relations. Cultural stereotypes and own experience tell parents what a man and a woman should be like. At the same time, the attitude of fathers to daughters is always a little like that of little women, and mothers to sons like that of little men. Thus, in full families, a child already at a very early stage of development receives information about his own sex. In quiet, balanced families, where the position of any member of the family did not become a dictate for others, the child easily and naturally perceives his sex and sexual behavior.

If a foreign language teaching is based on the gender approach, then during learning, for example, the topic "About Myself", which includes the subtopic "My Family", it is assumed to use information about the family composition of the students, relationships in the family and the responsibilities performed by each family member. For this purpose, it is advisable for the teacher to conduct interviews with students. This information will make it possible to distinguish between different types of tasks in class and homework (drawing up dialogues, creating a genealogical tree with oral or written comments, writing an essay and creating a monologue on the topic "My Family"). The correct distribution of gender roles during the lessons will contribute not only to the effective learning of lexical material, the formation of cognitive interest in a foreign language, but also to the gender socialization of students.

During lessons on a foreign language it is expedient to use role-playing games with the distribution of gender roles during the whole period of learning a foreign language. With the help of such games in a foreign language lessons, a student can more easily master the vocabulary, norms and rules of life in society necessary for communication in a foreign language, develop his intelligence and emotions, imagination and speech. Playing life stories, modeling the relationship between "doctor" and "patient", "chauffeur" and "passengers",

"mother" and "daughter" in a foreign language, students begin to navigate in these relationships.

Gender socialization continues throughout a person's life, but as he or she grows older, the autonomy to choose values and benchmarks grows. Socialization constructs a gender identity and the community to which the individual belongs.

## CONCLUSION

Modernization of higher education, transition to a personalized model of interaction directs teachers to the educational needs of students' personality. Since the personality is a category of gender, the real priorities in education open up the prospects for revival and development at the current level of a differentiated approach to the organization of education and training of students of different sexes.

So, taking into account the experience of teaching a foreign language, it should be noted that in an audience where only representatives of the "fair sex" should pay close attention to the following aspects: 1. tasks should be more clearly structured; 2. the volume of information should be dosed; 3. more visible; 4. creating a positive emotional climate; 5. emphasis on mutual help, working in pairs, in a team; 6. forming communicative motivation; 7. creating conditions for communication on favorite topics; 8. tender analysis of educational texts. As well as the choice of such authentic texts, with the help of which it is possible to show and help find the beautiful in life, in nature, in yourself, as well as in a person of the opposite sex. Yes, the "strong" and "beautiful" sexes should not always be brought up and taught in the same way. The implementation of a gender-sensitive approach to learning contributes to a change in the role and emphasis of the teacher, creating a comfortable environment for each learner, using special methods. And the result of this approach will be a faster and more qualitative process of teaching a foreign language.

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## THE PROBLEMS OF STYLE AND CHARACTERS IN MAKSUD KORIEV'S LITERARY WORKS

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### ABSTRACT

*The article under discussion depicts the problems of the style and characters in Maksud Koriev's literary works. A number of artworks created by Maksud Koriev prove that Maksud Koriev was a great publicist. The author of the article considers that fiction, however, the ability to explain the feeling can create beauty even from death, give the reader aesthetic pleasure.*

**KEY WORDS:** *Writer, journalist, style, character, subtle, plays, freedom, novel, publicist, struggle for freedom, philosopher, justice, representatives, image, scientific observation.*

### DISCUSSION

Maksud Koriev is a well-known journalist and writer. As a writer, he entered the history of Uzbekistan in the second half of the 1960s. His first works were printed in local print media. His collection of plays "Bright Nights" (1968), "At the Blossom of the Jedi" (1970), "Beauty of Afrosiob" (1974), "When the cranes fly high" (1976), "Bride's wedding" (1978) were written in the form of subtle lyrics. In the novel "Spitamen" he sanctified the millennial struggle for freedom of our people, the historical novel "Ibn Sino" (1995) described the life of the famous philosopher and healer of the Muslim world.

A number of artworks "The Beauty of Asia", "Tales about Temur", "His Thoughts about Stars" "Everything Returns", "Tojmakhal", "The Ghaznavids" prove that Maksud Koriev was a great publicist.

The historical novel "Spitamen" by Maksud Koriev tells about the events of many centuries ago that took place on the land of Sogdiana (the territory located between the Amudarya and Syrdarya rivers) in IV-III centuries B.C. From the first day of the invasion of Alexander the Great's troops into Central Asia a wide wave of popular resistance to invaders rises. The reader will become an accomplice to longstanding events and learn about the complex and dramatic fate of the talented commander Spitamen, who led the national uprising and in the battle at Politimeta (Zeravshan) managed to cause the first

serious defeat of Alexander the Great, who was previously considered invincible [2].

The novel by Maksud Koriev "Ghaznavids" covers the life and work of ruler Makhmud Ghaznawi. M. Kariev tells about representatives of the Ghaznawid dynasty - Sabukteghin, Makhmud Ghaznawi, Ma'sud Ghaznawi, tells about Shakh Makhmud as a fair man. In the image of the son of Ma'sud, the author thickens negative colors, perhaps the writer did so that the relationship between a father and a son is more clearly traced the justice of the Shakh Makhmud. Historical data, particularly works by Biruni, testify to the special attitude of Ma'sud Ghaznawi to the scientist. During his reign the situation of Biruni improved much, Ma'sud was interested in astronomy, paid special attention to scientific observations. Biruni helped him to learn Arabic. Ma'sud patronized the scientist, gave him gifts. That's why Biruni dedicated his work "Al Kanun al Ma'sudi" to him [1].

In spite of the fact that the novel by M. Kariev has added a new interpretation to our historical knowledge, it only presents some facts from the life of Makhmud Ghaznawi.

M. Kariev reveals that Sultan Makhmud is not only a fair ruler, but also a father who has gained experience over the years. The trip to Kharezm by Shakh Makhmud, who said: "I will not tolerate rumors as if the son of Sultan Makhmud, who served all his life for the development of Islam, was dishonest, wanted to cut off the hands of the blacksmith, or did not repay the debt, appropriated



someone else's good" [2], leads to the disintegration of the "The Majlisi Ulamo" (a collection of scholars), the death in exile of thirty-two-year-old Shakh Mammun. It is also unfair to replenish the treasury through enslavement which caused disagreement between Avicenna and Shakh Makhmud.

Makhmud Ghaznawi was not chosen by chance. The aim of the writer was to reveal the psychological experiences of a man on the verge of life and death, and the artistic interpretation of victory over death by the example of scientists, and death over a man by the example of the Shakh as death is a part of human existence. Transmitting the suffering of a man faced with death, the writer makes a "revision" of the life of the hero. If the life of the character was presented in chronological sequence, the work would lose its artistic value, the role of historical images on the pages of history would be damaged.

The tragedy of Makhmud Ghaznawi reminds us of the wisdom left by Alexander the Great. His will before his death is a better philosophy created by mankind. By testamenting to put his empty hand behind the coffin, he makes others think. Makhmud Ghaznawi's attempts to avoid death exacerbate his tragedy. The tale of the Divine Good sounds like a rebellion against the destiny destined by the Creator. The helplessness of powerful statesmen in this matter is an artistic proof that one cannot go against the laws of the Creator. For fear of death, he is condemned to die several times a day. Frequent memories of how in India fifty thousand people were shut down and set on fire in a barn give the impression that the Creator is taking revenge on him for his deeds.

Makhmud Ghaznawi's rule is based on fear. Fear is a negative energy that disables a person's psyche and damages the human image. If a person's selfish desires know no bounds, fear is as if passive under the consciousness, but in reality the reins of egoism are in the hands of fear. When greed is satisfied, fear shows itself at all. Now he begins, first of all, to defeat himself. The first manifestation of fear is panic. Panic is frightening in the form of chasing ghosts. It's repeated later in his dreams. Thus, the fear pursues the man in his sleep and in reality. When a person is afraid to realize his loneliness, begins to loosen his psyche, he gets out of balance. It leads to bad actions. In fact, a person's awareness of loneliness is always the Creator's awareness. At these moments, he realizes that he is subject to the will of God. In his loneliness, he feels more need for him. Loneliness manifests itself in moments of grief, suffering, and fear. Man, through his own actions, opens the way to fear. The first sign of fear is panic, the last sign is death. The paths leading to death are always different. Fiction, however, the ability to explain the feeling can create beauty even from death, give the reader aesthetic pleasure. The event

that serves to preserve the balance in the actions of the novel is Makhmud Ghaznawi's incurable disease, or rather, the frightening feeling of death. This is the powerlessness of human nature - he is not as afraid of the Creator as he is of death. The Creator's greatness is that he subordinates, by means of death, his servant, who is gripped by the megalomania of greatness.

In revealing the psychobiological aspects of the hero, Maksud Koriev chooses a ruthless method, the state of a man facing death. In this way he tells about eternal truth, that death is not a physical death, that death is a criterion determining the value of life; death is the discovery of beauty of life; thanks to death everyone enters eternal world on his own level. Life lived by man before his true discovery, status gained by him, social factors of his life are only stages of awareness at a certain moment of truth. The writer did not turn to history in order to retell the life of the characters. Against the background of their fates, he depicted the discoveries of the psyche at the intersection of three notions: birth, life and death. It is these descriptions that give the reader aesthetic pleasure, serve to purify him. The task of fiction is to bring to the reader's consciousness exactly this awareness [3].

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## CLASSIFICATION OF FERGANA VALLEY CHAYKHANA (TEA HOUSES)

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### ABSTRACT

*In this article, you will learn about the rapid development and maintenance of traditional chaykhana in Central Asia, as well as the new approaches to household and service facilities. And an architectural solution is given, taking into account modern, national and climatic, functional and traditional factors.*

**KEYWORDS:** *Chaykhana, teahouse, Ferghana Valley, Andijan chaykhana, Market chaykhana, Sheikh Islam, Isfara Guzari.*

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### INTRODUCTION

After the independence in 1995, for the first time in history the law of the Republic of Uzbekistan on "architecture and urban planning" was adopted. Due to this law implementation and execution numerous industry opportunities appeared and on the basis of historical, cultural resources, climate, and earthquakes and in general, taking into account the circumstances of specific location 148 national state "of construction norms and rules" was figured out. It should be noted that the path of independence, especially in the field of urban planning, increased attention to the construction of the formation of the service facilities.

The relevance of the subject: the modern stage of development of the Republic of Uzbekistan on the following series of buildings characteristic of the tradition of the rapid development and public service, the establishment of a new approach in their architectural design and modern, kind of climate, functional, traditional buildings, taking into account factors such as a national teahouse is one of the urgent problems.

Today, the demand of people for chaykhana is increasing. Chaykhana have become an ideal place for spending free time and having rest. To find out

the best conditions for placing new chaykhana and to examine and plan some special structure of chaykhana are as important as working out an architectural solution of these places.

Purpose: Fergana teahouse in the design, construction, explication, as well as socio-economic, demographic and natural-climatic conditions on architectural projects, forming the basis of modern requirements.

### METHODOLOGY

Historical formation, project analysis, observations and export requests of Fergana Valley chaykhana studied the origin, geographical location, and climate impacts of chaykhana. There are three reasons for the formation of chaykhana in the Fergana Valley:

1. Climatic conditions of the valley
2. Material and spiritual needs
3. Socio-spiritual needs

Fergana Valley The demand for chaykhana has not stopped for centuries – During the winter, people warmed up to a cup of hot tea, and in the hot summer months, they survived the heat with the help of hot tea. There are common city chaykhana in the neighborhood or chaykhana in the neighborhood



center and market teasers in the market. Market chaykhana are mainly built to meet material needs. In this regard, chaykhana are becoming more active in the market. The main role in the organization of rural and mahalla tea was the spiritual needs of the people. The culture of the teahouse was formed and developed continuously in accordance with the social conditions and moral ethics of the times. From time immemorial, chaykhana are known as bazaars, gardens, villages, neighborhood chaykhana.

By examining the Fergana Valley chaykhana, we can divide the following:

1. Mahalla chaykhana
2. Street chaykhana
3. Tea-chairs
4. Coffee houses
5. Tea rooms
6. Tea-service facilities

## MAIN PART

The Fergana Valley is an ancient city with a very long history of chaykhana architecture. Studying the history of valley chaykhana will allow us to form a more complete understanding of cultural and domestic bases of social and social life. In ancient cities of the valley: Kokand, Margilan and Andijan, chaykhana are very important. In the days of our ancestors, chaykhana were mainly used as an institution that served the national cuisine. They are mainly built in beautiful places in villages, parks, markets and neighborhoods. Chaykhana are the main place of information exchange. In particular, the chaykhana of Kokand, which were preserved from our ancestors, are the Teahouse, Sheikh Islam and Isfara Guzari. Barefoot chaykhana is located on Rimkulibek Street, between the two rivers. The naked dining room is a two floor; the architectural composition solution is complex. Sheikh-Islam Chaykhana is located on Khakandi Street. The Sheikh-Islamic Tea is preserved from the time of our ancestors. The Chaykhana is Г-shaped and has a simple composition solution. In the dark and pleasant shade of the trees in the tea-yard, there are lodges for entertainment and aesthetic leisure.

Isfara Tea is located in the Isfara Guzar mahalla in Kokand. The building was originally a movie theater and later was used by the elders of the neighborhood as a chaykhana. The interior of the building is masterfully used by Kokand's famous ganch carving and national pillars. In addition, on the side of Khudoyarhon Park, on the Navoi Street, there is a "National" Chaykhana. The architectural composition of the National Teahouse is based on the traditional Kokand architecture, that is, the central courtyard is designed around the perimeter of the building. The space-artistic solution of the building is very beautiful and elegant. Looking at the architecture of this building, we can see a modern

and national architectural solution. windows have a long-range composite solution. The building is made of Muslim brick and is well used by Kokand's elegant carved columns. On the second floor there is a circular staircase to the second floor.

The chaykhana "Uzbekim", "Ferghana", "Afrosiyab", "Kokand" in Fergana have been designed and constructed in different style.

Uzbekim Tea is located across the street from the highway. In the architectural composition of the building, we can see the harmony of national and modern architecture. This teahouse has a closed-door design solution, and the rooms are symmetric. Inside the Fergana Park, there is a Kokand teahouse, which is rectangular. The Kokand Chaykhana is very rich because of its interior. There is a restroom (10x10m) in the tearoom, surrounded by an open terrace. The windows in this teahouse have a Muslim arched shape and are magnificent. We can see columns and patterns in the Kokand national style. The interior of the room is also unique in national style. Afrosiyab Tea is a teahouse in Ferghana and is located in the neighborhood of independence. The Afrosiyab Tea Chart is a simple solution. The paint used on the facade is exquisite, decorative. The landscape of the cafe is very rich, harmoniously combined with the toilet. The cafe is located in the center of Fergana and is modern. The original solution of the cafe is a simple, rectangular shape. This café is a modern cafe with its own name. The common room consists of a hall, a bar and a bar in the corner of the hall. It consists of one common lounge, a kitchen, a warehouse, auxiliary rooms, and staff rooms.

The National Chaykhana is located in the center of Bekhudi neighborhood of Fergana. This Chaykhana is a simple, rectangular composite one-store building. There is a chorus room, a kitchen, auxiliary room, and a warehouse. The decorations of the national teahouse are modern; the yard is enriched with the landscape. The facade decorations are skillfully used.

Independence Chaykhana is located in the mountainous area of Markhamat Street in Andijan. Entrance enters from the upper level of the area to the lower floor through two stairs. To the left of the building, there are restrooms and entertainment rooms, and on the right side, there is a banquet hall, a shop, a customer room, a lounge, a warehouse, and a staff room. The blocks on the left and right are connected by hot shops, warehouses, and terraces. The compositional structure is in line with the terrain of the area and is well utilized by the terrain. The yard is well landscaped and has a complex floor-to-surface structure. The Andijan chaykhana is located on the Independence Street of Andijan. The "Andijan" chaykhana is a teahouse with a design of the dining room in the center, and to the right and to the left, the artistic image is found. The architectural



composition of the teahouse is complex and consists of two floors. The design of the teahouse is rectangular; in the center is the courtyard, and the choir rooms are symmetrically designed to the right and left. The size of the teahouse is large and has a chandelier room, a reception, a dining room, a barn, auxiliary rooms, and a large number of festive rooms. There is also a sauna, barbershop, department store, and billiard room for leisure activities. Due to the complexity of the design of the teahouse, there are four stairs to the second floor. The facade of the building is luxurious, the artistic architecture is perfectly creative, and the interior of the building is in harmony with the decorations and color combinations used in the building. Fountain, surrounded by landscapes.

Following the historical formation, project analysis, observations and export requests of the Fergana Valley teasers above, the following classifications of the Chaykhana buildings are proposed:

## CONCLUSION

As a result of the research, we consider the following factors when designing Fergana Valley chaykhana: in-depth study of the history of the teahouse, the impact of natural climates, the architectural space, the culture, habits and habits of the local population.

It is noteworthy that the main attraction of the population is the formation of chaykhana in the national spirit, the creation of chaykhana in a compact and comfortable atmosphere with spacious atmosphere and decorations.

We have proposed the design, construction, commissioning of Fergana teas and architectural projects based on socio-economic, demographic and natural-climatic conditions.

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# QUALIFICATIONS, EXPERIENCE AND RETENTION OF QUALITY TEACHERS IN PRIVATE SECONDARY SCHOOLS IN DELTA STATE

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## ABSTRACT

*This study examined qualifications, experience and retention of quality teachers in private secondary schools in Delta State. This study is correlational survey in nature of the ex-post-facto research design. The population comprises 324 registered private secondary school principals in Delta State as at 2019/2020 academic year. Stratified sampling technique was used to sample 162 private secondary school principals. A self-developed instrument titled "Qualification, Experience and Quality Teachers Questionnaire (QEQTQ)" was used to collect information from the respondents. The instrument was validated through face and content validity, thereafter it was subjected reliability test and a co-efficient of 0.78, was obtained. The responses were converted into mean scores and standard deviation for the purpose of answering the research questions while Pearson r was used to test the hypotheses at 0.05 level of significance. Findings show that quality teachers can be retained through support from school administrator, school location, provision of instructional facilities, conducive working atmosphere, opportunity to learn new skills and adequate salary among others. Significant relationship does not exist between qualifications and retention of quality teachers in private secondary schools in Delta State. While significant relationship exists between experience and retention of quality teachers in private secondary schools in Delta State. The researcher recommended among others that private secondary schools should not emphasize more on qualification, rather they should recruit teachers who are willing to learn and impart knowledge to students. Private secondary schools should strive to retain teachers with experience than those without less experience in order to achieve their vision and mission.*

**KEYWORDS:** *Qualifications, Experience, Retention, Quality Teachers, Private Secondary Schools, Delta State*

## INTRODUCTION

In private secondary school, quality teachers are needed to impart knowledge to students. Education necessitates teachers of high quality. A highly skilled and professional teaching force does, and will continue to make a difference in the private secondary schools. The most important factor determining how much students learn is the quality of their teachers (Berry, 2004). A very good teacher as attributed to a very bad one can make as much as one full year's difference in the accomplishment growth of students. Dimension of teacher's quality is the qualifications acquired overtime and experience attained before and during active service. Qualifications is measured by the level of education and knowledge acquired by the teachers while experience is measured by the skills and technical know-how required to disseminate knowledge to the students effectively. This could be acquired through

long years of dedicated and committed service in and after-job training and re-training programmes.

In teaching profession, individuals could get attracted because of their desire to make a change, have a vocation, enjoy social interactions, benefit from diversities of knowledge, be a lifelong learner and spend more time with their family, (Krasnoff, 2014). Teachers get implausible joy in sighting the change they make as students' advance in knowledge, become more absorbed in a subject and acquire about themselves. Some entities are fascinated to teaching by an intellect of service, since they want to make a clear or tangible modification in the lives of others. Daily, teachers shape the future leaders of humanity through impacting their students' views and understandings. Teachers nurture creativity, character, give students insight with which to view the globe and provide students with assistances they require to attain their potential and



live a life of productive. Teacher discovers the potential of their labours daily as they use their intellect and inspiration to help students become enthusiastic and discover their lives.

In field of education teacher retention focuses on how factor such as teacher demographics (qualifications and experience) influence whether teachers stay, move or leave teaching profession before retirement. According to Ingersoll (2012) leadership or school culture are most imperative effect on teacher choice to stay or leave a school. Also, school factors are “push” or “pull” factors that push or encourage teachers to leave or stay on their current school/profession. Certain features could link to teachers exit a school or profession before retirement. There are shared features that push teachers to also leave their schools or profession. The most substantial dynamics are low salary, qualifications, student behaviour issues, experience, absence of support from school administrator, and failure to contribute in decision-making (Raue, Gray, and O’Rear, 2015). Teachers might want to depart if they are resilient to adopting a prescribed curriculum or are depressed from adjusting their instruction. There is every propensity that school surroundings affect teacher retention more than school measures like salary, student demographics, and urban settings, (Blase and Blasé, 2010). Teachers could decide to stay longer in schools that have vision which align with the teacher’s personal mission. Some point to the status of teachers being treated as specialists who are reliable and collaborate with each other to achieve student’s needs. These professional practices can include uniqueness, originality, high prospects for students, and community building (Raue, Gray, and O’Rear, 2015).

Qualifications of a teacher could powerfully relate to teacher retention. For instance, teacher with knowledge of special education are not likely to leave teaching, but more likely to relocation to positions as over-all educators, (Boe, Bobbitt, and Cook, 2007). DeAngelis and Presley, (2011), stated that teachers with improved academic qualifications are more. Teachers with confident teaching qualifications and teaching assignments are more likely to leave their schools. Primary school teachers are likely to stay than middle or high school teachers. Teacher who feels effective are likely to continue teaching, (Hughes, 2012). Earlier research established that the teachers who depart schools first are likely to be teachers with the highest qualifications (Murnane, 1991; Schlecty and Vance 1981), and thus the undesirable impact of quick turnover is perhaps even greater than it seems on the surface.

According to Ingersoll (2012) at secondary level, rates of out-of-study teacher were much higher, with approximately one-third of all secondary Mathematics teachers lacking a major or minor in

Mathematics or a related discipline. About one-fourth of English teachers had no major or minor in English or related subjects, and one-fifth of science and social science teachers lacked such credentials in their field. Ingersoll (2012) concluded, in each of the fields of history, English, and Mathematics, more than four million secondary students are taught by teachers with neither a major nor a minor in the field. It is a matter of considerable concern that so many students have teachers who are unprepared for the subjects they teach. Teachers who are assigned out of their field are likely to experience teaching as stressful, unrewarding work and may choose to leave teaching as a result. Goldhaber, (2007) established that teachers who have high academic credentials like having the highest undergraduate grade point average are the most group likely to leave teaching for other reasons than retirement reason. Correspondingly, the Utah Foundation RAND Report (2007) adds that teachers with higher measured ability teacher certification tests have the greatest probability of leaving teaching than teachers with lower measured ability.

Predictably, the problem of out-of-study placement is more prevalent in private secondary schools serving low-income rather than high-income communities. The poverty and race gaps (between high-poverty and low-poverty schools) for out of field teaching are even greater than for teacher qualifications. In other words, teachers in disadvantaged schools are marginally more likely to have less qualifications, are far more likely to be mis-assigned than are teachers in advantaged schools (Ingersoll, 2012). Out-of-subject placements present clear difficulties for students and teachers. Ingersoll (2012) observed that extremely qualified teachers may essentially become extremely unqualified if they are allocated to teach subjects for which they have slight knowledge. However, mis-assignment also creates dissatisfaction amid the teachers themselves, who must ascent to stay ahead of their class and who experience the distresses of doubt and ignorance. This is far more than a practical matter of academic qualifications, for out-of-study placement gratuitously upsurges many teachers’ displeasure with their jobs. The literature makes arguments that, the more individuals have the greatest amount of knowledge and experience characteristics, the greater the probability of them to leave or stop teaching. Another standpoint is that, the more the amount of specific capital, the less probably it is that such individuals will even consider leaving the profession. In most cases, these teachers with specific human capital are least qualified, mediocre and inexperienced teachers because they are not multi-skilled. This makes them difficult to find other jobs elsewhere. As a result, they end up being posted to rural areas schools (Mpokosa and Ndaruhutse, 2008).



From the perspective of the schools, the departure of an experienced teacher reduces that school's capacity to attract patronage. Whether the leaving teacher leaves for another career or moves to the school across town because it offers a better workplace, that teacher takes away an acquired expertise and accumulated knowledge about the students, their families, the curriculum, and the school's practices. Such turnover severely compromises the chance that all students will be taught by effective teachers (Timmer 2013). The best teachers entering schools today have a wide range of professional careers open to them, many of which were not available to experienced teachers when they first chose teaching as a career. Often, these other careers offer better pay, more opportunities for advancement, and a work atmosphere with far better resources. Evidence shows that new teachers are likely to change schools or leave teaching if they are dissatisfied, thus, schools must become more supportive workplaces if they are to retain teachers of high quality, (Johnson, 2016). Misassignment is inequitably experienced by new teachers, who often are expected to teach classes that are left over once experienced teachers have chosen their schedules. Often new teachers find themselves assigned to teach in multiple classrooms. Having no classroom to call their own, they lack ready access to their bookshelves and reference texts, filing cabinets with class records or handouts, and blackboards that might inform students about long-term or daily assignments. It is unusual for new teachers simultaneously to experience the stresses of being asked to teach out of field, having a split assignment, and moving like an itinerant worker from classroom to classroom or school to school, (Johnson, 2016).

It is important to note that large proportions of today's cohort of new teachers are entering the classroom at midcareer. Using random sample surveys of teachers in seven states, Johnson (2016) reported that between 28 and 47 percent of the entering teaching force had completed a substantial period of work in another field. Typically, these career switchers entered their new schools with extensive experience working on teams. Meanwhile, their colleagues who came to teaching as a first career also differed from the veterans they replaced in that many had participated in cohort-based teacher preparation programs where they regularly observed others' work. These new teachers, both mid-career and first-career entrants, expect to work closely with colleagues and fear the consequences of isolation. Utah Foundation (2007); Egu. (2011) who revealed that experienced teachers have the highest degree of leaving teaching, but most schools will want to retain them due to their experience. Mfaume (2012) observed that least experienced teachers are likely to leave teaching due to the fact that they have nothing

to lose in terms of fringe benefits such as pension, given their few years of serving the profession in case they are terminated.

## STATEMENT OF PROBLEM

Private secondary schools in Delta State are held in high esteem in the society by government, parents and society at large. Thus, the need for quality teachers who will transmit knowledge to students. What then can retain quality teachers in teaching profession, particularly in private secondary schools? Studies have identified salary, qualification, leadership techniques, school environment, experience, student behaviour, support from school administrator, and ability to participate in decision-making as features that could retain quality teachers in secondary schools. However, could these identified retention features retain quality teachers in private secondary schools? Informed by this question, the researcher decided to examine qualifications, experience and retention of quality teachers in private secondary schools in Delta State.

## Purpose of the Study

The purpose of this study is to examine qualifications, experience and retention of quality teachers in private secondary schools in Delta State. In specific the study aimed at;

1. identify ways private secondary schools in Delta State retain quality teachers.
2. examine the relationship between qualification and retention of quality teachers.
3. ascertain the relationship between experience and retention of quality teachers.

## RESEARCH QUESTIONS

The following research questions guided the study;

1. what are the ways to retain quality teachers in private secondary schools in Delta State?
2. what is the relationship between qualification and retention of quality teachers?
3. what is the relationship between experience and retention of quality teachers?

## HYPOTHESES

The following hypotheses were formulated and to be tested at 0.05 level of significance.

1. significant relationship does not exist between qualification and retention of quality teachers.
2. significant relationship does not exist between experience and retention of quality teachers.



**METHOD**

This study is correlational survey in nature of the *ex-post-facto* research design. The population comprises 324 registered private secondary school principals in Delta State as at 2019/2020 academic year. Stratified sampling technique was used to sample 162 private secondary school principals in Delta State. A self-developed instrument titled “Qualification, Experience and Quality Teachers Questionnaire (QEQTQ)” was used to collect information from the respondents. The instrument

was validated through face and content validity, thereafter it was subjected to split half reliability test using 20 principals who were excluded from the main study. The scores were correlated using the Pearson Product Moment Correlation Statistics and a coefficient of 0.78, was obtained. The responses were converted into mean scores and standard deviation for the purpose of answering the research questions while Pearson r was used to test the hypotheses at 0.05 level of significance.

**PRESENTATION OF RESULTS**

**Research Question 1:** what are the ways to retain quality teachers in private secondary schools in Delta State?

**Table 1: Mean scores and standard deviation analysis on ways to retain quality teachers**

S/N	Ways to retain quality teachers	Mean	SD	Remark
1.	Support from school administrator	2.91	.82	+
2.	Teachers qualification	3.05	.83	+
3.	School location	2.95	.77	+
4.	Provision of instructional facilities	2.99	.81	+
5.	Conducive working atmosphere	2.95	.81	+
6.	Opportunity to learn new skills	2.97	.85	+
7.	Adequate salary	2.90	.83	+
8.	Provision of physical facilities	2.83	.81	+
9.	Experience of the teacher	2.99	.81	+
10.	Participation in decision making	3.01	.84	+
<b>Average Mean Score</b>		<b>2.84</b>	<b>.92</b>	<b>+</b>

\*Keys: + = Agree, - = Disagree

Mean Benchmark = 2.50

Data in Table 1 shows mean scores and standard deviation analysis on ways to retain quality teachers in private secondary schools in Delta State. Result of the study revealed that respondents agree on all the items with mean scores above 2.50 benchmark. Thus, quality teachers can be retained through support from

school administrator, teachers’ qualification, school location, provision of instructional facilities, conducive working atmosphere, opportunity to learn new skills, adequate salary, provision of physical facilities, experience of the teacher, participation in decision making.

**Research Question 2:** what is the relationship between qualifications and retention of quality teachers?

**Table 2: Mean scores and standard deviation analysis on relationship between qualifications and retention of quality teachers (N=152)**

Variables	Mean	SD	r	r <sup>2</sup>
Qualifications	1.60	.49	.055	.003
Retention of Quality Teachers	29.57	2.82		

Data in Table 2 shows descriptive statistics on relationship between qualifications and retention of quality teachers. The result shows that qualification has a mean score of 1.60, SD=.49 and retention of quality teachers has a mean score of 29.57, SD=2.82. The computed r=.055 implies a low positive relationship between qualifications and

retention of quality teachers. The r<sup>2</sup> value of .003 indicated that qualification predict retention of quality teachers by 3%. Conclusively, there is a relationship between qualifications and retention of quality teachers in private secondary schools in Delta State.



**Research Question 3:** what is the relationship between experience and retention of quality teachers?

**Table 3: Mean scores and standard deviation analysis on relationship between experience and retention of quality teachers**

Variables	Mean	SD	r	r <sup>2</sup>
Experience	1.41	.49	.125	.016
Retention of Quality Teachers	29.57	2.82		

Data in Table 3 shows descriptive statistics on relationship between experience and retention of quality teachers. The result shows that experience has a mean score of 1.41, SD=.49 and retention of quality teachers has a mean score of 29.57, SD=2.82. The computed  $r=.125$  implies a positive relationship

between experience and retention of quality teachers. The  $r^2$  value of .016 indicated that experience predict retention of quality teachers by 16%. Conclusively, there is a relationship between experience and retention of quality teachers in private secondary schools in Delta State.

**Hypothesis 1:** significant relationship does not exist between qualifications and retention of quality teachers.

**Table 4: Relationship between qualifications and retention of quality teachers**

		Qualification	Retention of Quality Teachers
Pearson Correlation	Qualification	1.000	.055
	Retention of Quality Teachers	.055	1.000
Sig. (1-tailed)	Qualification	.	.251
	Retention of Quality Teachers	.251	.
N	Qualification	152	152
	Retention of Quality Teachers	152	152

Table 4 shows the relationship between qualifications and retention of quality teachers. The result shows no significant relationship between qualification and retention of quality teachers with  $r=.055$  and significance  $p=.251$ . Therefore, the null hypothesis which states that significant relationship

does not exist between qualifications and retention of quality teachers was retained. Thus, significant relationship does not exist between qualifications and retention of quality teachers in private secondary schools in Delta State.

**Hypothesis 2:** significant relationship does not exist between experience and retention of quality teachers.

**Table 5: Relationship between experience and retention of quality teachers**

		Experience	Retention of Quality Teachers
Pearson Correlation	Experience	1.000	.125*
	Retention of Quality Teachers	.125*	1.000
Sig. (1-tailed)	Experience	.	.062
	Retention of Quality Teachers	.062	.
N	Experience	152	152
	Retention of Quality Teachers	152	152

\*Significant at 0.05

Table 5 shows the relationship between experience and retention of quality teachers. The result shows a significant positive relationship between experience and retention of quality teachers with  $r=.125$  and significance  $p=.062$ . Therefore, the null hypothesis which states that significant relationship does not exist between experience and

retention of quality teachers was rejected. Thus, a significant relationship exists between experience and retention of quality teachers in private secondary schools in Delta State.





## DISCUSSION OF RESULTS

Finding shows that quality teachers can be retained through support from school administrator, teachers' qualification, school location, provision of instructional facilities, conducive working atmosphere, opportunity to learn new skills, adequate salary, provision of physical facilities, experience of the teacher, participation in decision making. This finding could be as a result that teachers wish to continue teaching when the above features are available in private schools. This finding supports Raue, et. al., (2015) who discovered that school culture and leadership has the most significant effect on teacher decisions to stay or leave a school. This finding also supports Futernick, (2007) who surveyed 2,000 current and former teachers in California showed that teachers felt greater personal satisfaction when they believed in their own efficacy, were involved in decision making, and established strong collegial relationships. This also supported Oshemughen, and Oshemughen, (2014) who revealed that transport allowance, meal subsidy, furniture allowance, sick leave, casual leave, study leave and promotion, interest and morale boosting, development of positive attitude and meeting of teacher needs will help teachers to decide if/not to leave the school.

Finding shows that significant relationship does not exist between qualifications and retention of quality teachers in private secondary schools in Delta State. This finding could be as a result that qualifications alone may not necessarily be a yardstick to retain a quality teacher. Most people might acquire or obtain the right qualification(s) but might not have the ability to impart knowledge to students. This finding did not support Goldhaber, (2007) established that teachers who have high academic credentials like having the highest undergraduate grade point average are the most group likely to leave teaching for other reasons than retirement reason. This finding did not also support the finding of Utah Foundation RAND Report (2007) who revealed that teachers with higher measured ability teacher certification tests have the greatest probability of leaving teaching than teachers with lower measured ability. This finding did not also support DeAngelis and Presley, (2011), who established that teachers with improved academic qualifications are more. Teachers with confident teaching qualifications and teaching assignments are more likely to leave their schools.

Finding shows that significant relationship exists between experience and retention of quality teachers in private secondary schools in Delta State. This finding might be as a result that overtime and constantly doing a particular time could make an individual become a master in the discipline or field. Same is applicable to teaching, an individual could

be tag a "quality teacher" when the individual has gained positive experience overtime on the job. This finding is in line with Egu. (2011) who revealed that experienced teachers have the highest degree of leaving teaching, but most schools will want to retain them due to their experience. This finding is also in line with Mfaume (2012) who observed that least experienced teachers are likely to leave teaching due to the fact that they have nothing to lose in terms of fringe benefits such as pension, given their few years of serving the profession in case they are terminated.

## CONCLUSION

Quality teachers can be retained through support from school administrator, school location, provision of instructional facilities, conducive working atmosphere, opportunity to learn new skills and adequate salary among others. Significant relationship does not exist between qualifications and retention of quality teachers in private secondary schools in Delta State. While significant relationship exists between experience and retention of quality teachers in private secondary schools in Delta State.

## RECOMMENDATIONS

Arising from the findings, the researcher recommended that;

1. Private secondary school particularly those in Delta State should employ features such as provision of instructional and physical facilities, creating conducive working atmosphere, emphasis on learning new skills, adequate salary and allow teachers to participate in decision making in order to retain quality teachers.
2. Private secondary schools should not emphasis more on qualification, rather they should recruit teachers who are willing to learn and impart knowledge to students.
3. Private secondary schools should strive to retain teachers with experience than those without less experience in order to achieve their vision and mission.

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## RABINDRANAT TAGOR - GREAT MASTER WORD

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### ANNOTATION

*In this essay, the authors discuss the contribution of Rabindranath Tagore to world literature, the translation of his works into Uzbek.*

**KEYWORDS:** *literature, philosophical worldview, culture, enlightenment, religion, freedom, lyrics.*

## РАБИНДРАНАТ ТАГОР – ВЕЛИКИЙ МАСТЕР СЛОВ

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### Аннотация

*В этом эссе авторы обсуждают вклад Рабиндраната Тагора в мировую литературу, перевод его произведений на узбекский язык.*

**Ключевые слова:** *литература, философское мировоззрение, культура, просвещение, религия, свобода, лирика.*

### DISCUSSION

The world famous Indian poet Rabindranath Tagore (1861-1941) wrote his immortal poems in Bengali. Once, seized by a burst of creative inspiration, he, in his own words, “felt a passionate desire to express in another language the thoughts and feelings that once gave me so much joy” [2, v. 12, p. 429]. The poet translated his collection Gitanjali (Sacrificial Chants, 1912) into English, then the collections of poems Gardener, Lunar Sickle and Zaletnye Birds were published. It was English author translations that first brought Tagore world recognition, which was reflected in the awarding of

the 1913 Nobel Prize for Literature for the collection Gitanjali, and he became the first non-Western author to receive this award.

Rabindranath Tagore is a poet who brought together eastern and western cultures, dreaming of universal unity. His enormous contribution to various spheres of public life, the humanistic, universal basis of his work could not be overlooked even in Europe and Asia, which has a rich experience of contempt for other cultures.

Many translations of Tagore’s poetry from English and Russian have been published in Uzbek since 1956. Poems from the collections “Ray and



Shadow”, “Gardener” were translated. A collection of poems was published in Uzbek in 1966 in Tashkent by the publishing house Yozuvchi [1], and it included 326 philosophical and poetic aphorisms written in rhythmic prose. In 1957, an Uzbek translation of “The Image of the Beloved”, “Golden Rook”, and “Cranes”, which belonged to the pen of the famous poetess Zulfia, was published in Tashkent.

The translation, undeniably beautiful, was reprinted in the eight-volume works of R. Tagore, published in 1957 [3, vol. 7], in the collected works in twelve volumes [2, vol. 12], dedicated to the centenary of the birth of the great Indian .. However, 31 of 326 poems disappeared, and two were translated. half. True, the publishers did not declare that the collection was published in full.

The missed verses deal primarily with God, His creativity in the Universe, His generosity, His true (and not imaginary) power, and His love for man. Tagorov’s famous “Human Religion” appears here as humanism, clothed in the form of a universal religion and humanistic ethics. Rabindranath Tagore in his work embodied the whole era of the Bengal Renaissance [5, p. 89-96, 6], whose figures were looking for ways to enter the world of modernity without losing the historical memory and sociocultural identity of their civilization and at the same time creatively mastering the achievements of European culture and sociality. At the source of the era was the distinguished son of India, philosopher, enlightener, religious and social reformer Raja Rammohan Rai, who proclaimed the unity of all faiths on the basis of monotheism and called for the creation of a universal religion [7].

He opposed ossified traditions, dogmatism, ritualism and idolatry, which not only interfere with the true veneration of God, but also cause suffering, degrading human dignity, disconnecting people, and inhibiting the development of society.

In 1979, his collection of poems “The Image of the Beloved”, “Cranes” were translated into Uzbek by the young poet Askar Musakulov. His works have become a favorite for Uzbek readers. His novels «Shesher Kobita», «Char Adhay», «Noukadubi», «Chaturanga» were translated into Uzbek in 1961 by the writer Aybek.

Rabindranath Tagore was the spiritual heir of Rammohan Paradise, who developed them and embodied in social activities and artistic creation. In “Zaletnye Birds”, God appears as a loving creator of all living things, who treats a person as a beloved but masterful child, and therefore, when a person leaves the path of Good, God suffers from his unrighteous actions, wars, enmity, oppression of the weak. In “Zaletnye Birds”, as if Rammohan Rai speaks with Tagore’s voice to his descendants: “Your broken idol is smashed to smithereens so that you can be

convinced that the divine dust is greater than your idol.” This religion is completely unlike the usual ideological stamp quotation of Marx “Religion is the opium of the people”.

This is religious humanism, the essence of which is reflected in the interpretation of this concept by the philosopher of the Muslim religious revival Shaykh Muhammad Sadyk Muhammad Yusuf: “In the judgment that love of “ heaven ” makes a person have a completely different attitude to “ earth ” and earthly affairs, there is an undeniable and deeply important truth. Religiosity is incompatible with the recognition of absolute importance for earthly, human interests, with nihilistic and utilitarian and worship of life’s blessings ” [12, p. 107].

This humanism is not identical with the absolutization of man and the human, with which this concept is often associated; but his idea is goodwill, mercy and compassion for a person, justified by the “consciousness of the cosmic, superhuman significance of higher values” and the ideals of “good, truth, beauty, Divinity” [8, p. 106, 104].

Rabindranath Tagore sang the beauty of the universe, created by God, which is visibly manifested in human love. Belief in a single Creator unites people, and rituals, rituals and dogmatism share them. However, the wise sees that “in life the one becomes many,” and the one God lives in the infinite number of things that exist in the universe, therefore intolerance, hatred and enmity about religions are pointless.

Another topic of Tagore’s missing verses is a protest against the restrictions into which a person is cast into power and wealth. The poet is convinced that there is no other wealth besides the wealth of spirit, and God is never present in the acquisition of material wealth, in the struggle for power, in the dishonest and ruthless actions of those in power.

R. Togor acquainted with Uzbek folklore. He liked to read the dastan of Gor-ogly and Alpamysh. He knew some of the Uzbek bakhshis creatively. [13]

Tagore’s poetry is extraordinarily ambiguous even in such a filigree-miniature form, which is presented in the “Zaletnye birds” and in other collections - “Krupinki” and “Sparks”. In fact, each of the translated poetic sayings can be provided with serious detailed commentary. This is a characteristic feature of both poetry and prose of Rabindranath Tagore, to which domestic indologists pay attention too [4, p. 59], and the Indians themselves. So, Shishirkumar Ghosh notes that “it is possible to comment endlessly on some of his individual phrases and insights” [9, p. 6]. But R. Togor made a huge contribution to the development of world literature, including Uzbek literature. Until now, Uzbek singers sing songs with verses by R. Togor.



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## TO THE QUESTION ABOUT THE METHOD OF TEACHING THE PHRASEOLOGY OF STUDENTS OF NON-LANGUAGE UNIVERSITIES

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### ABSTRACT

*The article provides with an analysis of the methods and principles of the study of phraseology in higher institution. The main attention is paid to the main forms of teaching the section of the language of phraseology, the methods of its study and the main characteristics are considered.*

**KEYS WORDS:** *phraseology; task; target; skills; search; specificity; expressive mesns of speech; perception; comprehension; enrichment of the dictionary.*

## К ВОПРОСУ О МЕТОДИКЕ ОБУЧЕНИЯ ФРАЗЕОЛОГИИ СТУДЕНТОВ НЕ ЯЗЫКОВЫХ ВУЗОВ

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### Аннотация

*В статье дан анализ методов и принципов изучения фразеологии в ВУЗе. Основное внимание уделено на основные формы преподавания раздела науки о языке фразеологии, рассматриваются методы её изучения и основные характеристики.*

**Ключевые слова:** *фразеология; задача; цель; умения; поиск; специфика; экспрессивная окраска речи; восприятие; осмысление; обогащение словаря.*

Независимость Узбекистана, его открытость миру – это благодатная почва, на которой наш духовный потенциал будет все быстрее расти, опираясь на постоянно расширяющиеся международные связи не только государства, но и общественности. Сегодня народ Узбекистана смело стремится к самому лучшему в образовании, науке и технике, культуре и искусстве, что создано всеми народами и государствами.

Будущее нашего государства и его народа, прежде всего, зависит от него самого, от духовной энергии и творческой

силы его национального сознания. Естественное стремление материальному благополучию не должно заполнять необходимость духовного и интеллектуального роста нации. Духовность и просветительство всегда были самыми сильными отличительными чертами нашего народа на всём протяжении его многовековой истории.

Президент Российской Федерации высоко оценил проводимую в Республике Узбекистан политику по укреплению межнационального согласия, сохранению,



развитию и передачи будущим поколениям языка, обычаев и традиций разных этносов. В связи с этим подчеркнута значение сохранения и поддержки русского языка и русскоязычного образовательного пространства в Республике Узбекистан.

Усиление двусторонних отношений между Узбекистаном и Россией обусловило неизбежный языковой контакт. Возрастающий интерес узбекской молодёжи к России и русским стал причиной массового изучения русского языка. Для эффективного обучения узбекских студентов русскому языку необходима концентрация внимания на специфических особенностях языка. Одной из таких особенностей русского языка является фразеология.

Фразеологизмы помогают выразить экспрессивную окраску речи, сделать её образной, содержательной и эмоциональной. Понимание узбекскими студентами фразеологизмов в речи современных людей ведёт к эффективной коммуникации, обмену культурными знаниями, а также способствует формированию определённого видения мира. Тематические группы русских фразеологизмов мотивированы объективной действительностью. Наиболее употребляемые на темы свободы, судьбы, любви и внутреннего мира людей.

При обучении узбекских студентов русскому языку возникает немало вопросов, связанных с восприятием, осмыслением и включением в активную речевую деятельность фразеологизмов. Причиной этому нередко становится отнесённость к разным культурным традициям и различный менталитет. Однако интерес к изучению таких единиц русского языка, как фразеологизмы, неизбежно растёт. Объяснение этому служит мобильность и желание студентов свободно, образно и эмоционально общаться на русском языке.

Познание фразеологии родного языка есть не только путь обогащения словаря учащихся, формирования образности речи, но и средство расширения их кругозора, накопления внеязыковой информации.

Изучение такой темы, как «Фразеология» в ВУЗе требует от студентов

постоянного поиска, умения анализировать, сопоставлять и находить наиболее эффективные и рациональные пути освоения знаний, способы формирования осознанных умений и навыков, самостоятельности мышления, познавательной активности. Будущий учитель должен быть по-настоящему исследователем: уметь анализировать, обобщать полученный опыт, творчески использовать методическое наследие прошлого и достижения современных методик.

При изучении фразеологии преподаватель использует следующие «мероприятия»:

- лекции
- практические занятия;
- рефераты, доклады;
- контрольные работы;
- презентации.

Каждый раздел науки о языке обладает своей спецификой. В изучении фразеологии в ВУЗе, неразрывно с разделом науки о языке «Лексикой», действуют следующие принципы:

- лексико-грамматический (сопоставление лексического и грамматического значений слова);
- системный (учёт всех элементов лексической парадигмы);
- контекстный (рассмотрение слова в его синтагматических связях в достаточном контексте);
- лексико-синтаксический (сопоставление слова и словосочетания).

Все эти принципы обеспечивают студентам понимание сущности слова и фразеологизма, необходимости их рассмотрения в контексте, из которого можно выявить семантику того или иного слова.[1; с.46]

Фразеология, совместно с лексикой, в вузовском изучении русского языка занимает менее значимое место и по объёму, и по отводимому времени, чем, к примеру, морфология или синтаксис. Однако ознакомление с данным разделом предполагает познание основного функционирования его в речи. В соответствии с этим перед ознакомлением с разделом фразеологии ставятся следующие частные специальные цели:



- изучение основных особенностей фразеологизмов;
- углублённое изучение их функций в речи;
- формирование и закрепление учебно-языковых умений.

Изучение лингвистических понятий, естественно, сопровождается употреблением их в связных ответах. Они представляют собой учебные тексты, доклады, рефераты, выступления на научно-языковые темы.

Как показывает опыт, целесообразно раскрывать студентам некоторые вопросы теории следующим образом:

- 1) прочитать лекционный курс;
- 2) составить ряд вопросов для практических занятий;
- 3) разработать задания поискового характера;
- 4) выполнить со студентами необходимое количество самостоятельных и контрольных работ.

На практических занятиях студенты могут и изучать новый материал, и его закреплять. Поэтому целесообразно использование различных типов заданий, чтобы студенты смогли овладеть и разными способами их выполнения. Задания могут выполняться без непосредственного участия преподавателя, без его помощи с использованием исследовательского метода. В случае необходимости преподаватель приходит на помощь, но оставляет место для самостоятельности студента.

Задания распределяются таким образом, чтобы часть из них была выполнена на занятии под руководством преподавателя, часть предложена в качестве домашнего задания.

В качестве примеров практических заданий могут выступать такие задания, как:

- работа с учебным материалом (по приведённым заданиям);
- анализ фразеологизма;
- анализ фразеологического словаря.[2; с.240]

Задания поискового характера могут быть использованы во всех звеньях обучения студентов. Предлагая задание поискового характера при использовании

метода проблемного изложения, преподаватель сам разрешает созданную им ситуацию: раскрывает студентам путь поиска ответа на вопрос задания, учит делать обоснованные выводы, учит ориентироваться в новой ситуации.

К заданиям поискового характера можно отнести такие типы работ:

- рефераты;
- доклады;
- сообщения;
- разработка урока;
- курсовые работы.

Правильное и уместное использование фразеологизмов придаёт речи неповторимое своеобразие, особую выразительность, образность и меткость. Поэтому изучение русского языка узбекскими студентами невозможно без обращения к его фразеологии, которая представляет собой один из наиболее сложных для усвоения уровней русского языка.

В Техническом институте ЁДЖУ в городе Ташкент русский язык изучается как в русских группах, так и в узбекских группах. В узбекских группах в обязательном порядке даётся перевод и толкование русских фразеологизмов. Для более лёгкого усвоения узбекскими студентами русских фразеологизмов, применяются различные игровые методы, кроссворды, шарады и работа по картинкам. Студенты с удовольствием выполняют задания для развития коммуникативной компетенции.

Для развития речевых навыков при закреплении темы «Фразеология», я систематически использую игровые методы. В играх на уроках русского языка как иностранного очень важен сравнительный момент. Поэтому задания лучше давать для групп или пар студентов. Принцип состязательности заставляет студентов активизироваться, показывать максимальный результат. Победители обязательно должны быть поощрены небольшими подарками. В качестве подарков могут быть небольшие блокноты и ручки. Студенту неважна цена подарка, ему приятно то, что он отличился от своих однокурсников.



Если работа групповая, то следует совмещать более слабых студентов с сильными студентами и, по мере возможности, делать пары и группы студентов интернациональными, так, чтобы единственным коммуникативным языком выступал русский язык.

Коммуникативно-грамматические игры бывают следующих разновидностей:

- заполнение пропусков в предложении;

- убрать лишнее;
- догадка;
- поиск;
- подбор пары;
- ролевые игры;
- загадки;
- лото.

В результате такой работы был отмечен интерес узбекских студентов к изучению фразеологии русского языка. Итоговое занятие показало положительную динамику в освоении раздела «Фразеология».

В результате использования различных методик преподнесения информации, студенты усваивают знания, что способствует формированию у них представления о фразеологии, как о целостной, неотъемлемой части освоения русского языка. На основе теоретико-методических знаний развиваются методические умения.

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## LOKAL-KULTURELLER TEXT IN DER MODERNEN RUSSISCHEN UND WELTLITERATUR

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### ANNOTATION

*In this article, the author analyzes the issues of local-cultural text through the works of representatives of Russian and world literature.*

**KEYWORDS:** *methods of analysis of works, literary and regional studies, speech, images, stories, sociocultural spaces*

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## ЛОКАЛЬНО-КУЛЬТУРНЫЙ ТЕКСТ В СОВРЕМЕННОЙ РУССКОЙ И МИРОВОЙ ЛИТЕРАТУРЕ

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### Аннотация

*В данной статье автор анализирует проблемы локально-культурного текста через произведения представителей русской и мировой литературы.*

**Ключевые слова:** *методиках анализа произведений, литературно-краеведческий поиск, речь, образы, сюжеты, социокультурное пространство*

### DISCUSSION

The current sociocultural situation can explain the interest in the problem of local supertexts / texts of Russian and world literature. The globalization process, which determines the specifics of the current picture of the world, stimulated the desire of Russians as a community for national identification, which, in particular, was expressed in the desire to understand and in understanding Russian culture and mentality through the prism of socio-cultural spaces mastered by Russian people. The relevance of

studying local texts is due to the need to comprehend and characterize the national mentality of a Russian person, for which his socio-cultural space, including the locus that he has mastered as a place of life, is of particular importance. Moreover, the content and poetics of Russian literature are also largely determined by the peculiarity of the authors' chronotopic thinking. The scale and prospects of research of local supertexts / texts correspond to the infinity of geographical spaces mastered by Russian people in a historical perspective.





Of course, the effectiveness of research on local supertexts of literature depends on the level of theoretical understanding of the problem, on the development of a methodology and analysis technique, on the formation of arrays of literary texts that form one or another supertext, on the thoroughness and completeness of each text, on the level of scientific generalizations.

1. The concepts of “local supertext”, “local text”, “local subtext”.

The concepts of “local text” and “local supertext” are often used by modern scholars as synonymous. In this case, usually when designating the subject of research - a local text in the writer's work or constructed on the basis of works by different authors - the phrase "local text" with the corresponding definitions is used (St. Petersburg text of Dostoevsky, Crimean text, etc.). Therefore, it is advisable, in our opinion, to differentiate the terms and clarify the definitions that we will use in our work: “local supertext”, “local text” and “local subtext”.

Note that the concept of “supertext” extends to nominal, event, and local supertexts of literature. Modern literary scholars study such nominal supertexts / texts as “Pushkin”, “Gogolevsky”, “Zamyatinsky”, etc. Local texts are actively investigated: St. Petersburg, provincial, estate, etc. To a lesser degree, the attention of scholars-philologists was attracted by eventual supertexts, that is, texts formed around historically, socially and culturally significant events, such as the Great Patriotic War, the Patriotic War of 1812, the Decembrist uprising, etc.

Researchers understand by supertext “a complex system of integrated texts having a common extra-textual orientation, forming an open unity, marked by semantic and linguistic integrity” [1, p. 21] (see also [2, p. 215], [3, p. 102]). Supertext is the result of the reader's perception of fiction in the process of scientific generalizations (reader-researcher) or a conscious and competent reading of fiction (amateur reader). Supertext is constructed based on copyright texts. For example, the St. Petersburg supertext of Russian literature is represented by the St. Petersburg texts of A.S. Pushkin, F.M. Dostoevsky, A.F. Pisemsky, A.A. Ezensterg, R. Togor, Goethe and other writers. The images (symbols, emblems, details) repeating in them, motives, concepts form the universal semantic-semiotic space of the Petersburg and foreign supertext.

The author's local text is constructed on the basis of the entire array of subtexts extracted from the writer's works, that is, from all textual elements that are meaningful and poetologically relevant to the semantic dominant of the constructed text and / or

supertext. Such, in our opinion, is the logic of the formation of literary supertexts and copyright texts.

Local supertext, as mentioned above, is a kind of supertext of Russian literature. We understand the local supertext as a meaning-generating structure constructed by the researcher (reader) from the author's local texts on the basis of invariant characteristics of the sociocultural space, as well as universal meaningful and poetic signs of his image in literary works.

The author's local text is also a construction text formed by the researcher taking into account the basic parameters of the sociocultural locus and the author's objectivity in the texts of spatial thinking. The author's local text is updated by the researcher, including it in the studied local overtext.

The minimum unit of the author's local text is the local subtext, represented by a combination of text elements (image, motive, chronotope, concept, etc.), and / or a relatively complete fragment of the text, and / or work. Moreover, a work of art can participate in the formation of various author's local texts and / or supertexts of Russian literature.

For example, Goethe's Faust work identifies subtexts relevant for the construction of such author's (Leskov's) texts as urban, provincial, estate, country. They, in turn, can be activated in the formation of the corresponding local supertexts of Russian literature. Even in such genre varieties of the Russian novel as I. S. Turgenev's estate novel, there are fragments of the text that the researcher can consider as a local subtext important for the formation of the Turgenev provincial or metropolitan text (not only the estate). Even small-volume works (novels, short stories) can contain various local subtexts, attracted by researchers to describe this or that author's local text.

The above examples convince us that the local supertext of literature (like any other supertext of literature) is formed by a combination of local copyright texts, which, in turn, are constructed from local subtexts. Thus, a local supertext is a complex structure of local texts of different authors, the formation of which updates the author's local subtexts. In this structure, horizontal and vertical, hierarchical and equal rights, synchronous and diachronous, contextual and intertextual, meaningful and poetic relationships and relationships between all elements are established and operate, which leads to the birth of a new semantic space.

Currently, not one of the local supertexts of Russian literature has been finalized and is not described as a construction text that includes all local (copyright) texts. Moreover, as long as literature exists, this is not possible: supertext is an open and replenished structure. At the same time, it is likely to construct local texts of a particular historical and literary period, which opens up new prospects for studying sociocultural spaces and their development



by man, makes it possible to designate certain loci and topos that dominate the public and artistic consciousness, which characterizes both supra-individual and personal pictures (models) of the world in the corresponding historical period of the development of Russia. Currently, author's local texts are being intensively studied (for example, the urban text of J. London, the estate text of A. A. Fet, etc.), however, there is still much unexplored in this direction.

In our opinion, in order to increase the efficiency of studying local supertexts of Russian and world literature and local texts of Russian writers, it is necessary: a) to systematize local supertexts and local texts; b) to develop adequate methods for their research. Having solved these problems, we will be able to approach the creation of generalized studies that form a complete and adequate idea of the diversity and richness of the Russian picture of the world reflected in art.

## 2. Systematization and typologization of local supertexts.

The simplest approach to the systematization of local supertexts is based on the category of name (naming), so it can be conditionally called nominal. This approach is implemented in the form of an enumeration of local supertexts. First of all, it is possible to list, if possible, all local supertexts of Russian literature that are formed around the names of countries (French, English, Italian), regions (Crimean, Siberian), cities (Petersburg, Moscow, Paris, Venice, Oryol, Kostroma, Kimry), villages, other geographical features. This kind of systematization is based on the principle of territorial scale: from larger to smaller, or vice versa. But this classification does not fit local overtexts of literature formed around a conditional space not geographically designated, not geographically localized, for example, a manor text. Despite the fact that the writer can depict a specific and geographically designated territory, in the context of Russian culture and literature, the estate is understood as a sociocultural space.

At the level of local author's texts, systematization can be carried out by correlating the texts with their main creators - the authors: Turgenev's estate text, Leskov's country text, Pushkin's Petersburg text, Shukshin's provincial text, etc. In this case, you can list all (if possible) authors, local texts of which are updated during the formation of local supertexts of Russian literature. So, for example, in the manor supertext of Russian literature of the middle and second half of the XIX century. manor texts of I. S. Turgenev, F. M. Dostoevsky, V. A. Sleptsov, A. F. Pisemsky, N. S. Leskov, I. A. Goncharov, A. A. Fet, A. N. Tolstoy, L.N. Tolstoy, M.E. Saltykov-Shchedrin and many other authors.

We suggest looking at local supertexts from a different angle. In our opinion, the typology of local supertexts of literature and author's local texts is adequate based on the differentiation of two concepts (categories) - "locus" and "topos", correlated with the corresponding concepts. Such an approach will create a multistage and hierarchical system that includes all the variety of local supertexts of Russian literature.

Translated from the Latin language, the locus is "place", in the future the concept began to indicate the place of localization, that is, the fixed position of any phenomenon. Note that the word "local" (from lat. Localis - "local") means "peculiar only to a particular place."

Thus, combining the concept of "locus" and the concept expressed by a toponym (a name denoting the proper name of a geographical object), we get the name of a specific local supertext. Varieties of toponyms can be used as a concept, such as burials (names of regions, regions), oikonoms (names of places), astionoms (names of cities), comonyms (names of rural settlements), potonyms (names of rivers), etc. Around the concept locus (term N. E. Mednis), designated "toponym of high cultural significance" [4, p. 252], such local supertexts of Russian literature as St. Petersburg, Moscow, Crimean, Siberian, etc. are formed. These supertexts (as well as author's local texts) can be systematized by their belonging to varieties of territories — geographical objects: country, region, city, rural settlement, river (for example, Volga supertext of Russian literature) and world literature plantation, region, etc.

"Topos", as you know, is also translated from Greek as "place". But there are semantic nuances that make us distinguish between two close concepts: locus and topos. Over time, the word "topos" began to be used in a figurative sense and indicate a topic, argument, general place, etc. Therefore, this term in the context of our approach to systematizing and studying local supertexts indicates the place of life of Russians as a sociocultural space designated by a concept, for example, a province, capital, city, village, manor, cottage, house, monastery, bathhouse, etc. Local supertexts formed around such spaces can also be systematized, for example, based on the criteria for territory Oriental scale. So, inside a provincial supertext, one can consider supertexts of provincial cities, rural supertext, manor supertext, etc. Manor supertext is constructed from manor texts by I. S. Turgenev, I. A. Goncharov, A. A. Fet, F. Goms, R. Weather vane, S. Rustaveli and other Russian and foreign writers.

To some extent, the adequacy of the proposed typology of supertexts is confirmed by the historiography of the study of local supertexts. Recall that the study of local supertexts begins with the works of V. N. Toporov, who introduced the concept



of “St. Petersburg text”, regarded it as “a kind of synthetic supertext with which higher meanings and goals are associated”, considered it the main signs of unity and semantic connectedness [5]. Then, the researchers identified numerous local supertexts of Russian literature, formed around concept loci: Moscow, Perm, Oryol, Kolomna, etc. In parallel, local supertexts formed around topos-concepts: urban, metropolitan, provincial, which marked the interest of literary scholars in generalizing studies according to which the overtext of literature reflects any sociocultural space as a place and way of life of people (city, capital, province). Manor supertext and manor author's texts, the house as a sociocultural space, etc., are being actively studied (see the studies of V. G. Schukin, T. M. Zhaplova, M. V. Glazkova, V. S. Turchina, O. A. Bogdanova, E. E. Dmitrieva, O. I. Kuptsova, V. A. Lenin, A. G. Razumovskaya, A. M. Sakimova, V. A. Domansky, O. S. Evangulova, S. V. Kuleshova, T. Yu. Kolyagina, N.A. Korzina, T. Debels, N. Muler, T. Kuteno, etc.). Local supertext is considered as “a symbolically integral space of culture” [6, p. 3].

Two approaches to the study of local supertexts took shape in literary criticism. The first is the search, systematization and commenting on various kinds of references to the locus in literary and artistic-documentary works. Such studies are based on the methods of analysis of works, commenting on texts, literary and regional studies, using historical and literary and regional studies methods. The second approach involves a philological analysis of the local supertext as “a system of mental, speech and visual stereotypes, stable images, plots and behavioral practices associated with a city and relevant for the community identifying itself with this city” [7].

Thus, the local supertexts of Russian and world literature (as well as the local texts of Russian writers) are located around two iconic phenomena of the Russian space: geographical objects that have “high cultural significance” and are designated by concepts-loci, and sociocultural spaces indicated by concepts-topos. Our typology of local supertexts and local texts allows researchers to navigate in the choice of not only the subject and object of research, but also the methods of scientific analysis.

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## ISSUES OF USING TRADITIONAL AND NON-TRADITIONAL INTERACTIVE METHODS IN LANGUAGE LEARNING

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### ANNOTATION

*In this article, the author discusses the effectiveness of using traditional and non-traditional methods in language teaching.*

**KEYWORDS:** *interactive methods, traditional methods, ability, scientific, popular science, art texts, efficiency.*

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## ПРОБЛЕМЫ ИСПОЛЬЗОВАНИЯ ТРАДИЦИОННЫХ И НЕТРАДИЦИОННЫХ ИНТЕРАКТИВНЫХ МЕТОДОВ В ИЗУЧЕНИИ ЯЗЫКА

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### Аннотация

*В этой статье автор обсуждает эффективность использования традиционных и нетрадиционных методов в преподавании языка.*

**Ключевые слова:** *интерактивные методы, традиционные методы, умения, научные, научно-популярные, художественные тексты, эффективность.*



## DISCUSSION

The difference between interactive methods and traditional methods is that interactive methods are a method that allows the student to think independently and work as a partner with the teacher,

while traditional methods are a method that focuses on the student's ability to remember facts and its scope. These differences can be observed in the table below.

	Traditional	Modern
Learning activities	Teacher-based	Interactive, reader-based
The role of the teacher	Always an expert, informant about the facts	Partner, sometimes student
The role of the reader	Passive listener, constant reader	Partner, sometimes expert
Emphasis on teaching	Facts, the ability to remember	Reflection, research, innovation
The concept of knowledge	The sum of the facts	Transformation of facts
Evaluation	Based on the norm	Based on a demonstration
Technology	Passive transmission	An active situation aimed at developing thinking skills
A view of success	percentage	Quality of comprehension

This is not a conclusion that we should limit traditional teaching methods, but only add effective methods and tools that serve to increase the learner's cognitive activity and learning effectiveness. [1]

At the present time, we need to teach language learners on the basis of modern pedagogical technologies, ie interactive methods.

Modern interactive methods have been developed by all scientists and have proven to be more effective than traditional methods. Interactive is a Latin word meaning self-acting.

We are convinced that modern technology is a method for language learners to think independently and speak. As it turns out, in British universities, which are based on modern technology, students define the goals and objectives of the course and discuss and draw conclusions on the topic of their choice. It is obvious that in the course of the lesson, students act as organizers, that is, leaders. Thus, ensuring the independence of the language learner is determined by their thorough mastery of the language and their ability to speak fluently. This can be demonstrated by the following indicators.

There are audio discs and computer programs in their rooms, and only a language learner who has mastered the knowledge can perform such tasks. Their scientific, popular science, artistic texts, and films about the countries where the language is studied serve not only to enhance the learner's speech, but also to introduce them to the culture, art, and information of other countries. It is also important for future professionals to acquire writing skills. Nowadays, an academic high school language learner has difficulty composing and translating a sentence, and some are unable to think in English even if they have an understanding of the sentence and the word order in it. This requires practice and practice again.

Work on the computer, such as training and supervision, is easily done and solves some organizational problems related to the number of language learners in the group. Computers create such opportunities in the learning process. Therefore, we need to overcome difficulties in solving problems such as creating the convenience of working with a computer in the educational process and including it in the curriculum.

Multimedia rooms also allow language learners to participate in video and audio conferences. Each student works on their computer and holds a conference on any topic. The use of a multimedia room is effective at all stages of language teaching.

Nowadays, unfortunately, teaching English using a computer remains an "art" rather than a technology. But it is necessary to change this point, that is, teaching English on a computer should be a technology, not an "art".

It can be said that today the teaching of students on the basis of modern pedagogical technologies, ie interactive methods, has become a topical issue, these methods were developed by advanced scientists and proved to be more effective than traditional methods. The difference between interactive methods and traditional methods is that "the learner thinks freely independently, works in partnership with the teacher. The traditional method is to read the facts based on the ability to remember and its size.

Um die Effektivität des Unterrichts zu verbessern, wäre es außerdem gut, Literatur für den Englischunterricht zu verwenden, und dies überwiegt den literarischen und didaktischen Ansatz. [4].





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# IMPROVING ACQUISITION OF LEARNING THROUGH PEER-MEDIATED SUPPORT STRATEGIES IN TEACHING RESEARCH

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## ABSTRACT

*The conduct of an action research enabled teachers to assess the research capabilities of the students specifically in writing the different parts of the paper. The aim of the study is to improve the learning acquisition of students through peer-mediated support strategies in teaching research. The participants of this study were the Senior High School students taking Research Project as a subject. A pre-writing activity was administered to identify the needs of the students in writing the different parts of the research. A learning plan integrating the use of the Peer-mediated Support Strategies (PMSS) such as classroom-wide peer tutoring, peer support arrangement and lunch bunches as interventions, was developed to improve the performance of the students-participants in writing research. A post-writing activity was given as well to the participants to find out if there were significant improvements in their writing capability. The study used methodological triangulation. Descriptive and inferential statistics were used to analyse and compare the results of the pre-writing and post-writing scores. A focus group discussion and teachers' observation were conducted to support the result of the analysis made. The result was found to be significant proving PMSS to be an effective strategy in improving acquisition of learning.*

**KEYWORDS:** *Research writing, acquisition of learning, peer-mediated support strategies, peer assisted learning, classroom-wide tutoring, peer-support arrangement, lunch bunches*

## 1. INTRODUCTION

Learning is important because no one is born with the ability to function competently as an adult in society (National Academy of Sciences, 2019), but guiding students to learn how to learn is more important for them to process the information they acquire. Not all students have the same level and way of acquiring knowledge, even if they are in the same classroom having the same teacher. Students in the classroom are greatly varied, both in terms of capability and characteristics. The teacher's persistence is necessary in embracing all students, so that the instruction becomes effective and succeeds in optimizing the capability of the students. (Hapsari, Darhim & Dahlan, 2018). Students' level of understanding differ based on their capability and capacity to learn. Learning is enhanced when it is more

like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's own ideas and responding to others' reactions improves thinking and deepens understanding (CRLT, 2016). The aim of the study to improve the learning acquisition of students through peer-mediated support strategies in teaching research. The study used a mixed method approach to measure the writing capability of the students, observation from experts and focus group discussion among peer tutors and peer learners.

Many students are being left behind by an educational system that some people believe is in crisis. Improving educational outcomes will require efforts on many fronts, this can be improved by helping students to better regulate their learning through the use of



effective learning techniques (Dunlosky et al, 2013). Teachers keep on researching and undergoing trial and error on how students will improve their performance in the classroom. One of the strategies being tested peer-mediated support strategies (PMSS) which involves one or more peers providing assistance to their classmates (Bell and Carter 2013). Other names of these strategies are peer-assisted learning (PAL), peer-support strategy, peer tutoring and peer learning. Peer-assisted learning which has been described as “the development of knowledge and skill through active help and support among status equals or matched companions” (Carr et al, 2016). Peer learning is not new and neither is the emphasis on collaboration as cited by Bone (2015). This strategy enables teachers to address individual student needs, as well as observe students and develop individual remedial lessons (Blueprints for Healthy Youth Development, 2019).

PMSS has been proven effective in different areas of learning. Regelski (2016) reported PMSS as effective strategy and recommended that teachers can add PMSS as an effective program to improve reading comprehension and reading fluency skills for students with Autism Spectrum Disorder (ASD). In the study of Han, et. al. (2015), they used peer-mediated support strategy to encourage students to participate more actively in the dissection process and promotes thoughtful dissection. The result of the study shows self-assessment scores regarding the learning objectives related to upper limbs were significantly higher in experimental group than in control group. Additionally, experimental group received significantly higher academic scores than did control group. The students in peer-mediated learning perceived themselves as having a better understanding of course content and achieved better academic results compared with those who participated in faculty-led dissection. Peer-mediated dissection contributed to self-perception and to the ability to retain and explain anatomical knowledge.

Reinholz (2015) in his study, advances a model describing how peer assessment supports self-assessment. The model, assessment cycle, draws from theories of self-assessment to elaborate how learning takes place through peer assessment. The actual learning benefits were consistent with what the assessment cycle would predict; the more the activity structure supported goal awareness, performance awareness and gap closure, the more that students learned. However, in the study conducted by the Institute of Education Sciences (IES) of US Department of Education (2013) revealed a little evidence on the effect of PMSS. The review of Adolescent Literacy interventions addresses student outcomes in four domains: alphabetic, reading fluency,

comprehension, and general literacy achievement. Based on this study, the IES considers the extent of evidence for Peer-Mediated Support Strategies on adolescent learners to be small for the comprehension domain. The effect was not statistically significant (when adjusted for clustering), but it was large enough to be considered substantively important (i.e., an effect size of at least 0.25). Thus, for the comprehension domain, one study showed substantively important positive effects. This results in a rating of potentially positive effects, with a small extent of evidence.

PMSS is assumed to be effective in improving learning acquisition of students in teaching research. A lot of studies were conducted proving its effectiveness in different areas of learning like reading comprehension, mathematics and sciences. However, there were no studies existing that used peer learning in teaching research. The procedure of the conduct of PMSS in this study was another approach on how the strategies implemented in the class. The aim of the study to improve the learning acquisition of students through peer-mediated support strategies in teaching research. Research as a subject is challenging, not only to the students but also to the teachers. Teachers teach to impart their knowledge and skill to the students. Students go to school to acquire learning, make meaning and apply to the real-world scenarios. The call of teaching is not simply sharing what the teacher’s know and what the teacher can do, but, together with these are the use of effective strategies and approaches that will help the students at the end. Contributing another approach to the three stages of PMSS and proving its effectiveness in teaching research were the main reasons why the researcher would like to pursue this study.

### Statement of the Problem

The role of the teacher is an important factor in helping the development of learning, but as what recent studies have proven like in the studies of Regelski, Han et.al, and Reinholz, peer is also an important factor in the learning process. In Bulacan State University-Laboratory High School, writing a research paper is usually done by group because of the number of students in each class. Doing individual research is a heavy paper work for both the teacher and the students. But since not all members of a group research have the same capability in writing, other members are merely passive participants that never had quality contribution in writing the paper. This is the very reason why the research was conducted. The study assessed the capability of individual students in writing research and identified those who are in need of assistance (peer learner) and those who can help (peer



tutor). It was assumed that peer-mediated support strategies (PMSS) will help the peer learner to improve the acquisition of learning in writing research with the help of the peer tutors.

The researcher sought answers to the following questions:

1. How can PMSS be effectively implemented?
2. What is the writing capability of students in writing research before and after the implementation of PMSS?
3. What are the significant learning derived by the teachers as observers and students as peer learners and tutors on the process and outcome of the use of PMSS in writing research?

## 2. MATERIALS AND METHOD

### *Research Design*

The study utilized a mix method approach which used methodological triangulation. Methodological triangulation involves using more than one kind of method to study a phenomenon (Bekhet A. & Zauszniewski, J., 2012). A pre-writing activity was administered to identify the needs of the students in writing of the parts of research. A learning plan integrating the use of Peer-mediated Support Strategies (PMSS) such as classroom-wide peer tutoring, peer support arrangement and lunch bunches as interventions were developed to improve the performance of the students-participants in writing research. A post-writing activity was given to the participants to find out if there were improvements in their writing capability. Descriptive and inferential statistics were used to analyse the result of pre-writing and post-writing scores. A focus group discussion and teachers' observations were conducted to support the result of the analysis made.

### *Participants*

This study involved 192 Senior High School graduating students of Bulacan State University-Laboratory High School for the School Year 2018-2019 which consist of four sections under the strands of Accountancy, Business and Management (ABM), Humanities and Social Sciences (HumSS) and Science, Technology, Engineering and Mathematics (STEM), who were involved in both the pre-writing and post-

writing activities. They were considered the subjects of the study. There are 125 students who are involved in writing the introduction part of the research and there are 167 students who participated in writing the part of the methodology. Unequal number of participants was caused by the inconsistent number of attendance during the conduct of the research. Among these students, 31 took part as peer tutors and the remaining as peer learners.

### *Measures*

The research write-ups of the students were checked using a rubric for research reported in traditional format adopted from Wesley College Department of Education. This rubric is used for formal knowledge production products that require a traditional research reporting format: action research, literary research, scientific research, social science research, or historical research. (Wesley College, 2009). This rubric was used in checking the Introduction and Methodology part of the research because these are the only parts that time permits to do individually.

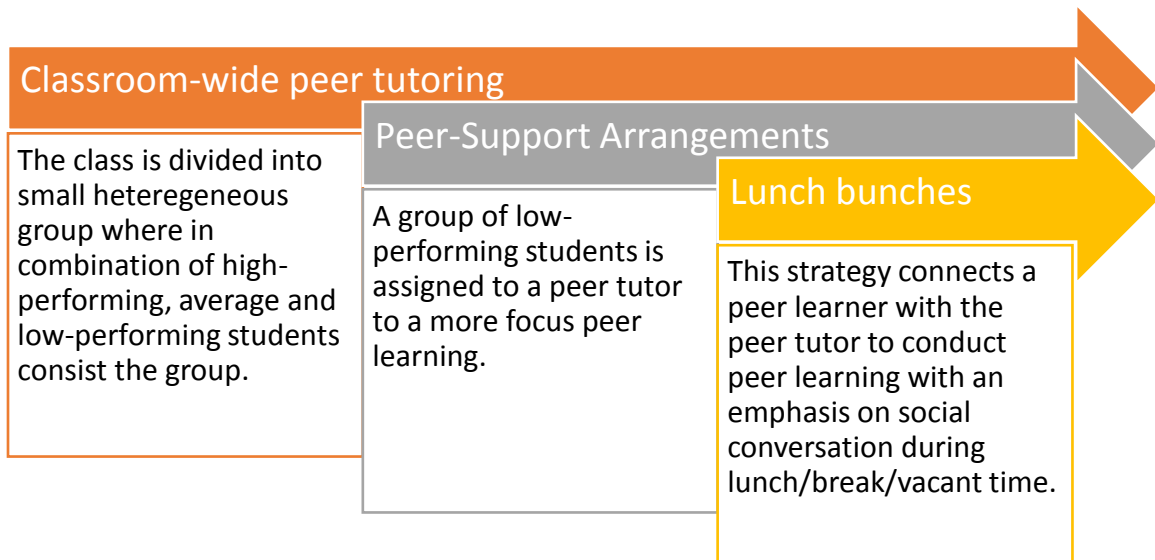
The PMSS implementation was observed by the teachers and the guide questions using formative observation of teaching: focusing peer assistance on teachers' developmental goals (Drew et al, 2016). The researcher adopted the questions related to gaining feedback on the conduct of PMSS.

Group of students as peer tutors and peer learners were asked for feedback on the process of PMSS. Questions for Focus Group Discussion (FGD) were adopted from the research article "Helping each other to learn – a process evaluation of peer assisted learning" (Glynn et al, 2006).

## 3. RESULTS AND DISCUSSION

### *Implementation of PMSS in Improving Acquisition of Learning in Writing Research*

Peer learning needs a formalized, systematic approach so that students can learn how to learn – this is not something that necessarily comes innately as different pupils learn in different ways (Vaks, 2018). The three approaches of PMSS were not implemented separately but a series of approach wherein one is the continuation of the other.



**Figure 1. Systematic approach to PMSS**

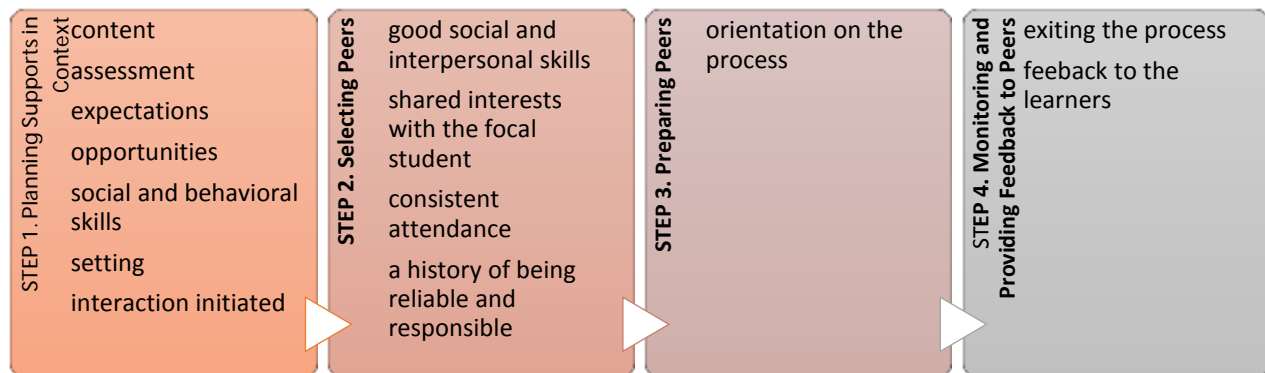
PMSS is a strategy to develop knowledge and skill through active help and support among status equals or matched companions” (Carr et al, 2016). Peer learning support formally involves peers (other students) in the delivery of support (Koch, 2017). PMSS was used in this study in three phases: (1) Classroom-wide peer tutoring. It is a peer learning strategy that divides the classroom into small, heterogeneous learning groups. Teams consist of at least one high-performing student, average students and low performing students. (2) Peer-Support Arrangements. It involves equipping one or more low performing students in an inclusive group to provide academic support. (3) Lunch bunches. This strategy “lunch bunch” connects a peer learner with the peer tutor to conduct peer learning with an emphasis on social conversation during lunch time. The processes made in this study can be compared to the *writing fellows* inspired by Brown’s or Carleton’s models. Writing fellows are writing tutors who are attached to or embedded in a specific course and provide feedback

on student drafts to emphasize the process of conversation, drafting, feedback, and revision (Koch, 2017).

### **Steps to Implementation**

The process of implementation of PMSS in this study was anchored from study of Bell and Carter (2013). Four steps were implemented to make the implementation of PMSS possible. It consists of Planning Supports in Context (Step 1) considering the content, assessment, expectations, opportunities, social and behavioral skills, setting and interaction initiated; Selecting Peers (Step 2) followed next as good social and interpersonal skills, shared interests with focal student, consistent attendance, and a history of being reliable and responsible the qualities of peer tutors; Orientation on the conduct of the process (Step 3) on the next stage; and Monitoring and Providing Feedback to Peers (Step 4) tackles on how to exit the process and giving feedback to the learners.





**Figure 2. Steps to Implementation**

**a. Introduction as Initial and Critical Part of the Paper**

A learning plan was developed to make the sessions structured. Organized peer tutoring can give greater results compared to unorganized peer tutoring (Ali and Anwer, 2015). After the discussion based on the learning plan of the lecture and activities, students were given assignment to write the introduction. After checking, the teacher identified the peer tutors and peer learners. Peer tutors are usually the leaders of the group last semester and they got perfect score. Peer learners were categorized in to two, average and low-performing. Average students are those who commit 3-5 mistakes in the assignment; low-performing students are those who got more than 6 or more mistakes.

The first phase of the implementation of PMSS is the classroom-wide peer tutoring. All identified peer tutors were assigned to group with students who are combination of average and low-performing students. Peer tutors were given beforehand an orientation on the process of peer learning. The training of tutors plays an important role in the productivity of peer tutoring (Ali & Anwer, 2015). The peer tutors studied the comment of the teacher to the papers and then started discussing in general the comment in their papers. Peer learners started to rewrite their introduction and ask questions to the peer tutors if they need clarifications. Papers were submitted to the leaders for checking and to the teacher for scoring. Average students improved their work in the first phase of PMSS. Peer instruction has been recognized as an instructional method having a positive impact on learning compared to traditional lectures (Moris et al, 2015). As what the peer learners mentioned in the interview that having the session gave them a chance to be better.

The second phase of the implementation of PMSS is peer-support arrangements. This phase

happened because there are some peer learners who did not improve their work after the classroom-wide peer tutoring. Most of the average students improved their work but the low-performing were not. This is similar to the interpretation of Kodabux and Hoolash (2015) saying that the lecturer expects his students to develop a finesse in their academic writing and language. The cohort's large size often makes it impractical for one single lecturer to cater for the varying learning needs of all students within one-hour workshops. It is possible that there are some students who were not given enough focus by the peer tutor since there are 4-5 members in a group during the first session. It is also possible that the peer learners still need more guidance to acquire learning in writing the introduction. For the second time, peer tutors and peer learners discuss again but in a smaller group. Discussion between the peer tutors and peer learners did not end in the school. Peer learners take advantage of technology to make another platform and extend their conversation with the peer tutors. They communicate online using Facebook Messenger and chat with their peer tutors to clarify their thinking and writings and ask to check on the progress of their work.

After the session, for the third time, peer learners revised again their introduction. Papers were checked by the peer tutor and submitted to the teacher for scoring. Most of the papers got high scores but there are three more students who need focus.

The third phase of PMSS is "lunch bunch". This time peer learning is done one on one and not scheduled in the classroom but during their break time. These peer learners might be needing another strategy to get across to what they supposed to do. Despite these positive benefits, there also have been reports of negative outcomes, students not feeling safe or compatible with each other (Cited by Stenberg et al, 2019) that are seen to have an impact on student



learning. This is one of the factors that needs to be considered in pairing peer tutors and learners. Peer tutor who stayed up to the end of peer learning can be considered as 'perfect mentors' as how Arrand (2014) who have time and patience to work one-to-one until the mentee has mastered the skill being taught. These peer tutors have seen dedication and initiative to help the peer learners who need extra focus in writing. The papers of the peer learners improved little by little and were able to submit for grading and recording.

PMSS role in the acquisition of learning is very observable. There are some students who really appreciate the sessions because they know they benefitted from it. This activity was substantiated by the information gathered from a focus group discussion (FGD) of peer tutors and peer learners.

**b. Designing paper through writing research methodology**

Another session was done to write the Research Methodology of the study. In the first meeting of the week, the different parts of methodology were explained comprehensively. An example paper was shown to the students for analysis of the different

parts. The students wrote their methodology (research design, population and sample and hypothesis/assumption) individually. After a week, the methodology that was written individually was distributed. As expected most of the individual papers failed to get perfect scores of 15 points since it was done individually.

This time, peer-support arrangement was utilized. The students were then grouped by company which is their current grouping for the second semester anchored to their work immersion. Each group was asked to compare and analyse their answers individually to come up with the final methodology. The group wrote only one paper of methodology to correct their own perception on how the process of their research will be conducted. After the peer learning, the group came up with an improved Research Methodology. Papers were submitted to the teacher for checking and were checked by group and seen to be effective since 94% of the students got ten and above scores out of 15 items.

*Writing capability of students in writing research before and after the implementation of PMSS*

**a. Writing Introduction**

**Table 1. Descriptive Statistics of Samples**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Initial_Activity	9.62	125	3.80	.340
	Final_Writing	13.71	125	2.12	.19

**Table 2. Paired Samples Test**

Activities	Mean	SD	t	Sig. (2-tailed)
Initial Writing Activity	-4.09	3.51	-13.03	.00
Final Writing Activity				

Tables 1 and 2 summarize the initial and final performance of the students in writing the introduction part of the research paper in IMRAD format. The total score for this activity is 15 points and 9 is set by the teacher as the passing score which is 60% of the total score. Mean score in the initial activity is 9.62 (Table 1) with a standard deviation of 3.80 (Table 1). Individual scores were examined and revealed that 39% of the students in the initial activity got lower scores than the passing score of 9 points. The final writing activity got a mean of 13.71 (Table 1) and a standard deviation of 2.12 (Table 1). The scores of the students improved and though students did not get perfect scores, the improvement from the initial activity is proven to be significant.

Subjecting the scores to a paired sample t-test, the value of t is 13.03 (Table 2). Since the value of the probability is .00, the result is significant. This means that the significant change in the scores between the initial activity and final writing of paper makes the use of PMSS as intervention in improving learning acquisition of students effective.

It clearly shows that acquisition of learning of the students in a new lesson varies in different level. The class listen to the lecture on how they are going to write the different parts of introduction. Activities were given to ensure that they make meaning on the learning they acquired, but based on the scores of the students in the first phase of writing activity, still many of them did not get perfect scores. A great deal of learning theory has been about how learning content is acquired



(Illeris, 2018). Learning content falls on content dimension that consists of knowledge, understanding and skills. This is an existing problem when students used to be in group in their previous researches. Most of them just rely on the capability of the leaders to write, and these leaders share their agony on having a member who were not trained to write research. This is one of the problems addressed in this study, to identify the students who are experiencing problems in acquisition of learning content and those who are capable in writing research so that action can be done.

But, in the implementation PMSS in research writing, the result of the peer learning sessions helps a lot in improving their scores. Crawford and Cannon (2018) mentioned that after years of experience, they recommend the use of peer leaders to improve learning for their novice nursing students as it has been a successful strategy in their program. Findings from the 13 studies revealed mostly moderate to high effects favouring peer mediation, particularly when implementing a peer-mediated feedback component (Wexler et al, 2013).

**b. Writing Methodology**

**Table 3. Descriptive Statistics of Samples**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Individual	12.38	167	2.99	.23
	By Group	12.53	167	2.74	.21

**Table 4. Paired Samples Test**

Activities	Mean	SD	t	Sig. (2-tailed)
Individual By Group	-.15	3.24	-.60	.55

Improvement in writing the methodology was found to be not significant. The value of t is -0.60 (Table 4) while the value of the probability is 0.55 (Table 4). The result is not significant at  $p < 0.05$ . Students from the individual activity to final phase of writing already got high scores having the means of 12.38 (Table 3) and 12.53 (Table 3) with standard deviations of 2.99 (Table 3) and 2.74 (Table 3). This clearly shows that activities in the writing introduction made them familiar with their study and easily comprehend how they will work on the research methodology. Topping, et. al., (2017) suggest to incorporate continuous supervision and support for the students throughout the program, since only relying on an introductory training is unlikely to be sufficient. Peer learning does not end in the first phase of the implementation, since the groupings of the students are by company, they had conversation on how they are going to do their research when they are having work immersion. This support aims at further optimizing all important and trained aspects of both the cooperative and content-related interaction during peer learning and consequently leads to improved future collaboration. Take into account that this support can take the form of providing students with scripts and scaffolds for effective peer interaction (e.g., in view of fostering the peer dialogue, the processing of information, joint

construction of knowledge, and problem solving) (Topping et al, 2017). Participants of this study are not new to research, in their curriculum this is already their third subject. However, their experience from previous semesters in doing research is by group and not individual that made them difficult to get high scores in individual activity at the start.

*Significant learning derived by the teachers as observers and students as peer learners and tutors on the process and outcome of the use of PMSS in writing research*

**a. Focus Group Discussions (FGD)**

Peer tutors and the peer learners experiences and insights on the conduct of PMSS were heard and noted through a focus group discussions (FGD). Each section were represented by one tutor and learner. FGD was done separately per section, separating the interview between peer tutors and peer learners. Questions are grouped into three sections which are Section 1. Settling In, Section II. Knowledge of, and attitudes to peer learning, Section 3. Expectations of the peer learning session.

The peer tutors and learners find many advantages on the conduct of PMSS. They find it a chance to be better and not immediately evaluated. Peer tutors feel that they are more confident because of the



process; they feel their important role on the improvement of the writings of their peer learners. Peer tutors and learners hope someday that they will be more independent and gain more learning on writing research so that when time will come that they have to do another study, they are more ready and as peer learners, they hope to be the peer tutors who will guide their group members in the future.

### **b. Teachers' Observation**

Three videos of peer-support arrangement strategy were observed by three experts in the field of education. The video shows how peer tutor handled the second phase of peer learning. The second phase of PMSS wherein a smaller number of peer learner/s who failed to improve their work in the first phase is/are assigned to each tutor.

In observing the session, the observers focus on clear learning aims and outcomes, scaffolding and testing understanding, and active learning and interaction.

These observations clearly show the differences and personality of peer tutors and peer learners that affect the process of peer learning. Peer tutors vary in their communication skills as observed in the video. Peer learning is a highly effective strategy for the students to learn from each other. It does not only benefit the students in academics but also help the students in developing their communication and interpersonal skills (Ali et al, 2015). Rahmasari (2017) states that peer tutoring is a very good way to get students involved in learning so that they are not just passive learners receiving information. Students do not always know how to manage the complex interpersonal scenarios involved in peer tutoring. So students might take a controlling approach to their peer learners (do as I say...) or lie to cover up a lack of knowledge. (Arrand, 2014). The process involves a lot of improvement but the initial process already benefited the students. Continued use of PMSS will refine the process and help more students to improve their acquisition of learning.

## **4. CONCLUSION**

It has been mentioned previously on this paper that PMSS is not a new strategy and that many other fields of studies made use of it already. The researcher, in search for an effective strategy, was able to prove that PMSS, based on the result of this study, can be used as an effective tool to ensure effective teaching and learning in the subject Research.

As a process, it was found to be complex especially for first implementer. It was also noted that

the various stages of PMSS require careful and strategic implementation to ensure positive results and to guarantee that no learner is to be left behind. The tutors played a very important role and contributed significantly on the overall impact of the strategy. The researcher observed that when the students are involved in their learning, they take ownership of it, and eventually become independent learners.

It is also worth mentioning that the use of technology in the form of Facebook Messenger contributed considerably in the process. Students find it difficult at times to inquire their doubts and confusions on anything about the lesson because they are afraid that their teacher might get annoyed at them. They find it easier to ask questions and clarify things with their peers because they believe that they can relate to them better and that they can explain things to them on their own level or cognition. Also, their peers can easily be available at any point of time because they can just send them a message in FB Messenger about their inquiry.

Research is not an easy subject. It requires initiative, a lot of motivation, and enough time to finish. Do not forget that it is not the only subject being taken by the students in the semester. Therefore, it is highly recommended for teachers to sit together, plan and map their curriculum so that the projects or culminating tasks/activities can be integrated to articulate both horizontally and vertically. The use of the PMSS can run across all subjects. The role of the tutors can be extended to all the subjects. A mentoring project can be linked to this as well. To ensure the applicability of PMSS to the other subjects, it is therefore recommended for the other teachers to conduct a similar study.

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# HISTORY OF THE PEOPLE 'S COMMISSARIAT FOR NATIONAL AFFAIRS OF THE TURKISTAN ASSR (1918-1922)

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## ANNOTATION

*It is well known from history that, in the history of the multi-ethnic people, national issues are of paramount importance. Since the first years of independence, the interest of our people in knowing their Motherland, its language, culture, values and history has increased.*

**KEY WORDS:** *history, independence, capacity, council, committee, culture, developed people.*

## INTRODUCTION

The study of the history of the Motherland, the tasks of scientific, objective and impartial approach to it were reflected in the work of the First President of the Republic of Uzbekistan Islam Karimov "There is no future without historical memory." This work says that, the history of our statehood, the ideas of national identity, the study of the rich scientific and cultural heritage left by our ancestors, nurture the love of the younger generation to the Motherland and the country.

The ideas of national independence, traditions and values and heritage enhance the intellectual potential of young people and their ability to independently analyse and be responsible for who they are and what they can contribute to the development of the country. In this regard, President Sh.M.Mirziyoyev in December 2018 in a message to the Oliy Majlis of the Republic of Uzbekistan clearly defined the deposits of historians: "The assessment of the past should be objective and, most importantly, free from various ideological views". [1]

## OBJECTIVES

In this regard, it is necessary to note the important work on solving national problems in Turkistan, which was carried out in 1918-1922 by the Turkistan People 's Commissariat of People 's Commissariats, established at the V- Turkistan

Regional Congress of Soviets. Its establishment is related to the multinational nature of the population of the country and to the various stages of the development of the nation. Middle Asia has been Russia 's richest colony for 50 years. The province differed from other colonial margins of Russia by the multinational nature of its population. After elimination of the Turkestan Governorate-General 8% Uzbeks, 19% - Kazakhs made of 5250 thousand people of 41% living in the region, - Tajiks, 5% - Turkmens, 1.5% - Karakalpaks, 25.5 - Russians and representatives of other nationalities [2].

## METHODOLOGY

Для решения национальных проблем в комиссариат входили отделы статистически, и отделы по организационно-пропагандистским и культурно-просветительским вопросам [3].

In order to continue the work of the Commissariat consistently, great attention was paid to the media. For this purpose, since November 3, 1918 the newspaper "Life of Nazolnals" - the organ of Narodnaz of the RSFSR was published. By the decision of the I Congress of the Communist Party of Turkistan on June 20, 1918, the publication of the newspaper "Ishtirokiyun" - an organ of the Communist Party of Turkistan and Narodnaz of the Turkistan ASSR began. At first the newspaper was



published three times a week in Uzbek (part - in Kazakh) languages. From March 1, 1919 the beginning is published daily with 3000 copies [4]. The newspaper "Ishtrokiyun" was later published under the names "Kizil bayrock," Turkistan, "Kizil Uzbekistan" and "Council of Uzbekistan."

The Constitution of the Turkistan Soviet Socialist Republic, adopted at the VI Extraordinary Congress of Soviets, held in October 1918, determined that all working peoples had equal rights in public administration. But, first, there is no comment on the attitude of the state towards the nation, and second, the Constitution was published in Russian and was put for popular discussion.

### STATISTICAL DESIGN

On December 30, 1918, the Turkistan ASSR drug agency, in a scribble sent to the Turkistan ASSR CEC, took over the responsibility of printing a brochure in the Musulman language [5].

At such a difficult time, as a result of the influence of some chauvinistic ideas on the work of the Commissariat at the VIII Congress of the Turkistan Council held in September 1919, the Commissariat was extinguished due to the uncertainty of the tasks.

There were also attempts to preserve this commissariat. But all attempts were unsuccessful. Thus, in letter No. 7347 of the Narodnac of the Turkistan ASSR dated November 24, 1919, the TurkCEC stated: "The Commissariat for the Affairs of Nazolnals will also be for a further time a non-state institution for the organization and processing of masses of different Nazolnals of the province" [6]. But by the resolution of the joint meeting of Krakom of December 10, 1919 it was decided "the commissariat not to restore."

### RESULTS

In the cultural development of the peoples of the province, literacy of the population is of great importance. On November 17, 1920, the Turkistan ASSR issued a decree "On the elimination of illiteracy of the population," which obliged to learn literacy in the native, any local, or Russian language of all the population of the republic between the ages of 8 and 40 [7]. For this purpose, liquor schools were granted the right to use all suitable premises for their needs, including people's houses, clubs, factory and institutional premises, even churches and mosques. In general, schools of the time experienced great material difficulties. There was a shortage of premises, textbooks and teaching aids, clothing. In this connection, for example, the administration of the school named after Hamid Samarkanda appealed even to the commission of the Uzbek department of Narodnac, and not to Narodpros for the necessary assistance [8].

But very little has been done to raise the cultural level of certain nations. Thus, the print bodies in Uzbek, as indicated in the article "To the Cultural Life of Turkistan" in the newspaper "Life of National People," were almost absent. [9] The only newspaper "Ishtrokiyun" was published in the Tatars language. I didn't have to talk about magazines, textbooks.

### SUGGESTIONS

In connection with the need to train personnel with higher education, Turkistan University (hereinafter Tashkent State University, National University of Uzbekistan) was opened by decree of September 7, 1920 in Tashkent. Pedtechnicums and schools were opened in Tashkent, Samarkand and a number of other cities.

In the early 20s, a body dealing with such issues was needed to solve national problems. After the civil war, the country faced huge tasks nationally, which were considered at the RCP Congress (b). Thus, on February 10, 1921, the newspaper Pravda publishes "Amendments and Additions to Theses on National Issues," to which the Turkistan delegation makes proposals in the second section in 13 paragraphs and in the third section in 18 paragraphs. But of these amendments, the Congress adopted a push of 4.

In this connection, the meeting of the Executive Bureau of the Central Committee of the Communist Party of Turkistan of September 17, 1921 adopted a resolution: "To recognize the need for an education under the TurkCEC commissariat for affairs on a general basis" [10].

### CONCLUSION

The commissariat was formed from divisions of Kyrgyz, Uzbek, Turkmen and other small nationalities. Along with other departments under Narodnac there was also a department of national menschinies, which included such sections: Iranian-Azerbaijani, dungan-Taranchi, Polish-Lithuanian, Latin, Ukrainian, Tatars, Korean, Jewish, German, native-Jewish [11].

On September 13, 1921, by a decision of the CEC of Turkrespublica, a Tajik section in the Department of National Minorities was established in Narodnac. Before that, the Persian Department worked among the Tajik.

During the second period, the commissariat paid great attention to the development of the culture of the peoples of the country. For example, by resolution of its board of 11 February 1922, it was decided that in schools where teaching is not conducted in the language of the majority of the population, the language of the majority of the population was introduced, and the language of the



majority was introduced as a compulsory subject of teaching [12].

During this period, the local departments also carried out a lot of work. For example, on 29 December 1921, the Turkmen Department of the Commissariat adopted a resolution to seize the sculptures of Skobolev and other colonizers, replacing them with monuments of heroes of the dead defending the Motherland.

However, by this period, representatives of local nationality had grown and strengthened. In addition, as preparations have begun for a national State delimitation, the Commissariat of the People's Commissariat of Communities and Peoples, by Decree No. 102 of 4 July 1922, ceases to operate.

At a time when the conditions of the local population were difficult, the activities of the commissariat were timely and necessary. Because despite the pressure and influence of the center, there have been significant changes in the way of life of the local population.

Which means that these historical truths point to the work of our descendants.

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# ANALYSIS OF LAND IN PROTECTED AREAS OF GAS PIPELINES OF DIFFERENT PRESSURE ON THE EXAMPLE OF THE FERGHANA REGION

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## ANNOTATION

*Protection zones of underground and aboveground gas pipelines with different pressure indicators are of great importance not only for safety, also and for present and future land use. The use of these lands for domestic and agricultural needs, with the correct organization of cadastral relations, is relevant to this issue. At the same time, an example is provided of a gas transport pipeline section with a pressure indicator of 6 kgf/cm<sup>2</sup>.*

**KEY WORDS:** security zones, land plot, information about zones, zones with high pressure, gas lines, gas pipelines, bonus points, engineering networks, various buildings, construction of buildings and structures.

## INTRODUCTION

Laying underground and above-ground communications of different lengths, which require significant land area not only for pipelines themselves, but also for their protected areas, is a responsible task, as gas is:

First, an explosive substance;

- In the second gas pipeline routes require occupation for significant times of land with different points of ball bonitettes. [1]

Initially, the categories of the gas pipelines themselves should be defined:

- Low pressure pipelines, where the pressure value in pipes reaches 0.05 kgf/cm<sup>2</sup>;

- Medium pressure pipelines, where pressure index is from 0.05 to 3.0 kgf/cm<sup>2</sup>;

- High pressure pipelines, where the pressure value varies from 3.0 to 6.0 kgf/cm<sup>2</sup>.

There are situations in which the pressure in the gas pipeline structure may exceed the established limits. In some cases it reaches 12.0 kgf/cm<sup>2</sup> (highest pressure line). The arrangement of the system with

such pressure indicators requires separate calculations. All gas pipelines are classified not only by pressure, but also depending on the material from which they are produced.

Pipelines of the first category are used for supply of gas to small-scale economic systems, the second and third categories are installed for different production enterprises.

In the Fergana region, pipelines of these three categories, laid underground (closed) and above-ground (open) installation options, occupy significant land.

## OBJECTIVES

In practice, the underground method of laying gas pipelines is predominantly used. Their depth of laying depends on the indicator of gas humidity and depth of soil freezing. In our climatic conditions they are mounted from 80 cm below the level of soil freezing (60 cm) - i.e. 140 cm and deeper. All necessary restrictions, including distances from the guard lane lines to the buildings, are



described in the relevant regulatory documentation. (APPENDIX N-4 to the Resolution of CM RUz dated 10.12.2008y. No. 271 "In order to ensure the monitoring of compliance with safety measures, assessment of adequacy and effectiveness of measures to prevent and eliminate the consequences of accidents at a dangerous production facility, the Law of the Republic of Uzbekistan "On Industrial Safety of Hazardous Production Facilities" establishes the procedure for the development and submission of a declaration of industrial safety of a hazardous production facility to State bodies, public associations and citizens ".[2]

A gas pipeline communication guard zone is a space that is located between a pipe and two conditional lines located parallel to the sides of it. The distance from the pipeline axis to these lines may vary, as it depends on the pressure within the communication.

## METHODOLOGY

Consider examples of guard areas for different gas pipelines:

- For communications that are laid in an open way, the protection area will be 2 m on each side of the pipe;
- For points performing gas adjustment in the pipeline, the conditional closed line of the protection zone is 10 m from their borders. For private gas adjustment points, the security area is not regulated;

- The protection area for gas pipelines laid underwater is 100 m;
- For communications laid in forest fields and in territories with wood-shrub vegetation, the protection zone is 3 m (in case of underground laying of the route). And for communications mounted above the ground, the distance from the tree to the pipe must be no less than the height of that tree;
- Pipes with a cross-sectional index of at least 80 mm are generally used for private purposes. For such a pipeline, the guard area will be 2 m on each side.

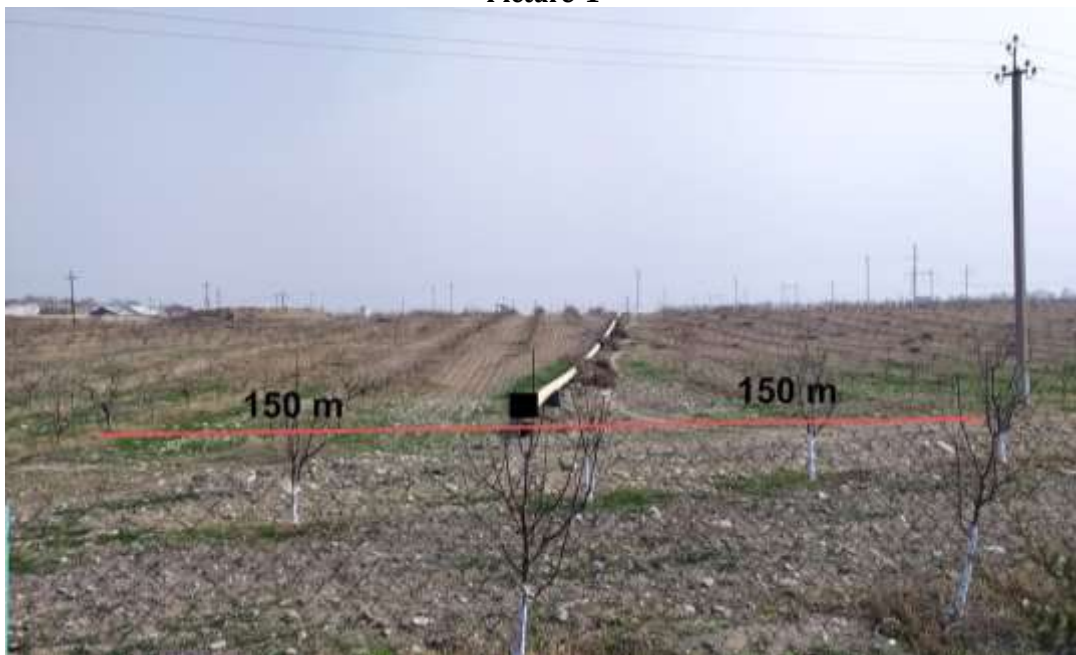
The open method of laying is used when there is no possibility of underground installation due to the presence of natural or artificial obstacles such as water bodies, ravines, various buildings and various other communications.

In case of gas pipeline laying variants, their protection zones are defined, which are a space located between the pipe and two conditional lines located in parallel on the sides of it along the whole route. The distance from the pipeline axis to these lines depends on the pressure within the pipe.

## STATISTICAL DESIGN

As an example, Pictures 1 and 2 show a pipeline with a high pressure index laid by an open above-ground method in the southern part of the large ring road of the city of Fergana, in the area of the Akhunbabayev district.

Picture-1



Picture 1 shows a snapshot of the good state of the high pressure gas pipeline route with a diameter of 216 mm, with a value of 3.2 kGs/cm<sup>2</sup>, on

the section where the underground gasket line, due to the perpendicular intersection with the underground high-voltage cable power line 10.6 kW and the water

pipeline (D-1000 mm), changes to the above-ground section. The picture shows how much the represented area is saturated with underground communications and above-ground engineering communications and how land is usefully used. Here, a field with conservation areas is planted with dwarf fruit trees lacking a massive root system. In addition to plantations, the land is used for planting garden-melon crops. Land use at the site has acquired cultural cadastral relations, which allow to specify revenues both at the expense of land owners and land users, as well as in the budget.

However, the acquiescence of the engineering communications services or municipal authorities, or the illiteracy of the population, often leads to various conflict situations between the

economy and the cadres. For example, Picture 2 shows an example where a gas pipeline is laid on an already built-up area, without the presence of a security zone. In this case, there are two options for solving the problem:

- Or individual house buildings shall be demolished within the defined semicircle;
- Or the pipeline route itself shall be re-routed to a safe distance from the structures. An option with lower material and moral costs is acceptable here, depending on the prospect of operating the gas pipeline.

The current situation is urgent, as it is known that any violation of technical norms and deviations from the rules can lead to trouble, problems, accidents and up to a man-made disaster.

Picture-2



As known that certain restrictions are imposed on the territory that lies within the protection zone, such as:

- The construction of various buildings is categorically prohibited;
- If part of the bridge enters the limits of the protection zone of the gas transportation communication, then it is prohibited to demolish it or work on its reconstruction without obtaining permission from the relevant authorities;
- The development of landfills in the security zone is prohibited;
- It is prohibited to store toxic wastes, acids, cheeks or other aggressive chemical compounds within the protection zone;

- It is prohibited to erect blocking elements within the protection area (e.g. fences);
- In the territory that lies within such a zone, in no case should fire be fired;
- It is forbidden to treat the soil at a depth which exceeds the value of 30 cm.

## RESULTS

For gas pipeline structures that are in the process of laying, approval of such zones is carried out in the presence of the owner of the site. For existing gas transportation lines, the presence of the owner of the land plot is not mandatory.

Laying a gas pipeline communication on a section of a private house is a responsible task, as gas



is an explosive substance. The installation of the gas pipeline shall comply with all building codes and regulations and take into account certain restrictions imposed on these systems for safety purposes. First of all, in order to understand the issue, it is necessary to understand the varieties of gas pipelines.

Optional variants for laying gas pipeline systems. To date, there are three main options for the installation of gas pipeline structures:

- underground (closed);
- elevated (open);
- internal.

The closed method of laying gas pipeline communications is the most common to date. The depth of the pipe laying depends on the gas humidity index. If wet gas moves through the pipe, then it is laid below the level of soil freezing. And pipe with dry gas is mounted from 80 cm below ground level. All necessary restrictions, including distance to residential construction, are described in the relevant regulatory documentation. Steel or polyethylene pipes can be installed in a closed manner.

- The open method is generally used if it is not possible to mount the system underground due to natural or artificial obstacles. Such barriers include:
  - reservoirs;
  - ravines;
  - various constructions;
  - other communications.

## SUGGESTIONS

Only pipes with high strength are allowed for open laying. Such description includes steel products, which are the main structural elements of such systems. The distance of the open steel gas pipeline to the residential building is not set.

The internal method of laying gas pipeline systems implies their location inside the premises. In such a case, the distance to walls and other indoor objects is determined as appropriate.

Depending on the type of zones within its territory, certain restrictions on the use of land plots are established. These restrictions are mainly related to the possibility of placing capital construction facilities in principle, or compliance with certain parameters of the object under construction, carrying out certain construction works.[3]

## CONCLUSION

In conclusion, it should be noted that such zones, as indicated by the example in the region and in the valley, as well as in the Republic, are not small. Therefore, practical analytical study and theoretical comprehensive survey provides an opportunity to develop recommendations on regularization of the state of protected areas, design

and alienation of new protected areas. This is important in the rapid development gas industrial complex of the country, in the laying of new communication networks, in the construction of new gas pipeline lines requiring large areas for construction, as well as in the protection of the rights of legal and private entities. Our careful and insensitive attitude towards land should increase the efficiency of land use with environmental cleanliness and transfer it to new generations.

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# PREDICTION OF PRESSURE DROP IN HORIZONTAL PIPES WITH GAS-LIQUID FLOW

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## ABSTRACT

*Predicting the flow pattern when two gas-liquid phases circulate through a horizontal pipe is a priority. In a previous article<sup>[16]</sup>, the authors reviewed some of the maps used to identify those flow patterns. This article presents a review of some of the correlations used to calculate pressure drops, once the existing flow pattern type has been identified. Some examples are also presented to clarify the use of these correlations.*

**KEYWORDS:** *Flow to two gas-liquid phases, flow patterns, pressure drops, correlations.*

## 1. - INTRODUCTION

In the design of pipes with two-phase flow, the engineer is mainly concerned with the calculation of pressure drop, which can be estimated quite accurately. It has been recognized for years that in order to improve the prediction of the different constituent parameters of this phenomenon, which are the volumetric fraction of each phase (holdup), pressure drop, heat and mass transfer, as well as other hydraulic parameters, it was necessary to consider the detailed structure of the flow configuration. These configurations, which are related to the distribution of phases within the pipe, are called flow patterns or regions<sup>[16]</sup>.

Many experimental and theoretical work has been carried out to predict the pressure drop and the type of flow pattern produced in the pipes, but so far no general correlation has been found, This is due to the existence of a certain number of complications that hinder the use of a single correlation. The largest of these in the two-phase flow is the variety of flow patterns that can occur. Although no general correlation has been found applicable to all flow types, correlations have been developed for specific flow patterns. One of the first to do a visual classification of flow patterns was Alves<sup>[1]</sup>.

Flow patterns are empirically correlated based on the flow and properties of fluids. The prediction of pressure drop is made by correlations of different kinds. The first to propose one of them was Lockhart and Martinelli<sup>[2]</sup>, which depends on the type of flow. Currently there are semi-empirical correlations independent of the flow pattern present in the pipe, which brings us closer to the development of a general model of gas-liquid biphasic flow in the perhaps not distant future.

Pressure drop generally receives contributions of three different effects: friction, acceleration, and elevation. In the case of horizontal flow, the latter effect does not intervene in pressure drop. The simplest calculation of the pressure drop in flow to two liquid-gas phases is based on the work of Lockhart and Martinelli<sup>[2]</sup>. They found that the general equation for the calculation of frictional pressure losses in the two-phase flow was given by:

$$\Delta P_{2F} = \phi^2 \Delta P_{1F} \quad (1)$$

Where:  $\Delta P_{2F}$  = pressure drop in flow to two phases. ;  $\Delta P_{1F}$  = pressure drop in one of the phases.

$\phi$  = Function that depends on the Lockhart-Martinelli module (X):





$$X = \left( \frac{\Delta P_L}{\Delta P_G} \right)^{1/2} \quad (2)$$

Where: X =Lockhart-Martinelli module for flow to two liquid-gas phases.

$\Delta P_L$  - pressure drop in the liquid phase.

Subsequently, other researchers were tasked with developing more detailed and complex theoretical models, which give the engineer greater precision in calculating pressure drops in two phases.

## 2.- CORRELATION OF LOCKHART-MARTINELLI

The basic idea of this correlation is, that the pressure drop in the concurrent flow to two phases can be calculated using the equations and graphs commonly used for the calculation of pressure drop in the flow to a single fluid phase, once the individual speeds of each phase are known. By assuming that the two phases are circulating along the line completely separated from each other, it is possible to define their respective velocity in terms of a diameter called hydraulics and a form factor. In their article, they publish in detail the analysis of the phenomenon and the development of this correlation. Lockhart and Martinelli launched two basic postulates for their analysis:

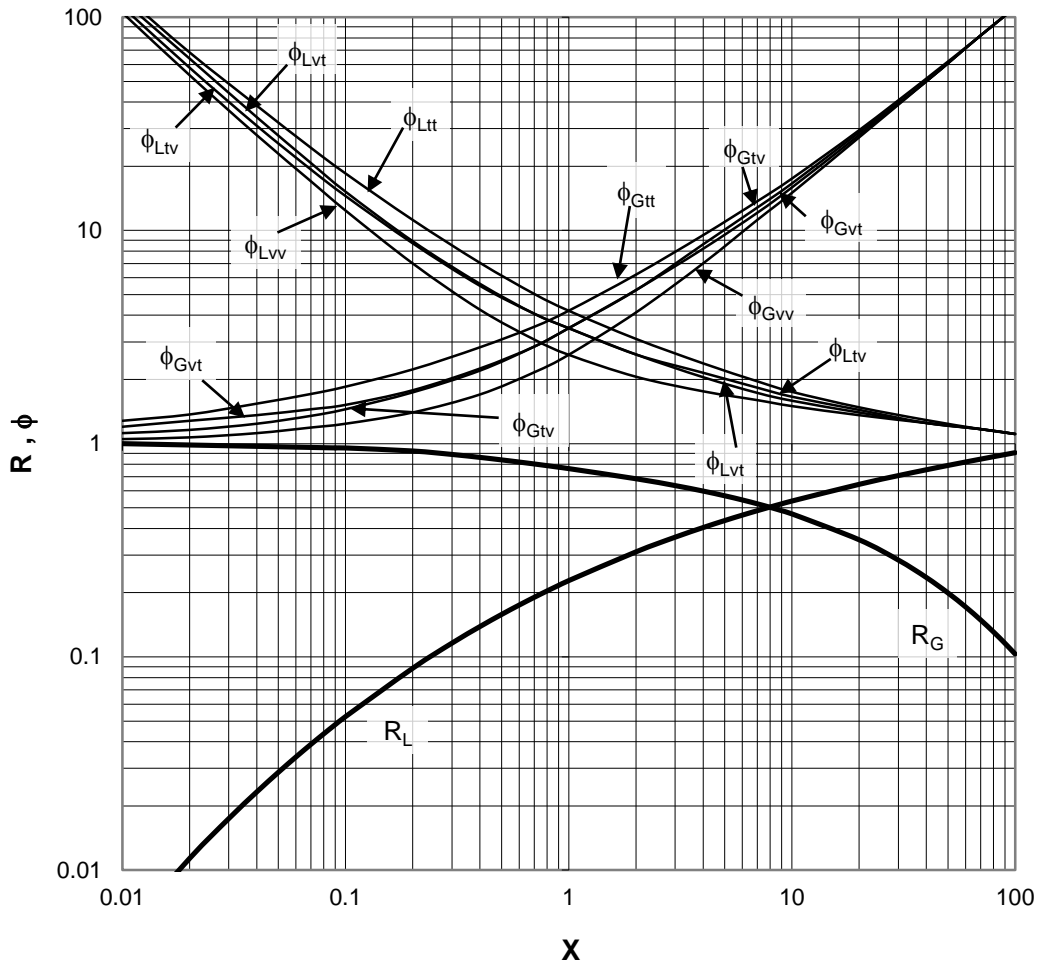
1. The static pressure drop for the liquid phase is always equivalent to that of the gas phase regardless of the flow pattern adopted by the moving mixture, there is also no noticeable radial static pressure difference.
2. The volume occupied by the liquid phase plus the volume occupied by the gas phase at any time and position, must be equal to the total volume of the pipe. These postulates suggest the non-existence of a change in the flow model along the pipe. In this way, the plug and battering ram flows are eliminated in this consideration.

Based on their experimental observations, Lockhart and Martinelli graphed  $\phi$  vs. X similarly to the one shown in Figure 1. These researchers actually obtained four curves of  $\phi$  for each phase, as they defined the following flow regimes:

1. Both liquid and gas phases under turbulent (tt) regime.
2. Turbulent flow in the liquid phase and viscous flow in the gas phase (tv)
3. Viscous flow in the liquid and turbulent in the gas phase (vt).
4. Both phases in viscous (vv) regimen.

The graphs were made in logarithmic scale in order to narrow the data scattered around a single correlation curve.





**Figure 1.- Lockhart-Martinelli graph for s and R based on X. (1949)**

In this graph, R is the fraction of the total volume of the pipe occupied by one of the phases, known as holdup. By calculating the value of X, you can get the R value for each phase from the graph in Figure 1.

Although Lockhart-Martinelli's method only provides approximate solutions to pressure drops, the way both researchers attack the problem based on an idealized physical model is perhaps the most satisfactory solution available and from which numerous work and correlations have been developed.

**Lockhart-Martinelli method:**

1.- Determine the flow rate of each phase according to Lockhart-Martinelli's criterion, obtaining the superficial Reynolds:

$$Re = \frac{D v_s \rho}{\mu} \tag{3}$$

Where: D - internal diameter of the pipe in m.  $v_s$  - surface velocity of the phase in m/s.  
 $\rho$  = phase density to operating conditions in  $kg/m^3$ . ;  $\mu$ = The viscosity of the phase in  $kg/(m s)$ .



If  $Re < 1000$ , the phase regimen is viscous (v). If  $Re > 2000$ , the phase regimen is turbulent (t).  
 2.- Calculate the pressure drop for each phase, using the Darcy equation: For the liquid phase:

$$\Delta P_L = \frac{f_D v_{SL}^2 L \rho_L}{2g_c D} \left[ \frac{\text{kgf}}{\text{m}^2} \right] \quad (4)$$

Where:

$f_D$  = Darcy friction factor.  $v_{SL}$  - surface velocity of the liquid phase in m/s.

$L$  - length of the pipe in m. ;  $\rho_L$  = density of the liquid phase in  $\text{kg/m}^3$ .

$g_c = 9.81 \text{ m kg/(s}^2 \text{ kgf)} = 32.2 \text{ ft lb/(s}^2 \text{ lbf)}$  ;  $D$  - internal diameter of the pipe in m.

To convert  $\text{kgf/m}^2$  to  $\text{kgf/cm}^2$ , divide between 10000, and to convert from  $\text{kgf/m}^2$  to  $\text{lbf/in}^2$  or psi, multiply by 0.0014.

For the gas phase:

$$\Delta P_G = 6.379 \times 10^{-7} L W_G^2 \left( \frac{f_D}{D^5 \rho_G} \right) \left[ \frac{\text{kgf}}{\text{m}^2} \right] \quad (5)$$

Where:

$L$  - length of the pipe in m. ;  $W_G$  - mass flow of the gas in  $\text{kg/h}$ . ;  $f_D$  - Darcy's friction factor.

$D$  - internal diameter of the pipe in m. ;  $\rho_G$  - density of the gas phase in  $\text{kg/m}^3$ .

If  $Re < 2100$ , the phase is at laminar regimen. Darcy's friction factor is only a function of Reynolds' number and is obtained using the Moody chart (Figure 2 or 3) or is calculated using the Hagen-Poiseuille equation:

$$f_D = \frac{64}{Re} \quad (6)$$

If  $Re > 2100$ , the phase in flow is in transition. If  $Re > 10000$ , the phase flows into turbulent regime. For these last two regimes, Darcy's friction factor is then a function of the relative roughness of the pipe ( $\epsilon/D$ ) and the Reynolds number, and can be obtained using the Moody chart or by using the Chen<sup>[3]</sup> equation:

$$\frac{1}{\sqrt{f_D}} = -2 \log \left[ \frac{\epsilon}{3.7065D} - \frac{5.0452}{Re} \log \left( \frac{1}{2.8257} \left( \frac{\epsilon}{D} \right)^{1.1098} + \frac{5.8506}{Re^{0.8981}} \right) \right] \quad (7)$$

It is worth noting the difference between this transitional criterion from laminar to turbulent regime ( $Re = 2100$ ), and that of Lockhart-Martinelli defined in step 1 of this method. If Figure 2 is used, the friction factor obtained is Fanning ( $f_f$ ), whose value is one-fourth of the Darcy friction factor ( $f_D$ ).

3.- Calculate the X parameter with equation 2, or with the following equation, which applies only to turbulent-turbulent flow (tt):

$$X^2 = 0.0084 \left( \frac{W_L}{W_G} \right)^{1.8} \left( \frac{\rho_G}{\rho_L} \right) \left( \frac{\mu_L}{\mu_G} \right)^{0.2}$$

4.- In the Lockhart-Martinelli graph (Figure 1), X reads the parameter  $\phi_G$  corresponding to the flow type (tt, tv, vt or vv).

5.- Calculate the pressure drop to two phases with equation 1, using the pressure drop for the gas phase.

$$\Delta P_{2F} = \phi_G^2 \Delta P_G \quad (1)$$



Figure 2.- Moody graph of friction factor for any type of pipe.

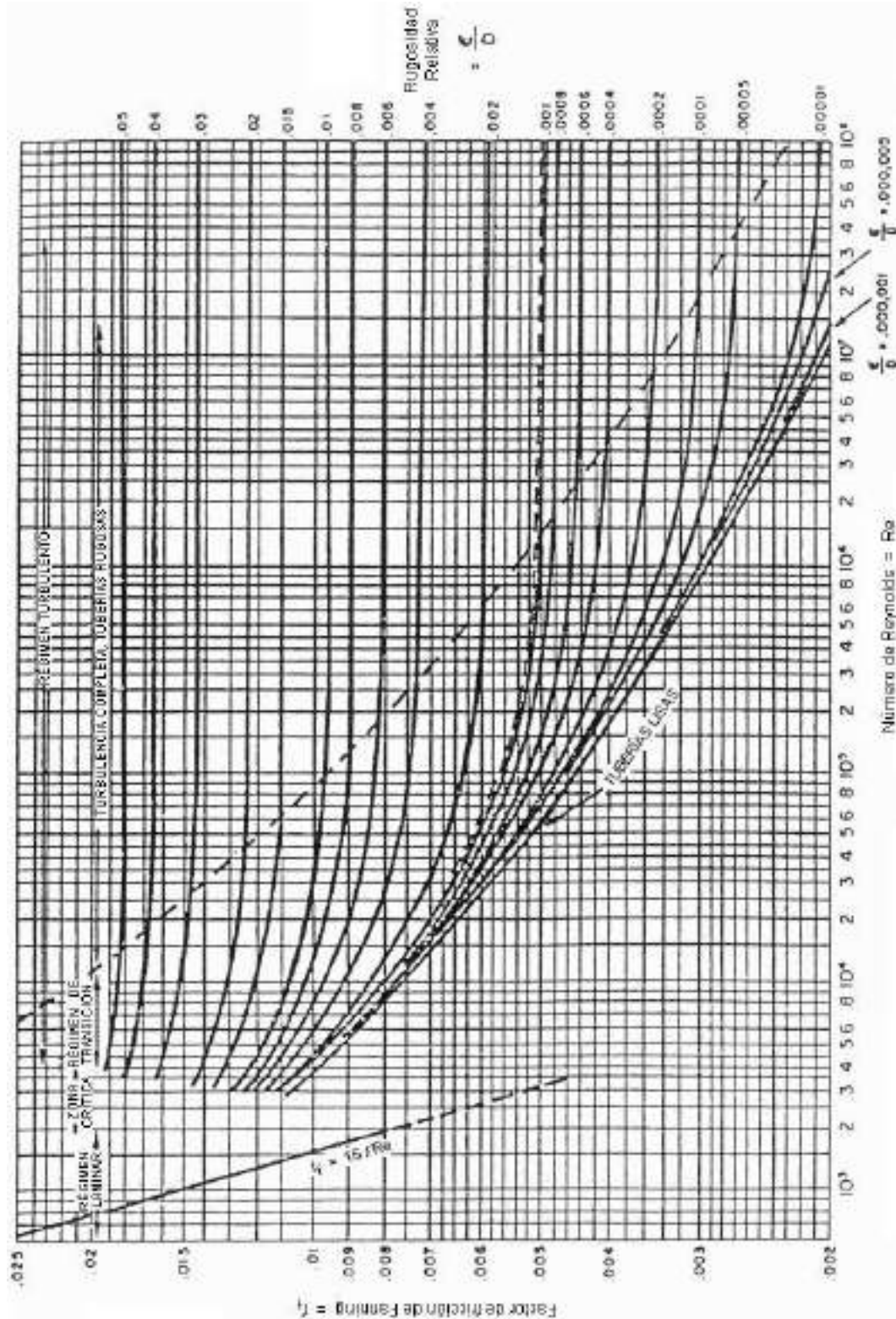
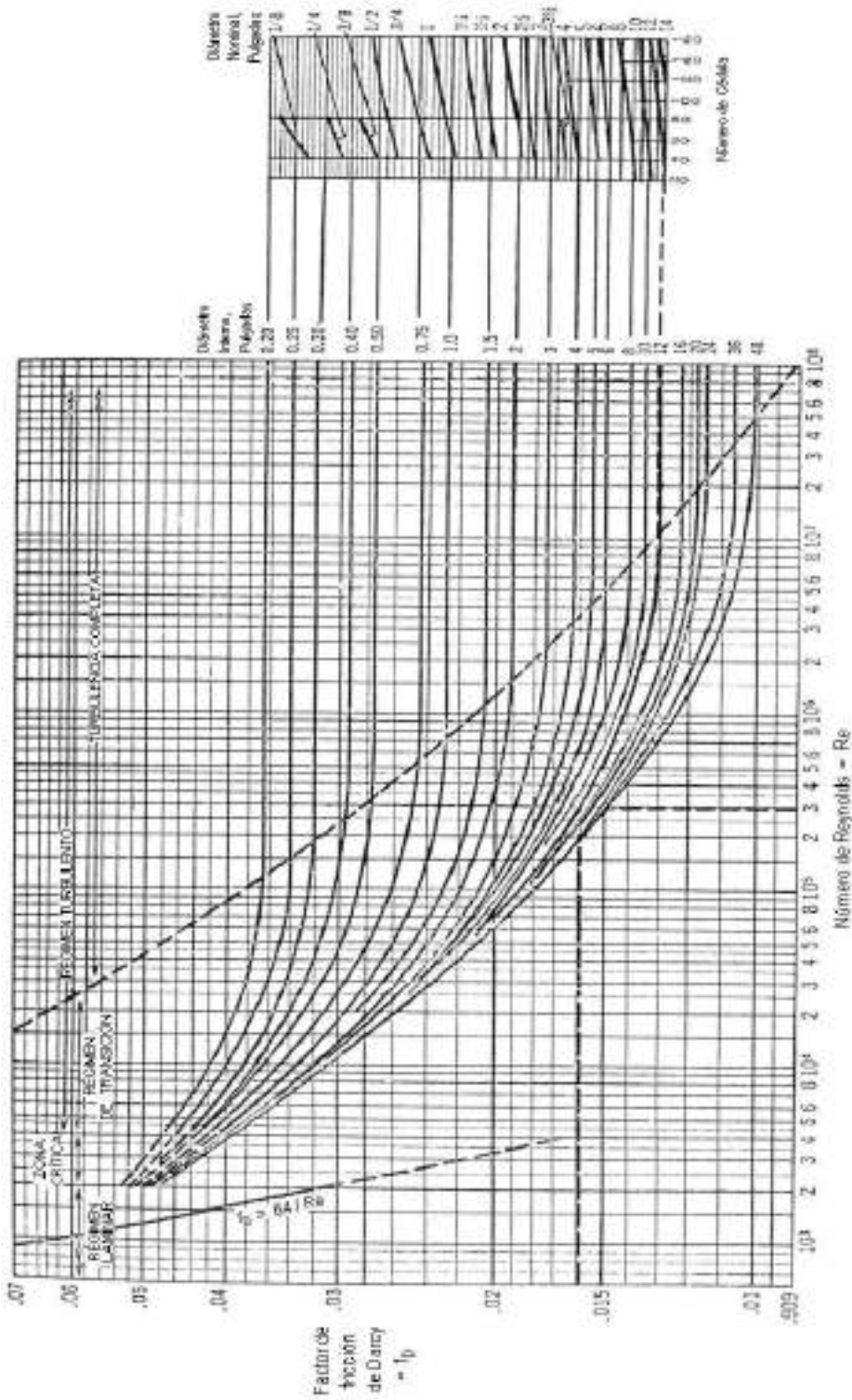


Figure 3.- Moody graph of friction factor for commercial steel and wrought iron pipes



- A simplified way to obtain pressure losses with two-phase flow is :
- Calculate pressure drops first as if each phase were alone in the pipe.
  - Calculate Martinelli's module





c)  $X = \left[ \frac{\Delta P_L}{\Delta P_G} \right]^{0.5}$

d) Calculate the total pressure drop:

e)  $\Delta P_{total} = Y_L \Delta P_L = Y_G \Delta P_G$

Where:

$$Y_L = 4.6X^{-1.78} + 12.5X^{-0.68} + 0.65$$

$$Y_G = X^2 Y_L$$

### 3.- BAKER EQUATIONS AND COLLABORATORS

Using lockhart and Martinelli's correlation, Baker<sup>[4]</sup> developed a series of equations for each flow pattern, in which it relates differently the X parameter to the parameter  $\phi$ , so that its application is a more accurate method for estimating the value of the pressure drop to two phases. It should be noted that the application of Baker's method is limited to a single particular case of two-phase flow: the one in which both phases of the mixture have a turbulent flow according to the Lockhart-Martinelli classification. Therefore, Baker's modification is to replace the  $\phi_{Gtt}$  curve with the equations proposed by this researcher. The parameter  $\phi_{Gtt}$  for the different flow patterns according to Baker is given by the following equation <sup>[5]</sup>.

bubble flow: 
$$\phi_{Gtt} = \frac{16.64 X^{0.75}}{\left( \frac{W_L}{A} \right)^{0.1}} \quad (9)$$

plug flow: 
$$\phi_{Gtt} = \frac{35.766 X^{0.855}}{\left( \frac{W_L}{A} \right)^{0.17}} \quad (10)$$

estratified flow: 
$$\phi_{Gtt} = \frac{54756 X}{\left( \frac{W_L}{A} \right)^{0.8}} \quad (11)$$

slug flow: 
$$\phi_{Gtt} = \frac{2629 X^{0.815}}{\left( \frac{W_L}{A} \right)^{0.5}} \quad (12)$$

anular flow: 
$$\phi_{Gtt} = (4.8 - 12.303D)X^{(0.343-0.827D)} \quad (13)$$

$$D = 0.254 \text{ m para } D > 10 \text{ in}$$

Wave flow: 
$$\Delta P_{2F} = 9.074 \times 10^{-12} \frac{f_H W_G^2}{D^5 \rho_G} \quad [\text{psi}] \quad (14)$$

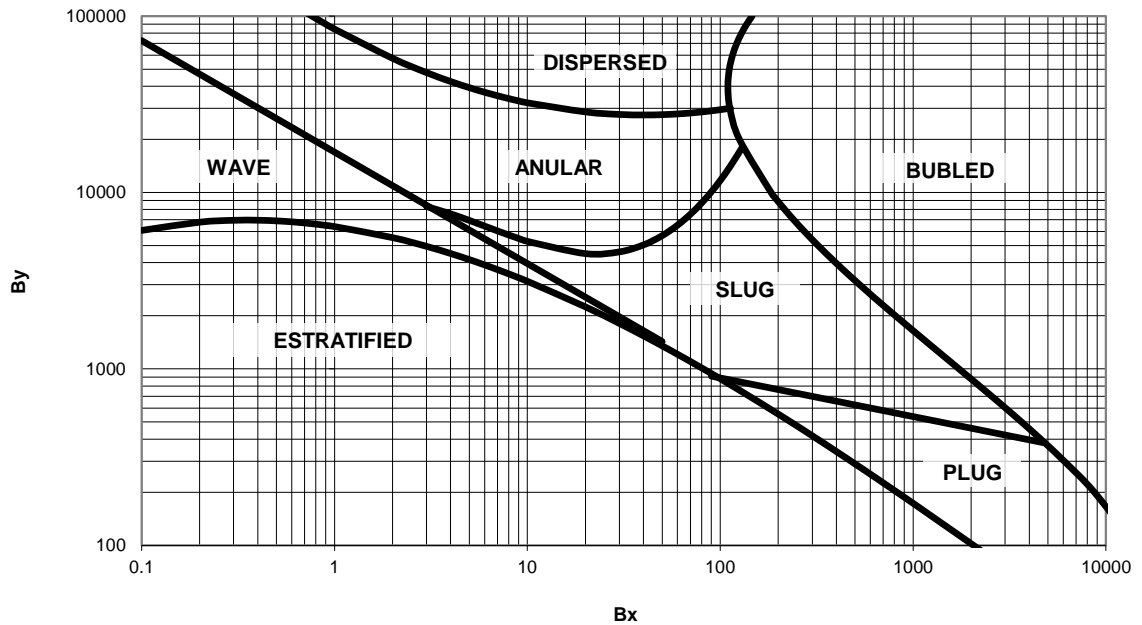
$$f_H = 0.0043 \left( \frac{W_L \mu_L}{W_G \mu_G} \right)^{0.214} \quad (15)$$

Dispersed flow:

$$\phi_{Gtt} = \exp \left\{ 1.4659 + 0.49138(\ln X) + 0.04887(\ln X)^2 - 0.000349(\ln X)^3 \right\} \quad (16)$$



Where:  $W_L$  - mass flow of the liquid in kg/h.;  $A$  - transverse area of the pipe in m<sup>2</sup>.  
 $D$  - internal diameter of the pipe in m.;  $f_H$  - Huntington's friction factor for wave flow.  
 $W_G$  - mass flow of the gas in kg/h. ;  $\rho_G$  - gas density in kg/m<sup>3</sup> ;  
 $\mu_L$  - viscosity of the liquid in cp.  $\mu_G$  - viscosity of the gas in cp.  
 To convert psi to kgf/m<sup>2</sup>, multiply by 703.07.



**Figure A - Map of Baker patterns for horizontal flow in gas-liquid systems. (1954).**

The authors presented this map in the article “*Prediction of the flow pattern to two- phases, vapor-liquid in horizontal pipes*” [16]

To determine the flow pattern using the Baker map, the Baker parameters ( $B_x$  and  $B_y$ ) must first be calculated, which determines the expected flow type on the graph:

$$B_x = 0.0341 \frac{W_L \rho_G^{1/2} \mu_L^{1/3}}{W_G \sigma_L \rho_L^{1/6}} \left[ \text{cp}^{1/3} \right] \quad (A)$$

$$B_y = 7.092 \frac{W_G}{A \sqrt{\rho_G \rho_L}} \left[ \frac{\text{lb}}{\text{hft}^2} \right] \quad (B)$$

**Lockhart-Martinelli method modified by Baker:**

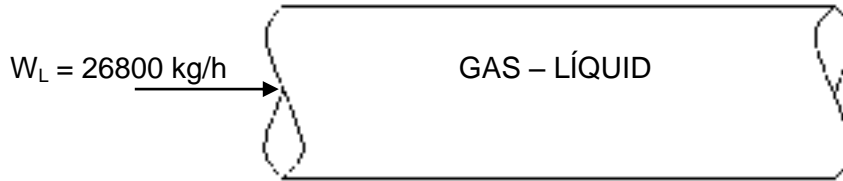
- 1.- Determine the flow pattern with Baker's parameters and map A.
- 2.- Determine the flow rate for each phase, calculating the corresponding surface Reynolds with equation 3.
- 3.- Calculate the pressure drop for the gas phase with equation 5.
- 4.- Calculate the X parameter with equation 2. If the flow rate is turbulent-turbulent, equation 8 can be used.
- 5.- Get the parameter  $\phi_G$  corresponding to the flow rate, on the Lockhart-Martinelli graph (Figure 1). If the regime is turbulent-turbulent, Baker equations (equations 9 to 16) can be used.

6.- Calculate the pressure drop to two phases with equation 1.

**Example 1**

What are the friction losses in a horizontal pipe 100 m in length and 4 inches in diameter of 40, through which pass 26800 kg/h of a liquid with a density of 500 kg/m<sup>3</sup>, viscosity of 0.11 cp and 5.07 dina/cm of surface tension? And there also travel through the same pipe. 4250 kg/h of vapours with a density of 27 kg/m<sup>3</sup> and a viscosity of 0.0105 cp.

1.-TRANSLATION



2.-Palning.

2.1.-Discussion

To obtain friction losses it is necessary, first to determine the type of flow pattern present in the pipe. This can be accomplished using Baker's map (Fig A). Friction losses are calculated using the Lockhart-Martinelli method and the complementary Baker equations corresponding to the parameter  $\phi$ .

3.-CALCULATIONS

3.1.-Flow pattern.

For a 4" nominal diameter pipe card 40, its internal diameter is:

$$D = 4.026 \text{ in} = 0.10226 \text{ m}$$

$$A = 8.2 \times 10^{-3} \text{ m}^2$$

$$By = 31585$$

$$\sigma_L = 5.07 \text{ dina/cm} = 5.17 \times 10^{-4} \text{ kgf/m}$$

$$Bx = 367$$

With these coordinates, the Baker map (Fig. A) <sup>[3][16]</sup> reads bubble flow.

3.2.-Pressure drop in the gas phase.

$$v_{SG} = \frac{4250 \frac{\text{kg}}{\text{h}}}{3600 \frac{\text{s}}{\text{h}} \left( 27 \frac{\text{kg}}{\text{m}^3} \right) \left( 8.2 \times 10^{-3} \text{ m}^2 \right)} = 5.3322 \frac{\text{m}}{\text{s}}$$

$$Re_{SG} = \frac{0.10226 \text{ m} \left( 5.3322 \frac{\text{m}}{\text{s}} \right) \left( 27 \frac{\text{kg}}{\text{m}^3} \right)}{\left( 0.001 \frac{\text{kg}}{\text{ms}} \right) \left( 0.0105 \text{ cp} \right)} = 1.4 \times 10^6 \quad \text{turbulent flow}$$

From fig. 2 y 3:

$$e/D = 0.00045$$

$$f_D = 0.0165$$



$$\Delta P_G = 6.379 \times 10^{-7} \left( 4250 \frac{\text{kg}}{\text{h}} \right)^2 (100 \text{ m}) \left( \frac{0.0165}{(0.10226 \text{ m})^5 \left( 27 \frac{\text{kg}}{\text{m}^3} \right)} \right) = 62968 \frac{\text{kgf}}{\text{m}^2}$$

3.3.-Caída de presión en la fase líquida

$$v_{SL} = \frac{26800 \frac{\text{kg}}{\text{h}}}{3600 \frac{\text{s}}{\text{h}} \left( 500 \frac{\text{kg}}{\text{m}^3} \right) (8.2 \times 10^{-3} \text{ m}^2)} = 1.8157 \frac{\text{m}}{\text{s}}$$

$$Re_{SL} = \frac{0.10226 \text{ m} \left( 1.8157 \frac{\text{m}}{\text{s}} \right) \left( 500 \frac{\text{kg}}{\text{m}^3} \right)}{\left( 0.001 \frac{\text{kg}}{\text{ms}} \right) (0.11 \text{ cp})} = 8.44 \times 10^5$$

turbulent flow

From fig. 2 y 3:

$$\varepsilon/D = 0.00045$$

$$f_D = 0.017$$

$$\Delta P_L = \frac{0.017 \left( 1.8157 \frac{\text{m}}{\text{s}} \right)^2 \left( 500 \frac{\text{kg}}{\text{m}^3} \right) (100 \text{ m})}{2 \left( 9.81 \frac{\text{mkg}}{\text{s}^2 \text{ kgf}} \right) (0.10226 \text{ m})} = 1397 \frac{\text{kgf}}{\text{m}^2}$$

3.4.- Two - phase pressure drop.

$$X = \left( \frac{1397}{62968} \right)^{0.5} = 0.149$$

For turbulent flow and bubble flow:

$$\phi_{Gtt} = \frac{16.64 (0.149)^{0.75}}{\left( \frac{26800 \frac{\text{kg}}{\text{h}}}{8.2 \times 10^{-3} \text{ m}^2} \right)^{0.1}} = 0.89$$



$$\Delta P_{2F} = (0.89)^2 \left( 62968 \frac{\text{kgf}}{\text{m}^2} \right) = 49877 \frac{\text{kgf}}{\text{m}^2}$$

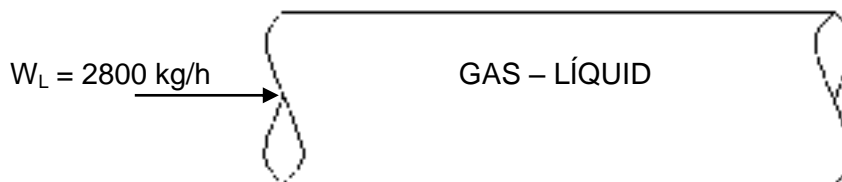
#### 4.-RESULT

Friction pressure losses shall be 49877 kgf/m<sup>2</sup> per 100 m of tube length.

#### Example 2

What will be the expected pressure drop in a horizontal pipe of 6 inches of 40 and 10 m in diameter, through which flow 2800 kg/h of liquid with a density of 834 kg/m<sup>3</sup>, viscosity of 0.1 cp and surface tension of 6.25 dina/cm? There is also a flow of 9800 kg/h of steam with 30.75 kg/m<sup>3</sup> density and a viscosity of 0.01 cp.

#### 1.-TRANSLATION



#### 2.-Planning

##### 2.1.-Discussion .

To solve the problem you must find the type of flow present in order to be able to select the appropriate Baker correlation for the calculation of the pressure drop.

#### 3.-CALCULATIONS

##### 3.1.-Flow Path

$$D = 6.065 \text{ in} = 0.154 \text{ m}$$

$$A = 0.018639 \text{ m}^2$$

$$By = 23285$$

$$Bx = 12.82$$

These values get annular flow on Baker's map (Fig A ] <sup>[4][16]</sup>.

##### 3.2.-Two-phase pressure drop

$$Re_{SG} = 2.25 \times 10^6 \quad \text{Turbulent flow}$$

From fig. 9 y 10:

$$e/D = 0.0003$$

$$f_D = 0.015$$

$$\Delta P_G = 3450.22 \text{ kgf/m}^2$$

To calculate the X parameter, equation 8 is used:

$$X^2 = 0.0084 \left( \frac{2800}{9800} \right)^{1.8} \left( \frac{30.75}{834} \right) \left( \frac{0.1}{0.01} \right)^{0.2} = 5.15 \times 10^{-5}$$

$$X = \sqrt{5.15 \times 10^{-5}} = 0.0072$$

For annular flow:

$$\phi_{Ctt} = (4.8 - 12.303(0.154\text{m}))0.0072^{(0.343-0.827(0.154\text{m}))} = 1.0026$$

$$\Delta P_{2F} = (1.0026)^2 \left( 3450.22 \frac{\text{kgf}}{\text{m}^2} \right) = 3468.50 \frac{\text{kgf}}{\text{m}^2}$$

#### 4.-RESULT

The pressure drop is de 3468.50 kgf/m<sup>2</sup>.



Lockhart-Martinelli correlation should preferably be used for pipes smaller than 4 inches, and Baker equations apply for pipes up to 10 inches. Baker <sup>[4]</sup> <sup>[5]</sup> found that friction pressure losses in large diameter pipes are smaller, than predicted by Lockhart-Martinelli's original method. In addition, these methods only calculate the friction pressure drop, and therefore the contribution per acceleration should be estimated independently. Experience shows that the latter is generally not significant, and therefore the friction pressure drop is roughly equal to the total, as proposed by Lockhart and Martinelli.

#### 4.- HOMOGENEOUS MODELS <sup>[17]</sup>

As well as the above correlations, which can be called semi-empirical, are based on Lockhart and Martinelli's work on pressure drops using a physical mixing model, it is also possible to consider fluid flow phenomena in two phases using the homogeneous flow concept<sup>[6]</sup>. The visualization of the flow in two phases as a homogeneous mixture assumes that the gas and the liquid can be considered as a single uniform phase. In this case, therefore there is no difference between the speeds of both phases. At the above difference in speeds, it is commonly referred to as the slip velocity. The homogeneous model is based on the essential postulate that the average speed of the liquid phase is continuously equal to the average speed of the gas phase. In this way, there is no difference between the speeds of both phases, as mentioned in the previous paragraph, and therefore . one phase does not slide over the other by traveling faster, but rather flow together at the same speed. Based on this postulate, Dukler and collaborators <sup>[7]</sup> studied this phenomenon using a similarity analysis, the basic premise of which is: If two single-phase flow systems are dynamically similar, then The Reynolds and Euler numbers for each system are the same. Euler's number is twice Fanning's friction factor, which in turn is a quarter of Darcy's friction factor:

$$Eu = 2f_f \quad (17)$$

$$f_D = 4f_f \quad (18)$$

In simplified form, the pressure drop of a homogeneous fluid in a pipe can be expressed with the following equation:

$$\left[ \frac{\Delta P}{\Delta L} \right]_{Total} = \left[ \frac{\Delta P}{\Delta L} \right]_{aceleración} + \left[ \frac{\Delta P}{\Delta L} \right]_{fricción} + \left[ \frac{\Delta P}{\Delta L} \right]_{elevación} \quad (19)$$

The first term gives the pressure drop by acceleration, the second term corresponds to that of frictional pressure losses and the third term is the elevation pressure drop, which takes the value of zero for horizontal pipes. For the study of pressure drop, Dukler proposes four cases, two being the most used:

##### Case I: No slippage and homogeneous flow

There is no relative slippage between phases and two-phase flow is considered as homogeneous. In this case, the properties of the mixture are obtained by simple relationships between the properties of both phases, as noted below:

$$\rho_{NS} = \rho_L \lambda + \rho_G (1-\lambda) \quad (20)$$

$$\mu_{NS} = \mu_L \lambda + \mu_G (1-\lambda) \quad (21)$$

Where:  $\rho_{NS}$  = density of the homogeneous mixture without slippage. ;  $\mu_{NS}$  = viscosity of the homogeneous mixture without slippage. ;  $\lambda$  = fraction of the volume of the pipe occupied by the liquid phase without slipping:

$$\lambda = \frac{Q_L}{Q_L + Q_G} = \frac{v_{SL}}{v_{SL} + v_{SG}} \quad (22)$$

Q - volumetric flow of the liquid and gas phases.

The Reynolds number can be expressed in terms of these properties of the mixture:



$$Re_{NS} = \frac{D v_{NS} \rho_{NS}}{\mu_{NS}} \quad (23)$$

Where:  $v_{NS}$  = surface speed of homogeneous mixture without slippage.

$$v_{NS} = v_{SL} + v_{SG} \quad (24)$$

For the calculation of the friction factor without phase slippage, Dukler used the Koo<sup>[7]</sup> equation for the friction factor in a single phase:

$$f_{NS} = 0.0014 + \frac{0.125}{Re_{NS}^{0.32}} \quad (25)$$

Friction pressure drop without slippage between phases is given by the Fanning equation:

$$\left[ \frac{\Delta P_{NS}}{L} \right]_{fricción} = \frac{2 f_{NS} v_{NS}^2 \rho_{NS}}{g_C D} \quad (26)$$

To obtain the total pressure drop assuming homogeneous flow, Dukler proposed the following

$$\text{equation: } \left[ \frac{\Delta P_{NS}}{L} \right]_{Total} = \frac{\left[ \frac{\Delta P_{NS}}{L} \right]_{fricción}}{1 - AC} \quad (27)$$

Where: AC = acceleration pressure drop:

$$AC = \frac{16 W_T W_G P_{av}}{\pi^2 g_C D^4 P_1 P_2 \rho_{Gav}} \quad (28)$$

$W_T$  = Total mass flow kg/s:

$$W_T = W_L + W_G \quad (29)$$

$W_L$  &  $W_G$  = mass flows of the liquid and gas, respectively, in kg/s.

$P_{av}$  - average pressure in the L-length tube section, in kgf/m<sup>2</sup>.

$P_1$  - pressure at the inlet of the pipe section in kgf/m<sup>2</sup>.

$P_2$  - pressure at the outlet of the pipe section in kgf/m<sup>2</sup>.

$\rho_{Gav}$  = average gas density in the same pipe section in kg/m<sup>3</sup>.

To transform atmospheres into kgf/m<sup>2</sup>, multiply the pressure by 10332.7

The pressure drop in this case is always less than the actual pressure drop present in a pipe, therefore, the assumption of a homogeneous flow without slip inter phase (non slip) allows to obtain the lowest possible pressure drop, providing the engineer with a limiting case in the design of a pipe with flow to two phases gas-liquid.

#### Case II: Constant slipping.

The ratio of the speed of the phases at the average velocity is constant through the section. When phases flow simultaneously, gas generally flows faster than liquid, causing an increase in the volume of the pipe occupied by the liquid. This phenomenon is known as slip, and the fraction of the volume of the pipe occupied by the liquid under these conditions is known as holdup ( $R_L$ ). It is clear that  $R_L$  cannot be determined from the entry flows, so special correlations resulting from experimental measurements are used. In his article, Dukler<sup>[8]</sup> recommends using the Hughmark<sup>[9]</sup> correlation to calculate that volumetric fraction or holdup. For this case, Dukler defined the following parameter:

$$\beta = \frac{\rho_L}{\rho_{NS}} \left( \frac{\lambda^2}{R_L} \right) + \frac{\rho_G}{\rho_{NS}} \left[ \frac{(1-\lambda)^2}{R_G} \right] \quad (30)$$

Where,  $\lambda$  = fraction of liquid without slippage between phases.  $R$  = holdup of the liquid and gas phases. The number of Reynolds for two-phase flow can be expressed as:

$$Re_{2F} = \frac{4 W_T}{\pi D \mu_{NS}} \beta \quad (31)$$



In order to calculate the friction pressure drop, he defined a assumed friction factor, based on Koo's equation for the single-phase friction factor:

$$f_o = 0.0014 + \frac{0.125}{Re_{2F}^{0.32}} \quad (32)$$

Using a data bank carefully selected by him, whose sources are the works of researchers such as Lockhart and Martinelli [2], Baker [4], Bankoff [10], among others, Dukler found a relationship between the assumed friction factor ( $f_o$ ) and the actual two-phase ( $f$ ), which he called  $\alpha(\lambda)$ , which are related to the graph of Figure 4. The behavior in Figure 4 can be represented by the following equation:

$$\alpha(\lambda) = \frac{f}{f_o} = 1 - \frac{\ln \lambda}{1.281 + 0.478(\ln \lambda) + 0.444(\ln \lambda)^2 + 0.094(\ln \lambda)^3 + 0.00843(\ln \lambda)^4} \quad (33)$$

With all well-defined parameters and variables, the pressure drop due to friction in the two-phase flow can be calculated:

$$\left[ \frac{\Delta P_{2F}}{L} \right]_{\text{fricción}} = \frac{2G_T^2 f_o}{g_C D \rho_{NS}} \alpha(\lambda) \beta \quad (34)$$

Where:  $G_T$  = total mass velocity in  $kg/(m^2 \text{ s})$ :

$$G_T = \frac{W_L + W_G}{3600 A} \quad (35)$$

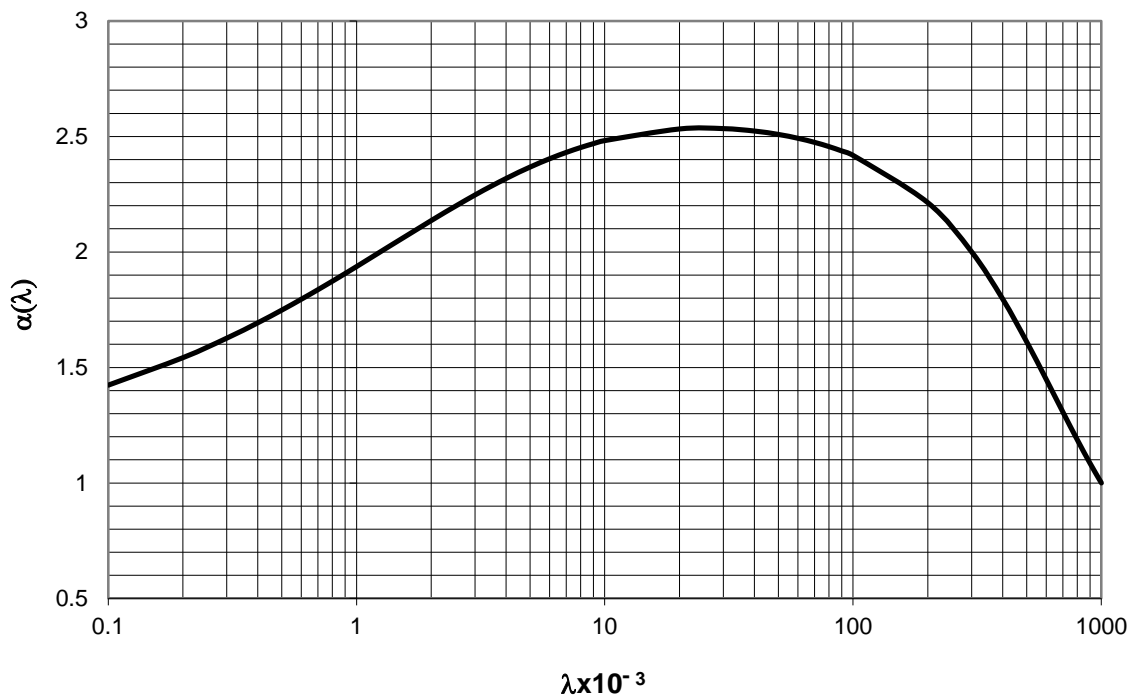


Figure 4.- Dukler's graphic for  $\alpha \lambda$ . (1964)



In addition to the pressure drop due solely to the effects of friction, it is important to consider acceleration losses due to the expansion of the gas phase in the biphasic mixture, as it moves through the horizontal pipe. The acceleration pressure drop given by Dukler is :

$$\left[ \frac{\Delta P_{2F}}{L} \right]_{\text{aceleración}} = \frac{1}{g_c A^2 L} \left[ \frac{W_G^2}{R_G} \left( \frac{1}{\rho_{G2}} - \frac{1}{\rho_{G1}} \right) + \frac{W_L^2}{\rho_L R_L} \right] \quad (36)$$

Where:

$R_G$  y  $R_L$  = holdup gas and liquid phases ,  $\rho_{G1}$  = gas density and the entrance of the pipe of L length;  $\rho_{G2}$  = gas density at the end of the pipe.

The total drop pressure in an horizontal tube is the sum of friction and acceleration effects.

$$\left[ \frac{\Delta P_{2F}}{L} \right]_{\text{Total}} = \left[ \frac{\Delta P_{2F}}{L} \right]_{\text{fricción}} + \left[ \frac{\Delta P_{2F}}{L} \right]_{\text{aceleración}} \quad (37)$$

In this way, the acceleration effect is only important when handling very large flows or very low pressures.

### 5.- DUKLER METHOD:

1.- Calculate the fraction of the volume of the pipe occupied by the liquid without slippage between the phases ( $\lambda$ ) with equation 22:

$$\lambda = \frac{Q_L}{Q_L + Q_G} = \frac{v_{SL}}{v_{SL} + v_{SG}} \quad (22)$$

2.- Calculate density without slippage between phases with equation 20:

$$\rho_{NS} = \rho_L \lambda + \rho_G (1 - \lambda) \quad (20)$$

3.- Calculate the viscosity without slippage between phases with equation 21:

$$\mu_{NS} = \mu_L \lambda + \mu_G (1 - \lambda) \quad (21)$$

4.- Calculate the liquid holdup ( $R_L$ ) using the Hughmark method:

4.1.- Assume the  $R_L$  value. An initial value can be:  $R_L = \lambda$

4.2.- Get the Reynolds based on  $R_L$ :

$$Re = \frac{DG_T}{R_L \mu_L + (1 - R_L) \mu_G} \quad (38)$$

4.3.- Calculate Froude number:  $Fr = \frac{v_{NS}^2}{gD}$  (39)

4.4.- Calculate the Hughmark Z parameter:

$$Z = \frac{Re^{1/6} Fr^{1/8}}{\lambda^{1/4}} \quad (40)$$

4.5.- Get the K parameter of Hughmark [9]:

If  $Z < 10$ :

$$K = -0.163673 + 0.310372 Z - 0.0352491 Z^2 + 0.001366 Z^3 \quad (41)$$

If  $Z > 10$ :

$$K = 0.755454 + 0.00358499 Z - 1.43604 \times 10^{-5} Z^2 \quad (42)$$

4.6.- Calculate  $R_L$ :

$$R_L = 1 - (1 - \lambda) K \quad (43)$$



4.7.- Compare the  $R_L$  value assumed in step 4.1 with the one calculated in step 4.6. If they are the same, continue to step 4.8; and if they are different, return to step 4.2 using the  $R_L$  calculated in step 4.6.

4.8.- Calculate  $R_G$ :

$$R_G = 1 - R_L \quad (44)$$

5.- Calculate  $\beta$  with equation 30:

$$\beta = \frac{\rho_L}{\rho_{NS}} \left( \frac{\lambda^2}{R_L} \right) + \frac{\rho_G}{\rho_{NS}} \left[ \frac{(1-\lambda)^2}{R_G} \right] \quad (30)$$

6.- Calculate the Reynolds with slippage between phases using equation 31:

$$Re_{2F} = \frac{4W_T}{\pi D \mu_{NS}} \beta \quad (31)$$

7.- Calculate the assumed friction factor with equation 32:

$$f_o = 0.0014 + \frac{0.125}{Re_{2F}^{0.32}} \quad (32)$$

8.- Get  $\alpha(\lambda)$  from the figure 4, or from equation 33:

$$\alpha(\lambda) = \frac{f}{f_o} = 1 - \frac{\ln \lambda}{1.281 + 0.478(\ln \lambda) + 0.444(\ln \lambda)^2 + 0.094(\ln \lambda)^3 + 0.00843(\ln \lambda)^4} \quad (33)$$

9.- Calculate friction pressure drop with equation 34:

$$\left[ \frac{\Delta P_{2F}}{L} \right]_{fricción} = \frac{2G_T^2 f_o}{g_C D \rho_{NS}} \alpha(\lambda) \beta \quad (34)$$

10.- Get the total pressure drop:

10.1.- Assume a pressure drop in the L-length pipe run. An initial value can be that of the frictional pressure drop:

$$\left[ \frac{\Delta P_{2F}}{L} \right]_{supuesto} = \left[ \frac{\Delta P_{2F}}{L} \right]_{fricción}$$

10.2.- Calculate the output pressure of the pipe section in question:

$$P_2 = P_1 - L \left[ \frac{\Delta P_{2F}}{L} \right]_{supuesto} \quad (45)$$

10.3.- Obtain the densities of the gas at the inlet and outlet of the pipe section.

10.4.- Get the pressure drop by acceleration with equation 36:

$$\left[ \frac{\Delta P_{2F}}{L} \right]_{aceleración} = \frac{1}{g_C A^2 L} \left[ \frac{W_G^2}{R_G} \left( \frac{1}{\rho_{G2}} - \frac{1}{\rho_{G1}} \right) + \frac{W_L^2}{\rho_L R_L} \right]$$

10.5.- Calculate the total pressure drop with equation 37:

$$\left[ \frac{\Delta P_{2F}}{L} \right]_{Total} = \left[ \frac{\Delta P_{2F}}{L} \right]_{fricción} + \left[ \frac{\Delta P_{2F}}{L} \right]_{aceleración} \quad (37)$$

If the total pressure drop is not roughly equal to the one assumed in step 10.1, return to that step and assume another pressure. The value of the total pressure drop calculated in step 10.5 can be used to make the new assumption.

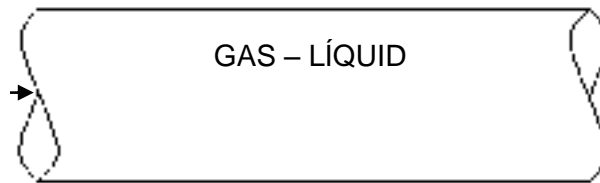
### Example 3

Estimate the pressure drop in 100 m of four-inch steel tube 40, through which 2400 kg/h of water and 950 kg/h of air pass through. The initial pressure in the pipe is 7 kgf/cm<sup>2</sup>. The viscosity of the liquid is 1 cp and that of the gas is 0.018 cp. The liquid density is 1000 kg/m<sup>3</sup>. Use Lockhart- Martinelli's method and Dukler's case I.

#### 1.-TRANSLATION

$$P_1 = 7 \text{ kgf/cm}^2$$

$$W_L = 2400 \text{ kg/h}$$



#### 2.-Planning

##### 2.1.-Discussion

According to the statement of the problem, the methodologies of Lockhart-Martinelli and Dukler Case I will be used to estimate pressure drops.

#### 3.-CALCULATIONS

##### 3.1.- Lockhart-Martinelli method.

$$D = 4.026 \text{ in} = 0.1023 \text{ m}$$

$$A = 0.0082 \text{ m}^2$$

Pressure drop in liquid phase:

$$v_{SL} = \frac{2400 \frac{\text{kg}}{\text{h}}}{3600 \frac{\text{s}}{\text{h}} \left( 1000 \frac{\text{kg}}{\text{m}^3} \right) (0.0082 \text{ m}^2)} = 0.0813 \frac{\text{m}}{\text{s}}$$

$$Re_{SL} = \frac{0.1023 \text{ m} \left( 0.0813 \frac{\text{m}}{\text{s}} \right) \left( 1000 \frac{\text{kg}}{\text{m}^3} \right)}{\left( 0.001 \frac{\text{kg}}{\text{ms}} \right) (1 \text{ cp})} = 8317 \quad \text{turbulent flow}$$

$$e/D = 0.00045$$

$$f_D = 0.032$$





$$\Delta P_L = \frac{0.032 \left( 0.0813 \frac{\text{m}}{\text{s}} \right)^2 \left( 1000 \frac{\text{kg}}{\text{m}^3} \right) (100 \text{ m})}{2 \left( 9.81 \frac{\text{mkg}}{\text{s}^2 \text{kgf}} \right) (0.1023 \text{ m})} = 10.54 \frac{\text{kgf}}{\text{m}^2}$$

Pressure in gas phase :

$$\rho_G = \frac{PM}{RT} = \frac{7 \frac{\text{kgf}}{\text{cm}^2} \left( 0.9678 \frac{\text{atm}}{\text{kgf/cm}^2} \right) \left( 29 \frac{\text{kg}}{\text{kgmol}} \right)}{0.082 \frac{\text{m}^3 \text{atm}}{\text{kgmol K}} (20 + 273.15) \text{K}} = 8.173 \frac{\text{kg}}{\text{m}^3}$$

$$v_{SG} = \frac{950 \frac{\text{kg}}{\text{h}}}{3600 \frac{\text{s}}{\text{h}} \left( 8.173 \frac{\text{kg}}{\text{m}^3} \right) (0.0082 \text{ m}^2)} = 3.938 \frac{\text{m}}{\text{s}}$$

$$Re_{SG} = \frac{0.1023 \text{ m} \left( 3.938 \frac{\text{m}}{\text{s}} \right) \left( 8.173 \frac{\text{kg}}{\text{m}^3} \right)}{\left( 0.001 \frac{\text{kg}}{\text{ms cp}} \right) (0.018 \text{ cp})} = 1.83 \times 10^5 \quad \text{turbulent flow.}$$

$$e/D = 0.00045$$

$$f_D = 0.0185$$

$$\Delta P_G = 6.379 \times 10^{-7} \left( 950 \frac{\text{kg}}{\text{h}} \right)^2 (100 \text{ m}) \left( \frac{0.0185}{(0.1023 \text{ m})^5 \left( 8.173 \frac{\text{kg}}{\text{m}^3} \right)} \right) = 11630.86 \frac{\text{kgf}}{\text{m}^2}$$

Parameter X:

$$X = \left( \frac{10.54}{11630.86} \right)^{0.5} = 0.0301$$

For turbulent flow :

$$\log \phi_{Gtt} = 0.00176(\log 0.0301)^3 + 0.1148(\log 0.0301)^2 + 0.4821(\log 0.0301) + 0.6358$$

$$\log \phi_{Gtt} = 0.1619$$

$$\phi_{Gtt} = 1.4516$$



Two phase pressure drop:

$$\Delta P_{2F} = (1.4516)^2 \left( 11630.86 \frac{\text{kgf}}{\text{m}^2} \right) = 24507.88 \frac{\text{kgf}}{\text{m}^2}$$

3.2.- Case I Dukler

$$\lambda = \frac{0.0813 \frac{\text{m}}{\text{s}}}{0.0813 \frac{\text{m}}{\text{s}} + 3.938 \frac{\text{m}}{\text{s}}} = 0.0202$$

$$\rho_{NS} = 1000 \frac{\text{kg}}{\text{m}^3} (0.0202) + 8.173 \frac{\text{kg}}{\text{m}^3} (1 - 0.0202) = 28.208 \frac{\text{kg}}{\text{m}^3}$$

$$\mu_{NS} = 1 \text{cp} (0.0202) + 0.018 \text{cp} (1 - 0.0202) = 0.038 \text{cp}$$

$$v_{NS} = 0.0813 \frac{\text{m}}{\text{s}} + 3.938 \frac{\text{m}}{\text{s}} = 4.019 \frac{\text{m}}{\text{s}}$$

$$Re_{NS} = \frac{0.1023 \text{m} \left( 4.019 \frac{\text{m}}{\text{s}} \right) \left( 28.208 \frac{\text{kg}}{\text{m}^3} \right)}{0.038 \text{cp} \left( 0.001 \frac{\text{kg}/\text{ms}}{\text{cp}} \right)} = 305198$$

$$f_{NS} = 0.0014 + \frac{0.125}{(305198)^{0.32}} = 0.003597$$

$$\Delta P_{NS} = \frac{2(0.003597) \left( 4.019 \frac{\text{m}}{\text{s}} \right)^2 \left( 28.208 \frac{\text{kg}}{\text{m}^3} \right) (100 \text{ m})}{9.81 \frac{\text{mkg}}{\text{s}^2 \text{kgf}} (0.1023 \text{ m})} = 326.61 \frac{\text{kgf}}{\text{m}^2}$$

#### 4.-RESULT

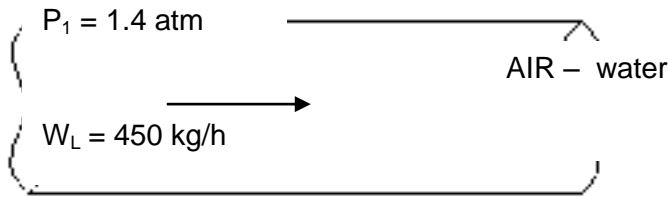
With the Lockhart- Martinelli method a pressure drop of 24507.88 kgf/m<sup>2</sup> is obtained per 100 m of tube, and by Dukler's I case a pressure drop of 326.61 kgf/m<sup>2</sup> is obtained per 100 m of tube. Recalling that Dukler's case I provides the minimum possible actual pressure drop, the pressure drop calculated using the Lockhart-Martinelli method is valid, as it gives a higher value than Dukler's case I.



**Example 4**

By a smooth pipe 100 m long and 1 inch in diameter 40, 450 kg/h of water and 7 kg/h of air flow. The pipe inlet is at 1.4 atm and the system is isothermal at 20 °C. Find the pressure drop by Dukler's method. The physical properties of the fluids are:  $\rho_L = 1000 \text{ kg/m}^3$ ;  $\rho_G = 1.4 \text{ kg/m}^3$ ;  $\mu_L = 1 \text{ cp}$ ;  $\mu_G = 0.018 \text{ cp}$ .

1.- Translation.



2.-Planning.

2.1.-Discussion

Dukler's method will be used to obtain the total pressure drop in the pipe .

3.-CALCULATIONS

3.1.-Calculation of mixing properties without slip between phases (non slip)

$$D = 1.049 \text{ in} = 0.0266 \text{ m}$$

$$A = 5.576 \times 10^{-4} \text{ m}^2$$

$$v_{SL} = \frac{450 \frac{\text{kg}}{\text{h}}}{3600 \frac{\text{s}}{\text{h}} \left( 1000 \frac{\text{kg}}{\text{m}^3} \right) (5.576 \times 10^{-4} \text{ m}^2)} = 0.2242 \frac{\text{m}}{\text{s}}$$

$$v_{SG} = \frac{7 \frac{\text{kg}}{\text{h}}}{3600 \frac{\text{s}}{\text{h}} \left( 1.4 \frac{\text{kg}}{\text{m}^3} \right) (5.576 \times 10^{-4} \text{ m}^2)} = 2.4909 \frac{\text{m}}{\text{s}}$$

$$\lambda = \frac{0.2242 \frac{\text{m}}{\text{s}}}{0.2242 \frac{\text{m}}{\text{s}} + 2.4909 \frac{\text{m}}{\text{s}}} = 0.0826$$

$$\rho_{NS} = 1000 \frac{\text{kg}}{\text{m}^3} (0.0826) + 1.4 \frac{\text{kg}}{\text{m}^3} (1 - 0.0826) = 83.853 \frac{\text{kg}}{\text{m}^3}$$

$$\mu_{NS} = 1 \text{ cp} (0.0826) + 0.018 \text{ cp} (1 - 0.0826) = 0.0991 \text{ cp}$$

3.2.-Obtaining holdup using the Hughmark method.

First iteration:

$$R_L = 0.75$$

$$G_T = \frac{450 \frac{\text{kg}}{\text{h}} + 7 \frac{\text{kg}}{\text{h}}}{5.576 \times 10^{-4} \text{ m}^2} = 819584 \frac{\text{kg}}{\text{m}^2 \text{ h}}$$



$$Re = \frac{0.0266 \text{ m} \left( 819584 \frac{\text{kg}}{\text{m}^2 \text{ h}} \right) \left( \frac{1 \text{ h}}{3600 \text{ s}} \right)}{\left[ 0.75(1 \text{ cp}) + (1 - 0.75)(0.018 \text{ cp}) \right] \left( 0.001 \frac{\text{kg}}{\text{cp}} \right)} = 8026$$

$$v_{NS} = 0.2242 \frac{\text{m}}{\text{s}} + 2.4909 \frac{\text{m}}{\text{s}} = 2.7151 \frac{\text{m}}{\text{s}}$$

$$Fr = \frac{\left( 2.7151 \frac{\text{m}}{\text{s}} \right)^2}{9.81 \frac{\text{m}}{\text{s}^2} (0.0266 \text{ m})} = 28.25$$

$$Z = \frac{(8026)^{1/6} (28.25)^{1/8}}{(0.0826)^{1/4}} = 12.67 > 10$$

$$K = 0.755454 + 0.00358499 (12.67) - 1.43604 \times 10^{-5} (12.67)^2 = 0.799$$

$$R_L = 1 - (1 - 0.0826) (0.799) = 0.267 \neq 0.75$$

Second iteration:

$$R_L = 0.267$$

$$Re = 21583$$

$$Z = 14.94 > 10$$

$$K = 0.755454 + 0.00358499 (14.94) - 1.43604 \times 10^{-5} (14.94)^2 = 0.806$$

$$R_L = 1 - (1 - 0.0826) (0.806) = 0.26 \approx 0.267$$

therefore:  $R_L = 0.26$

$$R_G = 1 - 0.26 = 0.74$$

3.3.-Calculation of frictional pressure drop

$$\beta = \frac{1000 \frac{\text{kg}}{\text{m}^3}}{83.853 \frac{\text{kg}}{\text{m}^3}} \left[ \frac{(0.0826)^2}{0.26} \right] + \frac{1.4 \frac{\text{kg}}{\text{m}^3}}{83.853 \frac{\text{kg}}{\text{m}^3}} \left[ \frac{(1 - 0.0826)^2}{0.74} \right] = 0.332$$

$$W_T = 450 \frac{\text{kg}}{\text{h}} + 7 \frac{\text{kg}}{\text{h}} = 457 \frac{\text{kg}}{\text{h}}$$



$$Re_{2F} = \frac{4 \left( 457 \frac{\text{kg}}{\text{h}} \right) \left( \frac{1\text{h}}{3600\text{s}} \right)}{\pi (0.0266\text{m}) (0.0991\text{cp}) \left( 0.001 \frac{\text{kg}/\text{ms}}{\text{cp}} \right)} (0.332) = 20353$$

$$f_o = 0.0014 + \frac{0.125}{(20353)^{0.32}} = 0.0066$$

$$\alpha(\lambda) = \frac{f}{f_o}$$

$$= 1 - \frac{\ln 0.0826}{1.281 + 0.478(\ln 0.0826) + 0.444(\ln 0.0826)^2 + 0.094(\ln 0.0826)^3 + 0.00843(\ln 0.0826)^4}$$

$$= 2.451$$

$$[\Delta P_{2F}]_{\text{fricción}} = \frac{2 \left[ \left( 819584 \frac{\text{kg}}{\text{m}^2\text{h}} \right) \left( \frac{1\text{h}}{3600\text{s}} \right) \right]^2 (100\text{m}) (0.0066)}{9.81 \frac{\text{mkg}}{\text{s}^2 \text{kgf}} (0.0266\text{m}) \left( 83.853 \frac{\text{kg}}{\text{m}^3} \right)} (2.451) (0.332) = 2554.24 \frac{\text{kgf}}{\text{m}^2}$$

### 3.4.-Calculation of acceleration pressure drop

$$[\Delta P_{2F}]_{\text{supuesto}} = 2555 \text{ kgf/m}^2$$

$$P_1 = 1.4 \text{ atm} = 14466 \text{ kgf/m}^2$$

$$P_2 = 14466 \text{ kgf/m}^2 - 5110 \text{ kgf/m}^2 = 9356 \text{ kgf/m}^2 = 0.91 \text{ atm}$$

$$\rho_1 = \frac{1.4 \text{ atm} \left( 29 \frac{\text{kg}}{\text{kgmol}} \right)}{0.082 \frac{\text{m}^3 \text{ atm}}{\text{kgmol K}} (20 + 273.15) \text{K}} = 1.69 \frac{\text{kg}}{\text{m}^3}$$

$$\rho_2 = \frac{0.91 \text{ atm} \left( 29 \frac{\text{kg}}{\text{kgmol}} \right)}{0.082 \frac{\text{m}^3 \text{ atm}}{\text{kgmol K}} (20 + 273.15) \text{K}} = 1.10 \frac{\text{kg}}{\text{m}^3}$$

$$[\Delta P_{2F}]_{\text{aceleración}} = \frac{1}{9.81 \frac{\text{mkg}}{\text{s}^2 \text{kgf}} (5.576 \times 10^{-4} \text{ m}^2)^2}$$





$$* \left[ \frac{\left(7 \frac{\text{kg}}{\text{h}}\right)^2}{\left(3600 \frac{\text{s}}{\text{h}}\right)^2 (0.74)} \left( \frac{1}{1.10 \frac{\text{kg}}{\text{m}^3}} - \frac{1}{1.69 \frac{\text{kg}}{\text{m}^3}} \right) + \frac{\left(450 \frac{\text{kg}}{\text{h}}\right)^2}{\left(3600 \frac{\text{s}}{\text{h}}\right)^2 \left(1000 \frac{\text{kg}}{\text{m}^3}\right) (0.26)} \right]$$

$$[\Delta P_{2F}]_{\text{aceleración}} = 20.23 \frac{\text{kgf}}{\text{m}^2}$$

### 3.5.-Calculation of total pressure drop.

$$[\Delta P_{2F}]_{\text{Total}} = 2554.24 \frac{\text{kgf}}{\text{m}^2} + 20.23 \frac{\text{kgf}}{\text{m}^2} = 2574.47 \frac{\text{kgf}}{\text{m}^2}$$

Since this value is close to the assumption to get the pressure drop by acceleration, then the calculations are correct.

### 4.-RESULT

The pressure drop estimated by Dukler case II is 2574.47 kgf/m<sup>2</sup> by 100 m tube length. By Dukler's I case, a total pressure drop of 2404.22 kgf/m<sup>2</sup> per 100m of tube is obtained, which is less than that obtained by case II and is therefore valid for this example

## 6.- CONCLUSIONS

The Dukler method is the best one to date, as it predicts with greater precision (from 15% to 20% error) pressure drops to two phases: gas-liquid in horizontal pipes, compared to other methodologies. However, Lockhart-Martinelli's method is still the most used due to its simplicity of calculation, despite its lower accuracy (up to 50% error). Over the years many other correlations have appeared to find pressure drops and liquid holdup for horizontal flow to two gas-liquid phases. The interested reader can consult among them those of Hoogendoorn<sup>[11]</sup>, Bertuzzi<sup>[12]</sup>, Baxendell<sup>[13]</sup>, Eaton<sup>[14]</sup>, Beggs<sup>[15]</sup>, Bankoff<sup>[10]</sup>, among other methodologies.

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# THE LINKAGE BETWEEN BANK RESTRUCTURING AND BANK DEPOSITS OF COMMERCIAL BANKS OPERATING IN KENYA

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## ABSTRACT

*Bank restructuring and bank deposits are important concepts to commercial banks because of their role in the financial intermediation. Intervention through financial innovations, increasing the capital base to address the aspect of size and legal and regulatory framework review are important to ensure successful bank restructuring to record increased level of deposits. Commercial banks in Kenya have undertaken restructuring so as to be more competitive, to restore bank solvency and to mobilize more deposits. However, researchers on bank restructuring and bank deposits found conflicting results. The main objective of the study was to investigate the effect of bank restructuring on deposits of commercial banks in Kenya. The population of the study entailed all the 44 commercial banks licensed and registered under the banking act to do business in Kenya. Out of that data was availed from financial statements and annual reports of 39 commercial banks which were in operation for the period ranging from 2002 to 2014. Descriptive and inferential data analysis methods were used to analyze the secondary data collected. The empirical findings revealed that commercial banks use all the four types of bank restructuring which were financial, capital, operational and asset restructuring. It was further established that operational restructuring statistically affected bank deposits positively. Asset restructuring was found to have significant but negative influence on the deposits of commercial banks in Kenya. The research therefore, concludes that deposits can be mobilized through operational restructuring but can reduce significantly if there is asset restructuring. Deposits can therefore be increased through operational restructuring as an aspect of financial inclusion and financial deepening.*

**KEY WORDS:** Bank restructuring, capital, financial, asset, operational, bank deposits.

## INTRODUCTION

The financial sector in many economies is the main intermediary between savers who are interested in safe-keeping of their deposits and earning of interest income and borrowers who obtain loans at market rates of interest to finance profitable activities (Kwaning, *et al.*, 2014; Suehiro, 2002). Commercial banks which are the main financial intermediaries are in the business of accepting deposits, extending loans to their customers, discovering new financial products, underwriting, and servicing of investments made using their own resources (Fried, Lovell & Eeckaut, 1993). Essentially they perform the role of agents for market participants who contract with them to obtain financial services with the main objective of increasing financial performance of banking institutions (Chang, *et al.*, 2014).

Deposits are money placed into banking institutions for safekeeping. The main types of deposits of banks are; savings deposits, current account deposits, term deposits, call deposits, money market accounts and certificate of deposits (Nilesh, 2013). Barako *et al.*, (2013) states that larger banks

tend to have proportionately more branches both in the urban and in the rural areas than small banks implying that access to financial services can best be championed by larger banks. In Kenya, commercial banks are increasingly offering new services such as mobile banking, agency banking, bank-assurance, faceless banking and integrating microfinance in their banking system (CBK, 2018).

The account holder has the right to withdraw deposit funds, as set forth in the terms and conditions governing the account agreement. Banks tend to mobilize deposits so that they can use them as a basis for giving loans (Birchil & Simmons, 2010). Funds mobilized by way of deposits may not be sufficient as a basis for extending loans to customers, therefore banks have to sometimes borrow so that they can in addition be able to meet their overhead expenses (Greuning & Bratanovic, 2009). Banks mobilize deposits through Automated Teller Machine (ATM) services, agency banking, taking services to the people by opening branches close to their customers and suppliers and use of more relaxed modern banking halls (Dubel & Berlin, 2013).



Dziobek (1998) and Dziobek and Pazarbasioglu (1998) states that there are four main types of bank restructuring and they are; financial restructuring, operational restructuring, asset restructuring and capital restructuring. Financial restructuring focuses on the financial structure of the banking institution and is usually concerned about the liability and capital structures of banking institutions (Ernst & Young, 2013). Operational restructuring focuses on reorganizing the activities of banks including their governance structure and also entails closing down or downsizing poorly performing entities or branches, downsizing and closing down product lines to reduce costs of bank operations (España, 2015). Asset restructuring entails reducing the poor performance in banks by increasing the liquidity of assets by holding more of current assets while ensuring that a large proportion is financial assets, and reducing the level of non-performing loans through provisioning for problem loans and selling off bad loans (Mario, 2014).

Capital restructuring involves increasing the financial performance in banks by way of substitution of short-term debt and junior long-term debt with longer-term debt obligations (by converting debt to equity) to increase the financial structure of banks (Ernst & Young, 2013). It sometimes involves direct capital injection by the shareholders and other times a bailout by government whereby additional capital is channeled into the banking entity by government (Dziobek and Pazarbasioglu, 1998; Osoro, 2014). Other types of bank restructuring identified by Bonish and Monte-Negret (1998) and Franks and Sanzbar, (2002) are; market-based solutions, carving out bad assets, establishing an asset recovery agency, changing the guard, creating phoenixes, recapitalization, change of ownership structure, restructuring borrowers, institutional arrangements, counting the monetary and fiscal costs, appointment of interim management, operational reforms and legal, regulatory and policy review.

The institutional theory addresses issues relating to structures in institutions and emphasizes the fact that the processes by which social structures become established as authoritative guidelines for acceptable social behavior within organisations is an important aspect (Scott, 2004). Through restructuring organizations are enabled to change their form and structure so that they can be more efficient and can have a wider outreach (Hoening & Morris, 2012). Deposits are financial services and are the economic services provided by the financial industry, and are, a broad range of businesses that manage money, such as Credit Unions, commercial banks, credit-card companies, insurance companies, accountancy firms,

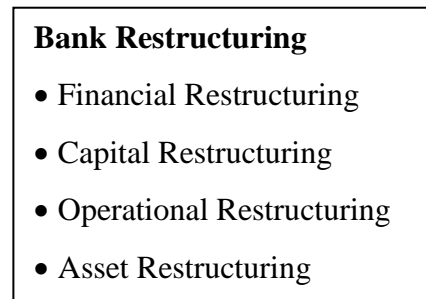
consumer companies, stock brokerage firms, investment funds and certain government sponsored enterprises (Moore, 2003). This study restricts itself to deposits of commercial banks (Barako, Ross & Brown, 2013).

Commercial banks in Kenya have undertaken restructuring to mitigate against bank failure, as an aspect of financial sector reform, as part of the government divestiture programme, to improve performance, to be more competitive, to improve bank solvency and to increase the banking sector capacity for financial intermediation. Commercial banks are expected to be profitable and efficient as they play their role of mobilizing deposits from savers and channeling funds to borrowers for them to survive in the long run. To improve efficiency commercial banks have embraced modernized banking halls, broad ATM network, state of art technology, widespread branch network and agency banking (Das & Gosh, 2006). In Kenya, the practice has been that whenever a commercial bank experiences a crisis, the bank is placed under statutory management. This study finds out whether different types of bank restructuring could lead to different amounts of bank deposits. The current study established the relationships between bank restructuring and bank deposits of commercial banks in Kenya.

## CONCEPTUAL FRAMEWORK

The knowledge gap highlighted lead to the development of the conceptual framework which guided the empirical research in filling the gaps identified from the review of literature. The conceptual model proposes that there is a relationship between bank restructuring and bank deposits. Based on the model, bank restructuring is the independent variable, which was measured using financial, capital, operational and asset restructuring; while bank deposits is the dependent variable which was measured using deposits to total assets ratio. Bank restructuring is expected to lead to an increase in bank deposits (Ithiri, 2013). The more the volume of transactions, the bigger the branch network, the more the ATMs, the more the bank agents and the better the technology, the easier it is to undertake the restructuring process and the more deposits that the commercial banks are expected to mobilize (Al-Obaidan, 2008; Barako, *et. al.*, 2013). The expected relationship was that bank restructuring leads to increase in volume of bank deposits.

### Independent Variable



### Dependent Variable

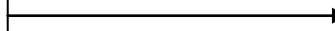
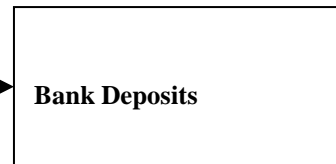


Figure 1: Conceptual Model

Source: Author (2020)

### RESEARCH HYPOTHESES

The null hypothesis of the was:

**H<sub>1</sub>:** The relationship between bank restructuring and bank deposits of commercial banks in Kenya is not significant.

### MATERIALS AND METHODS

This study used secondary data for the period 2002 to 2014. The thirteen-year study period for the 44 banks provides sufficient data to be used in the analysis. Data on the study variables was obtained from the financial statements. To achieve the objective of the study data was obtained from the financial statements of the commercial banks. Data on bank deposits was the deposits assets ratio. The data on bank restructuring focused on the four types of bank restructuring which are; financial, capital, operational and asset restructuring. Data was collected for the entire period of the study which was available from the financial statements for the institutions that were in business. Descriptive statistics were calculated in terms of mean, standard deviation, skewness and kurtosis. On the other hand, inferential analysis was based on regression model stated hereunder.

$$BD_{it} = \alpha + \beta_1 FR_{it} + \beta_2 CR_{it} + \beta_3 OR_{it} + \beta_4 AR_{it} + \epsilon$$

Where: BP is deposits assets ratio, FR is financial restructuring, CR is capital restructuring, OR is operational restructuring, AR is asset restructuring,  $\alpha$  represented the constant term,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ , and  $\beta_4$  were the regression coefficients,  $it$  is the years under investigation while  $\epsilon$  is the error term.

### DESCRIPTIVE STATISTICS

Measures of central tendency, dispersion and skewness including the mean, the standard deviation and kurtosis were estimated. The descriptive results shown in table 1, indicate that the minimum value of deposits was 0.00 and the maximum value of the deposits was 0.98. The mean value of deposits 67.56% of total assets and a standard deviation of 16.964% on average reveals that deposits are high with significant variation as indicated by the standard deviation value. The minimum deposits had a value of 0.00 and a maximum value of 0.98 denoting that deposit levels of banks varied with years. The statistics on skewness and kurtosis is a revelation that the data is normally distributed. At 95% confidence interval the mean of the deposits had no bias. In the same token, the level of bias was zero for the standard deviation, skewness and kurtosis at the 95% confidence level.





**Table 1: Bank Restructuring and Deposits**

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness			Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Z - Value	Statistic	Std. Error	Z - Value
Deposits	507	0.00	0.98	0.6756	0.16964	-1.963	0.108	-0.055	4.722	0.217	0.046
Financial restructuring	507	.00	.94	.0622	.15726	3.855	.108	0.028	14.929	.217	0.015
Capital restructuring	507	.00	.46	.1393	.07365	.787	.108	0.137	1.794	.217	0.121
Operational restructuring	507	.00	.40	.0510	.04151	3.567	.108	0.030	19.884	.217	0.011
Asset restructuring	507	.00	.84	.0845	.11099	3.181	.108	0.034	13.020	.217	0.017

Source: Research Findings

Bank restructuring was denoted by financial restructuring, capital restructuring, operational restructuring and asset restructuring variables. Financial restructuring had a debt to total asset ratio of 6.22% with a variation of 15.726% on either side. Capital restructuring had an equity to asset ratio of 13.93% with a standard deviation of 7.365%. Operational restructuring indicated a change in the aggregate of branch and ATM ratio of less than one aggregate unit and branches and ATMs in aggregate with a standard deviation of less than one branch and/or ATM. Asset restructuring showed a non-performing loan to total loan ratio of 0.0845 meaning that on average nonperforming loans to total loans is on average 8.45%. This means that for all loans extended to the customers, 8.45% ends up being nonperforming loans. The standard deviation on nonperforming loans to total loans is 11.09%.

Additionally, financial restructuring, capital restructuring, operational restructuring and asset restructuring had positive skewness while all the variables had positive kurtosis. The skewness z-values show that all the data observations are skewed to the right. The kurtosis z-value for financial restructuring, capital restructuring, operational restructuring and asset restructuring are within the acceptable range of less than +1.96 and more than -1.96. The conclusion is therefore that the data on the independent variables follow a normal distribution.

The minimum value for financial restructuring is 0.00 while the maximum value is 0.94, an indication that commercial banks have different levels of debt in their financial structure. The extent of usage of debt varies across and among banks as indicated by the level of the standard deviation. At 95% confidence interval, the mean is significant with no level of bias. The standard deviation is also significant at 95% confidence level and the data on financial restructuring as measured using the level of bank borrowing is normally distributed. Capital restructuring is an important variable because banks generally restructure their capital either by way of requiring investors to inject additional capital or by way of receiving additional capital from government

especially the government owned commercial banks. The minimum value for this variable is 0.00 while the maximum value is 0.46 an indication that the extent to which, banks restructure their capital varies.

Operational restructuring focuses on the ability and extent to which banks restructure their operations. Although the costs of restructuring commercial banks is usually significant and might lead to reduced profits in the short run, expanded branch network, increasing the number of ATMs, entrenchment of agency banking in the banking sector calls for operational restructuring. The test of normality estimates a skewness z-value of 0.030 while the kurtosis measure is 0.011. The skewness z – measure of operational restructuring suggests that data is skewed to the right. The kurtosis z – measure of operational restructuring is below 1.96 and above -1.96, an indication that the data is normally distributed. Young and Rice (2003) states that well-managed banks expand more slowly into noninterest activities such as opening subsidiaries and branches that might not necessarily generate interest income to diversify their profits.

The valid observations of asset restructuring as denoted by the N-statistic is in line with the fact that commercial banks generally tend to restructure their assets by providing for the nonperforming loans. The mean of the observations is 0.0845 while the standard deviation is 0.11099. This is an indication that the level of non-performing loans of commercial banks in Kenya varies significantly. The skewness z-measure of asset restructuring is 0.034 and the kurtosis z- measure is 0.017 indicating that the data is normally distributed. The minimum value is 0.00 while the maximum value is 0.84. This is an indication that the difference between the lowest and the highest amounts of nonperforming loans of commercial banks in Kenya is significant. At 95% confidence interval, the mean is not significant at 0.0845 but the standard deviation is significant at 0.11099 with no level of bias. The data on asset restructuring as measured using the level of bank nonperforming loans is normally distributed.



Suehiro (2002) in his research on restructuring and re-engineering of local commercial banks in Thailand finds that NPLs decreased from 42.9% to 10.5% during the study period 1998 to 2001. The introduction of Credit Reference Bureau regulations that were operationalized in 2009 enabled the sharing of credit information to facilitate the pricing of credit risk, accumulation of information capital and increased access to credit. It is expected that the credit information sharing system enhances the decision making process of credit providers in Kenya as they seek to mitigate risks associated with information asymmetry.

### REGRESSION ANALYSIS

This section focuses on bank deposits and the study variables of bank restructuring that influence bank deposits. This research study sought to determine whether the independent variables (financial restructuring, capital restructuring, operational restructuring and asset restructuring), have an influence on the dependent variable (bank deposits) of commercial banks in Kenya. This led to test of the following research hypothesis:

**H1: The relationship between bank restructuring and bank deposits of commercial banks in Kenya is not significant.**

This was done based on the analytical equation given below:

$$BD_{it} = \alpha + \beta_1 FR_{it} + \beta_2 CR_{it} + \beta_3 OR_{it} + \beta_4 AR_{it} + \epsilon$$

The model produced a coefficient of determination  $R^2$  which was used in this study was a useful tool because it gives the proportion of the fluctuation (variation) of one variable that is predictable from the other variable. This measure allowed the study to determine how certain variables can be used in making predictions from a certain model used in this investigation. The coefficient of determination is the ratio of the explained variation to the total variation. The coefficient of determination is

such that  $0 \leq r^2 \leq 1$ , and denotes the strength of the linear association between  $X$  and  $Y$ . The higher the value of  $R^2$  the higher the explanatory power of the regression model. In interpreting the results of multiple regression analysis, the  $R$  squared was used to estimate how well the model fitted the data (Anderson & Darling, 1954).

Table 5, indicate that  $R^2 = 0.096$  and this shows that all the bank restructuring variables used in this model has ability of explaining 9.6% of the bank deposits. With an  $F$  statistic of 13.311 and  $p$  - value of 0.000, it can be construed that the research should reject the null hypothesis that the relationship between bank restructuring and bank deposits of commercial banks in Kenya is not significant since the error we make by doing so is  $< 0.05$ . The results on coefficients show that there exists a significant positive relationship between the operational restructuring and bank deposits. This is reflected by the positive regression coefficient of 0.607 ( $t$  - value of 3.401) and a  $p$  - value of 0.001. This means that operational restructuring contributes 60.7% of bank deposits. Asset restructuring has a significant but negative effect on deposits as indicated by the coefficient of -0.419 ( $t = 6.084$ ) and a  $p$  - value of 0.000. Likewise, this could mean that an increase in the ratio of asset restructuring could reduce bank deposits by 41.9%.

Financial restructuring was found not to be significant in influencing deposits of banks as denoted by the coefficient of -0.046 ( $t = 0.997$ ) and a  $p$  - value of 0.319. The findings reveal that capital restructuring within commercial banks affects bank deposits insignificantly given a coefficient value of -0.152 ( $t = 1.457$ ) and a  $p$  -value of 0.146. The implication is that when the deposits of a particular bank decrease, banks should utilize their existing assets properly while addressing weaknesses in their operations such as branches and ATMs to boost the deposit level.

**Table 2: The Effects of Bank Restructuring on Bank Deposits**

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	0.310 <sup>a</sup>	0.096	0.089	0.16194				
ANOVA <sup>a</sup>								
Model		Sum of Squares	df	Mean Square	F	Sig.		
1	Regression	1.396	4	0.349	13.311	0.000 <sup>b</sup>		
	Residual	13.165	502	0.026				
	Total	14.561	506					
Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	0.704	0.017		42.012	0.000	0.671	0.737
	Financial restructuring	-0.046	0.046	-0.043	-0.997	0.319	-0.136	0.045
	Capital restructuring	-0.152	0.105	-0.066	-1.457	0.146	-0.358	0.053
	Operational restructuring	0.607	0.178	0.148	3.401	0.001	0.256	0.957
	Asset restructuring	-0.419	0.069	-0.274	-6.084	0.000	-0.554	-0.284

a. Dependent Variable: Deposits

Source: Research Findings

After taking into account the significance of the variables in the model as indicated by the p – values, the resulting model of deposits is as follows:

$$BD = 0.704 + 0.607OR - 0.419AR$$

This means that it is only operational restructuring and asset restructuring that significantly influence the level of deposits of commercial banks in Kenya. Whereas operational restructuring increases bank deposits, asset restructuring was found to significantly reduce bank deposits. Proper management of bank operations and asset quality are important if the objective is to increase bank deposits. All the independent variables were used to establish the influence of deposits because of the importance of branches, ATMs, and other operating activities in influencing operational restructuring and its associated costs. When many customers are able to access banks through the many branches which promise a wide geographical coverage, and ATMs and other innovations such as agency banking the customers are expected to influence the deposit levels.

The more the branches, the more the deposits a bank is likely to mobilize. Ignoring operational restructuring although not found to be significant in the first objective would be quite misleading due to the importance of operational restructuring in mobilizing deposits. This concurs with the findings of Beck, Demircuc and Peria (2007) who found out that a wide branch network, opening of bank subsidiaries, agency banking and installation of an

ATM network are important in enabling access to financial services and mobilizing deposits of commercial banks. The findings of this study also concur with that of Suehiro (2002) providing for nonperforming loans is a sign of poor asset quality and may keep away depositors who might favour dealing with banks which provide less on their loans.

## CONCLUSIONS

The study had the objective of investigating the relationship between bank restructuring and deposits of commercial banks in Kenya. The two categories of the study variables used to achieve the objectives of the study were; independent (bank restructuring) and the dependent variable (deposits). Bank restructuring which was the independent variable had four attributes which were financial restructuring, capital restructuring, operational restructuring and asset restructuring. The study concludes that commercial banks undertake all types of bank restructuring under study, that is financial restructuring, capital restructuring, operational restructuring and asset restructuring. It was therefore established that operational restructuring was found to have a significant positive effect on bank deposits while asset restructuring was found to have a significant negative effect on bank deposits. Financial restructuring and capital restructuring were not found to have a significant effect on bank deposits.



The study concludes that bank restructuring affects bank deposits of commercial banks in Kenya. If the objective of banks is to increase bank deposits banks need to restructure their operations more but need to keep their asset quality in check. This is because operational restructuring tends to be associated with increasing the branch networks, increasing the number of ATMs, incorporating agency banking, entrenching internet banking, mobile banking, faceless banking, RTGS and other aspects of financial innovations encompassing, product, process and institutional innovations which all lead to access to financial services thus increasing the deposit levels. Asset restructuring on the other had has the main intention of increasing the asset quality as measured using the nonperforming loan ratio. Reducing the nonperforming loans in the loan book tend to be associated with huge provisioning of non-performing loans which is an expense and therefore reduces bank profits significantly.

Low profits banks as a result of high non-performing loans tend to discourage depositors from keeping money in banks as they look for alternative investment vehicles. This explains the negative effect of asset restructuring on bank deposits of commercial banks in Kenya. Essentially, although operational restructuring had the highest effect on deposits of commercial banks, the effect of bank restructuring on the level of financial inclusion and financial deepening is important which might be a wakeup call for banks to embark on operational restructuring which would improve financial deepening and increase the level of financial inclusion.

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# THE ROLE OF MOTIVATION FACTOR IN SHAPING A HEALTHY LIFESTYLE

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## ABSTRACT

*This article discusses the role of motivation in shaping a healthy lifestyle. The goal was to explain to young people why they should lead a healthy lifestyle and why they should avoid choosing an unhealthy lifestyle, as motivation is one of the key issues in creating a healthy lifestyle.*

**KEYWORDS:** *Healthy lifestyle, motivation, personality, need, knowledge, skills, strategy, activity, factor, opinion, idea.*

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## INTRODUCTION

In a modern country, where development and progress are gaining momentum, the issue of creating a healthy lifestyle among young people has become more relevant than ever. Currently, regardless of the area, with the development of society, knowledge in this area is constantly updated, and in turn, knowledge about a Healthy lifestyle, new approaches that need to be introduced, arise as necessary. In this regard, the formation of a motivating factor in teaching young people a healthy lifestyle is an important factor [2, p.21].

## THE CONTENT OF THE ISSUE

So what is motivation itself and why do we rely on this factor in shaping a healthy lifestyle today? Here we define the term *motivation*. According to its content, it consists of encouraging a person to engage in a certain type of activity, as well as justification and expression of its importance. Motivation is one of the key issues in shaping a healthy lifestyle, and it is aimed at explaining to people why they should live a healthy lifestyle and why they should avoid choosing an unhealthy lifestyle. Motivation is the root cause of an individual's movement to meet certain needs [3, p.11].

In the process of forming a healthy lifestyle, it is an unforgivable mistake to fail to properly assess the motivational factor, to look at it as an insignificant issue, to ignore the requirements in this regard. The negative situation in society regarding the formation

of a healthy lifestyle among young people requires putting the motivational factor in its place. Such works include the following:

- Conducting research in the field of the motivational factor among certain layers of youth to justify healthy behavior, to study the causes of unhealthy behavior, defines long-term strategies for the health system and health workers to change it.

- Steps aimed at ensuring health and justifying the need to change a person's behavior, such as justifying in what directions and levels (with individuals, family, educational institution, workplace) and by whom people (doctors, teachers, employers, legislators) should be taken.

In order to determine whether there is a motivating factor among certain layers of youth, it is usually sufficient to simply ask questions and get answers to them. Including:

- "Are you interested in changing your behavior?"
- "What do you want to do to improve your health?" etc.

The motivational factor is inextricably linked with the ability of each person to understand their dangerous moral qualities and the need to change such behavior, which requires the use of different measures, different methods. Such measures include:

- Make it clear to everyone that they need to plan their lives;
- Conduct persuasive conversations about changing existing ethical deficiencies;



- development of interesting guidelines;
- provide sound advice;
- motivate young people by engaging them in interesting tasks and activities;
- application of incentives, etc.

According to some researchers, the effectiveness of the motivational factor averages 70 percent. Such a high level of effectiveness of the motivating factor in practice requires that it take its rightful place in the process of shaping a healthy lifestyle [2, p.22].

In assessing the motivational factor in the process of forming a healthy lifestyle among young people, each individual has the following key elements necessary for the analysis of his daily life activities:

- knowledge of a healthy lifestyle;
- Strong belief that living a healthy lifestyle can make a person healthy and prolong life;
- Special attention should be paid to the existence of a serious effort to live a healthy lifestyle.

Theoretically, in people's daily lives, this "triangle" can be formed in different variants. Every person's inner need to strengthen their health determines their practical action in this direction. Accordingly, all young people can be divided to:

- those who live a hygienically correct and justified lifestyle, that is, a healthy lifestyle;
- medically unhygienic, i.e., those living an unhealthy lifestyle [1, p.23].

We will first analyze the pros and cons of the above three key elements present in those living a healthy lifestyle. According to the results of the analysis, it is advisable to consider people living a healthy lifestyle by dividing them into the following options:

- those who have sufficient knowledge of a healthy lifestyle and are convinced that this path will strengthen their health and prolong their lives, and will work hard on this path, and we must encourage all our compatriots to live this way;

- those who have enough knowledge about healthy lifestyles, but do not believe that this will make them healthy and prolong their lives. Nevertheless, such people are on the right way. They have the ability to think independently, believe in the power of science, and carefully follow its requirements;

- those who do not have enough knowledge about a healthy lifestyle, Such young people realize that some hygienic rules, which have become a habit, are useful, and live by them;

- those who have neither the knowledge nor the confidence to lead a healthy lifestyle, but who, under the influence of traditions according to their

own habits, are able to behave hygienically through imitation.

Those who live a hygienically wrong and unhealthy lifestyle should be divided into groups:

- those who have neither knowledge nor confidence in a healthy lifestyle and therefore live an unhealthy lifestyle and live voluntarily according to the situation;

- those who know that living an unhealthy lifestyle is not crazy and are fully convinced of it. However, those who continue to live an unhealthy lifestyle. Their behavior outweighs their knowledge and beliefs, their inner needs. This shows that in real life, people's behavior is not always formed under the influence of their internal needs, but also depends on external conditions and situations;

- those who have enough knowledge about the unhealthy lifestyle, understand, but do not believe in the correctness of their knowledge, and therefore live an unhealthy lifestyle.

- Finally, those who have no knowledge of a healthy lifestyle and understand that it is right for them to live an unhealthy lifestyle.

An important conclusion from the above classification is that the approach to the study of the justification of the behavior of our youth should be based on the specific inner aspirations and needs of each individual, to determine the main direction, shape and content of the "triangle". In practice, this process is called healthy lifestyle modeling. We can see his model in some technical and technological issues in the formation of a healthy lifestyle, the application of the motivational factor [ 3, p.13].

Focusing on some of the technological problems of a healthy lifestyle, it should be noted that in science and in social life, including in the process of motivation through a healthy lifestyle, it is necessary to rely on the flow of science-based information to solve existing problems [1, p.25].

- is explained by the fact that it creates motivation in consumers.

Returning to the question of the sources of information above, the fact that such information consists of information about the external environment, its factors, forms a response to the situation, as well as the formation of a healthy lifestyle.

## CONCLUSIONS

In assessing the role of the motivating factor in the formation of a healthy lifestyle, it is necessary to pay attention to the presence of the basic elements that each person needs to analyze their daily life activities. This includes the availability of knowledge about a healthy lifestyle in each person, a strong belief that it can make a person healthy and prolong life, and the presence of a serious effort to live.



The availability of new approaches to shaping a healthy lifestyle is especially important at this time. This, in turn, shows the important role of motivation in shaping a healthy lifestyle.

One of the most important issues of our time is undoubtedly the formation of a healthy lifestyle. The role of motivation factor in the performance of this task is significant. Motivation is the act of motivating a person to embark on a particular activity, justifying and expressing its importance. The motivating factor in the problem of shaping a healthy lifestyle is to explain to young people why they need to live a healthy lifestyle.

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# PUBLIC REACTION TO COVID-19 ON TWITTER: A THEMATIC ANALYSIS

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## ABSTRACT

*Emergency situations typically lead to a plethora of public attention on social media platforms like 'Twitter'. Twitter provides a unique opportunity for public health researchers to analyze untampered information shared during a disease outbreak. Considering the ongoing public health emergency, we conducted a study investigating the public reaction to COVID-19 pandemic around the world using in-depth thematic analysis of Twitter data. A dataset of 212846 tweets was retrieved over a period of seven days (from April 13, 2020, to April 19, 2020) via Twitter Application Programme Interface (API). The following five keywords were used to collect the tweets: "coronavirus", "covid-19", "corona", "covid", "covid19". After data filtering and cleaning 6348 tweets were randomly selected for in-depth thematic analysis. Thematic analysis was done manually using a two-level coding guide. A total of six main themes emerged from the analysis: 'sentiments and feelings', 'Information', 'General Discussion', 'Politics', 'Food', and 'Sarcasm or humor'. The aforementioned themes were divided into 26 sub-themes. The results of the thematic analysis show that 30.1% of the tweets were regarding 'sentiments and feelings', 15.6% were regarding 'politics', and 6.5% were related to 'sarcasm or humor'. The present study is the first study that has analyzed the public response to COVID-19 on Twitter. The study demonstrates that social media platforms (like Twitter) can be used to conduct infodemiological studies related to public health emergencies like the COVID-19 pandemic. We believe that the results of this study will be of potential interest to policymakers, health authorities, stakeholders, and public health and social science researchers.*

**KEYWORDS:** COVID-19, Twitter, Social Media, Coronavirus, Lockdown, Pandemic

## INTRODUCTION

The world is passing through a serious public health emergency with the emergence and spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2, COVID-19). In December 2019, the government of Wuhan, China stated that there are cases of serious illness causing severe pneumonia, after few

days the researchers identified a new virus that infected many people in the region, and on 7<sup>th</sup> January 2020 the virus was identified as coronavirus ("A Timeline of the Coronavirus Pandemic - The New York Times," n.d.). On 11<sup>th</sup> January 2020 the state media of Wuhan, China reported the first death caused by the new virus. After that the number of cases soared exponentially,



spreading in other parts of China and outside China (Singhal, 2018). On 30<sup>th</sup> January 2020 World Health Organization (WHO) declared a global emergency, and on 11<sup>th</sup> March 2020 WHO characterized COVID -19 as pandemic (“W.H.O. Declares Global Emergency as Wuhan Coronavirus Spreads - The New York Times,” n.d.), (“Coronavirus (COVID-19) events as they happen,” n.d.). As of April 24, 2020, more than 2.7 million cases have been reported worldwide with over 1.9 lakh deaths caused by COVID-19 (Worldometer, 2020).

Apart from mortality and morbidity, pandemics like COVID-19 have the potential of causing significant social, economic, and political disruption (Nita Madhav, 2017). From the past outbreaks, we learned that pandemics can cause acute economic damage, including short-term fiscal shocks and longer-term damage to economic growth (Achon, Laporte, & Gardam, 2005). Countries with frail establishments and inheritances of political flimsiness, pandemics can lead to political stresses and tensions creating clashes between states and citizens, damaging state capacity, driving population migration, and heightening social tension and discrimination (Morse, 2009), (McCoy, 2014). Increased risk of mortality/morbidity, economic damage, lockdown, quarantine, political tension, etc. are common during a pandemic and these factors can cause individual behavioral and emotional changes like anger, frustration, stress, grief, boredom, etc. (Nita Madhav, 2017)

These kinds of events are likely to lead public opinions, views, and expression of emotions towards the disease and the events that are taking place during the pandemic. It was later part of the 20<sup>th</sup> century when people started sharing their feeling, emotions, and opinions on online platforms. Previous lethal outbreaks occurred in the 20<sup>th</sup> century, such as that of an influenza flu pandemic (1918-1920), occurred in the absence of communication devices like personal computers and mobile phones. The 2009 swine flu pandemic, the 2014 Ebola epidemic, and the 2016 Zika virus outbreak occurred in the age of internet-based social media platforms such as Twitter and Facebook. This makes it possible to analyze and examine public views, opinions, feeling, and emotions shared during these outbreaks using the data of these social media platforms.

Twitter is a free microblogging platform formed in 2006 (“Twitter - Wikipedia,” n.d.) which allows users to share 280 or less than 280-character text messages, known as ‘tweets’, through these tweets people share their feelings, emotions opinions and views in front of the world (Chew & Eysenbach, 2010).

The service has around 330 million registered users and approximately 500 million tweets are sent every day (“Twitter by the Numbers (2020): Stats, Demographics & Fun Facts,” n.d.). These tweets contain a wealth of information, analysis of these tweet data can provide an instantaneous snapshot of the public’s opinions, emotions, and behavioral responses. So Twitter provides a unique opportunity for public health researchers to analyze untampered information shared during a pandemic. In the past, a number of studies related to infectious diseases outbreaks and pandemics have been conducted using Twitter data (Ahmed & Bath, n.d.), (Chew & Eysenbach, 2010), (Signorini, Segre, & Polgreen, 2011), (Ahmed, Bath, Saffi, & Demartini, 2018), (Kostkova, Szomszor, & St. Luis, 2014), (McClellan, Ali, Mutter, Kroutil, & Landwehr, 2017).

The goal of our exploratory study is to provide deep insight into the types of information shared on Twitter amidst the COVID-19 outbreak. More specifically the objectives of the study were:

- To analyze the Twitter data regarding COVID-19 obtained through Twitter’s streaming application programmer’s interface (API)
- To develop a well-defined two-level coding framework.
- To manually label the tweets according to the framework in order to get an idea about different types of information shared by the people during the COVID-19 pandemic.

The results of the study will be of potential interest to policymakers, health authorities, stakeholders, and public health and social science researchers.

## METHODS

### Design

Case study approach has been utilized for the present study. This approach has been used in many past research studies conducted on Twitter data (Chew & Eysenbach, 2010), (Bosley et al., 2013), (Scanfeld, Scanfeld, & Elaine Larson, n.d.), (Robillard, Johnson, Hennessey, Beattie, & Illes, 2013), (Kostkova et al., 2014), (Signorini et al., 2011). In this study thematic analysis was utilized to analyze the tweets. Thematic analysis is a method of analyzing qualitative data, it is used to identify, analyze, and interpret the patterns and interior hidden themes of a qualitative data (Guest, MacQueen, & Namey, 2012). We used a bottom-up approach involving the formation of two levels: Main themes and Sub-Themes.





### Data collection and data filtering

Using the Twitter Application Programme Interface (API), a total of  $n = 212846$  original tweets in English were collected over a period of 1 week from April 13, 2020, to April 19, 2020 (reply's and retweets were not included in the dataset). For extraction of tweets we used the following five keywords: (a) covid19, (b) coronavirus, (c) COVID, (d) corona, (e) COVID-19. No restrictions on location or gender or age were placed for data collection. Table-1 is showing the number of tweets collected per day.

A previous study found that if popular content are not removed from the dataset then it can lead to the potential bias of dominance of popular content in the

analysis (Bruns & Liang, 2012). Tweets of popular persons are retweeted many times with exact content or minor modification, so there are high chances that the same tweet gets included two times or more than two times in the dataset. To eliminate this problem, duplicate and near-duplicate tweets were removed at a 70% threshold leading to a total of 126960 unique tweets. As the dataset was quite large ( $n=126960$ ), an analysis of the whole dataset might not have been a feasible option, so a subset of the dataset was chosen using random sampling for in-depth qualitative analysis.

**Table 1. No. of tweets collected per day**

Day	No. of Tweets
13-Apr-20	30133
14-Apr-20	30084
15-Apr-20	31023
16-Apr-20	30210
17-Apr-20	30007
18-Apr-20	29845
19-Apr-20	31544

### Coding

The tweets were randomized and 5% of the tweets ( $n = 6348$ ) were selected for in-depth thematic analysis.

To construct a robust coding guide, 400 tweets distributed among the four researchers (100 tweets each) for pilot analysis. All the four researchers were instructed to label the allocated tweets among the possible themes/sub-themes as per their knowledge. After that, all the suggested themes/sub-themes were collected and each theme/sub-theme was discussed rigorously. A coding guide of themes/subthemes was finalized through consensus among the researchers. To test intercoder reliability, 250 tweets were randomly selected and given to researchers to categorize according to coding guide, i.e. each tweet was coded by the four researchers independently. We manually calculated Fleiss Kappa to check intercoder reliability. Fleiss Kappa is a statistical tool used to measure intercoder reliability when there are more than two coders (Fleiss, 1971). Intercoder reliability percentage was found to be 92.8% and kappa ( $\kappa$ ) was found to be 0.82.

The tweets ( $n = 6348$ ) were then divided among

the four researchers for in-depth manual thematic analysis.

## RESULTS

### Overview of themes

In this section, we would discuss the various themes and sub-themes that we have discovered in our study, and has been presented in Table-2. We discovered 6 main themes among which the tweets were labeled. These themes are:

- Theme 1: Sentiments and Feelings
- Theme 2: Information
- Theme 3: General discussion/ comment
- Theme 4: Political
- Theme 5: Food
- Theme 6: Sarcasm or Humor

We also had an additional theme named as “Irrelevant” and numbered as Theme 99.



**Table 2. Overview of themes and sub-themes**

Sr. No.	Theme (N/%)	Subthemes	n (%)
1	Sentiments and feeling (1911/30.1%)	1.1 General fear/Worry/upset/concerned	244 (3.8%)
		1.2 Anger	109 (1.7%)
		1.3 Hate speech	41 (0.6%)
		1.4 Hope/positive tweet/joy	195 (3.1%)
		1.5 Opinion/suggestion	397 (6.3%)
		1.6 Frustration/missing something/bored/sad (due to lockdown)	358 (5.6%)
		1.7 Appreciation/praising/thanks	191 (3.0%)
		1.8 Grief/Mourn	120 (1.9%)
		1.9 Critisizing (someone/organization)	207 (3.3%)
		1.10 Praying	49 (0.8%)
2	Information (1460/23.0%)	2.1 General information related to corona/news	576 (9.1%)
		2.2 Incidence/Prevalence/testing/recovered	556 (8.8%)
		2.3 Prevention techniques/tools/products/Testing technique	129 (2.0%)
		2.4 Signs and Symptoms	30 (0.5%)
		2.5 Diagnosis	19 (0.3%)
		2.6 References to other infection or disease	23 (0.4%)
		2.7 Seeking/providing/requesting for help	127 (2.0%)
3	General discussion/comment (1415/22.3%)	3.1 General discussion	709 (11.2%)
		3.2 Information seeking/question	173 (2.7%)
		3.3 Economic discussion/unemployment	204 (3.2%)
		3.4 Voice of Sanity	329 (5.2%)
4	Political	4.1 General political discussion	326 (5.1%)
		4.2 Trump	310 (4.9%)
		4.3 Critisizing govt/stakeholders/political party	270 (4.3%)



		4.4 Praising govt/stakeholders/political party	85 (1.3%)
5	Food (11/0.2%)	5.1 Bat Consumption	11 (0.2%)
6	Sarcasm or Humour (413/6.5%)	6.1 Sarcastic	148 (2.3%)
		6.2 Humour	265 (4.2%)
99	Irrelevant (147/2.3%)		

### Theme 1: Sentiments and Feelings

Here we had considered the tweets which expressed various sentiments and feelings about the outbreak of coronavirus.

During the current time of the outbreak, Twitter users might be receiving various information from different sources, leading to cause anxiety and fear on Twitter and among the general public. There are chances that the users in the tweets above might be attempting to perpetuate fear rather than being genuinely afraid. However, given the immediacy of Twitter, and the exaggerated vocabulary it was observed that it is possible that the users were experiencing a high level of fear, but were tweeting in such a way that their fear and the actual risk were exaggerated beyond normal proportions. Some of these tweets are:

*"I feel very sad to hear that a Hillsborough survivor succumbed to Covid-19 today."*

*"Oh charming! I have to have a Covid-19 test tomorrow for my persistent coughing. Doubt I have #coronavirus but this is the most wicked bronchitis I have ever encountered."*

*"My great uncle has Covid. He was in a nursing home. He's on a ventilator. He cried when they took him, because he's scared."*

There were tweets that expressed the feelings of anger or rage among the people, this is because they have been affected their schedules due to the outbreak of coronavirus. For example:

*"I hate coronavirus so fu\*kin much."*

There were some tweets that were expressing hatred towards a specific person, a religious community, or a nation. For example:

*"Because of few why 1.3 billion people life is kept on stake either shoot at site or deploy army in single source areas #coronavirus"*

*"these Chinese bastards should be hanged till death"*

There were tweets where people expressed hope with positive and joyous tweets to keep the hope in the minds of the people alive that soon things would return back to normal.

*"keep calm guys!!!! we will get through corona shit soon"*

6.3% of the tweets were having a content in which tweeters expressed their opinion or proposed a suggestion. e.g.:

*"Coronavirus is the second biggest threat to healthcare workers in India. Human beings continue to be the first".*

*"A phased plan to slowly reopen the country is useless without mass testing for Coronavirus! I'm not understanding why that's a hard concept to our leaders."*

Now, due to the sudden declaration of lockdown by the government, there were various problems faced by the people initially, but with the continuation of the lockdown slowly they started getting frustrated, missing things, bored, and sad. Some examples of tweets referring to such sentiments and feelings are:

*"Perks of turning 21 during corona..... none, absolutely fu\*king none."*

*"Meant to be playing in a cup final tonight!! Nice one! #COVID19 Covid Sucks Pass It On!"*

*"corona broke my heart more than any boy ever will"*

There were tweets shared by the users to appreciate, praise, or thank some person, institution, or organization. For instance, one user tweeted:

*"The doctors, nurses & all health workers have selflessly devoted their time and effort in keeping us safe as we battle COVID-19. This #WorldHealthDay is an ode to their compassion and love for their work. A Big Thank You!☐"*

There were some tweets in which users expressed their grief for those who are suffering from the virus or died:

*"RIP to those who died in 2020 due to COVID-19. Dont skip this without leaving a heart."*

There was another subtheme which included those tweets which expressed prayers:

*"May Allah Pak cure the world from Covid-19 before Ramadan...Ameen"*

### Theme 2: Information

Tweets which discussed general information and news related to Corona, Incidence, Prevalence, Testing, Recovery, prevention and testing techniques,



discussion about Signs, Symptoms, and diagnosis, comparing or referencing Covid-19 with other infection and disease and also seeking, providing and requesting for help were branched among this category. The majority of the Tweeters have discussed the transmission of Covid-19 in very general terms, while others were sharing information or reporting on the number of diagnosed cases or according to the location of a reported case.

*"Mexico reported 450 new #COVID19 cases, bringing the total number of cases to 6297. It also added 37 new deaths, increasing the total number of deaths to 486."*

There were a number of users who were making some sane tweets and they were concerned about safety and prevention, like:

*"Coronavirus. Prevent infection regularly wash your hands for 20 seconds and don't touch your face, eyes, nose and mouth."*

Tweets about the method and awareness of diagnosing the disease were also encountered, there were a number of Tweeters which were tweeting a lot, how to be sure that you have Covid-19 and Tweets about various medication were also found, some of them are as follows:

*"Covid-19 testing available. No appointment necessary."*

*"☹️ These can be breathed in, or can cause an infection if you touch a surface they have landed on, and then touch your face with unwashed hands."*

Discussion about other Pandemics was also found, most of them were comparing and giving references this pandemic with past epidemics and especially those which were related to respiratory disease. There were people who were comparing Covid-19 with influenza and the common cold. For example, one user tweeted:

*"These symptoms are similar to the flu (influenza) or the common cold, which are a lot more common than COVID-19. @TeamForPakistan"*

People were also discussing about giving and seeking help in this hour of need (pandemic) like the tweet stated below:

*"Betway just donated 150,000 cedis to the Covid-19 fund"*

*Finally I can say, I've also donated to that fund"*

### **Theme 3: General Discussion/Comments**

There were a huge number of tweets that were making very general comments related to COVID-19. Out of those Tweets, some were generally asking questions and some were either discussing economic or other frightening scenarios and also, there were people who were making sane statements.

*"I don't know but I hear the flu death numbers are dropping dramatically. It is funny how that is*

*happening at the same time COVID-19 death numbers are going up dramatically."*

There were a lot of tweets related to economic discussion and frightening scenarios which speaks of both economic and frightening scenarios which could take place due to this pandemic.

*"The economic impact of this corona p is deeper than y'all think"*

*"@DavidGHFrost Let's kill the economy for good ... Covid19 means 35% cut in GDP on Q2... add brexit it will means a good 50% cut on GDP with no trade deal ... Enjoy the worst recession ever !"*

A number of Tweeters were doing a great job by just making sane statements. These tweets were discussing precautionary guidelines, advice of social distancing, etc.:

*"COVID19 We need to work together to slow the spread!"*

*"please stay at home. You're not only risking your life but also the lives of those around you. COVID-19 doesn't care who you are."*

### **Theme 4: Politics**

Tweets which included political discussions either passing rhetorical statement or praising or criticizing the government or giving any statement which had any taste of politics were included in this category. In general, there were discussions related to general politics, governments, and countries in one or the other way. For example:

*"#COVID19: According to reports, #US Intelligence officials warned #Israel about the #Coronavirus outbreak in #China back in November. As we now know, the #Chinese govt only informed the world about the virus on December 31st. Makes one wonder if this could have been prevented?"*

There were tweets related to Trump which included all the tweets made by the Twitter users with a reference to Trump, in their tweets some were praising Trump, some were trolling and some were criticizing him, majority of the tweets found about Trump were having negative sentiments, For example:

*"Donald J. Trump is the leading cause of death in the United States. 34,522 #coronavirus deaths in the U.S. as of this #FridayMorning. #Trump knew. He did nothing. He is still doing nothing."*

There was another subtheme of tweets in which users were criticizing government, a political party, stakeholders, or an organization. e.g.

*"This virus is showing how much in denial the government is in about COVID-19. There's no way they're taking this seriously...these rules have so many*



loopholes.”

*“The government must be taken to Court for allowing politicization Covid-19 aid.”*

Just opposite to the previous subtheme, there was another sub-theme including the tweets used to praise any government or political party or some of the doings of an organization or stakeholder. For example:

*“Thank you Saudi Arabia for showing the world such an amazing example of Humanity and Kindness during this #Covid\_19 crisis”*

### Theme 5: Food

There were only a few tweets that were discussing about food, actually all the tweets in this category mentioned bat in it, maybe because scientists believe that COVID-19 originated in bats. For e.g.:

*“She: I was wondering how bat tastes like?”*

*Me: Corona”*

### Theme 6: Sarcasm or Humor

This theme includes those tweets which are referred to general sarcasm and humor which mentioned Covid-19 and included subthemes of sarcasm and humor related to popular culture, nervous humor, and understanding as well as that of sarcasm and general humor including trolling. E.g.

*“if everyone simply stops breathing corona won't spread”*

*“Idk what's growing faster, death by covid 19 or females making only fans”*

There were lots of people who were making fun of other things also.

*“One condom I mean just one condom would have prevented the birth of the person who created corona virus”*

*“covid-19 is definitely a woman”*

There were many tweets that were having a sarcastic tone. Sarcasm is an ironic or satirical remark tempered by humor. For example:

*“You can't get kids to wear bicycle helmets good luck with getting them to wear mask”*

*“Tweeps i sincerely need your help,,I need 20k urgently, I promise to pay back immediately after @MBuhari pays us our COVID-19 money”*

### Theme 7: Irrelevant

Those Tweets which are vague and has almost no relation with Covid-19 or Corona disease, we put those type of tweets under the theme of Irrelevant because it has nothing to do with this Pandemic. Plus, what most of the Tweeters in this category did was, they just used the hashtag of COVID-19 and corona for wider reach and visibility, frankly speaking, there were some tweets having very shady and hazy content and we were not able to put them in any other sub-theme. Examples of such are given below:

*“LUCCI just dropped some music called Corona pack”*

*“• Stay Tuned @SuriyaFansClub 🎧📺*

*Fans Club Activities Update ❤️📺*

*#Coronavirus | #SFCWelfareWorks”*

Above mentioned tweets show their nature, by just skimming upon it one can say that these tweets are irrelevant and should not be associated with the hashtag of Covid-19 or Corona.

## DISCUSSION

The point of the current research was to study the content of tweets using in-depth thematic analysis and to analyze sorts of discussions that were taking place in the midst of COVID -19. Globally, a lot of research studies related to COVID -19 have been done and many are in progress, however, as per the best of our knowledge till now there is no study conducted which has examined the public response to the COVID-19 epidemic on social media. Though there has been a study conducted in China analyzing the reaction of Chinese people to COVID -19 on a blogging site (Zhao & Xu, 2020), but the study was only focused on the Chinese population and didn't use big global social media platforms like Twitter.

Whenever a disease outbreak occurs in a region, it affects the population of that area not only in terms of physical health but also mental health (“An ‘Epidemic Within an Outbreak:’ The Mental Health Consequences of Infectious Disease Epidemics | O'Neill Institute,” n.d.), (Pfefferbaum & North, 2020), 29. It has been found in previous studies that a pandemic or an epidemic can instigate fear, anger, frustration, tension, anxiety, etc. Talking about the severity of the COVID-19 pandemic, WHO has characterized it as 10 times deadlier than the 2009 swine flu pandemic (“WHO says Covid-19 is 10 times more deadly than swine flu,” n.d.). The virus has compelled a major proportion of the world population to live under a state of complete lockdown (“3.9 billion people are currently called on to stay in their homes due to coronavirus | Daily Mail Online,” n.d.). In these kinds of situations, extreme emotions (anger, tension, depression, anxiety, stress, etc.) and psychological disturbance are obvious in the population (Pfefferbaum & North, 2020), (“Psychiatrists Beware! The Impact of COVID-19 and Pandemics on Mental Health | Psychiatric Times,” n.d.). In our study, we also found traces of the aforementioned sentiments and feelings among Twitter users. While doing thematic analysis we found that people were worried about what would happen in their future, some expressed fear by mentioning increasing numbers of COVID-19 cases and deaths, while some were skeptical regarding their future career. There were





many tweeters who were frustrated due to lockdown and they were in favor of lifting the lockdown, as a result we saw many anti-lockdown protests across the countries (“Coronavirus lockdown: Americans protest the ‘Stay-at-home’ order - Lifting the lockdown | The Economic Times,” n.d.), (“Anti-lockdown protest in London sees man arrested after group hug outside police HQ | The Independent,” n.d.), (“Coronavirus: Group hugs are the new weapon of anti-lockdown protesters - Business Insider,” n.d.), (“Small turnout at Ottawa anti-lockdown protest | CTV News,” n.d.). Even in such a situation, there were people who have kept the light of hope alive in their minds. They are continuously putting forward their efforts in the form of opinions and suggestions with positive and joyful tweets to keep the hope in the minds of people alive so that they keep on with the thought that the scenario would very soon be normal and everyone would return back to their full-fledged normal life.

Regarding information about Covid-19, there were valuable pieces of information which were shared like the general information about Covid-19 which includes prevalence monitoring, recoveries, and deaths due to Covid-19, information about the preventive measures, symptoms, and diagnosis of Covid-19 were also shared which was the need of the hour, it seems important to share such valuable information on Twitter because in these moments misinformation and fear-mongering information are also shared by a large number of people which contains some hidden agendas. Plus, people also shared information about the other similar diseases which were having similar causalities like influenza and H1N1 virus and there were also some good people which were offering help to the needy by providing them Masks, Sanitizers, and also providing Food and Fodders. Additionally, there were many people who were using Twitter to seek help or to motivate people to donate to the needy population.

Apart from other consequences, another grievous consequence of COVID-19 is economic damage all over the world. The industries have stopped working, millions of the people lost their job and transportation has become minimal leading to economic slump (“Covid-19: US unemployment claims hit roughly 26 mn, highest since Depression,” n.d.), (“COVID-19: impact could cause equivalent of 195 million job losses, says ILO chief | UN News,” n.d.), (“Coronavirus Impact on Global Economy: Global economy could shrink by almost 1% in 2020 due to COVID-19 pandemic: United Nations - The Economic Times,” n.d.). In these kinds of situations, the concern of the public is obvious and that’s what we saw in our study, even in these conditions of public health emergency

and unfavorable conditions people were concerned about the economy. Many people were even in favor of lifting of lockdown and opening up the industrial work, putting their and the lives of others at risk.

Twitter is a very powerful platform to reach out to the masses, and some people are wisely utilizing its this feature by raising the voice of reason. There were people who were really making some sensible talk, such as people who were talking about, cleanliness, the use of masks, and requesting the peoples to follow the rules of social distancing.

Regarding the political discussions occurring in the current scenario of the COVID-19 outbreak, there were tweets generally discussing about political parties, leaders, political actions and political events occurring in the respected countries. President Donald Trump was quite frequently mentioned in the discussion among Twitter users. A lot many tweets had in reference to Trump, mostly criticizing and blaming him for not making wise decisions on time and putting the country at high risk. On the other hand, there were many users who were praising their leaders and government for various reasons, for example, India’s prime minister Modi was praised by many users.

In our analysis we also found a number of tweets having a humorous or sarcastic tone, actually, users were not making fun of the COVID-19 pandemic but they were using the reference of the pandemic in a context that would be humorous. These kinds of tweets have a positive impact on readers. Previous research studies have found that humor has the potential to benefit psychologically (Dunn, 1993), (Åstedt-Kurki, Isola, Tammentie, & Kervinen, 2001), (DEAN & GREGORY, 2004). One study established that “Humor has the potential of maintaining a collegial relationship, managing stressful situations, and maintaining a sense of perspective” (Dean & Gregory, 2004).

## CONCLUSION

The study demonstrates that social media platforms (like Twitter) can be used to conduct infodemiological studies related to public health emergencies like the COVID-19 pandemic. The present study comprehensively explains the infodemiology of COVID-19 on Twitter. Public health researchers and stakeholders should consider the utility of social media platforms like Twitter in policy framing and implementations.

## LIMITATIONS

The present study has some limitations that can be addressed in future studies. First, the study was based on only one social media platform – Twitter.



There are a number of social media platforms like Facebook, Instagram, etc. where people discuss and express their opinions and feelings, in further studies researchers can include the data of these platforms for a more robust analysis. Secondly, the study was limited to a period of 7-days, which may result in less validity.

The tweets we extracted were based on 5 keywords: “coronavirus”, “covid-19”, “corona”, “covid”, “covid19”. There is a possibility that people could have tweeted information and opinions about covid-19 without using any of these hashtags. Plus, there is one more possibility that they may have used another hashtag, maybe in their native language.

There is one more possibility that tweets about COVID -19 have been tweeted in other languages apart from English that we have excluded.

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### Conflict of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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## EDUCATIONAL METHODS OF THE GAME IN TEACHING ENGLISH

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### ANNOTATION

*The article discusses the educational methods of the game in teaching English.*

**KEYWORDS AND TERMS:** *teaching method, educational game methods, interactive methods, communicative teaching technologies. Communicativesituation.*

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## ОБРАЗОВАТЕЛЬНЫЕ МЕТОДЫ ИГРЫ В ОБУЧЕНИИ АНГЛИЙСКОМУ ЯЗЫКУ

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### Аннотация

*В статье рассматриваются образовательные методы игры в обучении английскому языку.*

**Ключевые слова и термины:** *Метод обучения, Обучающие игровые методы, Интерактивные методы, коммуникативных технологий обучения Коммуникативная ситуация.*

Концепция методов обучения (греческие методики) в современных методах обучения иностранному языку является концептуальным правилом деятельности учителя по организации и управлению учебной деятельностью студентов по определенной теме, направленной на

оптимальное приобретение знаний. наносится на нос.

Метод обучения является общим способом организации и управления совместной учебной деятельностью преподавателей и студентов для достижения поставленных образовательных целей.





Выбор конкретного метода основан на запланированных целях и результатах, основанных на следующих критериях:

- пригодность поставленной цели для решения поставленных задач; - простота и легкость применения метода; - способность обеспечивать и гарантировать наилучшие результаты.

Одним из основных критериев эффективности лекций и практических занятий на иностранных языках является поощрение студентов работать в парах или группах, обмениваться идеями. Этот метод часто называют интерактивным методом. Интерактивные методы - активное взаимодействие преподавателя со студентами, ученика со студентом, со всеми предметами образовательного процесса. Взаимодействие также может быть организовано с помощью мультимедийных инструментов. Чем выше уровень взаимодействия, тем эффективнее учебный процесс.

Обучающие игровые методы.

Проблема овладения материалом учащихся через игру детально изучается в исследованиях многих методистов и психологов, таких как Г. В. Рогова и И. Н. Верещагина, Е. И. Пассов, Д. Б. Эльконин, Е. И. Негневицкая. Сегодня с учетом коммуникативно-функциональных, эмоционально-когнитивных функций игр в обучении иностранному языку и их применения в образовательном процессе признается одним из важных факторов, повышающих эффективность обучения иностранному языку.

По словам Е.И. Пассова, известного русского методиста и основоположника коммуникативных технологий обучения иностранному языку, игра - это деятельность, содержание которой - обучение познанию, речевым движениям (1989).

Е.И. Пассов описывает игровую деятельность как средство обучения и показывает следующие положительные аспекты: мотивация деятельности, отсутствие внешнего давления в процессе обучения, добровольный индивидуальный характер обучения; Способность ученика учиться и развиваться реализуется внутри и внутри группы, ускорение формирования способностей посредством эмоционального воздействия, повышение интереса к обучению через игру (Пассов, 1989).

Игры могут быть использованы при обучении иностранным языкам для следующих целей: формирование определенных коммуникативных навыков и умений по теме, обучение навыкам словесного общения, развитие необходимых навыков и умственных функций,

содержание коммуникативных заданий в игре сознательное мастерство.

В ходе игры моделируется познавательная деятельность учащихся, формируются и совершенствуются их внимание, память, уровень мышления, воображение, познавательный процесс. Педагогическое и дидактическое значение игр объясняется тем, что они помогают учащимся понять себя, как выполнять словесные действия в коммуникативных ситуациях, проверить себя.

Эффективность игрового процесса также зависит от ряда требований, таких как наличие предвзятых речевых ситуаций, осознанное понимание ожидаемого результата игры, знание правил участия в игре.

Игры используются для укрепления, развития и развития навыков и компетенций после объяснения материала для общения в практических заданиях. Коммуникативная ситуация, создаваемая во время игры, выражение мыслей с помощью аудиовизуальных, экстралингвистических и эмоциональных средств общения, гарантирует, что процесс общения происходит в естественной среде.

При организации игры соблюдаются следующие методические требования:

Определите цели и задачи игры в соответствии с общими дидактическими принципами игры.

Ясность задач, которые должны быть выполнены участниками.

Предопределите аудио-визуальные, экстралингвистические (невербальные) и эмоциональные эффекты, используемые в игре.

4. Установите настоящие, искренние, взаимоподдерживающие отношения сотрудничества между игроками.

Сознательное усвоение игрового контента участниками.

6. Игровые занятия оказывают положительное эмоциональное воздействие на участников.

7. Развивайте коммуникативные навыки и навыки участников по определенной теме через игру

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## MEANS OF EXPRESSION OF LEXEMAS OF QUESTION EXCHANGES IN ENGLISH AND UZBEK LANGUAGES

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### ANNOTATION

*This article explores the semantics of interrogative pronouns, which are the main tool in the process of exchanging ideas in oral speech.*

**KEYWORDS:** *semantics, interrogative pronouns, literary and scientific text.*

## СРЕДСТВА ВЫРАЖЕНИЯ ЛЕКСЕМ ВОПРОСИТЕЛЬНЫХ МЕСТОИМЕНИЙ В АНГЛИЙСКОМ И УЗБЕКСКОМ ЯЗЫКАХ

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### Аннотация

*В данной статье рассматривается семантика вопросительных местоимений, которые являются основным инструментом в процессе обмена идеями в устной речи.*

**Ключевые слова:** *семантика, вопросительные местоимения, литературный и научный текст.*

Цель исследования: определить способы выражения лексем вопросительных местоимений в английском и узбекском языках, раскрыть их синтаксические семантические функциональные значения, изучить общие и различные аспекты местоимений в сравнительных языках, определить особенности их использования в литературных текстах; в то же время изучать активацию синтаксисов, используемых в основном в

вопросительном контексте в рамках систематической взаимосвязи синтаксических семантических значений морфологических, лексических и синтаксических средств выражения в обоих языках; изучение слов, используемых в качестве вопросительных местоимений только на основе специфической синтаксической семантики и формальных распределительных признаков, то есть синтаксических средств связи, комбинации с



другими синтаксисами, синтаксических позиций в предложении, лексических источников, их смысловых функциональных значений; Кроме того, результаты этой работы могут быть широко использованы при совершенствовании теории перевода, их интеграции с другими синтаксисами, изучении лексических основ, т. е. выразительных лексем, выявлении транзитивных и непереходных свойств лексем глаголов и их использовании при составлении литературных текстов.

*Объект исследования и используемые методы.* Предметом данной статьи является синтаксическая связь вопросительных местоимений в английских и узбекских текстах, принадлежащих к разным семьям. Синтаксические семантические функциональные функции и особенности их использования в литературном языке в мировой литературе. В статье широко используются методы сравнительно-типологического систематического анализа, трансформации и моделирования.

Полученные результаты и их анализ. Вопросительные местоимения относятся к человеку (кто?), Предмету (что?), Характеру (какой? Как?), Количеству (сколько?, Сколько?), Времени (когда?), Цели и причине (почему? Почему ?) и отношению к месту (где?) (Абдурахманов, 1973)

Одним из инструментов, которые по-разному выражаются в синтаксической семантике, являются вопросительные местоимения, которые имеют свои собственные лексемы и свойства в группе местоимений. Вопросительные местоимения имеют очень широкий диапазон значений: относительность, демонстрация, неоднозначность, отрицание и агрегация, и каждому требуется определенная лексема для взаимодействия с синтаксисами в других вариантах. Вообще, использование всех вопросительных местоимений в синтаксической семантике в соответствии с их значением и типами признаков мы называем интерогативами в международной терминологии. Смежные местоимения, то есть кто, кого, что, почему, кто, чьи местоимения по-разному выражаются в синтаксической семантике, являются существенными или качественными синтаксисами, а иногда могут иметь некатегориальные черты (Muxin1973). Перед этими синтаксисами мы сначала сконцентрируемся на местоимении кто, что, кого, какие местоимения представляют существенные (уволненные) прилагательные местоимения, и приведем следующие примеры:

*Who is speaking? Who can still remember his name? Who is ready to follow me? Whom did you see? Of whom are you speaking? Whom do you want? What are you talking about? What is it made of? What is his name? What is he? What do you take for me?*

*Which will you take milk or ice-cream? Which of you did that? Which of the two is better? Which of the members was present? Which would you like best?* такие примеры являются самыми разнообразными среди по существу интегративных синтаксисов, с такими функциями, как выражение сообщения, ситуации, прилагательного, уравнения или дополнение предложения в предложении. Синтаксис интегративного агента не теряет своего значения и позиции при переносе в другие предложения. Только лексемы могут измениться в это время.

Например: *Who is speaking? \_\_\_ Is John speaking? Whom did you see? \_\_\_ Did you see my friend? What are you talking about? \_\_\_ Are you talking about the event? Etc.*

Модифицированные предложения, то есть общие вопросительные предложения (в отличие от специальных вопросительных предложений), не только выражают соответствующий агентный или дополнительный (синтаксический) синтаксис, но также обладают свойством связывать существенные категории с другими местоимениями или элементами. Посредством такого трансформационного эксперимента исследователю легче идентифицировать символы, присутствующие в интерактивном синтаксисе.

Существует также небольшое ограничение в использовании интегративного синтаксиса, как мы видим в следующих примерах: *Who can still remember his name? Which of the two is better? (Который из нас мы вспомним его имя? Который из нас до сих пор помнит его имя? Какой из них вам нравится?)* Ограничивая предлог *of* в приведенном примере в предложении, мы можем отличить синтаксисы, представленные существительным, от существенного вопросительного синтаксиса. Для сравнения:

*Who can still remember his name? Кто до сих пор вспоминает его имя? Can John still remember his name? Джон до сих пор помнит его имя? Which is better? Какой из них хороший? Is this book better? Эта книга лучшая? И.т.* Синтаксисы аддиктивности (сходства, совместности) также могут быть сформированы в структуре существенной интродуктивности в этом ограничивающем преобразовании, и это делается с помощью нагрузки *-else*. *Who else could be? Who else is coming? What else could I do but this?*

Эта разница указывает на то, что существенная взаимосвязь является признаком лошади, непосредственно связанной с существительным.

Предлог *Of* относительно существенно взаимосвязаны предлоги и еще нагрузка *else*. относительно существенно взаимосвязана *who, whom, what, which, that* активно участвует в вопросительных предложениях с синтаксисами. В



языке существуют разные варианты каждой существенной (увольняемой) интерогативности, которые по-разному связаны друг с другом.

Of whom \_\_\_ Whom ... Of

of whom are you speaking? \_\_\_ Whom are you speaking of?

About what \_\_\_ what ..... about.

About what are you talking? \_\_\_ What are you talking about?

Of what \_\_\_ what ..... Of.

Of what is it made? \_\_\_ what is it made of?

For what \_\_\_ what ..... for.

For what do you take me? \_\_\_ what do you take me for. и т.д.

Выше мы показали существенные относительные синтаксисы, которые совместимы и дополняют друг друга. Это условие чаще используется в устной речи. Он также включает в себя широкое предлогическое значение в устной речи, иногда используя местоимение *who* вместо местоимения *who*:

Who were you talking to?

Когда речь заходит о местоимениях, кто и кого, конечно, мы можем познакомиться с коннотативными (осмысленными) вариантами местоимений «Что» и «которые могут различаться по значению», выяснить их различия в относительных значениях по отношению к объектам и привести примеры их качественной категории. What papers do you read? What kind of man is he? Which book did you choose? Which boy won the prize? Which is the right road? I'm going with the girls \_\_\_ which girls?

На любом языке вопросительные местоимения имеют большое значение при изучении первичной и вторичной частей речи грамматики. Известные ученые в области грамматики, как в науке, так и на практике, выразили свои взгляды, используя вопросительные местоимения для различения первичной и вторичной частей речи. В том числе, О. Эсперсен выдвигает следующее требование при изучении дополнения, которое является второстепенной частью речи: «Когда мы используем местоимения кто и что, мы можем продолжать использовать вопрос «кто и что» в предложении и в глаголе, а также. (Эсперсен, 1977).

И.В. Аванесов выдвигает идею «четких грамматических формальных признаков» в своем научном исследовании, подчеркивая, что способ четкого различения второстепенных частей речи друг от друга можно изучить только через конкретные вопросы (Аванесов, 1978).

Вопросительные местоимения можно разделить на вопросительные и соединительные местоимения в соответствии с их функцией в предложении, и оба они могут быть относительными местоимениями. Если вопросительные местоимения участвуют в

конструировании вопросительных местоимений, соединительные вопросительные местоимения появляются в следующих соединениях. Разница между соединяющимися наречиями заключается в том, что им нужны существительные в некоторых наречиях и прилагательное в наречиях. Eg. Who put that light out? (B. Shaw) (вопрос) Who goes light travels first? (saying) (соединение) Don't you hate people who have no character? (B. Shaw) (абсолют). Ушбу сўроқ олошларини ўрганиб чиқиш уларни жонли ва жонсиз предметларга қай йўсинда қўлланилишини ҳам ўрганишни талаб этади ва қуйидаги маълумотни кўриб чиқишимиз мумкин. Вопросительное местоимение *Who* - это местоимение, используемое в 3 различных соглашениях. 1. Кто есть кто в общем согласии; 2. Кто в будущем времени; 3. Кого в будущем времени (Буранов, 1978).

*Who* вопросительное местоимение обычно представляется вместе с причастием глагола. Who knows it? Если предложение относится к нескольким лицам, глагол выражается во множественном числе: Who are concerned with it? (J. Waller, 1993).

Вывод. Изучая трансформацию вопросительных предложений, мы изучаем не только речь, но и язык, его ресурсы, к какому разделу они принадлежат, и имеют ли их интерогативные синтаксисы эквивалентность, и что вопросительные предложения имеют особое значение в языке. Одна из семантических синтаксических особенностей вопросительных местоимений заключается в том, что они используются двумя разными способами для имен людей и других (животных, птиц и объектов). Кто в основном приходит во владение функцией. Какое вопросительное местоимение может быть как субъективным, так и объективным местоимением: что вы купили? (что ты купил?), как тебя зовут? (Как вас зовут?), Субъективный бриллиант Какие вопросы были заданы? (Какие вопросы возникли?) Прилагательное рифма. Чей алмаз также входит в функцию владения. Но здесь оно включено в форму притяжательного местоимения местоимения «Кто», потому что это вопросительный притяжательный. Местоимение *Whose* в основном используется в качестве прилагательного местоимения. В некоторых случаях местоимение *Whose* также может быть исключено из определенной статьи. Это в основном зависит от характера контекста.

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## EFFECTIVENESS OF USING MULTIMEDIA TECHNOLOGIES IN THE SYSTEM OF EDUCATION

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### ANNOTATION

*The article discusses the effectiveness of using multimedia technologies in the education system. The principle of overcoming difficulties.*

**KEY WORDS AND TERMS:** *Improving the effectiveness of training, multimedia technologies, the principle of activity (independence), the principle of overcoming difficulties. The principle of efficiency.*

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## ЭФФЕКТИВНОСТЬ ПОЛЬЗОВАНИЯ МУЛЬТИМЕДИЙНЫМИ ТЕХНОЛОГИЯМИ В СИСТЕМЕ ОБРАЗОВАНИЯ

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### Аннотация

*В статье рассматриваются эффективность пользования мультимедийными технологиями в системе образования. Принцип преодоления трудностей.*

**Ключевые слова и термины:** *Повышение эффективности обучения, мультимедийных технологий, Принцип деятельности (самостоятельность), Принцип преодоления трудностей. Принцип эффективности..*



## DISCUSSION

With the recent advancement in the education industry, the use of computers in education has become relevant. Computers play a great role in helping students learn faster and they also increase the level of creativity of students because of the endless equations they present to a student. Both teachers and students use computers to complete specific tasks. For teachers, they use computers to create graphic illustrations which can help students learn easily, yet students use computers in typing of notes and reading of electronic books which can be downloaded from the internet,

Multimedia technologies are continuously penetrating into the different spheres of educational activity. It is promoted by external factors, connected with extensive informatization of the society and the necessity of adequate training of school students, and internal factors, connected with spreading computers such as multimedia means and software in comprehensive education institutions as well as accepting state and interstate programmes of informatization of education. In the most cases application of multimedia technologies makes positive influence on intensification of teachers' work and effectiveness of school students' study. Improving the effectiveness of learning on the base of multimedia technologies depends on support of didactic principles:

1. Principle of systemic requires streamlining didactic material, its planning in accordance with bases, rational division of material onto sense parts and stepped mastering it. Concerning computer learning this principle:

- proposes working out and determination of formalized model of a subject by designing adequate computer program;
- gives opportunity to differentiate database of programs into topic group and even the whole courses; it is more preferable than separate fragmented good programs;
- causes a question about forms of using multimedia technologies in teaching and learning process, ratio of new and traditional forms of learning.

2. Principle of activity (independence). Students' independence is a key to the solution of modern issues of comprehensive education. It is necessary to involve students in self-activity in the form of self-directed learning, self-up-bringing, self-regulation.

Multimedia technologies actively involve students in teaching process. One of the important preconditions of improvement - dialogue of student with computer, in the process of which there are including knowledge in the system of activity. The main problem of building educational dialogue with the means of multimedia technologies (computer,

smart board) - overcoming requirements of excessive getting student answers, which are usually come to either to the choice of some variants either to introduction of a key word.

3. Principle of stepped overwhelming the difficulties.

By the application of multimedia technologies it is necessary carefully to select tasks, offered by the students, to think over the content of a dialogue between computer and a student. Tasks must be according the level of knowledge of a students, exercises - various. Complexity of offered by the program tasks may be changed at elementary stage of the work. This fact allows teaching at the level which corresponds a student's level of knowledge, releasing him from solution of too easy or too difficult problems. By this fact there must be dosed not only the difficulty but help.

4. Principle of link of theory with practice. This principle shows that the importance of knowledge is being aware by its meaning in the real life. SO, application of multimedia technologies in teaching and learning process let change the balance of theoretical and practical aspects in education to the side of practice, because they own unique opportunities of modeling difference phenomena and processes.

Advantage of education on the base of application of multimedia technologies is that learning takes practical aspect: dialogue character of work, modeling opportunities predispose to the learning in the form of problem solving with practical aspect. By this it is advisable to use methods of projecting and modeling.

5. Principle of individualization. Individualization of education based on using multimedia technologies connects with interactive character of the work and presence of computer at students' desks as well as smart board. There might be more deep and sharp account of individual features of students by means of multimedia technologies. There might be determined the level of training of a school student with the help of pretesting and in accordance with this level there might be present the theoretical material, issues and problems as well as tips and help.

6. Principle of effectiveness. In traditional learning this principle causes a question about industry of didactic work of a teacher, rational using of time at a lesson.

In conclusion it is mentioned that the main condition of successive education is the interest if school students to the learned subject, the process of learning and its result. This interest connects with a plenty of factors: content of a subject, level of its complexity, organization of learning process of teacher's encouragement and punishments, personal qualities of a teacher, his pedagogical mastery,



system of values of a students, his close environment, parents, interrelationships in the class, social order in training on the trends of science, presented by certain subject. Organization of learning process with the help of using multimedia technologies, change of character of student's study at a lesson promotes motivation to the study.

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# AGRICULTURAL MARKETING AND FINANCIAL EMPOWERMENT OF RURAL FARMERS IN ANAMBRA STATE

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## ABSTRACT

*When farmers don't properly market their produce, they will not be able to maximise their sales. This means they will never improve from their poor living conditions assuming that farming is their only activity. Small scale farmers across the world frequently consider marketing of their agricultural produce as being one of their major challenges. This research however studied the relationship between agricultural marketing and financial empowerment of rural farmers. Specifically, the study addressed the relationship between the product produced and the income of rural farmers, the relationship between place of production and the income of rural farmers, the relationship between price of the produce and the income of rural farmers and finally the relationship between promotion of the produce and the income of rural farmers. The study adopted a survey research design in collecting data; questionnaire and personal interviews were used in collecting primary data while documentary sources were used for secondary data. The population of the study was made up of the following of rural farmers in the twenty one (21) Local Government Areas of Anambra state. The data generated for this study were presented with frequencies and percentages, while the stated hypotheses were statistically tested with Pearson motion correlation, which was computed with the aid of the Statistical Packages for Social Sciences (SPSS) Version 17. Findings from the study showed that: there is no significant relationship between the product produced and the income of rural farmers; there is a significant relationship between the place of production and the income of rural farmers; there is no significant relationship between the price of the product produced and the income of rural farmers and there is a significant relationship between the promotion products produced and the income of rural farmers.*

**KEYWORDS:** *Agricultural Marketing, Financial Empowerment, Rural Farmers*

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## 1.0 INTRODUCTION

### 1.1 Background of the Study

Agriculture provides primary means of employment for Nigeria and account for more than one third of the total gross domestic product (GDP) and labour force (Asogwa & Okwoche, 2012) and about 20% of Africa's GDP (Economic Commission for Africa, 2007). According to Nchuchuwe & Adejuwon (2012), Agriculture is the backbone of Africa's economy. Agriculture provides food security by fundamentally increasing the amount of food and also by providing the means to purchase food. Through growth in agricultural productivity and higher farm profits, the rural farmers can be financially empowered. Marketing of these agricultural produce plays an important role in attaining the overall goal of food security, farmers' financial empowerment by way of poverty reduction

and sustainable agriculture, mostly among smallholder farmers in developing countries (Altshul, 1998).

Karani & Wanjohi (2017) posited that without good marketing the farmers will not be able to sell or trade hence they will not reap maximum returns from their produce. This means they will never improve from their poor living conditions assuming that farming is their only activity. Small scale farmers across the world frequently consider marketing of their agricultural produce as being one of their major challenges. According to Badar (2011), the field of marketing has assumed pivotal importance in modern day business world and is considered a key for the success of any business. It facilitates the producers in supplying goods and services that satisfy wants of the consumers at profit. The knowledge of marketing guides the producers about what and how much to



produce, how to produce, when, and where to deliver their goods and services. The producers driven by market knowledge are able to formulate superior and innovative strategies to serve the consumers with products and services in the most desirable and efficient way.

However, agricultural products differ from other industrial products due to their perishable nature and special requirements during various farm and marketing operations. But, this does not infer that the field of agricultural marketing is completely diverse from marketing of industrial and other products. It is basically the application of marketing principles in agriculture sector. Acharya & Agarwal (2010) defined agricultural marketing as comprising of all activities involved in supply of farm inputs to the farmers and movements of agricultural products from the farms to the consumers. According to Asogwa & Okwoche (2012), marketing of agricultural products begins at the farm when the farmer harvests his products and when they are harvested, those products cannot usually go directly to the consumers. Firstly, it is likely to be located in some area far from the place of consumption in regular and continuous manner throughout the year. Secondly, storage is required to adjust supply to meet demand. Thirdly, a product when it has been harvested is rarely in a form acceptable to consumers. Therefore, it must be sorted, cleared and processed in various ways and must be presented to the consumer in convenient quality and quantities for sale. Finally the farmer expects payment when his produce are sold, and therefore some financial arrangements must be prepared to insure all the various stages until the retailer sells the products to the final consumer.

Agricultural marketing plays a major role in the economic development of a country not only in less developed countries but in developed countries as well. In case of less developed countries, the development of agricultural marketing system assumes more importance as their economies largely rely on agricultural sector and almost half of the labour force is usually employed in agricultural sector. Rural poverty is a well-known phenomenon and consumer spending on food stuff constitutes major share of their income. Therefore, it is argued in the literature that development of agricultural marketing system is at the heart of economic development (Badar, 2011), and by extension, the farmers are financially empowered.

Anambra State is in no doubt blessed with enterprising farmers, who are engaged in production of various crops and animal farming. Notwithstanding the fact that over the years, they have made remarkable efforts in lifting their productive capacities to a greater height, by using local and low yielding varieties, they still face many constraints, such as poor infrastructures,

inappropriate technology, inability of farmers to generate sufficient income to finance their investment, but the most critical of these is poor marketing system. Marketing the farmers' produce is usually right there at the farm gate or/and in the village market instead of moving them to distant markets where better prices are assured. A close gaze at these situations discloses that most farmers are still small-scale farmers with petite or no funds to grow their farm enterprise beyond subsistence level. The only ways open to a rural farmer to derive some reasonable income from his farm produce is through efficient agricultural marketing.

An effectual marketing system guarantees higher levels of income for the farmers by decreasing the number of middlemen or by limiting the cost of marketing services and the malpractices. These assures the farmers better prices for their farm products and persuades them to devote their surpluses in purchasing of modern inputs to boost productivity and production which ultimately results in an upsurge in the surplus to be marketed and income of the farmers. If the producer does not have an easily accessible market-output where he can sell his surplus produce, he has little incentive to produce more. The need for providing adequate incentives for increased production is, therefore, very important, and this can be made possible only by streamlining the marketing system (Acharaya & Agarwal, 2010).

## 1.2 Statement of Research Problem

Improvements in Nigerian Agricultural sector performance is possible if the right marketing strategies can be identified and adopted. Studies pointing marketing as a potent tool for organizational performance are tremendous, yet knowledge of how it can be used to improve agricultural sector and empower farmers in rural areas of Nigeria appear shallow. Nebo & Ejionueme (2017) asserted that studies have identified marketing variables that can improve organizational performance, yet very few of these studies were undertaken to specifically apply to Nigeria's agricultural sector and that even among studies that try to identify marketing variables that influence organizational performance, reports of inconsistencies is wide. For example, McDaniel & Hise (1984) found that chief executives officers judge two of the 4Ps, price and products to be somewhat more important than the other two, place and promotion while LaLonde (1977) found product related criteria to be more important followed by distribution, price and promotion. Similarly some scholars argue that agricultural sector performance can be improved if problems of marketing agricultural products can be identified and solved. A number of factors have been identified in previous studies as problems of marketing agricultural products, however, the context within which these





studies are carried out are known to influence the significance of these problems in specific situations. Agricultural marketing problems identified by past studies in other countries or regions may not be exactly the same with that of Nigeria. Therefore it is important to identify these agricultural marketing problems in the Nigerian context and categorize them according to their level of significance. In addition, the quantum of past research studies seem to focus more attention on agricultural production inputs as a way of improving agricultural sector performance in Nigeria relative to agricultural marketing. There seems to be a conspicuous lack of knowledge of marketing approach to promoting agricultural sector performance in Nigeria. From previous studies, it appears that there is no robust agricultural marketing policy in Nigeria. Hence there is the need to direct government in crafting policies that are likely to improve agricultural sector performance in Nigeria from agricultural marketing perspective. These apparent paucities and knowledge gaps in the literature are the problems necessitating this study.

### 1.3 Objective of the Study

The objective of the study is to analyse the relationship between agricultural marketing and financial empowerment of rural farmers in Anambra State. In specific sense, the study seeks to ascertain:

- If there is a significant relationship between the product produced and the income of rural farmers in Anambra State;
- If there is a significant relationship between distribution of the farm produce and the income of rural farmers in Anambra State;
- If there is a significant relationship between price of the produce and the income of rural farmers in Anambra State;
- If there is a significant relationship between promotion of the produce and the income of rural farmers in Anambra State.

### 1.4 Research Hypotheses

The following hypotheses are relevant to the stated objective above and shall be tested in this study:

1.  $H_0$ : There is no significant relationship between the product produced and the income of rural farmers in Anambra State.
2.  $H_0$ : There is no significant relationship between distribution of the farm produce and the income of rural farmers in Anambra State.
3.  $H_0$ : There is no significant relationship between price of the produce and the income of rural farmers in Anambra State.
4.  $H_0$ : There is no significant relationship between promotion of the produce and the income of rural farmers in Anambra State.

## 2.1 CONCEPTUAL FRAMEWORK

### 2.1.1 Agricultural Marketing

There are numerous definitions for the term agricultural marketing, one of which is the definition given by the National Commission on Agriculture in India which asserts that agricultural marketing is a process that begins with the choice to produce a saleable farm commodity which comprises all aspects of the market structure, both functional and institutional, based on technical and economic considerations and which also includes pre and post-harvest operations, assembling, grading, storage, transportation and distribution. On the other hand, the Indian Council of Agricultural Research defines agricultural marketing as involving three most important functions namely: assembling; processing; and lastly distribution. The term agricultural marketing can simply mean the use of marketing concept in dealing with agricultural products. Agricultural marketing is the anticipation, identification and satisfaction of the needs of consumers in agricultural markets. It begins before production by determining what products consumers would need and continues after production by ensuring that what is produced are packaged, processed, stored, transported, standardized, graded, priced, promoted and made available to the consumers through various marketing channel members such as farmers, agents, wholesalers and retailers (Ejionueme & Nebo, 2014). It encompasses agricultural pre-production, production and post-production activities targeted at satisfying human needs. Agricultural marketing brings producer and consumers together for the exchange of agricultural products for money or some other valuables. Specifically, agricultural marketing helps to determine what agricultural products to produce, how to produce it and for whom to produce it and how to transfer what has been produced to the final consumers (Nebo & Ejionueme, 2017).

Badar (2011) stated that agricultural marketing system generally comprises of five main stakeholders or market actors i.e. “producers, traders, trade supporters, trade planners/decision makers and consumers”. Each of these stakeholders has its own specific marketing goals as described below. The producers or farmers are main stakeholders in an agricultural marketing system, they produce a wide range of food items for self-consumption as well as for supply to the market. Agricultural producers are interested in maximisation of their net farm income and aversion of risks involved in production and marketing of their produce. Moreover, they want developed and guaranteed markets, improved market position, increased and stabilised prices for outputs besides stable supply and prices of inputs. Traders are the people who mostly operate in the markets and relate producers with consumers. Commission men,



brokers, wholesalers and retailers all belong to this group. Traders wish to have high volume of produce and profit, time and cost efficient purchasing, no trade restrictions and minimum market risk. Trade supporters do not directly partake in the trading activities of the market. They support and facilitate performance of trading activities and are interested in enhancing efficiency in exchange of goods. Smooth functioning of market systems and general support to market exchange function such as infrastructure and communication are the main goals of trade supporter. Trade planners and decision makers are responsible for making decisions relating to agricultural marketing. Planners and decision makers have social and political goals largely connected to securing sufficient food supplies and growing domestic agriculture markets. Other major objectives of this group include price stabilisation and promotion of export sector. The last group in the marketing chain comprises of consumers but their influence is considered a derived function which is executed through traders and trade institutions. Major objectives of consumers include acquisitions of good quality products, low prices of products and better services.

Nebo & Ejionueme (2017) examined certain marketing factors that have been empirically identified to influence performance of agricultural sector. They include:

1. Problems that constrain agricultural marketing
2. Product
3. Price
4. Distribution
5. Marketing Promotion

**Problems that constrain agricultural marketing:** Various studies, both in developed and developing nations have shown that problems of agricultural marketing can have significant influence on the performance of agricultural sector. The factors that are consistently mentioned in the literature as problems of marketing agricultural product can conveniently be grouped into three. These are: production, distribution and pricing related problems (Ejionueme & Nebo, 2014, Uturu, 2002; Ugwuanyi & Ugwuanyi, 1999; Okuneye, 2012; Kohl & Uhl, 2002). Production related problems refers to the problems related to the production of agricultural products. These are Land tenure system, soil fertility, flood, fire, irrigation, poor weather, pests and rodents attacks and lack of agricultural inputs such as capital, fertilizer, improved seedlings and modern farm technology. Distribution-related problems are constraints related to transfer of products' titles amongst channel members or marketing logistics such as transportation, storage and market stall facilities that aid the movement of agricultural products from farm or ranches to market. Price-

related problems are problems related to pricing of agricultural produce such as high cost of production and distribution and farmers' inability to control prices due to perishable, homogeneous and seasonal nature of agricultural products.

**Agricultural Products:** A product is anything that the buyer acquires or purchases to satisfy a need or want. It is regarded as anything that can be offered to a market for attention, acquisition, use or consumption to satisfy a need or want (Armstrong & Kotler, 2005). It includes physical goods, services, ideas, places, persons and organizations. Consumers buy products in order to provide solutions to their problems or needs. Agricultural products are industrial and household natural products which originate from farms, ranches, orchards, fields, vineyards and in the waters of oceans, lakes and rivers which have not undergone any serious manufacturing and processing (Ejionueme & Nebo, 2014). They can be described as goods in or near to their first stage of transformation (Gordon-Ashworth, 1984). It is a good or service for which the core benefits is largely undifferentiated. According to Brown (2005), agricultural products are those grown or raised from land while they remain in an unprocessed or partially processed state. Products that are harvested or fished from bodies of water are also agricultural products until they have undergone substantial transformation. Agricultural products are parts of primary commodities. One criterion of a primary commodity is the relative lack of differentiation among producers. Many scholars agree that modern marketing activities begin before production (Onyeke & Nebo, 2012; Armstrong & Kotler, 2005). This means that marketer's first task is to engage in research to identify the products that will meet the buyers' needs. Based on these, agricultural produce can be classified into six which are: foods, fibres, fuels, raw materials, pharmaceutical drugs/stimulants and ornamental or exotic products (Nebo & Ejionueme, 2017). By industrial standards they can be classified into subsectors as: livestock and meat, poultry, aquatic, fruits and vegetables, milk and dairy, grain, cotton and textile as well as tobacco subsectors (Ejionueme & Nebo, 2014).

**Agricultural Prices:** This is the value of a commodity or service expressed in monetary terms (Pride & Ferrel, 1995). It is the money paid or agreed in exchange for a product. Price and pricing decisions are variables in agricultural marketing. Even if all other aspect of agricultural marketing elements is right, with the wrong price neither the buyer nor the producer will be willing to engage in exchange transaction. Price determines demand and supply. Owing to the homogeneity of agricultural products,



prices are often determined by forces of supply and demand. Farmers take prices rather than fix prices. Similarly, prices fluctuate often due to seasonality of some agricultural products resulting in low prices during on-seasons and high prices during off-seasons. Storage, transportation, off-season planting, exporting, improved seedlings, processing and guaranteed minimum price are all effective strategies farmers can adopt to get better prices at harvest seasons (Ejionueme & Nebo, 2014). Production and distribution costs, mark-ups, discounts and competition are price variables investigated in this study.

### **Distribution of Agricultural Products:**

Distribution is the courses taken in the transfer of title of a product from the first owner in this case the farmer to the last owner which is the consumer (Ejionueme & Nebo, 2014). All agricultural marketing efforts come to nothing unless products from the farmers' orchards, ranches or farms get to the consumers who need them. In performing the delivery functions, products and their titles pass through certain paths or routes from the producers to the consumers. These routes are called distribution or trade channels. Distribution function creates form, time, place and possession utilities to products. Geographical specializations are common in agricultural productions; therefore produce must be moved from the areas of surplus to areas of shortage using channel members and key logistics such as transportation, packaging and storage facilities. Storage is a marketing function which entails the accumulation of agricultural produce from time to time in a storage house until they are needed by consumers. It helps agricultural marketers to hold excess produce during the harvesting seasons and protects the produce against adverse weather conditions. Transportation is the movements of produce from where they are produced to where they are needed through various transportation modes such as trains, pipeline, trucks, air craft, vessels and ocean liners.

### **Marketing communications or**

**promotion:** These are often not used by individual farmer to influence demand for agricultural produce because of their undifferentiated or homogeneous nature. Any promotional expenditure by one producer of a particular commodity will benefit another producer of the same commodity without paying a dime.

Badar (2011) identified the roles and benefits of agricultural marketing to farmers and in economic development. This includes:

1. An effective agricultural marketing system has a palpable impact on marketable and

marketed output of the farmers and thus adds to overall national income of a country.

2. The marketing sector assists in providing capital and necessary business skills for trading to the budding entrepreneurs and traders which are prerequisites for economic development.
3. It updates farm production structure via development of a commercialised form of production and improved specialisation.
4. It improves the efficiency of resource allocation and expands the size of the market.
5. Marketing improvements grows the market orientation of the farmers by making them more receptive to market indications and thereby guide them in better production planning.
6. It provides an effective link between rural and urban areas by facilitating the movement of factors of production, goods and services.
7. The consumer is not disillusioned by multiple grades, multiple prices, misleading labels, adulteration and the inadequacy of market service, which leads to the maximisation of aggregate social welfare in the context of an improved marketing system.
8. Improved market structure reduces the chances of the occurrence of produce losses, rises incentives for production and guarantees favourable prices to the producers via reduced marketing margins.
9. It accelerates the pace of capital formation through a reliable marketing system which ensures a stable and favourable cost-return relationship for the producers and easier as well as quicker availability of a technology package.
10. The formation and development of marketing infrastructural facilities increases farmers' access to markets, improve efficiency of commodity movements and encourages market integration.
11. The improved market organisation transmits correct market responses and minimises the scope of distorted market signals.
12. A marketing system that promptly respond to changing conditions in world market improves the competitiveness of exports and contributes to foreign exchange earning of the country.

### **2.1.2 Financial Empowerment**

Empowerment is a process and a goal. As the process, empowerment is a series of activities to strengthen a power or the existence of a weak group



in society. As the goal, empowerment refers to condition or outcomes to be achieved by a social change, i.e. making a person or a community to become strong enough to participate in a variety of control, having knowledge and the ability to meet the needs of their life physically, economically and socially. The definition of empowerment as a goal often becomes an indicator of the success of empowerment as a process. Elements of the force to be owned by the community to be empowered include: communication access, confidence, leadership, institutional & organizational abilities, networking, skills, and reliable. The success of community empowerment can be seen from their ability against economic access, prosperity access, and cultural as well as political ability. Empowerment not only includes the strengthening of individual community members, but also the institutions. Instilling the values of modern culture, such as hard work, thrift, openness, and responsibility are main part of empowerment effort and similarly, the renewal of the social institutions and its integration into development activities and the role of the public in them. Empowerment is a process by which those excluded are able to partake more fully in decisions makings, strategies of development, and distribution of their product. Community empowerment is an attempt to enhance the dignity of people in the present conditions which are unable to escape from the trap of poverty and underdevelopment, in other word; empowerment is enabling and creating self-reliance society.

Empowerment being defined as the process of growing the capability of individuals or groups to make choices and to convert those choices into desired actions, financial empowerment therefore is the transmission of personal money power (financial independence) to an individual. It is the process of moving from financial unsteadiness to a position of financial stability through investment. According to Wikipedia (2018), financial independence is a state in which an individual or household has sufficient wealth to live on without having to depend on income from some form of employment. Financially independent individuals have assets that generates income (cash flow) that is at least equal to their expenses. Canada (n.d) stated that financial empowerment is a new approach to poverty reduction that focuses on improving the financial security of low-income people. It is an evidence-driven set of interventions that have proven successful at both eliminating systemic barriers to the full financial inclusion of low-income people and providing enabling supports that aid them obtain and practice the financial skills and behaviours that palpably improve their financial outcomes and shape their financial security. The financial empowerment tactic focuses on community level approaches that

encompass five main types of interventions that have been recognised as both essential for low-income households to improve their financial outcomes, and effective at helping them do so. Financial Empowerment can mean different strategies for everyone. However, everyone can agree that to be financially empowered is to have adequate finances, to meet your financial obligations, as well as acquire financial wealth to take care of future and unexpected expenses

### 2.1.3 Empowering rural farmers through Agricultural Marketing

Chokera, Ngwenya & Njovo (2014) noted that in the past research and agricultural development organisations and agencies were preoccupied with developing strategies of increasing food productivity by small holder farmers, however, today there seems to be a shift of focus in which researchers and agencies seek to understand ways and means of improving the livelihoods of farmers especially those in rural communities through identifying profitable markets for their produce. Smith (2001) identified rural development as a complicated process involving a network of actors and stakeholders who pool resources together in achieving set objectives. In other words Smith viewed rural development as a product of stakeholder co-operation in which different parties come together to bring about rural development. In Nigeria stakeholders who can participate in developing rural areas include the government, rural farmers, transport agencies, development agencies, buyers of agricultural produce which can be the local supermarkets, wholesalers and national buyers. While it is the primary duty of the government to develop rural areas, the prevailing political and economic situation has crippled the government's capacity to improve infrastructure in the rural communities. On the other hand the private sector is unable to assist government through corporate social responsibility programs as most companies across industries are facing run away from siting their companies in the rural areas because of the lack of basic amenities such as power supply and good road networks. Also the works of Smith (2001) called for stakeholder co-operation in order to achieve development in rural communities; the challenge of capacity has hampered this since the above actors are suffering from resource constraints, noting also that infrastructural development is not only a problem in the rural areas but even in the major towns and cities, where roads are in a state of disrepair with numerous pot holes and driving in these roads have become a nightmare for motorists. Chokera, Ngwenya & Njovo (2014) called on rural farmers themselves to form partnerships and start to identify the critical resources that they need to develop infrastructure in their communities.





Furthermore, they also argued that rural farmers can take advantage of the presence of many non-governmental organisations (NGOs) operating in their communities and seek assistance in terms of improving the state of roads and bridges so that access to market centres can be improved.

### 2.1.4 Relationship between Marketing and Agricultural Sector Performance in Nigeria

Nebo & Ejionueme (2017) noted that there is a high level of linkage, interconnection and interrelationships between agriculture and marketing. Agricultural marketing complements agricultural production. Every agricultural produce needs to be sold immediately or presented for future sales or used after harvest. Agriculture cannot be thorough without effectively marketing its produce. Marketing moves agricultural produce from places of surplus to areas of deficit. Marketing makes it possible for some seasonal agricultural products to be consumed throughout the year by storage functions. Marketing transfers ownership of agricultural produce from the farmer to the consumers. It also changes agricultural products in ways desired by consumers by sorting, grading standardizations, packaging, processing and preservation functions. Agricultural marketing tells the users and buyers where and when to find the products and at what prices they are sold. Pricing which is considered as a marketing function, guide and regulates production choices of farmers. For example, farmers can switch from corn production to soybeans when the price ratio favours soybeans and vice versa. Ideally market conditions dictate farmers' operational plans in terms of what quantity to produce. Minten (1999) in his study discovered that agricultural producer prices decrease significantly as the distance to main roads increases and the quality of infrastructure (market access) decreases. Similarly Kamara (2004), studied the Impact of Market Access on Agricultural Input Use and Productivity in Machakos District, Kenya and found that all inputs and agricultural productivity increased with improvement in the access of farmers to output markets. He concluded that prioritizing the improvement of market access is an important approach to rural development as it gives farmers the opportunity to engage in more meaningful agricultural productivity. This means that marketing aids agricultural development.

## 2.2 Theoretical Concept

The study was anchored on the theory of Agricultural Location Johann Heinrich von Thünen, a Prussian landowner, introduced an early theory of agricultural location in *Der isolierte Staat* (1826) (*The Isolated State*). The Thünen model suggested that accessibility to the market can create a complete system of agricultural land use. His

model predicted a single market surrounded by farmland, both situated on a plain of complete physical homogeneousness. Transportation costs over the plain were related only to the distance travelled and the volume shipped. The model presumed that farmers surrounding the market will produce crops which will have the highest market value and that will give them the maximum net profit (the location, or land, rent). The defining factor in the location rent is the transportation costs, and when the transportation costs are low, the location rent will be high and vice versa. This situation will produce a rent gradient along which the location rent decreases as the distance from the market increases and eventually reaching zero. The Thünen model also addressed the location of intensive versus extensive agriculture in relation to the same market. Intensive agriculture will possess a steep gradient and will locate closer to the market than extensive agriculture. Different crops will possess different rent gradients. Perishable crops (vegetables and dairy products) will possess steep gradients while less perishable crops (grains) will possess less steep gradients.

## 2.3 Empirical Review

Chokera, Ngwenya & Njovo (2014) qualitatively studied on the role of agricultural marketing on improving the livelihoods of rural farmers in Masvingo province. The study focuses on four issues (1) major crops grown (2) current markets for produce (3) institutions that support farmers (4) challenges faced by farmers in production, pricing, promotion and transporting produce to profitable markets. Data was gathered from 361 respondents being farmers specialising in the production of maize, groundnuts, small grain crops and vegetables, extension officers, bursars of boarding schools, churches and hospitals as well as supermarkets owners using in-depth interviews and focus group discussions. The findings indicated that maize, rapoko, millet, groundnuts and vegetables are widely grown; Urban dealers, boarding schools, hospitals, churches and Supermarkets are the foremost markets currently absorbing produce; inputs supply, transport, Lack of market information affect farmers in pricing agricultural produce. The paper concluded that rural farmers lack market information as they still rely on the traditional selling approach. The paper thus recommended that government should improve the state of the roads; establish training centers to equip farmers with marketing skills, and the need for the rural farmers to establish their own marketing board which will be responsible for identifying markets and delivery of produce direct to the target markets.

Asogwa & Okwoche (2012) examined the marketing of agricultural produce among rural farm households in Nigeria using sorghum marketing in Benue State as a case study. Data were collected





from randomly sampled 100 sorghum marketers in Benue State using a structured questionnaire. Data were analyzed using frequency distribution and percentages as well as marketing margin analysis and t-test statistic. The marketing margin of an average sorghum marketer in the study area was 34.43% which implied that 100% retail price paid by the final consumer resulted in farm-to-retail price spread (marketing margin) of 34%. The study revealed that: an average sorghum marketer in the study area earns a farm-to-retail price spread of 0.34 Naira for every 1 Naira retail price paid by the final consumer in the marketing process; the marketers in the study area had significant marketing margin during their marketing transaction and that the welfare of sorghum marketers was fully derived from the business which they transact, suggesting that sorghum marketing serves as a source of livelihood for the respondents.

Karani & Wanjohi (2017) studied the factors influencing marketing of agricultural produce among small-scale farmers using sorghum in giaki location, meru county Kenya as case study. The study embarked on the influence of middlemen in the market, road infrastructure, and access to marketing information, on marketing of agricultural produce among small scale farmers. The research was conducted using descriptive research design and the data was collected using questionnaires. The target population consisted of all the 212 households which were involved in sorghum produce in Giaki location. The sample size was 138 sorghum farmers. The variables were correlated using statistical methods through SPSS. The study found that Majority of smallholder farmers (89.5%) use middlemen as market link while marketing their sorghum produce. 96.2 % of the respondents felt that middlemen are exploitive to small scale sorghum farmers. Majority of the respondents (69.1%) felt that middlemen in the market are important. The study also found out that most of the respondents (52.6 %) use dusty roads when marketing their sorghum produce. The study also revealed that 72.2 % use mobile phones as mode of accessing marketing information since it's convenience to everyone. 69.9% of the respondents get the information from the middlemen as their source. It was established that there was a strong positive correlation between Access to information and sorghum marketing a figure of 0.679, followed by middlemen in market a figure of 0.510 while road infrastructure had the weakest positive correlation of 0.390 with sorghum marketing. Moreover all the variables were significant at 95% confidence level with sorghum marketing.

Nebo & Ejionueme (2017) investigated the role of adopting agricultural marketing approach for improving agricultural sector performance in Nigeria. The objectives of the study included; to determine the

significant problems of marketing agricultural products in Nigeria, to ascertain the influence of products on agricultural sector performance in Nigeria, to assess the influence of distribution on agricultural sector performance in Nigeria and to determine the influence of price on agricultural sector performance in Nigeria. Survey research design was adopted for this study. A structured questionnaire was used to collect data from a sample of 250 agricultural marketers comprising of farmers and farm products' distributors in South-eastern Nigeria. The reliability of the research instrument was ascertained using Cronbach Alpha test which yielded 0.81 coefficient. Hypotheses were tested using Principal Component and Regression Analysis. Findings show that production, distribution and pricing-related factors were the most significant problems of agricultural marketing; and that products, distribution and price were marketing variables likely to significantly improve agricultural sector performance in Nigeria. It was recommended that government; entrepreneurs who are non-governmental organizations and large scale farmers should provide effective solutions to those major variables identified in this study as hindrance to agricultural marketing and also capitalize on those marketing variables that have significant influence on agricultural performance in Nigeria to improve the sector.

Barnabas (2017) examined the effect of transportation in the marketing of agricultural products in selected markets in Jos North LGA of Plateau State. The main objectives of the study were to ascertain the relationship between efficient transportation system and the cost of agricultural products and to determine the impact of transportation on the availability of agricultural products in Jos North LGA. Survey research method was employed. Respondents were drawn from GadaBiu, FarinGada, and Statellite Markets. Tables and percentages were used for data presentation. Findings showed that transportation plays an important role in the distribution of agricultural products, helps in creating market for agricultural product and reduces spoilage and wastage of farm products. It also showed that improvement in transportation can encourage farmers to work hard in increasing production. The study recommended that Federal, State and Local Governments should provide adequate transportation system which will help in conveying the farm products from their places of production to places of consumption and that all transportation facilities in the country should be upgraded by Federal Government and there should be general improvement in the transportation system which will encourage farmers to work harder.

Prusty, Biswal & Hathy (2013) did an empirical analysis on regulated agricultural



marketing system for economic development of Jajpur district in Orissa (India). The objectives of the study were: to evaluate the role of agricultural marketing for the development of rural economy of the district and the steps taken by state government in agricultural marketing; to assess the regulated agricultural knowledge based marketing system and to give some suggestions for the improvement of efficiency and transparency in the marketing of agricultural produce. The study was based on the data collected from various primary and secondary sources. The primary data are collected through two sets of questionnaires and one set of interview schedule were developed to obtain data from the producer farmers, consumers and officials associated with the agricultural marketing activities. Potential surveys and techno-economic survey were also consulted. The secondary data was gotten from the published magazines like District statistical Abstract (A Govt. of Odisha Publication) and Economic Review. Data were tested and analysed through the computer based statistical techniques like correlations and multiple regression. Statistical tools like average, co-efficient of variation, multiple regressions, analysis of Variance (ANOVA) were applied to examine the result. Findings from the study showed that majority of farmers depend on their peers for access of information related to marketing of produce, many of the regulated wholesale markets have a principal market with large area and relatively better infrastructure and number of sub-yards attached to the principal market and that the establishment of regulated markets has helped in creating orderly and transparent marketing conditions in primary assembling markets.

Bajrang (2017) descriptively studied agricultural marketing as a catalyst for rural marketing in India. The purpose of the paper was to highlight the importance of agricultural marketing for the development of the rural India, to investigate the problems of agricultural marketing, and to show up the opportunities of rural and agricultural marketing in India. Descriptive research design was adopted and data was collected from both primary and secondary sources. Finding from the study show that economic development of the country depends on the development of its rural people and that depends on development of agricultural produce and productivity. The study called on Manufacturers and marketers should strive to reduce the production cost and to minimize distribution costs. Simultaneously, product price and durability should be given priority while entering in rural market and that marketers should invest in infrastructure and communication facilities.

Maponya et al (2015) highlighted the determinants of agricultural market participation and the promotion of the establishment of vegetable

markets, fruit markets and nurseries in the Sarah Baartman district, Eastern Cape, South Africa. The research was conducted by taking a representative sample consisting of 49 agricultural projects, with 664 beneficiaries participating in this project. Nine (9) local municipalities were visited: Ndlambe, Makana, Blue Crane, Camdeboo, Ikwezi, Sundays River, Kouga, Kaukama and Baviaans. Quantitative and qualitative design was used as a detailed questionnaire written in English, with a focus group discussion, a stakeholder's discussion, and field observations as part of the data collection. A purposive sampling technique was used to select forty-nine (49) projects, in order to cover uniformity and homogenous characteristics such as infrastructure requirements, skills availability, production challenges, agricultural training needs, water source needs, educational level and others. Data was coded, captured and analysed with a software package for social sciences (SPSS version 20) using Descriptive Analysis and Univariate Regression Analysis. The results showed a significant association among the following variables: age, educational level, farming experience, land, land acquisition, crop planted, water source, water rights, agricultural training and market participation. Based on the results, it is recommended that fruit and vegetable markets be established, as well as the creation of a complete, viable agro value chain that will expand community driven agricultural production and processing.

## METHODOLOGY

The researcher adopted a survey research design in collecting the data. This helped the researcher in answering research questions and the testing the hypotheses. The population of the study was made up of the rural farmers in the twenty one (21) Local Government Areas of Anambra state. Since the researcher could not study the entire population because it is an infinite population, the Cochran general accepted formula for determining sample size for an infinite population was used to determine the sample size for this study as follows:

$$Ss = \frac{Z^2 P(1-P)}{C^2}$$

Z = Confidence Interval = 95% = 1.96  
 P = Percentage of Population = 50 = 0.5  
 C = Confidence Level = 0.04 = 0.08  
 Substituting the figures in the formular

$$Ss = \frac{1.96 \times 0.5(1-0.5)}{0.08}$$

$$Ss = 6.125 \times 100 = 612$$



The data generated for the study were presented with frequencies and percentages, while the stated hypotheses were statistically tested with Pearson motion correlation, which was computed

with the aid of the Statistical Packages for Social Sciences (SPSS) Version 17.

#### 4.1 DATA PRESENTATION

##### 4.1.1 Presentation of Question Data (Section A)

**Figure 4.1 Total Number of Questionnaires Administered**

Options	Frequency	Percentage %
Number of questionnaires administered	612	100%
Total number of questionnaires duly filled, returned and valid for analysis	542	88.6%
Number of questionnaire not returned	70	11.4%

Source: Researchers' Field Work 2019

**Figure 4.2 Responses on Gender**

Options	Frequency	Percentage %
Male	226	41.7%
Female	316	58.3%
<b>Total</b>	<b>542</b>	<b>100%</b>

Source: Researchers' Field Work 2019

**Figure 4.3 Responses on Educational Qualification**

Options	Frequency	Percentage %
No formal educational qualification	101	18.6%
First School Leaving Certificate	113	20.8%
Secondary School Certificate Examination	192	35.4%
Bachelors' Degree (University Degree)	108	19.9%
Postgraduate Degree	28	5.2%
<b>Total</b>	<b>542</b>	<b>100%</b>

Source: Researchers' Field Work 2019

**Figure 4.4: Responses on Marital Status**

Options	Frequency	Percentage %
Single	23	4.2%
Married	316	58.3%
Divorced	0	0
Widowed	203	37.5%
<b>Total</b>	<b>542</b>	<b>100%</b>

Source: Researchers' Field Work 2019

**Figure 4.5: Responses on Age**

Options	Frequency	Percentage %
15 - 30 years	78	14.4%
31 - 45 years	91	16.8%
46 - 60 years	195	36%
61 years and above	178	32.%
<b>Total</b>	<b>542</b>	<b>100%</b>

Source: Researchers' Field Work 2019



Figure 4.6: Tabular presentation of questionnaire data

S/N	Question	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
<b>PRODUCT</b>						
1	Do you agree that products that satisfy the buyers need is what the rural farmer needs to be able make profitable sales?	500	30	12	0	0
2	Do you agree that farm products are necessitates in every household and as such are always purchased when available?	256	57	102	97	30
3	Do you agree that farm products that are seasonal do not have a relationship with the farmers' income?	90	67	217	118	50
4	Do you agree that farm products that are perishable do not have a relationship with the farmers' income?	189	90	76	100	87
	<b>Mean</b>	<b>258.75</b>	<b>61</b>	<b>101.75</b>	<b>78.75</b>	<b>41.75</b>
<b>PRICE</b>						
1	Do you agree that farm products are mostly sold at a give-away price?	187	75	98	119	63
2	Do you agree that demand and supply of farm products also affect their prices?	219	102	53	121	47
3	Do you agree that lack of storage facilities affects the prices at which farm products are being sold?	311	109	51	44	27
4	Farm products are sold at a better price in the cities than in the rural areas where they are harvested?	402	54	12	31	43
	<b>Mean</b>	<b>279.75</b>	<b>85</b>	<b>53.5</b>	<b>78.75</b>	<b>45</b>
<b>PLACE</b>						
1	Do you agree that most farm products are sold on the spot of harvest?	116	119	59	111	137
2	Farm products are mostly taken to the village market before they could be sold?	101	115	119	131	76
3	Farm products are mostly sold in the cities than in the villages?	99	112	71	161	99
4	Rural farmers also sell their products online?	119	121	93	101	108
	<b>Mean</b>	<b>108.75</b>	<b>116.75</b>	<b>85.5</b>	<b>126</b>	<b>105</b>
<b>PROMOTION</b>						
1	Rural farmers go from house to house informing people about their farmer products?	98	99	65	199	81
2.	Rural farmers make use of the village town-carrier to inform the public about their products?	77	54	88	281	42
3.	Rural farmers make use of the social media in promoting their products?	12	55	78	311	98
4.	Rural farmers make use of paid agents to advertise their products?	154	121	66	101	100
	<b>Mean</b>	<b>82.25</b>	<b>82.25</b>	<b>74.25</b>	<b>223</b>	<b>80.25</b>
<b>FARMERS INCOME</b>						
1.	Money realized from the sale of farm products can be used to provide basic needs for a family of six?	10	23	11	289	209
2.	Rural farmers still have saving after providing for the basic needs of their	4	13	21	333	171



	families?					
3.	Rural farming can serve as a source of livelihood to its dwellers?	190	311	16	7	18
4.	Government assistance by way of providing mechanised farming can improve the income of rural farming?	119	213	67	98	45
	<b>Mean</b>	<b>80.75</b>	<b>140</b>	<b>28.75</b>	<b>181.75</b>	<b>110.75</b>

## 4.2 Test of Hypotheses

### Hypothesis One

$H_0$ : There is no significant relationship between the product produced and the income of rural farmers in Anambra State.

#### Correlations

		PRODUCT	INCOME
PRODUCT	Pearson Correlation	1	-.369
	Sig. (2-tailed)		.541
	N	5	5
INCOME	Pearson Correlation	-.369	1
	Sig. (2-tailed)	.541	
	N	5	5

From the correlation result, the product produced has a weak negative correlation of  $-.369$  with income of rural farmers in Anambra State. This implies that the quantity, nature, kind or quality of product produced only has a weak negative relationship with financial empowerment of rural farmers in Anambra State. This also implies that an increase in the product produced will lead to only a less than proportionate decrease on farmers' income.

**DECISION:** Since the computed correlation coefficient  $r$   $-.369$  is less than the critical  $r$  value  $.666$

for two-tailed test at 0.05 level of significance, we therefore accept the null hypothesis, meaning that, there is no significant relationship between the product produced and the income of rural farmers in Anambra State.

### Hypothesis Two

$H_0$ : There is no significant relationship between distribution of the produce and the income of rural farmers in Anambra State.

#### Correlations

		PLACE	INCOME
PLACE	Pearson Correlation	1	.956*
	Sig. (2-tailed)		.011
	N	5	5
INCOME	Pearson Correlation	.956*	1
	Sig. (2-tailed)	.011	
	N	5	5

\*. Correlation is significant at the 0.05 level (2-tailed).

From the correlation result, the distribution of the produce has a high positive correlation of  $.956$  with income of rural farmers in Anambra State. This implies that the location, distance, accessibility and other factors that have to do with the distribution strategies adopted by the farmers have a very high

positive relationship with financial empowerment of rural farmers in Anambra State and will also lead to a more than proportionate increase in their income.

**DECISION:** Since the computed correlation coefficient  $r$   $.956$  is more than the critical  $r$  value  $.666$  for two-tailed test at 0.05 level of significance, we





therefore reject the null hypothesis, meaning that, there is a significant relationship between the distribution of the produce and the income of rural farmers in Anambra State.

**Hypothesis Three**

H<sub>0</sub>: There is no significant relationship between price of the product and the income of rural farmers in Anambra State.

**Correlations**

		PRICE	INCOME
PRICE	Pearson Correlation	1	-.152
	Sig. (2-tailed)		.808
	N	5	5
INCOME	Pearson Correlation	-.152	1
	Sig. (2-tailed)	.808	
	N	5	5

From the correlation result, the price of the product has a weak negative correlation of -.152 with income of rural farmers in Anambra State. This implies that an increase in the price of the product produced will lead to only a less than proportionate decrease on farmers' income.

there is no significant relationship between the price of the product produced and the income of rural farmers in Anambra State.

**DECISION:** Since the computed correlation coefficient r -.152 is less than the critical r value .666 for two-tailed test at 0.05 level of significance, we therefore accept the null hypothesis, meaning that,

**Hypothesis Four**

H<sub>0</sub>: There is no significant relationship between promotion of products produced and the income of rural farmers in Anambra State.

**Correlations**

		PROMOTION	INCOME
PROMOTION	Pearson Correlation	1	.735
	Sig. (2-tailed)		.157
	N	5	5
INCOME	Pearson Correlation	.735	1
	Sig. (2-tailed)	.157	
	N	5	5

From the correlation result, promotion of products produced has a high positive correlation of .735 with income of rural farmers in Anambra State. This implies that the method of promotion used by rural farmers will have a very high positive relationship with their financial empowerment and will also lead to a more than proportionate increase in their income.

**5.1 SUMMARY OF FINDINGS**

From the results of the correlation coefficient of the different hypotheses, the study found the following:

- There is no significant relationship between the product produced and the income of rural farmers in Anambra State.
- There is a significant relationship between the distribution strategies adopted by rural farmers and the income of rural farmers in Anambra State.
- There is no significant relationship between the price of the product produced and the income of rural farmers in Anambra State.

**DECISION:** Since the computed correlation coefficient r .735 is more than the critical r value .666 for two-tailed test at 0.05 level of significance, we therefore reject the null hypothesis, meaning that, there is a significant relationship between the promotion products produced and the income of rural farmers in Anambra State.



- There is a significant relationship between the promotion of products produced and the income of rural farmers in Anambra State.

## 5.2 CONCLUSION

The marketing of agricultural crops play an important role not only in stimulating production and consumption but also in accelerating the pace of economic development. It is not only an economic link between the producers and consumers but also maintains balance between demand and supply. Previous empirical studies tried to justify the above assertion. Some scholars also studied on the challenges and possibly the prospect of agricultural marketing. Hardly was there a study on the relationship between agricultural marketing and rural farmers' financial empowerment.

The study revealed that agricultural marketing variables such as product and price have no significant relationship with rural farmer's income while place and promotion showed a significant relationship. The study showed that product produced by rural farmers has a weak negative correlation of  $-0.369$  with their income which implies that an increase in the product produced will lead to only a less than proportionate decrease on farmers' income. The study also showed same for the price of the product which has a weak negative correlation of  $-0.152$  with income of rural farmers. This implies that an increase in the price of the product produced will lead to only a less than proportionate decrease on farmers' income. It further revealed that the place of production has a high positive correlation of  $0.956$  with income of rural farmers. This implies that the location, distance, accessibility and other factors that have to do with the place factors have a very high positive relationship with financial empowerment of rural farmers and will also lead to a more than proportionate increase in their income. In the same vein, it showed that the promotion of products produced has a high positive correlation of  $0.735$  with income of rural farmers which implies that the method of promotion used by rural farmers has a very high positive relationship with their financial empowerment and will also lead to a more than proportionate increase in their income.

## 5.3 Recommendation

Based on the findings of the study, the following recommendations were made:

- Keen attention should be paid to the distribution and marketing of agricultural produce as it showed a very high relationship with the income of rural farmers. They should consider also taking their produce to the city markets where a better price can be obtained.
- Promotion of agricultural produce should also be taken seriously as this showed a high relationship with the income of farmers. Rural farmers should adopt any promotional method at their disposal to market their produce.
- Universities and colleges in Anambra State and Nigeria at large should play a corporate social responsibility role of teaching rural farmers basic marketing skills so that farmers will be able to identify profitable markets for their produce.
- There is need for government intervention to improve the state of roads in rural areas, establish an agricultural bank specifically targeting the needs of the rural farmers so that the farmer can increase production through mechanized farming system.
- Rural farmers should form voluntary co-operative arrangements so as increase production capacity as well as to meet the cost of marketing to the local and international markets. Such cooperative arrangements will enhance knowledge sharing, resource sharing and in the process boost production capacity.

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# THE STUDY ON ROLE OF CSR AND HUMAN RESOURCE MANAGEMENT TOWARDS SUSTAINABLE BUSINESS ORGANIZATION

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## ABSTRACT

*In today's era of globalization the word Competition gain much importance between the institutions and companies for their sustainability over rival companies. Result of this competition is survival and profitability for the organizations. Every organization is focusing on getting excellence on the most important resource-Human Resource to achieve goals and also social responsibility. Corporate Social Responsibility and Human Resource Management become more powerful tools within organizations. As per the Literature there are many case studies developed on Corporate Social Responsibility and Human Resource Management which is directly linked with Environmental, Social and Economic sustainability. The study aims to address the new functionality of Corporate Social Responsibility, Human Resource Management and sustainable business organizations. A total of around 50 research paper and articles from indexed journal were analysed. The contribution of this work sheds lights on some issues, such as green-management, Commitment, satisfaction, performance and sustainability in exploration to the demands that business organization have in this respect.*

**KEYWORDS:-** CSR, HRM, Sustainability, Environment, Green Management

## INTRODUCTION

The role of Corporate social responsibility and Human resource management has noticed an extraordinary boom in last decade. The boom is experienced not only from other fields of research but also from Business world.

CSR is defined as a self-regulating business model that helps a company be socially accountable—to itself, its stakeholders, and the public. It is a broad concept depending on company and industry. From CSR activities ,

Philanthropy, volunteer efforts, businesses can benefit society while boosting their brands. In current scenario employees is focusing on ethical aspects of Human resource management and Corporate Social Responsibility with a parallel approach. HRM plays a significant role to understand CSR and in what way it is developed and enacted. Though, HRM is having a wide range of definitions but it is differentiate as a function or process from the general management activities of the organization.

In Research paper both the concept is analysed and described with different perspectives. The only factor common is the organization sustainability.

Sustainability in Human resource management still remains underdeveloped area of Research. Whereas numerous papers are overviewed and they indicate managers delegate CSR sustainability issues to other team members of the Organizations. The developed approach of Corporate Sustainability obtains a balance between social and environmental concerns business operations and relationship with all stakeholders.

All the three terminology CSR, HRM and Sustainability are interlinked by series of binding elements. This relationship generates problem within the organization regarding competencies and functionality between Sustainable development and Human Resource Management. Gond & Collaborators identify up to three outlines of how CSR and HRM interact with each other with respect to sustainability.

CSR is mostly concerned with Environmental, economic and social apprehension in business organization (Branco & Rodrigues). Organizations are having broad CSR strategy to understand the moral and ethical concerns of employees. CSR practice is more towards addressing and aligning employees with CSR activities in routine affairs.





Employees related CSR aspects need support of HR department because HRM is “a strategic approach to managing people to achieving sustainable competitive advantage, and this can be achieved through a distinctive set of integrated employment policies, programme and practices” (Bratton and Jeffery). Human resource is a concept of dealing with employees. HR managers can motivate employees by encouraging them for development, commitment, employee engagement and employee well-being.

It is clear that HRM and CSR are playing a role of partners in the current policy of the organizations, where sustainability stands as a moderating component of this relationship. “Technological developments, competition, and globalization have caused drastic changes within and between organizations, modifying, among other things, human resource management strategy” [34]. As Guerci and Pedrini [35] point out, “human resources represent a key element in driving change towards the sustainability of organizations, through the implementation of sustainable practices”, and meeting the needs of all stakeholders.

The document is to provide an overview of research addressing CSR, HRM, and sustainable management, and the interaction between them. This is done in three distinct phases. The first phase is thorough review of the definitions and research on this subject.

## METHODOLOGY

The research work is based on bibliometric analysis of the literature using research paper, research articles as base unit. Through this process of analysis the information collected is in two pointers- Relationship and Activity pointers. From the study of the selected research papers, research articles divulge the progress of research to CSR and Human Resource Management. The information pull out from the literature, such as the year of publication of the articles, authors, citations, origin, impact indices, and other characteristics will allow us to make a complete outline of what invention in this field has meant.

## Material

The analysis of publication was carried out from different database. The indexed journal database presents the highest quality of inventions. In the analysis of publications using bibliometric techniques, it is usual to select the most cited articles, research paper from the entire sample obtained. Only such articles, research paper are included which met the search parameters.

## RESULTS

As we reviewed different articles and research papers CSR and HRM has been Classified into three phases. Early maturation phase was retrieved from

1993 to 2009, second phase was incremental growth and lastly, Rapid growth was the third phase which was observed in recent years.

Different reviewed research paper, journals and articles highlights the changes in understanding of CSR-HRM over a period of time. But earlier this relationship was barely observed in terms of social responsibility. “social responsibility of business [being] a totally new phenomenon” (Bergmann, p. 61), with an increase in the relevance of the CSR topic both in research and practise and the broadening scope of HRM's responsibilities over time, the relationship between the two constructs has broadened to become an interesting and fruitful area of research. From the second phase- Incremental growth-Constant increase is observed between CSR and HRM.

The data is analysed from the literature review of three phases-Maturation phase, Incremental phase and Rapid growth phase. While analysing Rapid growth phase certain key terms has been appeared-impact of CSR and HRM practices on employees and other stakeholders. From such analysis balance will generate between economics, social environment, green management of human resources and also to measure the impact of CSR, HRM and sustainability on business practices and the company's image.

During this period of 2010 to 2014 CSR takes the lead and new topics are incorporated into CSR and HRM-Employees or business, stakeholders. The focus was on the issues related to sustainability, performance and methods.

In addition to CSR, certain terms -Green management like environment strategy research is linked to performance and sustainability strategies and behaviour.

Other important terms like” Green Human resource management, Knowledge management or change management in sustainability are linked with this periods where the concept Corporate, social performance are related to framework. Last period of Rapid growth refers to emerging issues such as equality, Socialization, Trust, satisfaction has been investigated among others.

“Social integrative approaches to CSR suggest that social demands should be integrated with businesses demands, as businesses and society are dependent on each other for continuity and growth (Garriga & Melé, 2004). Similarly, the “soft” or relational view of HRM is based on integration of worker needs with organizational purposes.” Therefore, from an integrative CSR-HRM perspective, participation of employees in CSR practises and/or delivery of responsible employment is undertaken for the benefit of employees, the organization and other stakeholders.

Within this perspective, it is observed, research that treats HR practises as antecedents to





improved CSR or CSR affecting worker commitment and motivation, but also research arguing for wider stakeholder engagement as part of CSR–HRM (see e.g. Brammer et al., 2007; Cortini, 2009; Davies & Crane, 2010; Lehmann, Toh, Christensen, & Rufe, 2010).

From the literature reviewed research find that “all HR practises suggested by integrative CSR–HRM research focus on the co-design of HRM and CSR practises (Gond et al., 2011)”; defining, socially responsible HR practises, like standard development for quality work and on the other hand “HR practises to support CSR activities, including for example practises that encourage employee involvement in CSR. Selection, motivation, and compensation practises reward success towards long-term, sustainable economic and social success (Becker et al., 2010; Garavan & McGuire, 2010).”

Many empirical papers in integrative CSR–HRM use qualitative methods (e.g. Davies & Crane, 2010; Mankelov, 2008). Some of the suggestions came out that integrative CSR–HRM processes, practises or strategies can really contribute to such value creation, given certain favourable conditions.

## CONCLUSION

The systematic review of the relationship between the term CSR and HRM are described and analysed from different perspective through this research. The study shows that CSR–HRM holds promises for both theoretical and practise developments. The aim of the work is to shed light on two concepts in a related way and try to explain from all possible perspectives and approaches by the implementation of CSR policies and their integration into HRM.

CSR and HRM can now fully develop notions of workers as stakeholders-their relation and engagement with the business organizations. After reviewing and analysing number of publications the relationship is identified into three phases. Early Maturation phase shows this relationship was barely observed in terms of social responsibility. “social responsibility of business [being] a totally new phenomenon. Second phase was incremental growth which emphasize on sensitivity towards organizational commitment of employees, the promotion of CSR and sustainable development through HR development. Performance, employees or stakeholder issues are closely related with CSR and HRM in this phase. The third phase was the Rapid growth which covers the most important topics-Green management, Stakeholders, Jobs which reflects CSR maintain Centrality. To summarize, the study highlights that the interest for CSR and HRM has increased in recent years.

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## ROLE OF ICT IN TEACHING AND LEARNING

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### ABSTRACT

*In this paper we explore the Role of ICT in education. A present new era has evolved in the education sector by means of ICTs. Different ICTs are now set to become instrumental to help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by, among others, helping make teaching and learning into an engaging, active process connected to real life. The application and exposure to and deployment of ICTs fundamentally change the way education is conceived and delivered to students. ICTs are enablers that optimize student-centered pedagogical methods. Due to its easy accessibility this means of education has become very popular all over the world. Distance education has got a thrust after the evolution of ICT-based education system. Uses of ICTs in education are widespread and are continually growing worldwide. It is generally believed that ICTs can empower teachers and learners, making significant contributions to learning and achievement. Of the teachers interviewed on the effectiveness of ICT in education majority of them felt that introduction and use of ICT adequately will be extremely effective in children's learning and achievement. Many teachers are reluctant to use ICTs, especially computers and the internet. Some of the reasons for this reluctance include poor software design, skepticism about the effectiveness of computers in improving learning outcomes, lack of administrative support, increased time and effort needed to learn the technology and how to use it for teaching, and the fear of losing their authority in the classroom as it becomes more learner-centered. In terms of using internet and other ICT as a resource for lesson preparation, most of the teachers interviewed, admitted to never or rarely using it, while very few used the internet to gather information sporadically or regularly. This paper intends to give an idea about ICT-based education all over the globe and its applicability in teaching and learning.*

**KEYWORDS:** *ICT, Computer, Internet, World Wide Web, Teleconferencing, Radio, Television.*

### INTRODUCTION

The education has vital role in building the society. Education determines standard of society. The quality education helps to empowering the nation in all aspects by providing new thoughts, The quality education is basic need of the society. There are number of effective teaching & learning methodologies in practice. Technology is the most effective way to increase the student's knowledge. Here comes the role of ICT in the education sector! Being an academician I cannot imagine education without ICT. Nowadays ICT (specially an internet) plays imminent role in the process of integrating technology into the educational activities.

Convergence in communication technologies means that different kinds of communication technologies are coming closer to each other. During the past few decades of rapid technological advancements the borders between

telecommunications, the Internet and mass media are receding. The convergence of communication technologies means one terminal device, for example a mobile telephone or a digital television can be used for various different services.

Media sources find ways to get involved with the new technology, Internet. Due to the high demand for the new media called Internet, other sources of media such as newspapers and other TV channels started taking advantage of this source and began to make their homepages on Internet sites. The difference between the Internet and other media sources is that Internet provides Information technology, such as digital recording system, voices, images and broadcasting media etc. all in one medium.

The peculiarity of the emerging information society also is that both information and communication technologies such as telephone, computer, cable television and other media



technologies are all merging together to form one entity working for the effective communication of information compressing time and space to almost nil. Digitization, convergence of technologies, and networking (all the specialties of postmodern technologies) lead to a transformation in the nature and expectations of mass media.

These technological advancements made mass media more interactive. For example SMS voting became popular in the present times and increased audience interactivity in the case of both print (such as newspaper) and broadcasting media (such as television and radio). The convergence of media technologies and the digital forms of access and delivery offer even more ways for the audiences to engage with the media.

The convergence of wireless form of communication allows the audience to a higher interactive platform. For example an IGNOU student sitting at the study Centre can engage in a discussion with the subject expert at the University centre also by viewing him on the TV screen. Another example is how some official web sites invite audience to vote and decide what is being broadcasted or a viewer can ask a question to the anchor of a programme while it is being broadcasted either in TV or radio. It is important to state that the convergence seems to be a condition of all contemporary media and the media technologies; all contemporary media can be associated with other media forms and the boundary between them are getting less clear as new technology developments enters the market. New technologies that allow convergence between televisions and computers have been developed. Experts even predict a total convergence of television and Internet where Internet is available through TV sets.

### **UNESCO ICT Competency Standards for Teachers**

In recent years, several studies and reports have highlighted the opportunities and the potential benefits of information and communication technologies (ICT) for improving the quality of education. ICT is viewed as a “major tool for building knowledge societies” (UNESCO 2003) and, particularly, as a mechanism at

the school education level that could provide a way to rethink and redesign the educational systems and processes, thus leading to quality education for all.

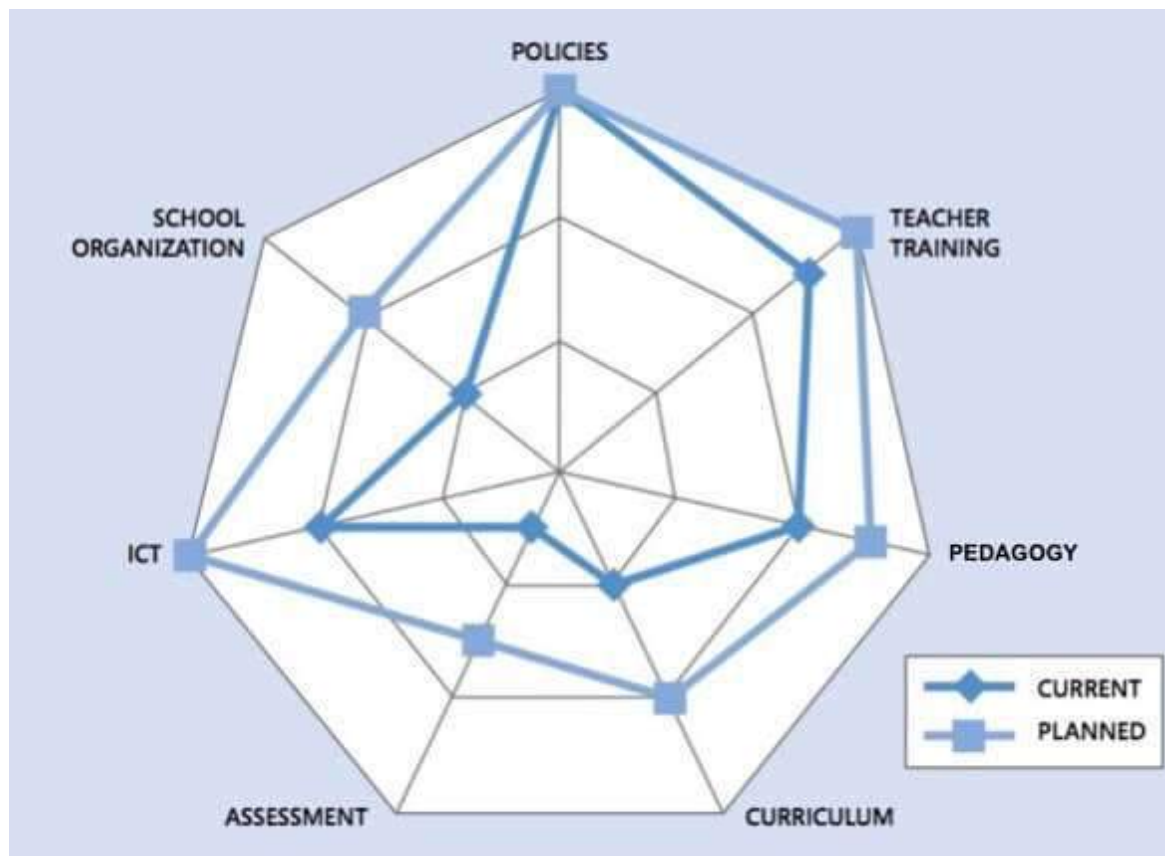
Use of ICT in school education is considered a key factor in improving quality at this educational level. UNESCO is promoting the use of ICT in learning processes through its eLearning Action Plan, one of the aims of which is “to improve the quality of learning by facilitating access to resources and services as well as remote exchange and collaboration” This report outlines several aspects to be observed and promoted, such as widespread access to broadband technologies, professional development support policies for teachers, more research into how people teach and learn using ICT, development of new high-quality online content and adaptation of current regulations to make the use of ICT at schools easier, as more recent UNESCO publications also highlight (UNESCO 2008).

The efforts of different governments and administrations have been focusing on providing the schools with good equipment. However, an analysis of the educational uses of ICT in the classroom has been lacking.

This research focuses on the need to develop appropriate strategies to face this new teaching role and, additionally, the students’ role when integrating ICT in the teaching and learning processes. The role and the perspective of teachers have become highly relevant, highlighting them as crucial players in this process. Particularly, teachers use technology depending on their perceptions and their trust in the way it can contribute to the teacher and the learning process. Through knowing what they think, we will be closer to understanding what they do or what they might do with technology in their classrooms and in relation to their work.

According to UNESCO, “Measuring ICT in education is therefore important to inform policy makers in setting national priorities and developing ICT in education policy.”





Published in 2008 by the United Nations Educational, Scientific and Cultural Organization (UNESCO), the ICT Competency Standards for Teachers is a useful reference document for school leaders and teachers. The standards used to develop teacher competency consist of three parts:

a policy framework explaining the rationale, structure and approach of the project;

a competency standards modules' structure, which crosses the components of educational reform with various policy approaches to generate a matrix of skill sets for teachers; and Implementation guidelines providing a detailed syllabus of the specific skills to be acquired by teachers within each skill set or module.

To live, learn, and work successfully in an increasingly complex, information-rich and knowledge-based society, students and teachers must utilize technology effectively. Within a sound educational setting, technology can enable students to become:

- Capable information technology users
- Information seekers, analyzers, and evaluators
- Problem solvers and decision makers
- Creative and effective users of productivity tools

- Communicators, collaborators, publishers, and producers
- Informed, responsible, and contributing citizens

Through the ongoing and effective use of technology in the schooling process, students have the opportunity to acquire important technology capabilities. The key individual in helping students develop those capabilities is the classroom teacher. The teacher is responsible for establishing the classroom environment and preparing the learning opportunities that facilitate students' use of technology to learn, and communicate. Consequently, it is critical that all classroom teachers are prepared to provide their students with these opportunities.

Both professional development programs for teachers currently in the classroom and programs for preparing future teachers should provide technology-rich experiences throughout all aspects of the training coaching and (professional learning).

Standards and resources within UNESCO's project "ICT Competency Standards for Teachers" (ICT-CST) provide guidelines for all teachers, specifically for planning teacher education programs and training offerings that will prepare them to play an



essential role in producing technology- capable students.

### **ICT AND ITS INFLUENCE FOR QUALITY EDUCATION**

Information communication technologies are influencing all aspects of life, in which the impacts of ICT is significant is education. ICTs help expand access to education, motivate to learn, facilitates the acquisition of basic skills, and can transform the learning environment thus help improving the quality of education. ICT has tremendous potential for education. ICT enables a teacher to reach out widely efficiently and effectively. It helps teachers and institutions to be more modern and dynamic[5]. Eventually, the use of ICT will enhance the learning experiences of students. It also helps for building a successful career, in a technology savvy world. The function of ICT in education is inevitable. Quick changes in the modern technologies, which shows that role of ICT in future education. □ The current educational practices deserves the development of ICT based education in different subject which is developing the attention among the learners and create the interest in the particular subject in their learning environment. □ ICT also focuses modification of the role of teachers. Teacher who can serve as a facilitator for the students who learning their subject through information communication technology and addition that the class teacher who will act as a guide for directing the students who use the electronic media in their curriculum transaction. □ Ultimately, the use of ICT will enhance the learning experiences of students [6]. Also it helps them to think independently and communicate creatively. It also helps students for building successful careers and lives, in an increasingly technological world

### **ICT CHANGE THE VIEW OF TEACHING AND LEARNING**

EDUSAT is used to share the available expertise through modular programs. It has done by networking institutions, creation of virtual laboratories, creation of database, access to expert lectures and technological development in organizations. In the field of education ICT is inevitable one at present context. Therefore every teacher should know the reality of ICT and its importance in the field of education and teaching learning process. The real teaching environment is required to obtaining the students attention through various information and communication technology

devices are available in their institution itself. ICT in education change the view of learning from teacher centered to student centered learning system and the teacher are the facilitators, coaches and mentors were ICT Support the learning environment to student [9]. At this juncture, some of the supporting environments are Tele Education system, virtual Learning campus (VLC), Virtual libraries and digital learning, Distance learning and wireless connectivity. VI. ENSURING QUALITY EDUCATION THROUGH ICT Largely based on teacher opinion, of the potential of ICT to enhance educational quality; they also identified teachers with concerns about it leading to waste of student time and the encouragement of superficial work.

### **ENSURING QUALITY EDUCATION THROUGH ICT**

Largely based on teacher opinion, of the potential of ICT to enhance educational quality; they also identified teachers with concerns about it leading to waste of student time and the encouragement of superficial work. This range of opinion reinforces that the educational impact of ICT depends largely on the use to which it is put. Where ICT is used to facilitate the students. It is likely to promote inter alia the development of analytical and information handling skills. While they are important life skills, they may not be reflected in curriculum and assessment system, student centered learning will tend to flourish on more fertile ground when there is harmony with such assessment systems.

### **ICT AND QUALITY TEACHING**

ICT is an extended term for Information technology which is a technological source to make information available at the right time, right place in the right form to the right user. Earlier, one had to wait for the newspapers to get the information across the world. Now with the smarter technology, information can be accessed from anywhere using smart phones and gadgets. Technology at present occupies a crucial role for developing the teaching learning process at school environment.

### **CONCLUSION**

Information and Communication Technology (ICT) in education is the mode of education that use information and communications technology to support, enhance, and optimise the delivery of information. Worldwide research has shown that ICT can lead to an improved student learning and better



teaching methods. A report made by the National Institute of Multimedia Education in Japan, proved that an increase in the use of ICT in education with integrating technology to the curriculum has a significant and positive impact on students' achievements. The results specifically showed that the students who are continuously exposed to technology through education has better 'knowledge', presentation skills, innovative capabilities, and are ready to take more efforts into learning as compared to their counterparts.

### New trends

Introducing ICT into education is the answer for those who ask; 'how can we increase the reach of our institution, to a larger number of students?'

The Mobile learning (m-learning) as a form of e-learning is a rising trend where the education has outgrown the physical constraints of the classrooms and acquired mobility. Students access information whenever and wherever they want, and institutions that provides such advanced technological terrains is rising in number day by day.

### Various devices/technology in ICT includes:

- Access of course materials through remote devices,
- Online digital repositories for lectures, course materials, and digital library,
- Online/ cloud based academic management systems,
- Employing the flipped classroom concept,
- Making use of handheld computers, tablet computers, audio players, projector devices etc.

Also, the rising number of Massive Open Online Courses(MOOCs) like the coursera, khan academy, and edx tells us that there is a huge demand for off-the-classroom learning facilities. The future of our institutions will depend on whether or not they can satisfy those needs.

Policy -makers accepts that ICT in education can help the students to compete in the global economy by being part of a skilled workforce and facilitate social mobility by:

- Enhancing learning experiences and providing new sets of skills,
- Reaching more students with Massive Open Online Courses(MOOCs),
- Facilitating the training of faculties,
- Minimising costs and saving time associated with information delivery and automating regular day-to-day tasks,

- Improving the administration of institutions to enhance the quality and efficiency of service delivery.

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## PEDAGOGICAL CONDITIONS FOR FORMING COMPETENCE IN FUTURE SPECIALISTS

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### ANNOTATION

*The article touches upon the problem of the practical creation of pedagogical conditions for the formation of students' professional competence. The author considers a pedagogical process as a complete phenomenon which all components are closely interconnected and their realization influences the result – training of highly professional specialists.*

**KEY WORDS:** *pedagogical conditions, professional competences, preparation of qualified staff, modeling of future students' professional activity.*

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## ПЕДАГОГИЧЕСКИЕ УСЛОВИЯ ФОРМИРОВАНИЯ КОМПЕТЕНТНОСТИ У БУДУЩИХ СПЕЦИАЛИСТОВ

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### Аннотация

*В статье затрагивается проблема практического создания педагогических условий для формирования профессиональной компетентности студентов. Автор рассматривает педагогический процесс как целостное явление, все компоненты которого тесно взаимосвязаны и их реализация влияет на результат - подготовку высокопрофессиональных специалистов.*

**Ключевые слова:** *педагогические условия, профессиональные компетенции, подготовка высококвалифицированных кадров, моделирование будущей профессиональной деятельности обучающихся.*





## DISCUSSION

Large-scale innovative changes have affected almost all types of activities. Higher education did not stand aside. Theorists and practitioners of innovative tourism education speak of the importance of forming a specialist in the field of tourism not only certain knowledge and skills, but also special professional skills for using them in practice, in professional activities, when organizing competitive services.

A detailed picture of a modern graduate is a fundamental difference between the standards of the third generation. The main characteristics of competencies guide the vector of specialist training, determining the purpose and result of education.

Professional competence can be called subject-specific. A number of requirements are put forward for it, and above all, it is academic preparedness and requirements for professional preparedness. In other words, we can say that professional competence is its component - competence.

Improving the quality of tourism services is closely related to training. Modernization of the quality of education is a key area of development of modern civilization. At the same time, Uzbekistan is clearly lagging behind the civilized world in using such a bright source of growth in the national economy. That is why vocational education and training issues occupy one of the important places in the overall tourism development strategy in Uzbekistan. Education in the tourism industry is becoming a key and indispensable condition for successful activity in it.

The modern process of training future tourism industry specialists, along with pluses, also has disadvantages that do not allow for its modernization. In such a situation, the formation and implementation of a model for creating basic professional competencies for a future travel industry specialist in the process of training is particularly relevant. In the current educational system, it is impossible to form professional activity and initiative of the professional and practical activities of future tourism industry specialists.

The use of modern forms and technologies for the formation of professional competencies among future tourism industry specialists includes theoretical and practical directions. The key forms of theoretical direction are: brainstorming; situational role-playing games; practical work with problem solving; conferences research work.

The essence of the concept of foreign language competence of a future tourism specialist, representing the student's personal and professional quality, means a willingness to work effectively in the tourism industry on the basis of mastering the communicative and informative skills of a foreign language, which provides the potential for effective implementation of intercultural and business

communication and a high level of fulfillment of the basic functions of tourism.

The specificity of the foreign language competence of a tourism specialist is determined by the need to develop language readiness for successful, productive and effective activities in the tourism industry based on the mastery of the communicative and informative capabilities of a foreign language, which provides the potential for effective implementation of intercultural and business communication and a high level of implementation of the basic functions of tourism.

The effectiveness of the educational model of training a future travel industry specialist during vocational training at a university is ensured by the implementation of a number of institutional conditions:

stage-by-stage formation of professional competencies through a system of knowledge, abilities and skills during field trips, based on the adjustment of training schedules;  
targeted stimulation of student activity based on the adjustment of training courses in accordance with regional characteristics and the possibilities of forming practical competencies;

the interaction of the teacher and students in the process of their preparation for independent professional activity on the basis of the dominance of student activity in organizing and conducting field practical classes.

The problem of scientific and pedagogical substantiation of pedagogical conditions for the formation of basic professional competencies for future tourism specialists in modern conditions is very relevant.

For the successful formation of the basic professional competencies of students - future tourism industry specialists, it is necessary to determine the pedagogical conditions that will contribute to this process and, thereby, ensure the improvement of the quality of their professional training.

The formation of basic professional competencies is due to the presence of external factors and conditions. The external aspect of the approach to training a specialist is associated with a systematic approach to the organization of training, the allocation of basic professional competencies, the implementation of personality-oriented training, and the optimization of the ratio of theoretical and practical training methods.

Innovative pedagogical technologies contribute to the formation of basic professional competencies of students in the educational process of the university, during which the mastery of knowledge, skills that make up the professional competence of a travel industry specialist takes place.





Using modern teaching methods, it is possible to guarantee the successful development of the personality of the future professional in the educational environment of the university. In modern Uzbekistan, a foreign language is becoming the most important basic element of the educational system in universities, one of the effective means of achieving the professional realization of a person. This means that today it is necessary to develop such a language policy in the field of foreign language education, which is aimed at satisfying both public and personal needs of students, which involves the search for innovative technologies for teaching a foreign language that will help students develop professional, social and cultural communication skills, as well as the ability to freely operate their forms and means.

The pedagogical process is a holistic pedagogical phenomenon, all components of which are closely interconnected. Therefore, it is important to ensure the process of quality vocational training is the creation of a set of organizational and pedagogical conditions that meet the requirements of a modular competency-based approach. Only taking into account all the conditions that affect the formation of professional competencies of students, it is possible to create an optimal model of organizational and pedagogical support of the learning process, which will ensure the quality of professional training of future specialists that meets the requirements of employers.

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# FLOW PATTERNS IN VERTICAL PIPES, TWO PHASES GAS-LIQUID FLOW

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## ABSTRACT

*For the design of fluid flow to two phases gas-liquid in vertical pipe, it is essential to know the flow pattern. In an earlier article [8], the authors presented the flow patterns that exist when the pipe is horizontal. This article presents some of the studies on flow patterns in vertical pipes and includes examples that clarify the use of maps.*

**KEYWORDS:** Two-phase flow, gas-liquid, vertical pipes. Flow patterns.

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## 1. INTRODUCTION

In the design of two-phase flow pipes, the engineer is primarily concerned with the calculation of pressure drop, which can be estimated quite accurately. It has been recognized for years that in order to improve the prediction of the different constituent parameters of this phenomenon, which are the volumetric fraction of each phase (holdup), pressure drop, heat and mass transfer, as well as other hydraulic parameters, it was necessary to consider the detailed structure of the flow configuration. These configurations, which are related to the distribution of phases within the pipe, are called flow patterns or regions.

Many experimental and theoretical work has been carried out to predict the pressure drop and the type of flow pattern produced in the pipes, but so far no general correlation has been found, This is due to the existence of a certain number of complications that hinder the use of a single correlation. The largest of these in the two-phase flow is the variety of flow patterns that can occur. The type of flow pattern found depends on fluid properties, expenses, and equipment geometry. Although no general correlation has been found applicable to all flow types, correlations have been developed for specific flow patterns. One of the first to do a visual

classification of flow patterns was Alves [1]. Flow patterns are empirically correlated based on the mass and volumetric flows and properties of fluids. The mechanism of momentum transfer varies with the flow pattern.

## 2. FLOW PATTERNS IN VERTICAL PIPES

Two flow directions in vertical pipes can be presented: upstream and downstream. The series of flow patterns existing in the upstream is different from that present in the downstream. In both directions, flow patterns have an axis of symmetry, which matches that of the pipe, as the effect of the force of gravity acts on this axis, unlike the horizontal flow, where this force acts perpendicular to the axis of symmetry of the pipe. Although they have similarities to upstream patterns with their downstream counterpart, they are often treated independently.

### 2.1 Upstream vertical flow patterns

Nicklin and Davidson [2] visually classified these patterns into five categories (Figure 1). A brief description of each of them is as follows:

#### Bubble flow

The liquid flows upwards conforming to the continuous phase, and the gas is dispersed in the liquid in the form of individual bubbles. These bubbles are distributed throughout the cross section of the pipe, and increase their number, size and speed by increasing the flow of gas. The speed of a bubble differs greatly from the speed of the liquid phase. Occurs at surface gas speeds of less than 0.6 m/s. It is also known as aerated flow.

#### Plug flow (Slug flow)

When the gas flow increases, the bubbles fuse together forming elongated bullet-shaped gas plugs, hence the bullet flow name, whose top tip is parabolic. These elongated plugs are called Taylor bubbles, and are surrounded by a thin film of liquid. These plugs are separated by liquid plugs or pistons, in which there are usually smaller bubbles in a dispersed form. As the gas plugs ascend, the liquid descends through the film around them, reaching the liquid piston immediately below Taylor's bubble. Liquid plugs are faster than gas. It is given for surface gas speeds between 0.6 and 9 m/s. It is also often called plug flow, piston flow or battering flow.

#### Churn flow

By increasing the speed of the gas, the liquid descending around the gas plugs practically stops, causing instability in Taylor's bubbles and their consequent rupture. The liquid begins to flow in a turbulent and oscillating way. Both phases flow in

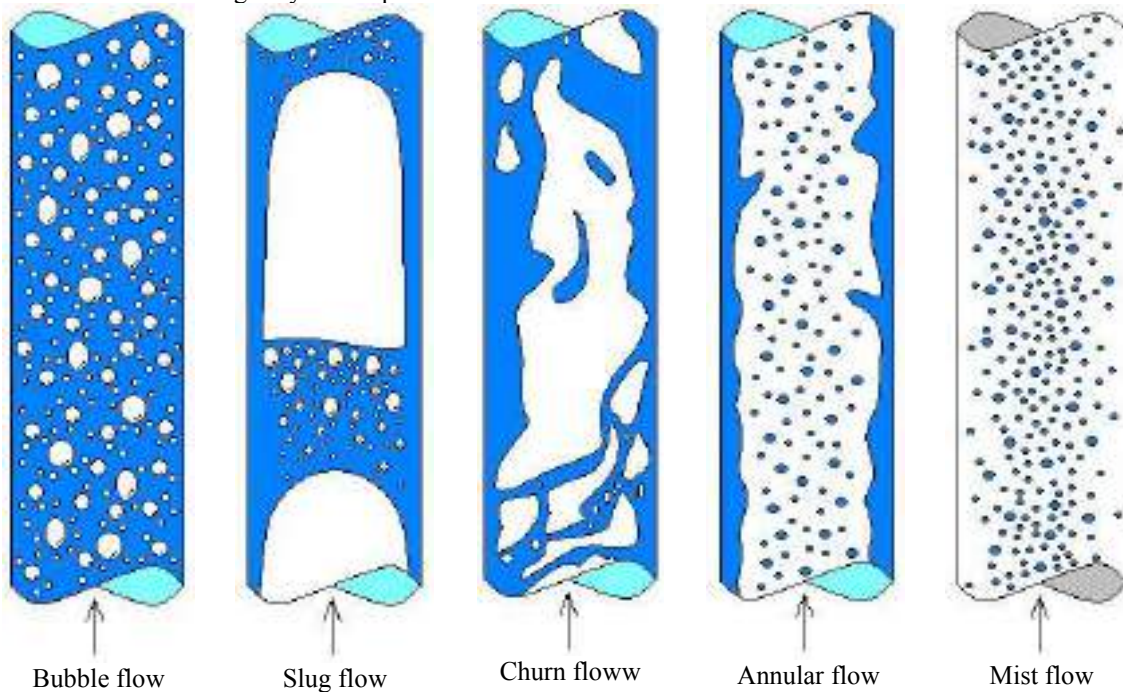
the form of a turbulent mixture, the structural elements of which are in an ongoing process of collapse and reform. It comes in a wide range of gas surface speeds. It is also known as froth flow or transition flow.

#### Annular flow

The liquid flows upwards like a film over the inner walls of the pipe, forming a ring, the center of which the gas ascends. As the speed of the gas phase is higher than that of the liquid phase, the gas drags a portion of the liquid in the form of droplets, which flow at the speed of the gas. As the gas speed increases, the drag of the liquid in the form of droplets increases and, in turn, the thickness of the liquid film decreases. It occurs with surface gas speeds greater than 9 m/s and with surface liquid speeds of less than 0.6 m/s. It is also often referred to as film flow or climbing film flow.

#### Mist flow

At very high gas speeds, the amount of liquid carried by the gas phase increases until the liquid film disappears. The liquid phase then flows in the form of droplets scattered in the gas, which constitutes the continuous phase. It is available at surface gas speeds of 20 m/s at 30 m/s. It is also called dispersed flow, fog flow, spray flow, or droplet flow.



**Figure 1.- Upstream patterns to two phase gas-liquid system in vertical pipes.**

## 2.2 Vertical downstream patterns

Oshinowo and Charles<sup>[3]</sup> visually classified the patterns by obtaining six types of flow, three of which fall into a single category (Figure 2). In this way, flow patterns can be regrouped as follows:

### Nucleated Bubble Flow (Coring-bubble flow)

The gas phase is dispersed in the liquid phase, in the form of individual bubbles. These bubbles descend along with the liquid, but unlike the upward bubble flow, they are not scattered in the cross section of the pipe. As they descend, the bubbles migrate to the tube's axis of symmetry forming a core of bubbles of different shapes and sizes.

### Bubbly-slug flow

The gas phase descends into bullet-shaped plugs, i.e. forming Taylor bubbles, the top end of which is rounded and free of smaller bubbles, and its lower end forms a small sting of foam, caused by the drain of the liquid. In this way, the liquid plugs have a large number of small bubbles, concentrating mainly on the upper end of the liquid cap. As the gas speed increases, Taylor's bubbles are distorted in a downward spiral motion, closer to the inner walls of the tube.

### Froth flow

This flow pattern is similar to the ascending *Churn flow*, as the gas plugs are very unstable and stirred with liquid. The mix of phases is turbulent, but it is not as hectic as that of its ascending counterpart.

### Falling film flow

It is similar to the upstream annular flow, as the liquid descends through the walls of the pipe in the form of a film, and the gas descends through the center of the tube. The surface of the liquid is wavy and a portion of it is dragged by the gas in the form of droplets. At very low gas and liquid speeds, dry spots occasionally occur on the inner wall of the tube. At high liquid speeds, the film contains small gas bubbles and its thickness increases. This flow pattern encompasses the downstream bubbly-film flow and the annular flow, described by Oshinowo and Charles<sup>[3]</sup>

### Mist flow

Its description is similar to the ascending mist flow, as the liquid flows in the form of fine droplets scattered in the gas, which constitutes the continuous phase. It was described by Oshinowo and Charles<sup>[3]</sup> as a boundary case of the film downflow, where gas flows at a speed high enough to drag all the liquid, forming a mist or a shower of droplets. For this reason, these researchers also called it annular-mist flow.

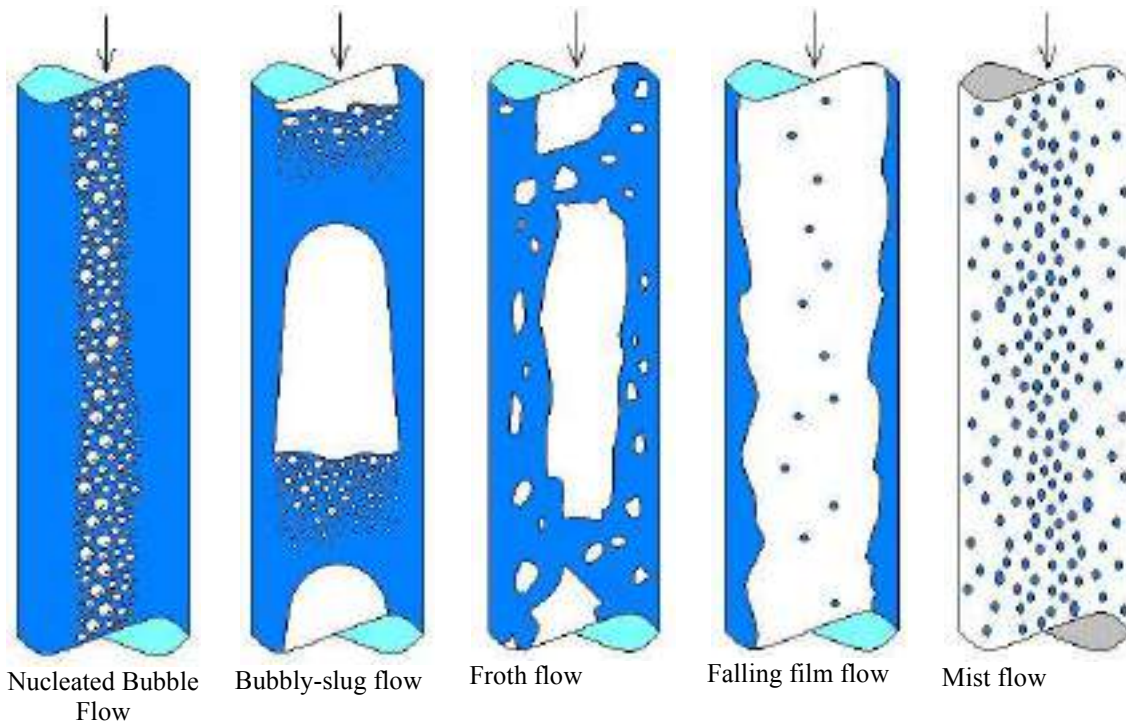


Figure 2.- Downward flow patterns to two phase gas-liquid system in vertical pipes.





**2.3. Vertical flow patterns** can also be classified into groups according to the distribution of phases, in the same way as horizontal flow patterns:

Segregated Flow:

Each phase flows in the form of a layer or sheet. In upstream: annular flow. In downstream: downgrade film flow.

Intermittent Flow:

Each phase flows alternately and periodically. In ascending flow: bullet and scrambled flows. In downstream flow: bubbling bullet flows and foam.

Distributed Flow:

One phase is scattered in the other, which flows continuously. In upstream: bubble and mist flows. In downstream: nucleated bubble and mist flows.

**3. PREDICTION OF FLOW PATTERNS IN VERTICAL PIPES**

Based on the work of Griffith and Wallis [4], Oshinowo and Charles [3] correlated flow patterns using dimensional groups, obtaining a map of dimensional upstream patterns (Figure 3), which was tested with experimental data of their own and other researchers. In addition, they extended their method to obtain a map of dimensional downflow patterns (Figure 4), which they tested only with their own experimental data, since in the literature there was not until then a similar study for flow to two descending phases. To determine the flow type using Oshinowo-Charles maps, the Oshinowo-Charles (Ox and Oy) parameters must first be calculated, which are:

$$O_x = \frac{Fr_{2F}}{\sqrt{\Lambda}} \tag{1}$$

$$O_y = \sqrt{R_V} \tag{2}$$

Where:

Ox and Oy abscissa in maps of Oshinowo-Charles.

Fr<sub>2F</sub> - Froude number for two-phase flow

$$Fr_{2F} = \frac{v_{2F}^2}{gD} \tag{3}$$

v<sub>2F</sub> = mixture's superficial velocity m/s:

$$v_{2F} = v_{SL} + v_{SG} \tag{4}$$

D - internal diameter of the pipe in m.

Λ = Dimensional liquid property correction group:

$$\Lambda = \left( \frac{\mu_L}{\mu_W} \right) \left[ \left( \frac{\rho_W}{\rho_L} \right) \left( \frac{\sigma_W}{\sigma_L} \right)^3 \right]^{1/4} \tag{5}$$

μ<sub>L</sub> y μ<sub>w</sub> = viscosities of the liquid and water, respectively.

ρ<sub>L</sub> y ρ<sub>w</sub> = densities of liquid and water, respectively.

σ<sub>L</sub> y σ<sub>w</sub> = surface tension of the liquid and water, respectively.

R<sub>V</sub> = ratio of gas and liquid volumes:

$$R_V = \frac{Q_G}{Q_L} = \frac{W_G \rho_L}{W_L \rho_G} \tag{6}$$

$$R_V = \frac{Q_G}{Q_L} = \frac{W_G \rho_L}{W_L \rho_G} \tag{6}$$

The use of Froude's number on these maps is because this dimensional group relates the acting forces of inertia and gravity to the moving fluids within the vertical pipes. In this way, Froude's number indicates the mastery of one of the forces mentioned over the other. The boundaries between

the different vertical flow patterns on both maps (Figure 3 and 4) are not lines but gradual transition bands, similar to the boundaries of the Baker map<sup>[9]</sup>. Therefore, these maps provide a rough idea of the likely flow pattern of being found in vertical pipes where gas-liquid mixtures flow. To build these



maps, Oshinowo and Charles worked with air-water and air-water systems, and used data for water-water vapour, air-heptane, natural gas-crude oil and nitrogen-mercury systems. Consequently, the range of physical properties for each phase is very wide, where the great applicability of these maps for any gas-liquid biphasic system. Unlike Baker parameters, whose property correction factors are generally very close to 1, the correction factors present in the Oshinowo-Charles parameters differ significantly from the unit, actually correcting the physical properties of fluids other than air and water.

Oshinowo and Charles also investigated the flow patterns present in the connections, especially in the U-elbows. They found flow patterns similar to those mentioned above for vertical flow. The only difference between these patterns and those found in the connections is the influence of centrifugal and gravitational forces, which cause the appearance of dry areas in the wall of the connection, the

reversal of the liquid film in the upstream and downstream annular flows, and the migration of the bubbles to the wall with a lower radius of curvature in the upstream and downward bubble flows. To predict the type of flow present in the connections, they discovered that the flow pattern in these fittings depends on the pattern developed in the straight pipe prior to the connection. Therefore, they can be predicted using the Oshinowo-Charles maps in Figures 3 and 4.

Prediction of upstream patterns can also be made from surface velocity maps, such as the graph presented by González Ortiz <sup>[5]</sup> (Figure 5), in which the surface velocity of the gas against that of the liquid is plotted. This researcher and his collaborators developed their flow pattern map based on previous maps and experiments with air-water systems. The foam flow described by them, is a particular case of scrambled flow where the liquid flows at almost the same speed of the gas.

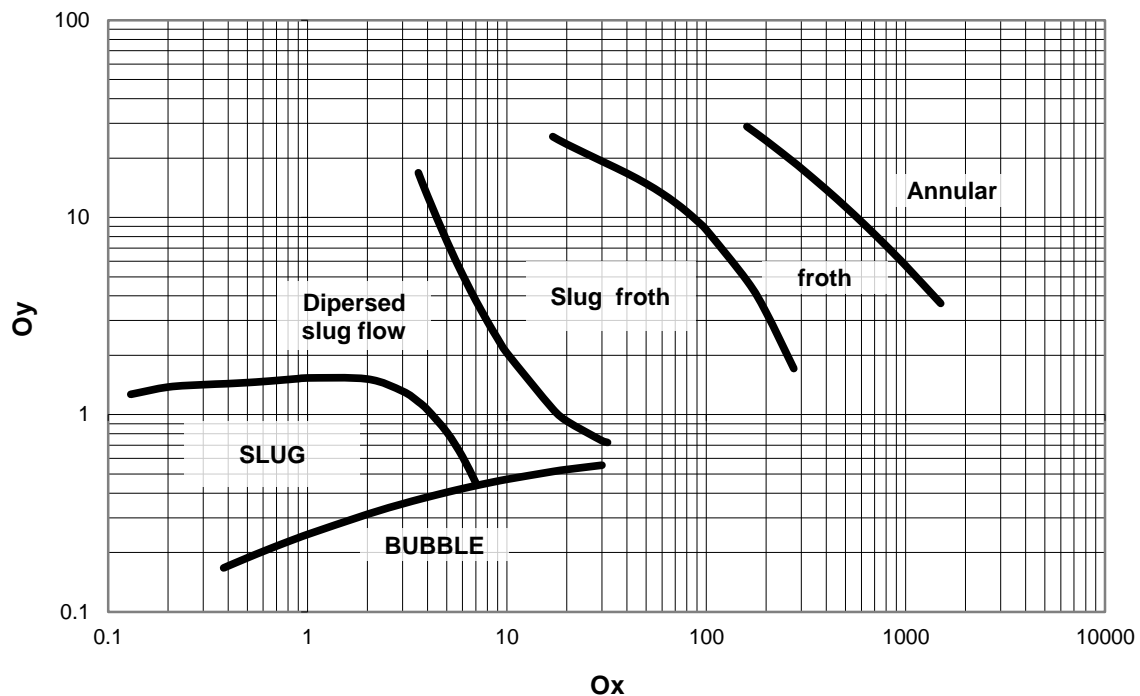


Figure 3.- Map of Oshinowo-Charles patterns for upstream vertical flow in gas-liquid systems. (1974).

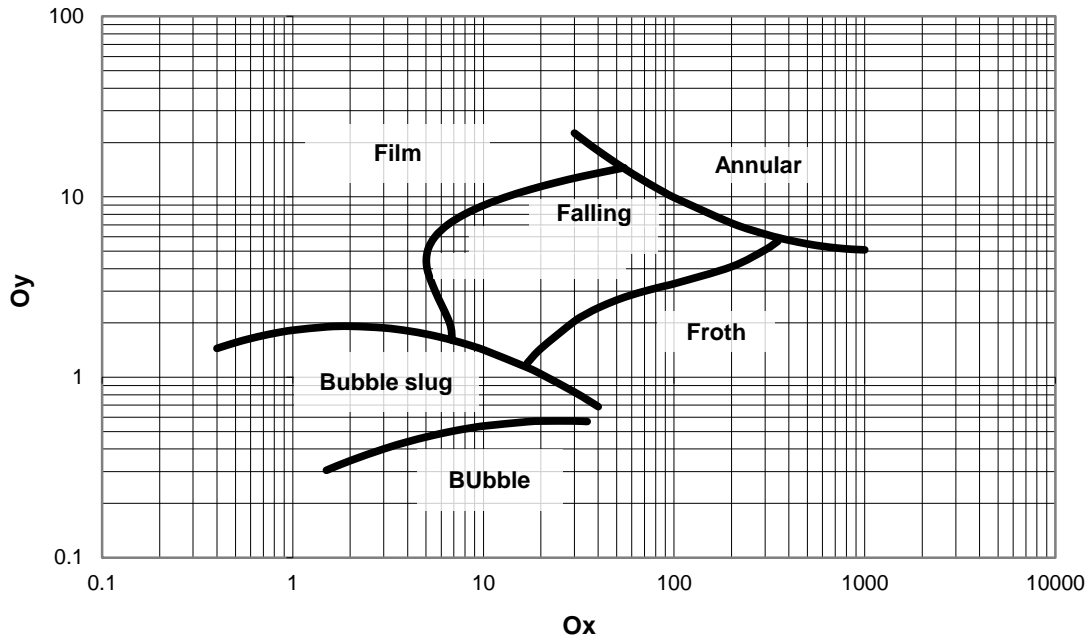


Figure 4.- Map of Oshinowo-Charles patterns for downstream vertical flow in gas-liquid systems. (1974)

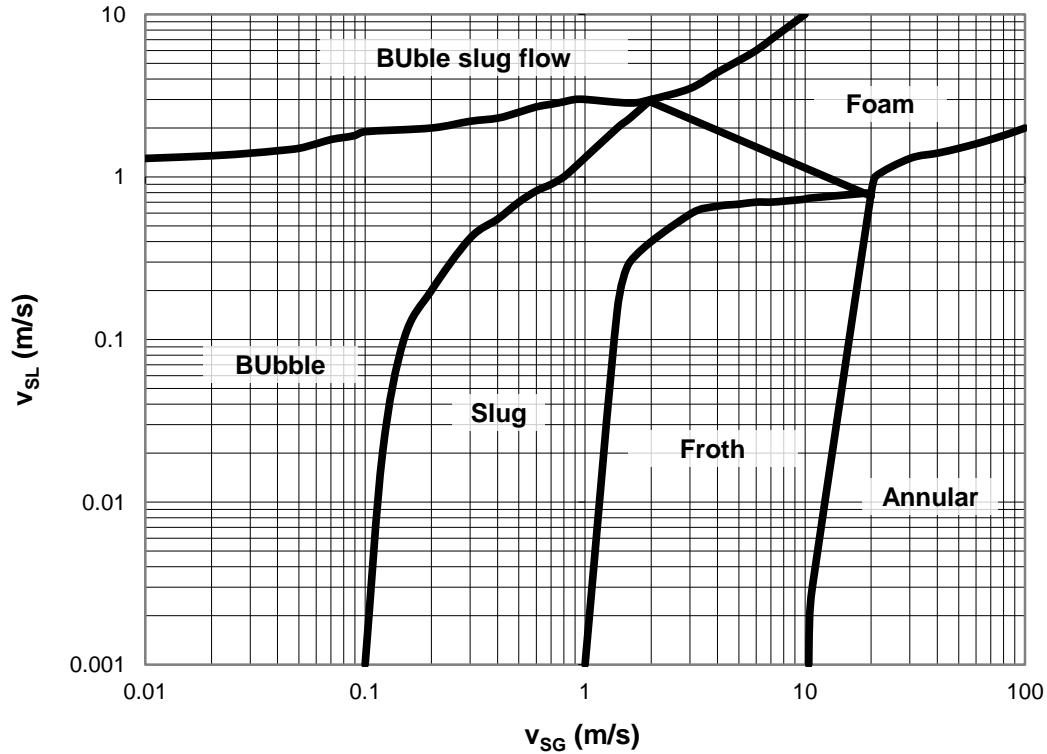


Figure 5.- Map of Gonzalez Ortiz patterns for upstream vertical flow in gas-liquid systems. (1992)

In Núñez Alba's work<sup>[6] [7]</sup> the maps of Oshinowo-Charles (Figures 3 and 4) are shown at coordinates of surface speeds.; other maps of upstream and downstream vertical flow patterns are also presented that work.

Example

What is the pressure drop per meter of vertical tube obtained in a 18-inch pipe 40, if 275000 kg/h of liquid pass through it with a density of 537 kg/m<sup>3</sup>, viscosity of 0.1 cp and 5.7 dinas/cm of surface tension? In addition, 325000 kg/h of vapours with density of 32 kg/m<sup>3</sup> and viscosity of 0.01 cp pass through the pipe.

1.-TRANSLATION.

$$W_L = 275000 \text{ kg/h}$$

$$W_G = 325000 \text{ kg/h}$$



GAS-  
LÍQUID

2.-Planning

2.1.-Flow pattern

It can be obtained by the map of González Ortiz or using Oshinowo-Charles for upstream.

3.-CALCULATIONS

3.1.-Flow pattern

$$D = 16.876 \text{ in} = 0.4287 \text{ m}$$

$$A = 0.1443 \text{ m}^2$$

González Ortiz's map.

$$v_{SG} = \frac{325000 \frac{\text{kg}}{\text{h}}}{3600 \frac{\text{s}}{\text{h}} \left( 32 \frac{\text{kg}}{\text{m}^3} \right) (0.1443 \text{ m}^2)} = 19.55 \frac{\text{m}}{\text{s}}$$

$$v_{SL} = \frac{275000 \frac{\text{kg}}{\text{h}}}{3600 \frac{\text{s}}{\text{h}} \left( 537 \frac{\text{kg}}{\text{m}^3} \right) (0.1443 \text{ m}^2)} = 0.986 \frac{\text{m}}{\text{s}}$$

The flow is foam and is very close to the borders with scrambled and annular flows.

Map of Oshinowo-Charles:

$$v_{2F} = 0.986 \frac{\text{m}}{\text{s}} + 19.55 \frac{\text{m}}{\text{s}} = 20.54 \frac{\text{m}}{\text{s}}$$



$$Fr_{2F} = \frac{\left(20.54 \frac{m}{s}\right)^2}{9.81 \frac{m}{s^2} (0.4287 m)} = 100.28$$

The properties of water are obtained from tables, for which it is considered a temperature of 20 °C, because it is an average ambient temperature.

$$\Lambda = \left(\frac{0.1cp}{1cp}\right) \left[ \left( \frac{997 \frac{kg}{m^3}}{537 \frac{kg}{m^3}} \right) \left( \frac{72.75 \frac{dina}{cm}}{5.7 \frac{dina}{cm}} \right)^3 \right]^{\frac{1}{4}} = 0.788$$

$$Ox = \frac{100.28}{\sqrt{0.788}} = 112.96$$

$$R_v = \frac{325000 \frac{kg}{h} \left(537 \frac{kg}{m^3}\right)}{275000 \frac{kg}{h} \left(32 \frac{kg}{m^3}\right)} = 19.83$$

$$Oy = \sqrt{19.83} = 4.45$$

Result.

The flow is foaming bullet and is located near the border with the foam flow. In conclusion, the flow pattern determined by these maps is a frothy flow in the transition of bullet and scrambled flows.

## CONCLUSIONS

The flow to two phases gas-liquid in vertical pipes is frequently presented in industrial and petrochemical plants, hence the importance of knowing the flow pattern that can occur. In this article we have presented the possible flow patterns and how to identify them using maps. The interested reader can learn through the Internet, specialized literature and You Tube of other ways to identify those flow patterns.

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# MODELING THE DEMAND FOR HOUSEHOLD COOKING FUELS AND ASSESSING ENVIRONMENTAL EFFECTS IN A PERIURBAN AREA OF MADAGASCAR

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## ABSTRACT

*This study is trying to look into the relationship between households' exploitation of ligneous resources for energy purposes and environmental problems, concerning a periurban area of Madagascar. The matter is threatening because households in developing countries will always depend on forest resources and environmental issues seem to be more and more complex. The main problems are associated with socio-economical, cultural, environmental, and technical factors, that is why it is complicated to find out the best way to manage the system. For this, two types of descriptive surveys including 60 questions were used to collect information and data on household behavior in terms of cooking fuel use and consumption. The population of the study consisted of 1,075 households and fuel retailers inside the studied area, also called The Municipality of Andranonahoatra. Then data collected were analyzed using both descriptive and inferential statistics. After that, fuel consumption was modeled, using a linear multiple regression method to calculate the demand of each class of household and the pollutant gas emissions throughout the supply chain, i.e., production, transport, and end-use. For pollutant gases emitted by each fuel, the standards and literature results are used. The values obtained will be compared with the national and international emission levels. Findings of the study show significant positive relationships between socio-cultural and financial factors, and cooking fuel consumption, including fuelwood, charcoal, and liquefied petroleum gas (LPG). As a result, the elaborated models have estimated the average amount of fuel consumption in the Municipality at 117 kg/capita/year of charcoal, 23 kg/capita/year of fuelwood, and 0.6 kg/capita/year of LPG. From there, in the environmental field, each inhabitant emits about, 0.8 t of CO<sub>2</sub>/capita/year, 9 kg of CH<sub>4</sub>/capita/year, 26 kg of Non-Methanic Volatile Organic Compounds (NMVOC)/capita/year, 7 g of N<sub>2</sub>O/capita/year and 3.4 kg/capita/year of fine particles inhaled directly by the person preparing the meal. In other words, each person would prevent the sequestration of about 1.27 t of CO<sub>2</sub>/year. Using the Global Warming Potential, the emission is 1.1 tons CO<sub>2</sub>-equivalent/capita/year due to the use of cooking fuels. These models and assessments can help and incite governments and decision-makers to elaborate strategy aiming to protect the forest ecosystem while ensuring the energy supply of poor households in developing countries.*

**KEYWORDS:** *cooking fuels, model, greenhouse gas, global warming potential.*



## INTRODUCTION

In Madagascar, like in most developing countries, the residential sector is among the most energy-intensive. The energy balance shows that the household sector accounts for more than 90% of the energy consumed [1]. This rate is due to the use of fuelwood and charcoal as primary fuels by 98.4% of households [2], and LPG in a very small quantity. This present paper is a logical continuation of the previous study which aimed to model the cooking fuel choice made by consumers, to classify them [3-4]. One can solve the problem by using aggregated data and directly evaluate fuel consumption, but it usually hides the inherent behavior associated with each class (Serrano-Medrano et al. 2013). Models and assessments presented in this paper attempt to reach the different phases of the household cooking fuel system, dealing with the demand side, supply chain, and environmental effects. The goal is to be able to effectively manage forest productivity, ensure the cooking fuel supply, and ultimately to preserve the local and global environment. Many researchers have already carried out works on urban household cooking energy choice and use in developing countries. And they attest that by 2050, the majority of urban households will still depend on charcoal if large-scale projects are not undertaken now.

## METHODOLOGY

### 1. Data and modeling

The methodology used for demand modeling is based on two consecutive processes: first, identifying the exogenous and significant variables on which the consumption of fuelwood, charcoal, and LPG depends, for each household class. Then, the monthly per capita consumption per class of each fuel will be modeled by the multiple linear regression method. At first glance, this can be directly dealt with all the data, as a whole, to model aggregate demand, but to be more precise, disaggregated modeling of household behavior in terms of fuel consumption is processed for each class. Indeed, the fuel consumption of a household in class  $i$  is given by the following matrix  $q_{ij}$ :

$$q_{ij} = \sum (A_{ij}X_{ij} + C_{ij}) \quad (1)$$

Where:

$X_{ij}$ : matrix of significant exogenous variables of fuel  $j$  for class  $i$ .

$A_{ij}$ : model coefficient matrix for each element of  $X_{ij}$ .

$C_{ij}$ : matrix of the constants of the model corresponding to class  $i$  and fuel  $j$ .

-  $i$  ranges from class 1 to 7, including the seven fuel combinations practiced by households.

-  $j$  ranges from 1 to 4, where: 1=charcoal; 2=fuelwood; 3=LPG; 4=electricity (electricity is just to distinguish classes).

Introducing the household size (HH) and the weight  $w_i$  of each class  $i$ , the total consumption of fuel  $j$  of the entire Municipality will be:

$$Q_j = \sum_{i=1}^7 N * w_i * HH_i * q_{ij} \quad (2)$$

$N$ : total number of households.

The environmental effect due to the use of each fuel  $j$  will then be evaluated based on its quantity  $Q_j$ .

### 2. Environmental issues

#### Deforestation

Suppose  $Q_{\text{fuelwood}}$  and  $Q_{\text{charcoal}}$  the amount of wood used to produce respectively fuelwood and charcoal. Cleared area related to cutting trees are modeled as follows:

- For fuelwood,

$$S_{\text{fuelwood}} = Q_{\text{fuelwood}} * \frac{1}{d} * \frac{1}{V_{\text{com}}} * h \quad (3)$$

Where:

$S_{\text{fuelwood}}$  (ha): forest cleared to produce the fuelwood consumed  $Q_{\text{fuelwood}}$ ;

$d$  (kg/m<sup>3</sup>): wood density. Note that eucalyptus is the preferred type of wood for households (Author's survey, 2018).

$V_{\text{com}}$  (m<sup>3</sup>/ha): wood production in terms of commercial volume;

$h$ : wood moisture ratio.

- For charcoal,

$$S_{\text{charcoal}} = Q_{\text{charcoal}} * \frac{1}{R_{\text{carb}}} * \frac{1}{d} * \frac{1}{V_{\text{com}}} * h \quad (4)$$

Where:

$S_{\text{charcoal}}$  (ha): forest cleared to produce  $Q_{\text{charcoal}}$ ;

$R_{\text{carb}}$ : carbonization efficiency. According to the Food and Agriculture Organisation (FAO, 1983), Eucalyptus is a good woody material for producing charcoal.

#### Pollutant gas emissions

Like in deforestation, pollutant gas emissions will be assessed for each main phase of the three chains for each fuel. We will have:

$$E_g = \sum_{j;p=1}^3 Q_{jp} * F_{gjp} \quad (5)$$

Where:

$E_g$  (kg or t): amount of pollutant gas  $g$  emitted, which can be  $CO_2$ ,  $CH_4$ ,  $NO_2$ ,  $N_2O$ ...;  
 $Q_{jp}$  (in kg): flow of fuel  $j$  involved in phase  $p$  (production, transportation, and end-use) of the supply chain;  
 $j$  varies from 1 to 3 and represents fuelwood, charcoal, and LPG;  
 $F_{gjp}$ : gas  $g$  emission factor of fuel  $j$  during phase  $p$ .

*Emissions during charcoal production*

Charcoal production is processed by pyrolyzing wood in a kiln, also called carbonization. The volume of pollutant gas emitted depends on the wood species, the wood moisture ratio, the size of the pieces of wood to be carbonized, the wood preservation treatment, the heating speed, the final reaction temperature, the reaction atmosphere, the catalysts [5] and the type of kiln used. By adopting the raw formula of most wood  $CH_{wood} 1.44O_{0.66}$  (Déglise 1980, Quirino 2000), as well as the distinction and rates defined by Bisu et al. [3], the wood contains mainly:

- Extracts in an average of 10%, which are products from alive or dead cells;
- Lignin, 21% for leafy wood and 30% for resinous, and holocellulose 50%;
- Ashes comprising mainly Ca, K, Na, Mg, Si, Fe, P oxides, in the order of 1% of the total mass and which may have a catalytic role in gasification reactions.

According to Lohri et al. (2016): "The pyrolysis gases are made up of condensable and non-condensable (permanent) parts. The condensable fraction, in liquid form, contains methanol ( $CH_3OH$ ), acetic acid ( $CH_3COOH$ ), steam ( $H_2O$ ) and tars. Non-condensable gases include  $CO_2$ ,  $CO$ ,  $H_2$ ,  $CH_4$  and other light hydrocarbons, as well as particles and more complex compounds such as polycyclic aromatic hydrocarbons (PAH). The exact combination of the compounds in the mixture depends on the original conditions of the raw material's pyrolysis process."

Carbonization occurs in a reductive environment and by a slowly increasing temperature up to a maximum of  $600^\circ C$  (slow pyrolysis) (Abbassi M. A. 2009; Daniel G., 2007). Déglise and Vernois (2015) and Déglise (1982) wrote that at  $600^\circ C$ , therefore, it is the lignins that first decomposed into aromatic products such as vanillin, syringaldehyde, phenol, and cresol. Then, the methoxy- $(OCH_3)$  groups of these products break down into methanol ( $CH_3OH$ ). After that, charcoal is obtained which origin is mainly lignin. As for hemicelluloses, they produce formaldehydes which in turn transform into  $CO$  and  $CH_4$ . For celluloses, from  $270^\circ C$ , a large part of the molecules is re-condensed to aggregate into charcoal. Besides, they produce formic acid and acetic acid that produce  $CO_2$  and  $H_2$  for the former, and  $CH_4$  and  $CO_2$  for the latter [5].

**Table 1: Emitted gas during carbonization (in g/kg of charcoal produced)**

Gas	$CO_2$	$CO$	$CH_4$	NM VOC	TSP	IPC	Gas+TSP	$N_2O$	$NO_x$
Quantity	3,03	333	46.2	94.9	34.1	508	3,535	0.3	0.13

Source: Pennise et al. (2001)

TSP: Total Suspended Particles. ICP: Incomplete Combustion Products.

In this study we take a carbonization yield of 12% evaluated by the Gesellschaft für Internationale Zusammenarbeit (GIZ, 2014) to evaluate the quantities of gases emitted from the amount of charcoal produced, which supposed equal to the demand of the Municipality. The calculations will be made using the values set out in Table 1.

*Emissions during fuel transportation*

Concerning the transport of cooking fuels consumed by the Municipality, we assume that all of them are transported by road, and almost all vehicles are diesel-powered. Thus, to transport a given amount of a fuel  $Q_j$ , the amount of greenhouse gas (GHG)  $g$  emitted is given by the following equation:

$$GHG_{gj} = \frac{Q_j}{M_j} * d_j * \frac{L}{100} * R * F_g \quad (6)$$

Where:

$GHG_{gj}$  (kg of gas  $g$ ): amount of gas  $g$  emitted per liter of diesel consumed to transport a quantity  $Q_j$  of fuel  $j$ ;

$Q_j$  (kg/year): amount of fuel  $j$  transported per year (see eq. 2);

$M_j$  (kg): average tonnage of fuel  $j$  transported on each trip;

$d_j$  (km): average distance on which the  $M_j$  mass is transported;

$L$  (l/km): average amount of diesel consumed per 100 km;

$R$ : average road passability index;

$F_g$  (kg/l of diesel): amount of gas  $g$  emitted by the combustion of one liter of diesel.

*Indoor Air Pollution (IAP)*

At an aggregate level, environmental effects come in two forms [6]: indoor air pollution and climate change; in other words, local effects on human health for the first, and global effects on climate for the latter. We cite below the main gases responsible for these two pollutions, which we consider for this study:

- For IAP : particle matter ( $PM_{2.5}$ ,  $PM_{10}$ ), Nitrogen Oxide ( $NO_x$ ), Carbon Monoxide ( $CO$ ) and NM VOC;
- For climate change, the three main GHGs are Carbon Dioxide ( $CO_2$ ), Methane ( $CH_4$ ) and Nitrous oxide ( $N_2O$ ).

From literature, for each unit mass of burnt fuel, the amounts of pollutants emitted are given in the following table.

**Table 2: Gas emission factor of each fuel during combustion (in g/kg of fuel)**

Gas	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O*	NO <sub>x</sub>	CO	NM VOC	Particles
Fuelwood	1,605.3	9,78	0,07	0,08	55,80	8,88	6.35**
Charcoal	2,610.9	11,40	0,03	0,23	194,60	6,20	2,40
LPG	5,06	1,00	0,09		16**	154**	89**

Sources: FAO, 2017. IPCC, 2006, for solid fuels. AFREA, 2014.

As far as IAP is concerned, it is mainly the combustion of aerosols that has an impact on the health of people preparing meals indoor. Suspended inside the cooking site, these aerosols undergo physical processes, such as condensation of gaseous species, evaporation of some components, clotting with other particles, and also chemical reactions both internal and external to the particles [7]. According to Nenmar et al. (2003), and Berico et al. (1997), the depth of penetration into the respiratory system of the exposed person depends on the size of these particles. Fine particles of less than 2.5 µm are the main culprits of public health problems, as their size allow them to reach the bronchioles and pulmonary alveoli. Those between 4 and 10 µm reach only the tracheobronchial region [7]. From a chemical point of view, the combustion of aerosols, polycyclic aromatic hydrocarbons, and soluble organic compounds have an inflammatory character. According to Pennise et al. (2009): "The levels of particulate releases emitted by the combustion of solid biomass in households are likely to be ten to fifty times higher than the World Health Organization's prescribed values" (WHO, 2005). To calculate the IAP within the Municipality, we apply the values set out in table 2 to eq. 5.

## RESULTS AND DISCUSSION

### 1. Consumption models

Findings in this study show that the following exogenous variables are significant of the fuel consumption models: Household Size (HH), Charcoal Price (CHP), Dwelling Ownership (DO), Household Electricity bill (EL), Opinion about LPG price level (OPG), study level attained by the household head (EDU), Frequency of dried Grain Cooking (FGC), Sacked Charcoal purchase (SAC), lectricity bill per Capita (ELC) and Frequency of Meat Cooking (FMC). Each model of  $q_{ij}$  will be presented in a subsequent paragraph.

Applying eq. (1) to each class of households for each fuel provides the following consumption models.

- *Class 1 (charcoal-only)*. The charcoal consumption model for this class is written:

$$Q_{1charcoal} = 24.09 - 1.475HH - 0.013CHP + 0.907DO \quad (adj-R^2=0.3590; p<0.001) \quad (7)$$

Households that consume only charcoal decrease their monthly consumption of charcoal by about 13 grams/capita when the charcoal price increases by one ariary (local current, 1\$UD≈3,450 Ar). It is a logical consumer reflex, and since charcoal is considered as a commodity, this confirms the low value of price elasticity of charcoal consumption. Its consumption per capita is a decreasing function of the variable household size. The decrease is 1.475 kg/month for one more individual. Families that own the house where they live consume 0.9 kg/capita of charcoal more than tenants.

- *Class 2 (charcoal-fuelwood)*. The model is :

$$Q_{2charcoal} = 12.968 - 1.025HH + 0.059EL \quad (adj-R^2=0.2234; p<0.01) \quad (8)$$

Charcoal consumption in this class is an increasing function of the electricity bill. For 1,000 Ar/month increase in the electricity bill, the charcoal consumption rises 59 g/capita/month. Perhaps this variation is low, but assuming that the amount of the electricity bill is directly correlated with the household standard of living, its positive sign shows that the higher the income, the more a household tends to consume more charcoal. On average, the income of this class did not reach the threshold, above which there is fuel switching [8-9] (a jump to class 3 for example), otherwise, the coefficient would be in negative sign. In terms of household size, like in Class 1, one more individual in the family leads to a decrease in the amount of charcoal per capita consumption. This is also verified in other classes.

As for fuelwood model:

$$Q_{2fuelwood} = 41.720 - 3.735HH - 4.855OPG \quad (adj-R^2=0.3259; p<0.001) \quad (9)$$

The household size variable has the same consequences as for charcoal model, but in this case its effect is higher (3.735 kg/capita/month). In the same idea, the fact that a household thinks LPG is expensive, its fuelwood consumption decreases by 4.855 kg/capita/month compared to other households that do not have the same opinion. It seems illogical, but these former groups of households recover the decrease in fuelwood consumption through the use of charcoal.

- *Class 3 (charcoal-LPG)*. Combining charcoal and LPG, the charcoal consumption model is:

$$Q_{3charcoal} = 52.044 - 2.44HH - 0.047CHP \quad (adj-R^2=0.4354; p<0.01) \quad (10)$$

For this class, charcoal per capita consumption is a decreasing function of the charcoal price like for other classes. Thus, an increase of one ariary in the charcoal price causes a decrease of 47 g/capita/month of charcoal consumed. As for household size variable, the charcoal consumption decreases by 2.44 kg/capita/month when an individual is added to the family. For a household of five, this equates to about 12 kg/month less charcoal consumed or 7,000 Ar/month of savings. For LPG consumption of this class:

$$Q_{3LPG} = 0.770 - 0.142HH + 0.554DO + 0.501EDU - 0.060FGC \quad (adj-R^2=0.4248; p<0.1) \quad (11)$$

Household size has the same effects as for the charcoal model. The decrease in LPG consumed, 60 g/capita/month, is also noted if the frequency of dried grain cooking increases by one day. While, being a homeowner, or having a university degree for household head, causes an average increase of about 0.5 kg of LPG /capita/month. These last two variables are

among the factors that define the standard of living. Thus, it is quite normal for a higher standard of living to use more frequently a more efficient energy source, LPG for this class.

- *Class 4 (charcoal-electricity)*. For this class :

$$Q_{4charcoal} = 44.913 - 1.191HH - 0.043CHP - 6.352SAC + 0.149ELC \quad (adj-R^2=0.4318; p<0.001)(12)$$

Household size, charcoal price, and sack purchased of charcoal lead to a decrease in charcoal per capita consumption. The household size effect is normal with a decrease of 1.191 kg of charcoal/capita/month. Buying sacked charcoal rather in retail is an advantage for well-off families. The savings are 3.600 Ar for every sack purchased. While each ariary of increase in the amount of electricity bill per individual increases by 149 g/capita/month the quantity of charcoal consumption.

- *Class 5 (charcoal-LPG-electricity)*. This class adds electricity to charcoal and LPG.

$$Q_{5charcoal} = 9.858 - 0.919HH + 0.235FMC \quad (adj-R^2=0.3693; p<0.01) \quad (13)$$

Here, household size decreases by 919 g/capita/month the charcoal consumption. Frequency of meat cooking is a significant variable of charcoal consumption. One more day per month of meat cooking causes an increase of 235 g/capita/month of charcoal consumption. As for LPG, the model is:

$$Q_{5LPG} = 0.796 - 0.082HH + 0.030FMC \quad (adj-R^2=0.3360; p<0.001) \quad (14)$$

The model has the same shape as with charcoal, with the same variables. Only the coefficients differ. LPG per capita consumption decreases by 82 grams with household size and increases by 30 grams with the frequency of meat cooking. Comparing these variations, for household size variable, 0.919 kg decrease in charcoal consumption saves 581 Ar/month, while 410 Ar/month for 0.082 grams of non-consumed LPG. As for the variable frequency of meat cooking, the increasing expenditure is 150 Ar/month for both fuels. Generally then, for this class, the bigger the family, the more advantageous it is to cook with charcoal than with LPLG.

- *Class 6 (charcoal-electricity-fuelwood)*. The charcoal consumption model is:

$$Q_{6charcoal} = 21 - 0.022CHP \quad (adj-R^2=0.3082; p<0.01) \quad (15)$$

Interpretations made for previous classes regarding the charcoal price are also valid for this class, here the decrease is 22 g/capita/month per ariary increase in charcoal price. For fuelwood:

$$Q_{6fuelwood} = 60.445 - 0.474EL \quad (adj-R^2=0.7028; p<0.01) \quad (16)$$

For fuelwood consumption of this class, only the electricity bill variable (in thousands ariary) is significant. Thus, a thousand ariary increase in the electricity bill leads to a decrease of 447 grams/capita/month of fuelwood consumption. This shows that wealthier households want to use less polluting fuels by spending more on electricity which is considered as a positive significant factor of income level [8-9].

- *Class 7 (LPG-electricity)*. For this class, without solid fuels, the LPG consumption model is:

$$Q_{7LPG} = -8.808 + 0.014CHP \quad (adj-R^2=0.6213; p<0.1) \quad (17)$$

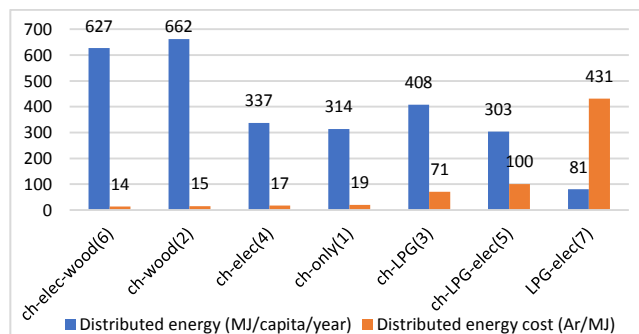
Households in this class would increase their LPG per capita consumption by 14 grams if the charcoal price increases by one ariary. This reflects a tendency to prefer LPG to charcoal, i.e. a rise on the energy ladder. For this, some households make a fuel switching, others a fuel stacking [8-9].

Among the consumption models developed in this study, only with  $Q_{3LPG}$  and  $Q_{7LPG}$  that relationships between consumption and variables show statistical significance p-value < 0.1. For the others, five models have a p-value < 0.01 and four have a p-value < 0.001. Therefore, these models can represent household behavior in terms of cooking fuel use in Andranonahoatra.

## 2. Analyses of some variables

### Energy consumption per class

Distributed energy consumption varies enormously from one class to another. To illustrate this, the Figure below reveals a situation worth mentioning. The only two classes 2 and 6 using fuelwood consume much more distributed energy than others.



Source: Author

Figure 1: Consumption and distributed energy cost

Figure 1 shows that these two classes consume 662 MJ/capita/month and 627 MJ/capita/month respectively, compared to 81 MJ/capita/month only for Class 7. Of course, the latter also uses electricity for cooking, but it is also remarkable that





households cooking with fuelwood pay less the one megajoule distributed, on average 15 ariary versus 85 ariary for classes that combine charcoal and LPG. Households not involved in wood fuels (class 7) pay the highest cost of megajoule, 431 ariary. We can also see that the more households use LPG, the more expensive the megajoule. This cost is even higher if the household adds electricity as a supplement fuel. Overall, Figure 1 shows that the cleaner the fuel, the more expensive the distributed energy. This is an interesting situation because it is part of the energy transition that we are discussing in a later study.

The situation mentioned above deserves to be studied more deeply because using fuelwood is very advantageous by acquiring more energy distributed at the lowest cost. This situation leads many households to prefer fuelwood to other fuels, with some advantages of fuelwood (see Sabuhungu, 2016 and Benard et al. 2015). This "apparent efficiency of fuelwood" conceals, however, two weaknesses in cooking:

- The low efficiency of fuelwood stoves requires more wood than other stoves to cook the same meal;
- The lower heating value of fuelwood requires an even greater amount of wood to provide the amount of heat needed to cook a given meal.

The inseparability of these two characteristics, thus evoking the cost of useful energy, makes fuelwood less competitive, contrary to one might believe. As far as useful energy is concerned, the situation is reversed.

*Useful energy cost*

Table 3 below compares the cost of each megajoule of useful energy transferred to the pot.

**Table 3: Comparison of useful energy costs (Ar/MJ)**

Characteristics	Fuelwood	Charcoal	LPG
Stove efficiency*	11%	23%	55%
Lower Heating Value (MJ/kg)	18	32	47.30
Average cost** (Ar/kg)	200	632	5,000
Useful energy cost (Ar/MJ)	101	86	192

\*FAO, 2017. \*\* Author (survey, 2018)

Using the data from Table 3, if the 662 MJ/capita/month of distributed energy consumed by Class 2 (see Figure 1), costing 9,930 Ar, were supplied only by fuelwood, the cost would be about 7,355 Ar; 13,074 Ar with charcoal and 69,679 Ar with LPG. However, when we consider the stove efficiency, Table 3 shows that one megajoule in terms of useful energy is more expensive with fuelwood than with charcoal, 101 Ar/MJ versus 86 Ar/MJ, that is about 15% more expensive. Many households in Class 2 (charcoal-fuelwood) do not realize this higher real value of fuelwood cost. Some of those who are aware are blocked by a low-income level. Therefore, generally any household that still uses fuelwood tends to be poorer unless the use of fuelwood is only for ceremonies. In other words, to cook the same meal, these households allocate a higher percentage of their expenditure on cooking fuels compared to other classes. Besides, other drawbacks of fuelwood exist (smoke volume, more space for storage, fewer traders in suburban and urban areas...). In Table 3, the average efficiency of the charcoal stove takes into account the efficiency of improved cookstoves (ICS), about 30%. It should be noted that about 20% of households in the Municipality still cook with a metal stove, others use both.

In short, most urban households, about 98.4%, cling to charcoal as much as possible (Ralibera et al., 2019), because, in terms of useful energy, it is the cheapest of the three fuels. Hence, Class 1 (charcoal-only) is one of the most energy-efficient classes. It buys 86 ariary the megajoule of useful energy. This is not by chance, because apart from this low cost, charcoal has several strengths on the side of urban consumers, making it difficult to substitute. We cite: - cleaner and safer than fuelwood, emits less smoke - easier to store - when lighted, the fire does not need to be maintained - cheaper than other alternative and modern energy sources (LPG and electricity) - sold in almost every corner - sold in retail satisfying household needs and cash (Sabuhungu, 2016).

*Household size*

Among the seven classes, only for classes 6 and 7 that the household size variable does not intervene in the consumption models. Given the percentages of households in these two classes who pay more than 100,000 Ar/month of electricity bill (33% and 50% respectively), these families can be considered as well-off who care more about quality than quantity. Indeed, for the other five classes, the coefficients of the household size are rather low in LPG consumption models than in fuelwood and charcoal models. So, the cleaner the fuel, the smaller the reduction of per capita consumption due to an increase in household size. In other words, the higher the standard of living of a household, the less the effect of its size on the amount of fuel per capita consumed. In microeconomic terms, the cleaner the fuel, the more inelastic its consumption relative to household size.

*Total consumption*

Eq. (7) to (17) first model the total consumption of fuelwood, charcoal, and LPG for all classes; then, by introducing the weight of each class and applying the eq. (2), we obtain the total annual consumption of the Municipality, as following: 1,525 tons of fuelwood, 7,247 tons of charcoal and 40 tons of LPG. Using the heating values, it means a total of 18,217 gigajoules, of which 87.65% are supplied by charcoal, 11.58% by fuelwood, and 0.78% by LPG. These situations lead us



to try to assess the Municipality's share of pollutant gas emissions for both climate change (global) and indoor air pollution.

### 3. Effects on the environment

#### Deforestation

Using the total consumptions mentioned above applied to equations (3) and (4), deforested areas will be:

- $S_{fuelwood} = 70$  ha/year for the production of fuelwood consumed by the Municipality, taking a commercial volume of 43.5 m<sup>3</sup>/ha [8] and a moisture ratio of 1.4. Note that pressure on demand for wood fuel obliges producers to cut wood between the ages of three and four [10].
- $S_{charcoal} = 2,776$  ha/year for the production of charcoal, taking a carbonization efficiency of 12% in anhydrous wood mass, a commercial volume at four years of age, and a dry wood density of 700 kg/m<sup>3</sup> (World Wide Fund, 2012).

In total, the production of the consumed ligneous fuels requires the cutting of 2,846 hectares/year of forests, or about 440 m<sup>2</sup>/capita/year. This is more than double the national average in 2009, which is 187 m<sup>2</sup>/capita/year (Montagne et al., 2009). This high level comes from the significant charcoal consumption in urban areas, needing much more wood in the production phase. According to Ramarason [11], forests carbon sequestration factor is 28.76 tons of CO<sub>2</sub>/ha/year. Using this value, the households in the Municipality would reduce forest absorption capacity by 81,851 tons of CO<sub>2</sub>/year. In other words, prevented sequestration is about 1.266 tons of CO<sub>2</sub>/capita/year, as a result of the wood fuel chain.

#### Pollution during charcoal production

Using the data in Table 2, the share of the Municipality in the emission of pollutant gases during charcoal production is summarized in the table below.

**Table 4: Emitted gas during carbonization (t/year)**

Gas	CO <sub>2</sub>	CO	CH <sub>4</sub>	NM VOC	TSP	ICP	N <sub>2</sub> O	NO <sub>x</sub>	Gas+TSP
Total emission (t/year)	21,936	2,413	335	688	247	3,681	2.174	0.942	25,617
Average per capita (kg/cap./year)	339	37	5	11	4	57	0.034	0.015	396

Source: Author

Apart from gases cited in Table 4, species of polycyclic aromatic hydrocarbons (PAHs), which are known to be carcinogenic, are also emitted during charcoal production [7]. The carbonization phase results in the emission of 25,617 t/year of pollutant gases and suspended products, that means 396 kg of gas/capita/year.

#### Pollution related to transportation.

Using eq. (6), principal GHG emissions into the atmosphere during fuel transportation are provided by the following table.

**Table 5: GHGs emitted during fuel transportation (kg/year)**

Fuel	Fuelwood	Charcoal	LPG	
Consumption (Q <sub>i</sub> ) (kg/year)	1,524,786	7,246,759	40,036	
Tonnage/trip (M <sub>i</sub> ) (kg)	5	5	15	
Average distance (d <sub>i</sub> ) (km)	72	72	450	
Amount of diesel (L) (l/100 km)	10	10	10	
Road passability index (R)	1.2	1.2	1	<b>Total</b>
CO <sub>2</sub>	7,064	46,095	1,124	54,283
CH <sub>4</sub>	0.395	1.878	0.036	2.310
N <sub>2</sub> O	0.198	0.939	0.018	1.155

Source: Author

According to Andriamifidy (2014b), the studied area is supplied to 70% of its needs by nearby production areas. We estimate the average distance of 60 km. We also adopt that the remaining 30% is transported over an average distance of 100 km. We will have,  $d_j = 0,7 \times 60 + 0,3 \times 100 = 72$  km.  $R=1.2$  means that the road condition increases the amount of diesel consumed by 20%. The results in Table 5 are obtained by taking the following values of GHG emitted per liter of diesel consumed: 2,730 g of CO<sub>2</sub>; 0.15 g of CH<sub>4</sub> and 0.1 g of N<sub>2</sub>O [12]. It is assumed that all carbons contained in the diesel are oxidized. The road practicality is different between wood fuels and LPG. Generally, fuelwood and charcoal are produced in an isolated area and then transported on a secondary road before reaching a paved one, including national roads. While LPG is transported on a tarred road. After calculation, in all, transportation of cooking fuels consumed by the Municipality emits annually about 54,3 tons of CO<sub>2</sub>; 2.3 kg of CH<sub>4</sub> and 1.2 kg of N<sub>2</sub>O. The emission of the last two GHGs is negligible, but their effects are not the least, because once in the atmosphere their residence time in the

atmosphere can be very long. Indeed, it takes about 100 years to evacuate CO<sub>2</sub>, 12 years for methane, and 120 years for N<sub>2</sub>O [13].

### Indoor air pollution

The burning of ligneous fuels during food cooking causes health problems for family members, especially for mothers and those who prepare meals directly near the stoves. Because of a lack of data on the residence time of pollutant gases inside the home, our study considers one person per household directly exposed to smokes during cooking time. From the results of household surveys, 84% of them cook indoor with charcoal stoves [14]. Using the amount of GHGs emitted during the cooking of one kilogram of fuel (see Table 2), we have the total emission values in the Municipality in Table 6.

**Table 6: Amount of indoor air pollutant gases (t/year)**

Fuel	Quantity (t)	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	NO <sub>x</sub>	CO	NM VOC	PM<10 μm
Fuelwood	1,525	2,447.7	14.912	0.110	0.125	85.083	13.540	9.682
Charcoal	7,247	18,920.5	82.613	0.232	1.667	1,410.219	44.930	17.392
LPG	40	202.4	0.040	0.004	-	0.641	6.166	3.563
Total		21,571	98	0.3	2	1,496	65	31

Source: Author

From Table 6, one can calculate that the person who prepares the meal in each household is daily exposed to 6.247 kg of CO<sub>2</sub>, 28 g of CH<sub>4</sub>, 0.100 g of N<sub>2</sub>O, 433 g of CO, 0.519 g of NO<sub>x</sub> and 19 g of NM VOC. Although fine particles of less than 10 μm represent only 31 kg, they are more dangerous to human health [15]. According to the World Bank (2009), a complete transition from wood to charcoal would reduce particle health problems by 65%, although traditional charcoal stoves emit even more carbon monoxide (Maes and Verbist, 2012). Another World Bank report declares that indoor air pollution in developing countries is one of the four most critical global environmental problems. Despite this situation in developing countries, the net impact of terrestrial aerosols on the global climate is a cooling [16].

### Total emissions

By summing up the quantities of pollutant gas emitted during the three phases of the cooking fuel chain, we obtain a total of 49,6 t of gas/year. Taken back per capita, the average values in the Municipality are about 0.8 t/capita/year, of which 95% is CO<sub>2</sub>; 9 kg of CH<sub>4</sub>/capita/year, 26 kg of NM VOC/capita/year and 7 g of N<sub>2</sub>O/capita/year. For Madagascar, average CO<sub>2</sub> emissions are 0.17 t/capita/year (Global Carbon Atlas, 2019). The per capita emissions of the Municipality seem huge, more than four times the national average. But, charcoal is the most widely used fuel by city dwellers, leading to this very high emission value of CO<sub>2</sub>. At the same time, in terms of indoor air pollution, the effect on human health of carbon monoxides and fine and ultrafine particles cannot be overlooked. About 3.42 kg/capita/year of these particles is directly inhaled by the person cooking indoor. They are about 9,050 individuals to inhale these particles.

Using the "Global Warming Potential (GWP)" of each gas given by the literature (IPCC, 1990; Dufresne, 2009), we have the CO<sub>2</sub>-related GWPs of the major GHGs emitted by population in the Municipality at 20 and 100 years, as the following table :

**Table 7: Total GHGs in CO<sub>2</sub>-equivalent (t/year)**

GHG		CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total
Emitted quantity (t/year)		50,381	586	0.432	
After 20 years	Remaining quantity	28,336	111	0.432	
	GWP <sub>20</sub> *	1	86**	266	
	<b>CO<sub>2</sub>-eq emission</b>	28,336	9,520	115	<b>58,500</b>
After 100 years	Remaining quantity	18,327	0.141	0.432	
	GWP <sub>100</sub> *	1	32**	281.5	
	<b>CO<sub>2</sub>-eq emission</b>	18,327	5	122	<b>25,450</b>

Source: Author. \*FAO, 2017. \*\*Rondreux, V.

Using the Forster et al. model for CO<sub>2</sub> and CH<sub>4</sub>, Table 7 displays that in 20 years, the GHGs emitted today will produce the effect of the equivalent of 58,500 tons of CO<sub>2</sub> (CO transformed into CO<sub>2</sub>), over the same period. The emission will still be 25,450 tons of CO<sub>2</sub>-eq after 100 years. Taking only the CO<sub>2</sub>, its punctual emission estimated at 0.6 t/capita is far higher than the national average, 0.1 t/capita (Statistical Yearbook, 2013). As we have already seen before, this higher level is still based on the fact of "charcoal urban fuel". It confirms the 10 kg of CO<sub>2</sub>/kg of produced charcoal during carbonization, which is not far from the values reported by FAO [18], 5.7 to 9 kg CO<sub>2</sub>-eq/kg of charcoal produced. From Table 7, one can calculate that in 20 years, each citizen of the Municipality will emit about 1.1 tons CO<sub>2</sub>-eq/year due to the household cooking fuel use. Arguably, this value is in the scale of 2.65 tons CO<sub>2</sub>-eq/year assessed by USAID (2011) across all sectors, and less than 5 tons CO<sub>2</sub>-eq/year for African countries (Institute for Climate Economics, 2019).



However, it should be noted that the carbon intensity of GDP (Growth of Domestic Product) is four times higher in Africa than in the European Union, which means that four times as many GHGs are emitted per unit of wealth produced [19].

## CONCLUSION

This study shows us the importance of household size, charcoal price, and electricity bill in household fuel consumption models. It also brings up the rank of socio-economic factors, such as the education level attained by the household head, homeownership, and plate habits, in the cooking fuel consumption. The use of ligneous fuel has a direct impact on forest resources, on indoor air quality and on global climate.

Recommendations for short and long terms are to be made to ensure the supply of household fuels and also to preserve the ecosystem. Actions on exogenous factors can be implemented at each phase of the fuel chain. – For the production phase, reforestation using a rapidly growing type of tree is necessary to ensure that resource productivity is always able to keep up with demand. Modernization and improvement of the charcoal kilns efficiency, with the increase in capacity of charcoal miners, are also decisive factors. In this sense, projects to produce charcoal briquette from plant waste must also be encouraged and financed. – It is important to choose the right place for reforestation projects to avoid an unnecessary increase in transportation costs. – New regulations concerning fiscal policy are also needed for charcoal retailers. – For the substitution of charcoal for LPG, make LPG closer to consumers and accessible to all income levels with small and medium-sized cylinders. This, while avoiding supply disruptions from outside. A tax policy encouraging the adoption of alternative fuels is also an element of strategy to be considered. – As for the end-use, the efficiency of the cooking stove plays a major role in the solid fuel economy. For charcoal, it is important to push even more the spread of standard ICS, because even though the vast majority of households have a so-called ICS, most of them are bought cheaply from unlicensed manufacturers and many do not meet the required technical standards. – As for the cooking place, awareness programs are needed to encourage and to sensitize households to ensure the ventilation of the site. – In a socio-economic field, controlling the demography and development program aiming to increase household income have a beneficial and lasting effect on the residential energy sector. Although these two factors are only exogenous in the medium and long terms, programs must still be initiated and supported from now on. Briefly, the government should continuously study various multi-sector scenarios to develop well-adapted strategies to mitigate or even curb the negative impacts of the use of household cooking fuels and to protect the environment.

**Conflict of interest:** None

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# DEVELOPING A CONCEPTUAL FRAMEWORK FOR ONLINE CONSUMER BUYING BEHAVIOR IN FASHION APPAREL INDUSTRY IN IRAN

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## ABSTRACT

*This study examines the key factors which affect consumer buying for online shopping of fashion apparels in Iran. For this purpose, various literature reviews from different research scholars were studied. The research gap was identified and the study proposed a conceptual model to identify online consumer buying behavior. The study identified seven major factors which affect online consumer buying behavior. The identified factors are Motivation, Quality of service, Convenience, Website, Technology Preparedness, Security and Privacy which will serve as a basis to empirically explore the factors affecting the online consumer purchasing process and for the purposes of testing the suggested model by the interested researchers in the relevant area of research.*

**KEYWORDS:** *Consumer buying behavior, Convenience, Motivation, Online buying, Privacy, Quality of Service, Security, Technology Preparedness, Website*

## INTRODUCTION

In recent years, online shopping is becoming more predominant by offering several benefits to the consumers (Nambisan and Watt, 2011). Online shopping is becoming progressively more popular (Pahnila and Warsta, 2010) and is attracting a great attention due to its potential for both customers and e-vendors which stimulate the widespread research aim in online shopping arena. Despite the fact that interactive nature of online shopping offers many opportunities, online practitioners need to develop a broad understanding of consumer in online environment. Although several researchers have attempted to resolve this issue, only few studies have examined the factors influencing the online shopping experience exclusively (Novak et al., 2000).

Several studies says that, experience is the strongest generator of self-efficacy and thus generating positive experience has acquired greater prominence due to its potentiality in influencing customer loyalty (Rose et al., 2012). Online consumer experiences refer to the psychological and emotional states that

consumers go through while shopping in online platform (Alba and Hutchinson 2000; Nambisan and Watt, 2011). Clear understanding of online shoppers is vital for online stores to make effective business strategies involving technology, marketing, and Web site design (Rose et al., 2011). Especially, understanding customer experience adds the ability to predict their future behaviour because prior shopping experience plays a major role in stimulating online buying intentions of the consumers (Ling et al., 2010).

Iran has had a long and successful history of manufacturing textiles. The Gulf state was one of the world's premier exporters of textiles and silks to Europe, Asia and the rest of the world. The Iranian Textile Industry is mostly known for its carpet industry which includes the production of machine made and hand-made carpets and blankets. However, the local production of textile products like fibre, yarn and fabrics etc. remains insufficient to fulfill the growing needs of textile and garment industry. The lifting of international trade restrictions has resulted in regional trading boom in the textile industry of Iran. Hence, the





country is planning to set up a new apparel industrial town with the aim of limiting exports, and boosting domestic production. The main agenda is to make the price of Iranian clothing more competitive. This establishment can prove to be highly beneficial for the country as it will lead to increase in quality and will help in reducing the production costs. The Iranian Textile and apparel industry has about 9,818 active units, constituting 11% of all the industrial entities in the country. These units have created more than 2,90,000 direct jobs accounting for 13% of all the industrial jobs in Iran. When the domestic production increases, it boosts the economy of the country. As e-commerce has also gained prominence, people in Iran buy apparels online.

Further, the growing interest in exploring what factors affect consumer's decisions to make purchases online was stimulated by the tremendous growth in online sales (Duan, Gu and Whinston, 2008). In addition, as the success of retail store depends on delivering an effective customer experience (Rose et al., 2011), it is important to provide effective experiential measures to the customer in online platform. Consequently, the aim of this paper is to develop a general model of the online customer experience based on existing literatures. This study would assist comprehensive understanding of consumer needs in online shopping. Furthermore, analyzing previous studies and recognizing the areas that needs enhancement could contribute to the betterment of e-business practitioners.

## REVIEW OF LITERATURE

Mosteller, Donthu and Eroglu, (2014) spots the importance of online experience by suggesting that further investigation is needed to examine the effect of key factors on online shopping experience. The growing stream of literature devoted to e-services denotes the importance of the medium. For instance, Parasuraman et al., (1991), developed the e-SERVQUAL scale comprised of four key sub-scales: efficiency, reliability, fulfilment, and privacy. Kaynama and Black (2000), have explored seven features pertaining to Web site quality: content, access, navigation, design, response, background, and personalization. Another study outlines performance, access, security, sensation, and information as five aspects used by consumers to assess the quality of an online retailer. Tong (2010), have added certain other dimensions such as ease of use, aesthetic design, processing speed, and security.

Bijal Zaveri Amin & Prahant Amin (2013) stated that online shopping is becoming a well-accepted

way to purchase a variety of products and services. For online shoppers, an online interactive hypertext environment enables them to search and control information; alteration in the traditional mass media environment in which the sender of messages largely controls what will be seen and heard as well as shift of control in favor of the receiver for customization of information, and quick comparative analysis among competing products/services. The attempt has been made by the researcher to include conceptual framework of online consumer buying behavior by including various aspects of literature review viz, Attitude, orientation and motivation towards online shopping. An attempt would be made in this paper to put forward results and findings based on critical review of available literature in form of earlier research studies relating to trends, growth, developments and future potentials of e-commerce and evolving behavioral patterns of online shopping activities considering its diffusion and issues especially concerning to gender, security etc. with its implications on e-marketplaces, society and businesses in near future. Finally, this study discovered a significantly impact of Consumer online buying behavior and important managerial implications and recommendations are also presented.

Wen-Shan Lin et al. (2010) in their article "A framework of online shopping support for information recommendations" stated that the growth of e-commerce has caused problems with personalized recommendations. Although several attempts have made to improve or automate the retrieval and filtering of such information, no generic framework links the semantic context of online shopping with shoppers' purchases in order to improve the efficiency of online shopping support. Through the application of knowledge-modeling, this paper selects a college population to empirically investigate and establish the relationship between e-marketing terms and shoppers' buying behavior. General online shopping and the online book purchases are selected to validate the generic framework. Two hypotheses are tested: (1) e-marketing terms are important in influencing shoppers' decisions; and (2) shoppers behave differently with respect to different types of buys. Experimental results indicate that shoppers perceive the importance of e-marketing terms differently whilst shopping online. Six types of shoppers' are classified: (1) general-purpose, (2) security-concerned, (3) value, (4) fashionable, (5) time-sensitive, and (6) service-oriented. Results and future research opportunities are discussed. This paper serves as a basis for improving online information search for shopping purposes.



## MOTIVATION

Several studies have examined the facet of motivation with respect to online shopping environments (Novak et al., 2000). For instance, motivation is a most constructive aspect that supports the investigation of customer engagement (Mehta, sharma and swamy, 2013). In particular, Hill, Beatty and Walsh (2013) have found that shopping motivations consist of three various dimensions such as wish to obtain a product, desire to satisfy needs, and goal of accomplishing certain ends. A recent study found that motivation was stressing at the point of to having an experience like fun or socializing with others that ultimately helps in discovering why people goes for online shopping.

As customer experience is associated with pleasure, arousal, and achieving a specific end while shopping, it is more often compared with the terms “hedonic” and “utilitarian” in several studies. According to Handa and Gupta (2014), hedonic classifications are related to intrinsically motivated intentions, while utilitarian classifications are related to extrinsic motivational aspects. As such, pleasurable motivations bring individuals to the interface by influencing their experiences and keep them involved in the interaction emotionally.

## QUALITY OF SERVICE

The service quality is the ultimate measure resulted from comparing the expectations and performance. Parasuraman et al., (1991) has developed the SERQUAL scale that gives a wholesome view over service quality comprising five dimensions such as tangibility, empathy, reliability, responsiveness, and assurance. Service quality plays a significant role in boosting up the customer experience. Due to the rapid increase in the progress, consumers become more occupied by the e-marketplace.

Since the growth of the online shopping would depend on improvement in service quality, it is important to evaluate and promote consumer preferences by offering things for which the customer shopping experience is similar to traditional store outlets (Tsao and Tseng, 2011). Though online shopping is enjoyed more by young consumers, the occurrence of rapid growth in this industry is also persuaded by older shoppers because of its efficiency in servicing technologies.

## WEBSITE

Websites that go well together with the Indian culture were exposed to be more positively perceived by the customers (Hartono et al., 2014). Moreover it

influences the purchase intention and attitude toward the site. Reliability, customer service, privacy and security are identified as the most common dimensions of website design. Numerous studies has studied that website quality as a positive influencer of consumer online purchase intention. Website design plays a major role in attracting the large customer base. In addition, previous findings have proven that consumers who are familiar with websites will build a high intention to purchase online. Consumers will always tend to visit user-friendly websites and in contrast, if they feel that a website is hard to use and to follow, they will show a lower intention to purchase in online (Thamizhvanan and Xavier, 2013)

## TECHNOLOGY PREPAREDNESS OR ACCESSIBILITY

In online shopping context, accessibility plays a vital role since consumers prefer the medium that demonstrates an accessible user interface (Overmars & Poels, 2015). In recent years, people often consider buying things from online if they feel hard in fighting crowds or finding that their product is no longer available in retail stores because of the ease of accessibility in online shopping (Khare and Rakesh, 2015). Here, consumers have more advantageous benefits in terms of searching through filtering product category, price, color, size, etc.

While shopping in online, consumers expects and prefers the site that has no accessibility violations. As many online retailers provide accessible technologies like voice recognition software, screen reader, magnifier, etc. physically challenged people finds it easy to shop online (Khare, Khare and Singh, 2012). Increased standards of accessibility makes the customer online shopping experiences the best they can be.

According to Li and Zhang's (2002) taxonomy that was developed based on their analysis, there are ten impacts of relevant factors on online consumer behaviours. These ten factors were categorized into five independent variables (external environment, demographics, personal characteristics, vendor/service/product characteristics, and web site quality) and five dependent variables (attitude toward online shopping, intention to shop online, decision making, online purchasing, and consumer satisfaction). The five independent variables are identified as antecedents, which directly determine attitudes towards online shopping. In the antecedents, the vendor/service/product characteristics and web site quality are directly impact on consumer satisfaction.



Consumer satisfaction is separated and occurs among at all possible stages depending on the consumer's involvement during the Internet shopping process, and this two ways relationship could influence each reciprocally. Fishbein's attitudinal model has been widely used in the marketing context (Lilien et al 1992) and this paradigm provides researchers with a useful lens for examining the factors explaining consumer purchasing intention and adoption. According to this model, behavior is predominantly determined by intention. Other factors like attitudes, subjective norms, and perceived behavioral control are also shown to be related to an appropriate set of salient behavioral, normative, and control beliefs about the behavior. However, Fishbein's model stops at the adoption level and does not capture other important factors that explain and predict consumer continuance behavior (repurchase).

## RESEARCH GAP

Research typically focuses on the requirement to go beyond the usability in overall system design and evaluation. However, the roles of other types of online customer experiences have not received sufficient attention in academic literature. This knowledge gap presents an important research opportunity which emphasizes experience-based differentiation as a major online strategy for sustainable competitive advantage. The above reviewed literatures focused on service quality, technology, motivation, convenience, etc which were important for online shopping. Major components such as privacy and security were not adhered to as these two risks were being faced by the customers owing to cyber crimes and frauds.

The required literature should focus on important factors such as security and privacy. Only few researches have analyzed the relative importance of various shopping experience components. This study would provide several contributions that brings new knowledge and extends existing knowledge, by developing a clear understanding of what contributes online shopping buying behavior and experience. Based on the existing literature, individual factors influencing online shopping buying behavior and their impact on intention to repurchase has been ascertained. The above mentioned reviews did not study about security pertaining to browsing the website and related to online payments. Sometimes there is a lack of legal

remedy which signals the customers to aware of security risk. Along with security, privacy is one of the biggest risks faced by the customers as it is the biggest obstacle to shopping on the internet. In particular, seven main types of consumer factors such as motivation, quality of service, convenience, website, Technology Preparedness, security and privacy has been identified.

## NEED FOR THE STUDY

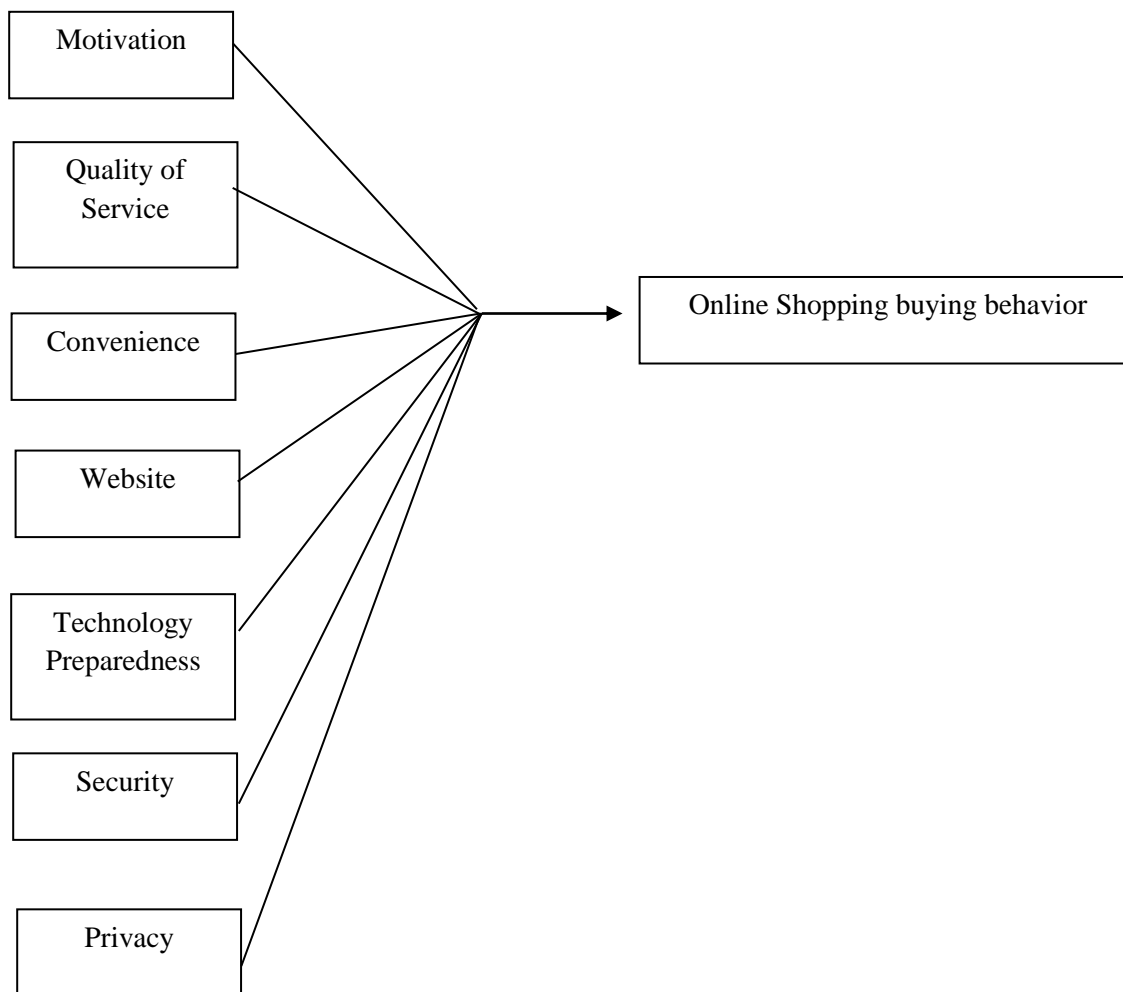
The Internet offers a new way to do business and gives fresh shopping experience to customers. There are many rules and conventions need to be improved to fit the online environment. For instance, the security must be ensured that the transactions on the Internet are safe; the privacy must be protected by the web sites; and the trust transference programs are needed to help engender customer trust in the internet shopping environment. Both security and privacy are the biggest obstacles to shopping on the internet. Even some websites have secured certified by professional organisation, but still have some customers lost their money through internet every year. Online trust is the basic and essential element for building a relationship with customers. A study shows that online trust is lower level than the face-to-face interactions in the physical store (Cassell and Bickmore, 2000). This identified gap calls for attention and hence, it becomes important to study the factors that influence the online shopping behavior amongst customers. As e-commerce is used in various countries on a large scale, it becomes significant to develop a conceptual framework to determine and strengthen the factors that influence the online shopping behavior amongst customers.

## OBJECTIVES OF THE STUDY

1. To study the factors that influences the online buying behavior in fashion apparel industry in Iran.
2. To review studies conducted in the past on online buying behavior and to determine the gaps
3. To develop a conceptual model in order to effectively assess the online buying behavior in fashion apparel industry in Iran.



### PROPOSED CONCEPTUAL FRAMEWORK



### RESEARCH IMPLICATION AND FUTURE RESEARCH DIRECTIONS

The proposed conceptual model in this study suggests a number of research avenues. As this study associates online shopping with experiential aspects, there are numerous opportunities for theoretical and empirical research in this area. The links proposed in the model offers several ways for a detailed assessment of specific relationships and their outcomes.

The first step towards theory building involves furnishing customer engagement. There is a need to keep the customers involved emotionally by acknowledging fun and pleasure. While the suggested measure of security and privacy may be appropriate, more detailed research is needed in this venue as cyber crimes have increased over the years. The proposed model suggests convenience and quality of service are

the most important variables that influence the customer online shopping experience.

Service quality influences the level of online shopping experience. However, future studies could examine the applicability of website dimension in tuning online shopping experience through an empirical research. Finally, it is suggested that accessibility is the factor that triggers the customer online shopping experience to a great extent. The proper analysis of this aspect can enhance the understanding of how online shopping experience is affected by the online shopping environment. Much creative research can be formulated on the nature and impact of this suggested model. From a technical perspective, research on online shopping is booming setting a whole new set of research avenues. Specifically, empirical research on the experiential





aspects of online shopping needs much attention due to the physical and practical constrictions.

## CONCLUSION

The objective of this research was to explore the components of consumer experience while shopping online. An extensive review of literature across major fields on online shopping has been conducted to identify the varied aspects and concepts of shopping experiences. An integrative conceptual framework of online shopping experience has been proposed based on the review of literature. This framework adds knowledge and understanding of consumers while shopping online. In particular, it provides the marketing researchers a unique opportunity to permeate the regulation with new paradigms and techniques.

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## A STUDY ON CHALLENGES OF RECRUITERS ON SOURCING THE RIGHT CANDIDATE WITH SPECIAL REFERENCE TO SKILLS HR

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### ABSTRACT

*In the job market scenario, Productivity, Innovation and Efficiency are the foremost active factors for the expansion of an organization. To realize these factors organizations should specialize in the human resource department. There are various challenges that the Human Resource Department of an organization face and thus the challenges concerning Human Resource Recruiters are given wider attention as an organization cannot sustain or survive if it overlooks the challenges faced due to the rapid advancement within the company needs and skills. As a result, HR managers will have to be compelled to get before the match by understanding these major future demographic, technological and societal shifts, then preparing themselves accordingly. Varying demographic changes across the developed and developing world will place greater pressure on both the gov't. and private sector to initiate and implement creative solutions to show, integrate and retain a rapidly changing and diverse working population. In this paper we affect various HR Recruiter challenges on sourcing and steps to prevail over these challenges.*

**KEYWORDS:** Attention, Challenges, Demographic, Recruiters.

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### I. INTRODUCTION

Sourcing may be a talent acquisition discipline that is concentrated on the identification, assessment and engagement of worker candidates through proactive recruiting techniques. Professionals specializing in sourcing are celebrated primarily as Sources; however conjointly web Recruiters, Recruiting Researchers or Talent Scouts. the particular act of sourcing for candidates is performed by either a recruiter (be it an interior company recruiter or agency recruiter) or an ardent recruiter simply targeted on the sourcing perform. The definition of sourcing has to be clearly outlined by what it's, the maximum amount as what it's not. Candidate sourcing activity generally ends once the name, job title, job perform and get in touch with data for the potential candidate is set by the candidate source. To additional develop an inventory of names that were sourced some firms have a person then reach dead set the names on the list to initiate a dialogue with them with the intention of pre-screening the candidate against the duty necessities and gauging the interest level in

hearing concerning new job opportunities. This activity is termed "candidate profiling" or "candidate pre-screening". The term candidate sourcing mustn't be confused with candidate analysis. The actual act of sourcing for candidates is performed by either a recruiter (be it an interior company recruiter or agency recruiter) or an ardent recruiter simply targeted on the sourcing perform. The definition of sourcing has to be clearly outlined by what it's, the maximum amount as what it's not. Candidate sourcing activity generally ends once the name, job title, job perform and get in touch with data for the potential candidate is set by the candidate source. To additional develop an inventory of names that were sourced some firms have a person then reach dead set the names on the list to initiate a dialogue with them with the intention of pre-screening the candidate against the duty necessities and gauging the interest level in hearing concerning new job opportunities. This activity is termed "candidate profiling" or "candidate pre-screening". The term candidate sourcing mustn't be confused with candidate analysis.



**Figure.1 Recruiting Vs Hiring Manager Challenges**

Source: Talentnow

Talent management encompasses all activities required to recruit, retain and develop talent, as well as establishing the right structure and processes to ensure that professionals can perform optimally. Key propositions include strategic workforce planning – the science to anticipate on present and future human capital needs by matching business goals with HR data – recruitment & retention, workforce effectiveness and performance management. Through the rise of data and new technologies, HR analytics has grown into a full-fledged service area within HR consulting. HR analytics focuses on applying analytic processes to the human capital spectrum, with the key objective of adding insights and value to HR activities.

The learning & development service line, also referred to as training & development, is concerned with activities aimed at improving the

performance of individuals and groups. The scope ranges from organisational and competency development across leadership, departments and functions to support the training and education needs of individuals. Learning & development also includes the soft side of development, such as coaching and mentoring, as well as the technological side of training, such as the development and implementation of learning management systems. Lastly, HR technology is the field that specialises in all systems and tools used in the HR department, including large ERP modules by SAP, Oracle or Microsoft, and more niche solutions per functional domain.

## II. REVIEW OF LITERATURE

(1) Dr. V. Vijay Anand et al (2018) published an article in the International Journal of Pure and



Applied Mathematics entitled that “A STUDY ON EFFECTIVENESS OF RECRUITMENT ORGANIZATIONAL SUPPORT IN ITES”. This study is basically to understand the effectiveness of the recruitment and its process and organizational support for the better meant of the knowledge. The effectiveness of recruitment has become increasingly popular as a measure for identifying the process of recruitment in the organization and as a tool for developing recruitment process. The researchers have applied some of the statistical tools like Percentage Analysis, Regression, and Correlation.

(2) Daniel F. Mahony et al (2006) published an article in the Journal of Sport Management entitled that “Recruiting and Retaining Sport Management Faculty: Factors Affecting Job Choice”. This study is describing the growth of sport management has led to concerns about the quantity and quality of candidates for faculty positions. In addition to trying to recruit recent doctoral graduates, many programs focus on recruiting established faculty members. This study examines factors affecting the willingness of sport management faculty to accept new positions, and the likelihood of leaving their current positions.

(3) Asrat Dagne Kelkay(2018) published an article in the American Journal of Educational Science entitled that “Practice and Challenges of Recruitment and Selection of Teachers in Private Primary School of Bahir Dar City, Ethiopia”. This study was to examine the practice and Challenges of recruitment and selection of teachers in private primary school of Bahir dar city. Objective of the study was to investigate the implementation of recruitment and selection of teachers in private primary schools. Design of the study was descriptive survey method. A total of 8 private primary schools were selected on the basis of comprehensive sampling method.

(4) Abobk rklefa N Alhigig, Dr. Reena Mehta(2018) published an article in the IOSR Journal of Business and Management (IOSR-JBM) entitled that “Biggest Challenges Facing Hr Departments”. This paper explains the Biggest Challenges Facing HR Departments, As HR works to move to a more strategic role, addressing these issues has become a continual and time consuming process. in global politics and the continued business risks mean that global HR directors will be facing some difficult challenges in the coming few years.

(5) Sophia Diana Rozario, Sitalakshmi Venkatraman and Adil Abbas(2019) published an article in the Molecular Diversity Preservation International and Multidisciplinary Digital Publishing Institute entitled that “Challenges in Recruitment and Selection Process: An Empirical Study”. This study is basically to understand today’s knowledge economy very

much depends on the value created by the human resource of an organisation. The purpose of this research is to conduct an empirical study to identify the critical aspects of the employee selection process that can influence the decision based on different perspectives of the participants such as, hiring members, successful applicants as well as unsuccessful applicants.

(6) Lauren Rockliffe, Amanda J. Chorley, Laura A. V. Marlow & Alice S. Forster(2018) published an article in the International Journal of Qualitative Studies on Health entitled that “It’s hard to reach the “hard-to-reach”: the challenges of recruiting people who do not access preventative healthcare services into interview studies. Our most successful recruitment methods included recruiting through community groups with whom they had previously established relationships, recruiting through schools and re-contacting participants who previously completed a related survey. they conclude that successful recruitment is dependent on study awareness and engagement. they urge others to be transparent in reporting recruitment methods in order to benefit the qualitative research community and suggest that details are published as supplementary material alongside qualitative articles in future.

(7) Navdeep Kumar, Pankaj Garg(2010) published an article in the ASIAN JOURNAL OF MANAGEMENT RESEARCH entitled that “Impact of Online Recruitment On Recruitment Performance”. This paper analyses competitive organizations of the future have to attract and retain the best and outstanding employees to remain competitive in the market. The Internet allows organizations to reach a large number of candidates easily and efficiently. Although the World Wide Web is becoming the hot new recruiting tool, traditional methods, such as newspaper advertising, are not yet obsolete.

(8) Archean Ruben et al (2019) published an article in the British Medical Journal entitled that “Effectiveness of different recruitment strategies in an RCT of a surgical device: experience from the End barrier trial”. In this study, the recruiting participants into clinical trials is notoriously difficult and poses the greatest challenge when planning any investigative study. Although recruitment from primary care proved extremely successful at one study site, this largely failed at another site prompting the implementation of multimodal recruitment strategies including a successful media campaign to ensure sufficient participants were enrolled and the study was adequately powered. From this experience, we propose where appropriate the early engagement



and investment in media campaigns to enhance recruitment into clinical trials.

(9) Cynthia D. Fisher(1989) published an article in the SAGE Journal entitled that “Current and Recurrent Challenges in HRM”. This article reviews recent research progress and identifies future research needs relevant to two somewhat different constituencies in HRM: the HR executive, and the operating level HR manager. Issues primarily of concern to the former include attuning HR policies to the organization's strategy, managing human resources in an international context, dealing with mergers and acquisitions, and downsizing. Researchers have just begun to explore these critical problems, and much remains to be done. Daily issues of more concern to operating level HR practitioners include selection, training, compensation, and performance appraisal. These topics have been much more thoroughly researched, though existing knowledge is not being applied as well as it could be.

(10) Sugandha Agarwal, Khalid Mohammed Saif Al Qouyatahi(2017) published an article in the International Research Journal of Business Studies entitled that “HRM Challenges in the Age of Globalisation”. In this study, it reviews the globalization has caused blurred international boundaries. This paper is an attempt in understanding and analysing the challenges existing and affecting the functioning of HRM while a company operates on global platform. The major encounters and worries of HR team, and the responses that HR managers need to make to such challenges with their increasing responsibilities in the globalized environment, have also been discussed in this paper. Effective leadership, managing diverse workforce, role of technology in HR functions like recruitment and selection, legal and political aspects, skill management, global mind-set are some of the jostling issues encountered by human resource function in the retro of globalization.

### III. RESEARCH METHODOLOGY

This study used a relational research design to analyse the challenges faced by the recruiters. Research into recruiter challenges is largely dependent on the day to day work in Recruitment process. Perceptions are generally acquired through subjective self-reports or opinion and the recruiter's own work experience. A design based on surveys is therefore appropriate. Relational surveys empirically examine the relationships between two or more variables, constructs, and/or factors. Descriptive surveys are primarily used to provide personal and demographic information. Correlation studies are used to: measure relationships; check consistency of those relationships; and to make predictions. This allows the researcher to test hypotheses by

confirming or refuting their predictions which is consistent with Grounded Theory and the formation of theoretical frameworks. It follows that predictive validity is most often achieved by statistical methods such as correlation and regression.

### DESCRIPTIVE RESEARCH DESIGN

It involves survey and fact-findings enquires of different kinds. The major purpose of descriptive research is the description of the state of affairs, as it exists at present. The main characteristics of this method are that the researcher has no control over variable; he can only report what has happened or what is happening. The method of research utilized in descriptive research are survey of all kinds, it is concerned with the research studies with a focus on the portrayal of the characteristics of a group or individual or a situation.

### DATA SOURCES

Data refers to information or facts. It includes numerical figures, Non-numerical figures and descriptive facts and qualitative and quantitative information. The task of data collection begins after a research problem has been defined and research plan has been decided. After identifying and defining the research problem, the researcher's task is to look the type and sources of data which may yield the desired results. Data sources are of two types through which data is collected.

Data sources are classified as

- Primary Data
- Secondary Data

### PRIMARY DATA

It comprises of the data which was collected through the questionnaires filled by the respondents.

### SECONDARY DATA

It comprises of the data which was collected through books, journals, articles, magazines and websites.

### SAMPLE

### POPULATION

The Population of the study is the present employees of Skills HR.

### SAMPLE SELECTION

Given that Skills HR is a specialised Human Resource Consultant company with a population (n = 120) all employees were approached to participate. Electronic survey links were sent to the entire population and 92% response rate was achieved where all of the respondents completed all of the surveys.





## PROCEDURES

The researcher requested permission from the Chief Executive Officer of the organisation to circulate surveys among the employees. In addition, permission was granted to access human resource management records and employer/employee correspondence where legal, relevant and appropriate to the study. The researcher is an employee of the organisation with free access to the employees which facilitated the ease of data gathering and clarification where necessary. Most of the group are in possession of post graduate degrees and a number have a Masters level qualification which further facilitated the process as the group all have a deep understanding and appreciation for the process. It is interesting to note that all employees wanted to participate and most had no desire to remain anonymous inviting the researcher to discuss any aspect of their responses with them. Surveys are a popular, economical and convenient way to collect standardised data which facilitate easy comparisons.

## MEASURING INSTRUMENT

This study aims to determine the relationship between Recruiter understanding about the client need, approach of recruiter towards the critical requirement, Employee Engagement, Job Satisfaction. The following instruments were used in surveys to measure the variables:

- Recruiter Understanding on client requirement.

- Change in industrial demand.
- Skills Relevancy of candidate.

## GATHERING OF DATA

The online surveys were created in Google Forms. Google Forms is part of the Google Apps suite and facilitates the creation, distribution, and collation of survey data electronically. The surveys were distributed from the facility in Google Forms by way of a link in an email. The anonymous survey responses are automatically collected and stored on Google Drive where the information is made available in a tabular format (Microsoft Excel).

## STATISTICAL TOOLS USED

To Analyse and interpret collected data the following statistical tools were used.

1. Frequencies
2. One way Anova
3. Correlation between three variables

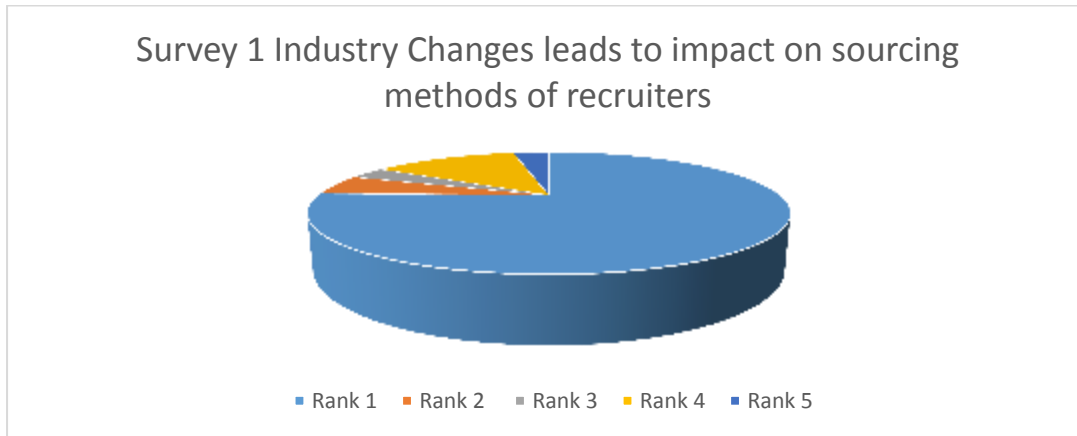
## IV. DATA ANALYSIS AND INTERPRETATION

### TABLE SHOWING THE RATINGS GIVEN BY THE HR RECRUITERS

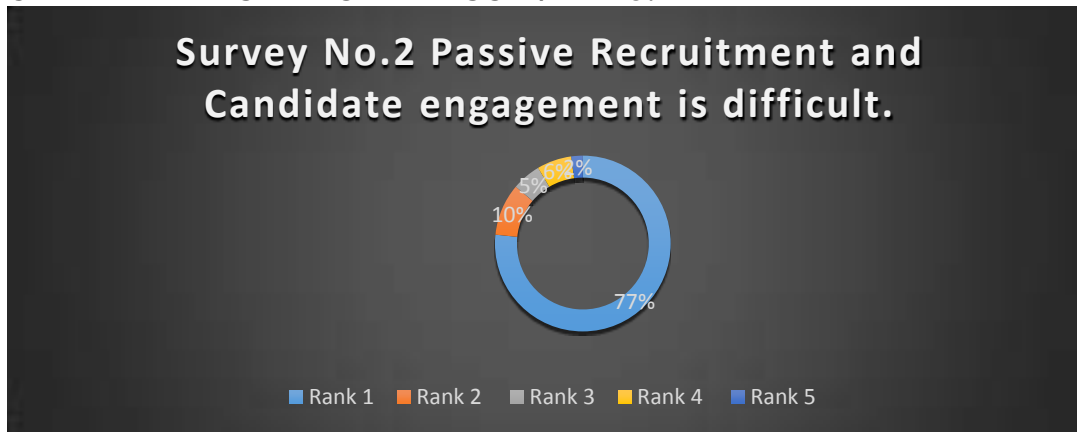
- Based on the 5 major dimensions, the ratings collected from HR Recruiters.
- The collected rating data are arranged properly, analysed systematically and interpreted precisely.

S.NO	SURVEY QUESTIONS	RATINGS GIVEN BY THE RECRUITERS IN RANK WISE				
		SA	A	N	DA	SDA
1)	Industry changes and Advancements are creating impacts on sourcing methodology.	71	5	3	12	3
2)	Passive Recruitment and Candidate engagement is difficult.	72	9	5	6	2
3)	Understanding client needs is very much essential.	20	27	32	5	10
4)	Follow-up candidates are very tedious work.	48	18	10	15	3
5)	Transparent to candidate is very important	42	19	18	6	9

**CHART REPRESENTATION THE SURVEY No: 1**



**CHART REPRESENTATION THE SURVEY No: 2**



**RANK CORRELATION ANALYSIS FOR SURVEY 4 AND SURVEY 5:**

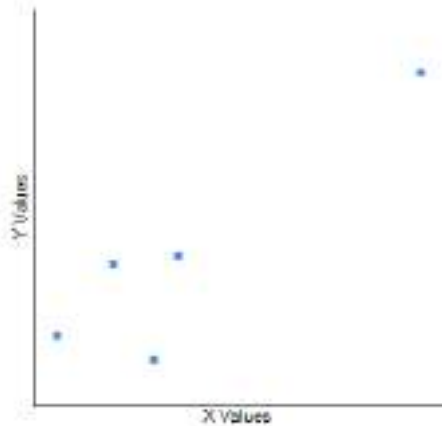
<b>Follow-up candidates are very tedious work.</b>	<b>X</b>	<b>48</b>	<b>18</b>	<b>10</b>	<b>15</b>	<b>3</b>
<b>TRANSPARENT TO CANDIDATE IS VERY IMPORTANT</b>	<b>Y</b>	<b>42</b>	<b>19</b>	<b>18</b>	<b>6</b>	<b>9</b>

**PEARSON CORRELATION COEFFICIENT**

The value of R is: 0.9088



### SCATTER PLOT CHART USING RANK CORRELATION



#### INFERENCE:

- The value of R is 0.9088.
- The P-Value is < .00001. The result is significant at p < .05.
- This is a strong positive correlation, which means that high X “Follow-up candidates

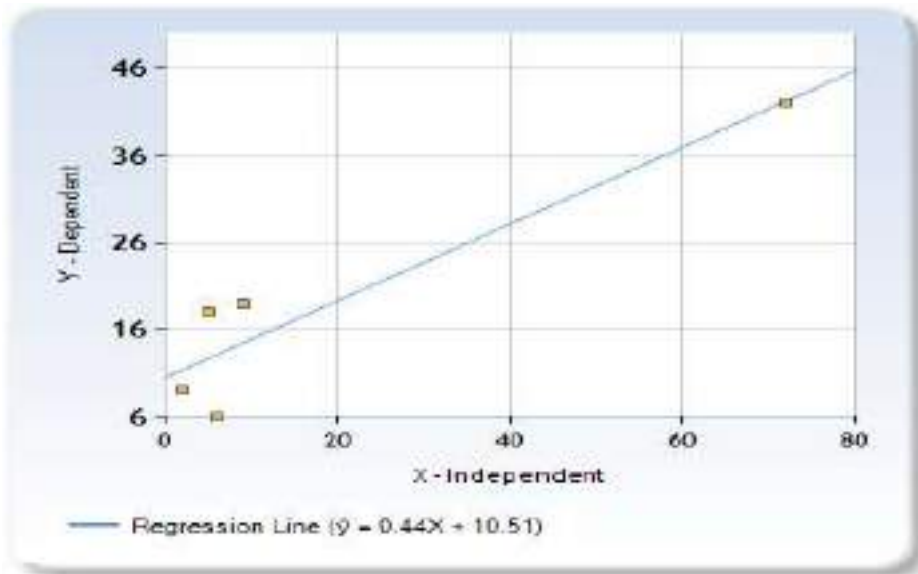
are very tedious work” variable scores go with high Y “TRANSPARENT TO CANDIDATE IS VERY IMPORTANT” variable scores (and vice versa).

### REGRESSION ANALYSIS BETWEEN SURVEY 2 AND SURVEY 5

Passive Recruitment and Candidate engagement is difficult.	X	72	9	5	6	2
TRANSPARENT TO CANDIDATE IS VERY IMPORTANT	Y	42	19	18	6	9

$$\hat{y} = 0.44117X + 10.50601$$

## LINE CHART USING REGRESSION ANALYSIS



### INFERENCE

- The Regression Equation =  $\hat{y} = bX + a$  is  $\hat{y} = 0.44117X + 10.50601$
- This is a strong positive relation, the regression coefficients are independent of change of origin, but not scale.

### CHI- SQUARE TEST

- The Chi-Square test of independence is used to determine if there is a significant relationship between two nominal (categorical) variables.
- The frequency of each category for one nominal variable is compared across the categories of the second nominal variable.

### TABLE SHOWING THE TEST STATISTICS:

	Updating Knowledge through Experience	Updating through specific Forum	Marginal Row Totals
Trainee Recruiter	15 (20) [1.25]	85 (80) [0.31]	100
Experienced Recruiter	25 (20) [1.25]	75 (80) [0.31]	100
Marginal Column Totals	40	160	200 (Grand Total)

- Trainee Recruiters nearly 15.9 % are updating their knowledge through experience of day to day work.
- Experienced Recruiters nearly 29.41 % are updating their knowledge through experience of day to day work.
- Nearly 90.42% trainee recruiter data reveals that they are updating the knowledge through specific forum.
- Experienced Recruiters nearly 79.78 % are updating their knowledge through experience of day to day work.

- ✓ The chi-square statistic is 3.125. The p-value is .0771.
- ✓ Not significant at  $p < .05$ .
- ✓ The chi-square statistic with Yates correction is 2.5312.
- ✓ The p-value is .111612. Not significant at  $p < .05$ .



**ONE WAY ANOVA  
TABLE SHOWING THE RATING GIVEN BY THE RECRUITERS**

SURVEY QUESTIONS	RATINGS GIVEN BY THE RECRUITERS		
	1	2	3
Policies are most essential	63	19	12
Social Media Network is more important	75	16	3
Good Perception on candidate is more important	49	23	22

**Result Details**

Result Details				
Source	SS	df	MS	
Between-treatments	2638.8	2	1319.4	<i>F</i> = 2.71221
Within-treatments	5837.6	12	486.4667	
Total	8476.4	14		

- The f-ratio value is 2.71221.
- The p-value is .106693.
- The result is not significant at  $p < .05$ .

**FINDINGS, SUGGESTION AND CONCLUSION  
FINDINGS**

The Overriding purpose of this study was to analyse the relative challenges faced by the human resource recruiter in the Human Resource Consulting Industry. To accomplish this goal, it was necessary to reach some prerequisite goals. Determining what was the current recruitment levels being used by the recruiters to their clients and the client perceptions about the same assumed a high degree of importance during the review of literature conducted for this dissertation. Related to that effort it became necessary to reach an understanding about the nature of Recruitment practices and policies followed in the Human Resource Consulting Industry. To adopt for the possibility that better and frequent change in the style of skills sourcing and it improves the understanding level of recruiters in Human Resource Consulting Industry. It can improve the prospects for all the 3 levels such as Recruiter, Client and Candidate, it is very important to

develop a model of analysing on processes with a potential of encompassing the totality of human resource sourcing, recruitment process and technology interaction. After achieving these fundamental steps, the research was able to go forward. This Chapter comprehends the conclusions and recommendations that resulted from the study.

The Study was conducted in Skills HR. It is a HR Consulting Firm located at Nungambakkam in Chennai. The HR Consulting area chosen as this field has been historically active in the personnel management and has population dynamics and characteristics which enabled the HR Recruitment Industry is developing over the last 5 to 10 years. The study was conducted from November 2019 to March 2020 for a period of 5 months. Both Qualitative and quantitative methods were adopted to complete the study. The respondent chosen were the Recruiters I.e. Trainee and Experienced Recruiters.





On analysing challenges, we have two important participants in the study The HR Recruiters and candidates have been included due to their predominant role in the entire process. Those Recruiters who were performing their sourcing activities in the online platform are the key respondents across this projects were selected as sample. The Purpose for the same has been explained in limitations of the study in Chapter 4. There were a total 94 Recruiters working in Skills HR. Responses from 73.52% of the Survey Lists.

The responses were gathered from 52 Male Recruiters and 42 Female Recruiters. The SPSS (Software Package for social sciences) was used to derive the results. The Tests and Statistical Methods applied were Pearson Correlation, Linear Regression, Chi- Square Test of Independence of attributes and One- Way ANOVA. The Statistical Findings are detailed in Chapter 3 which tabulates the results of the hypothesis and form the main findings of this research work.

The study has quantitative and quantitative approach and the results and responses of the survey are considered to draw the recommendations. Each of the research questions has been identified as a parameter and the observations are recorded to draw conclusions. However, a detailed observation along with the statistical results is already presented in Chapter 3 which details with Data Analysis and Findings of the survey and interpretation of statistical results. The main Conclusions are detailed as,

## RECOMMENDATIONS

**Attracting the right candidates:** Recruiters ever tried to discover the right candidate in a pool full of unqualified talent, they know that your options are limited. They choose the best person you can find at the time—not the best fit for the job. But it's not always about the amount of candidates who apply the simplest thanks to hire the proper people is usually from a smaller pipeline of more qualified talent.

**Engaging qualified candidates:** Good candidates are often contacted regularly by recruiters, making it harder for your own email to stand out. In addition, candidates with hard-to-find skills are often considering several job offers at an equivalent time. Recruiters need to put extra effort into persuading passive candidates to choose your company over your competitors.

**Hiring fast:** Hiring teams want to hire as fast as possible, because vacant positions cost money and

delay operations. Yet, counting on your industry, making a hire can take several months putting pressure on recruiters and frustrating hiring teams. A long time to hire may be a by-product of a shortage of qualified candidates. The hiring process could also be too long or hiring teams might struggle to succeed in a consensus, leading to the simplest candidates finding jobs elsewhere.

**Using data-driven recruitment:** Companies can use recruitment data and metrics to constantly improve their recruiting process and make more informed decisions. But collecting and processing data are often a hassle. Spreadsheets are a method to trace hiring data but they require manual work, are susceptible to human error—and they're not compliant. This makes it hard to track data and trends accurately. Hiring teams need ways to compile and organize data in an efficient and streamlined way.

**Building a strong employer brand:** A good employer brand helps you attract and engage better candidates. Organizations that invest in employer branding are 3 times more likely to form a top quality hire. Yet, it's a posh process that has anything from ensuring a positive candidate experience to promoting your culture on social media. It's a continuous, collective effort that requires you to step out of your usual duties and secure buy-in from your co-workers.

**Ensuring a good candidate experience:** Candidate experience isn't only important for employer branding, but it's also a factor when your best candidates are evaluating your job offers. The way you treat candidates during the hiring process mirrors the way of treating them after hiring. If they had a bad experience, they are less likely to accept. Conversely, positive candidate experiences can enhance your employer brand and encourage good candidates to use and accept your job offers.

## CONCLUSIONS

Build a talent pool- Talent pipelines are groups of candidates you've already engaged who can fill future positions in your company. This can assist you reduce time to rent and recruiting costs, because you'll have already got qualified, pre-screened candidates in line when a task opens. Look into past hiring processes for candidates who advanced to the ultimate stages or source new candidates. Past candidates are obviously qualified, while new ones will assist you build a more comprehensive and diverse candidate database. Engage past and passive candidates. Your pipelines are stronger if candidates know



you're considering them and if you're staying in touch. Let them determine how often you'll communicate with them, either via in-person meetings or by sending them useful content and knowledge. Instruct interviewers on how to prepare for interviews. Giving them a checklist will be helpful. Encourage them to require Harvard's Implicit Association Test to spot their hidden biases. Educating them on how biases work is additionally an honest idea. Arrange mock interviews. This will be especially useful for inexperienced interviewers. Disseminate recruiting resources. Ask each hiring team member whether they'd have an interest in receiving interesting articles or videos with hiring advice. Set expectations of the quantity they'll get to read, for instance, send a piece of writing once a month. Using social media to post your jobs or promote your company. Showcasing your culture, benefits and employee stories in your careers site to encourage more applicants. Attending job fairs and host recruiting events whenever possible. Using tools like People Search to source candidates supported location, skills and other job-related criteria. Invest in an Application Tracking System (ATS)-An ATS can streamline your hiring process by making it possible for your hiring team to collaborate and keep all candidate data in one place.

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## TRADITIONS AND MODERNIZATION IN THE SYSTEM OF "KINSHIP" IN UZBEK FAMILIES

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### ABSTRACT

*The article explores the relationship of "kinship" with the specific traditions of the Uzbek family in the context of globalization, which ethnologically analyzes the characteristics of the family and the emerging modern traditions of the Uzbek family, which are transformed from existing ethnic traditions under the influence of socio-economic development of the system of kinship of Uzbek families.*

**KEYWORDS:** *relatives; collateral relatives; lineal relatives; blood relatives; half siblings; Sila-i rahim; exogamous marriage; endogamous marriage.*

### INTRODUCTION

As long as everyone lives in a human society, he or she will have to interact with one or more people and live in harmony with them. This obligation is an inseparable and unique law of human society, which leads to the development of a number of close relationships that bind people together with society, to harmonize their desires. Since the creation of man, he has always been looking for a companion, and thanks to this, the concept of a single kinship arose in the history of human society. Kinship also existed in primitive times and developed differently at different times. People felt a natural need for close relationships as a result of interaction with their loved ones, life together throughout life, help and support of each other. In this regard, the family is the leading society that has shaped its traditions, order, and collective ownership system. In this context, a family is a group of people who historically formed, survived as a result of a certain development and evolution, and in their context created large matriarchal and patriarchal families. As a result of the progressive development of human life, innovations have been observed in the traditional family type system. For example, scholars in various fields are analyzing different forms of small family, such as nuclei families, international families, experienced families, young families. The family is not only a social unit built by society, but also an

educational space that ensures the continuity of traditions and customs that it has preserved for thousands of years.

For us, the family, which is the most important cell of society, begins with marriage. The healthier, more harmonious and stronger the family, the healthier, more peaceful and prosperous society will develop.

Despite the fact that family and kinship relations have been formed in the peoples of Central Asia since ancient times, we can say that its scientific research has reached a new level in world sociology, mainly in the XIX century. However, it is worth noting a number of ethnographic studies on this issue. In particular, studies of family history and family traditions in the peoples of Central Asia include the studies of V. Nalivkin and M. Nalivkina, "Essays on the Life of Local Women in the Ferghana Valley," Abdurauf Fitrat, "Family or Family Management Measures" (1914), "The Ancient Khorezm" S. P. Tolstov (M., 1948), "Matriarchy" (M., 1948) and "Family community and patronymia" (M., 1963) M. Cosven N. Ya. Bichurin "Collection of information about peoples, who lived in Central Asia in ancient times" (M. L., 1950), K. L. Zadikhina, "Uzbeks of the Amu Darya delta" (1952), K. Shoniyozov "Karluk-Uzbeks" (Tashkent, 1964), Sukhareva O. A. "Bukhara at the beginning of the 19th and 20th centuries" (M., 1966) and hundreds of other studies. [7.] These studies





help in the objective analysis, scientific analysis of the family issue and its significance, history, essence and evolution in the local peoples. But at the same time, the rise of family development to a new level, the processes of globalization, technical renewal and the growth of the worldview of the population are causing a number of problems related to family and kinship among local peoples. Therefore, the issues of kinship in family relations require the results of scientific research, sound recommendations. This is a multifaceted problem and plays an important role in determining the development of society, in educating a spiritually mature and physically healthy generation.

## MATERIALS END METHODS

The scientific substantiation of the article uses the method of comparative analysis of ethnographic, religious, historical and psychological data and the method of field research. As part of the scientific analysis, the article focuses on kinship in Uzbek families as a result of various approaches of researchers and their comparison with the traditional way of life at present, as well as suggestions and comments were given in the study.

## RESULTS

The Encyclopedia of the Family describes kinship in the Uzbek family: "Kinship is a group of persons derived from a common third person (ancestor). Proximity of a relative on the direct family tree between two persons is determined by the degree of kinship, i.e. the number of births. Children are first-degree relatives in the correct family tree relative to their parents, second-degree relatives to grandparents, third-degree relatives to great-grandparents". It is also noted that on the lateral branch of the family tree there are also relatives, brothers, sisters, their children, brothers and sisters of parents, their children, brothers and sisters of grandparents, their children and so on.

Researchers categorize relatives into two groups. If brothers and sisters come from the same parent, then they are genetic relatives. If the father is common, the mother is different, or, conversely, the mother is common, and the father is different, then these are half siblings. Siblings born from common parents are considered to be blood relatives, and brothers and sisters from one common parent are not considered blood relatives. Children of a husband and wife from a previous marriage are not considered relatives.[8. P. 211,212]

According to sources, before independence, kinship in Uzbek families was strong and inseparable, even if the children's parents were not common.

However, after independence, family ties, especially the kinship traditions, were undermined in Uzbekistan. The main reason for this was that young people want to live in a small family and not in a large family, and a separate lifestyle, and under the influence of the technological revolution.[2. Field data]

Researcher S.N. Abashin in his study "Social relations in the modern Uzbek village" argues that the Uzbek family consists of two levels: family and family groups. Abashin also noted that in Uzbekistan, family relations are supported by economic relations, their "traditional" family relations differ from the "Western" or "European" type, structural features of the "traditional" family relations exist between them, he also noted that after the death of parents, relations between brothers and sisters remained in the form of family relations, the "traditional" family and kinship relations changed slightly and adapted to new living conditions. [1. 5,6 p]

In particular, the information of the informants confirms the scientific views of the researcher Abashin, that even today the family relations and traditions in the modern life of local Uzbeks are radically different from the characteristics of Western countries. For example, the main task of family adults is to teach equality, harmony, kindness in the relationships of children in the family, and also to teach to work together. Through this method of upbringing, they lay the foundation task for strengthening the kinship of their children in the future and passing them on to future generations. This custom is the most common type of family tradition and has not lost its significance to this day.[3.Field data] Caring for a strong economic unity of the family, strengthening kinship relations is described in our sacred religion of Islam as "the family is a strong relationship formed under the guidance of the father". Strengthening kinship is considered in Islam as "Sila-i Rahim," and that in the national mentality an attempt to strengthen family ties in various ways and means is a blessing for the existence and life of a person, the hadiths of our Prophet Muhammad are cited (peace and blessings of Allah be upon him): "Anyone who is satisfied with the abundance of livelihoods and longevity, may he have mercy, that is, strengthen the bonds of kinship".[9]

Genetic closeness between relatives, psychological, social and economic cooperation, mutual understanding in the relationship, leads to the acceptance of the conditions of coexistence. The number of relatives is directly related to the number of children in the family, and the more they are, the larger the number of relatives. From time immemorial, Uzbeks have been a nation of children, and they have





not limited the number of children, regardless of economic conditions or economic size.

Uzbek ethnographer I. Jabborov cites the fact that the number of family members in the peoples of Central Asia depends on their ethnic characteristics, and from ancient times Uzbeks also had many children. According to the 1979 census, the average family size in Uzbekistan was 6.2 to 212 people, while according to ethno-sociological research (1974-1976), the average family size in the rural population was 6-7, sometimes 11-12. According to the same list, mothers with more than 7 children accounted for 19.6 percent of Uzbek families, 20 percent of Turkmens and 25 percent of Tajiks.[4. P. 213]

To date, although there are no natural restrictions on the number of children in local communities, some families are reducing the number of children on the basis of various problems or mutual consent, and this is seen as a requirement of the times.

In order to preserve the traditional traditions of their ancestors, Uzbeks have strengthened their closeness to their clan and tribe, their ties with their cousins and tribesmen, even if they are territorially distant. Even if some families have been separated from their relatives for a long time, they are ready to preserve the ancestral family tree and lend a helping hand if necessary. In this way, they tried to memorize their family tree and taught it to their children as well.

## DISCUSSION

What form of kinship has it maintained today, or are there group features of this relationship? Are there psychological aspects of the kinship between people? Analyzing these and similar questions on the basis of field data, we first observe that the traditional relations between today's Uzbeks have changed somewhat. These can be conditionally divided into 2 groups;

The first group. It is a category of people who understand the true meaning of blood kinship, aim to continue the traditions of generations, and prefer to instill the same educational habits in their children.

The second group. A community of people who use family relationships to make various economic, lucrative deals. It is unfortunate that such communities are proliferating among us. But we think that the new generation needs to be explained the true nature of kinship, its educational value, its traditional features.

According to historical sources, the term "tribe" refers to a large family descended from one ancestor, which means that the Uzbek people, like Kazakhs, Karakalpaks and other peoples, did not have

exogamous (external) marriages, but marriages between cousins, that is, endogamous (internal) marriages between relatives (cousin). And this shows that the preservation of the community traditions of some Uzbeks is not completely separated from their tribal system. Even today, although Islam forbids intermarriage between close relatives, we see that this tradition continues in some Uzbek families.

In the Uzbek family, which has not lost its patriarchal character, the role of the father in the relationship of parents with children is important, so the relatives of the father will continue this process. In this case, all family members must fully obey one person, that is, the head of the family and the rules of the association. That is why the family tree, i.e. the order in which the surname is placed, is related to the name of the head, which is alive. This tradition continues today, and in many families the surname is determined by the man (father), on the basis of which the bride gets the surname of her husband, which is an echo of the original primitive patriarchal family relations. [5. P. 215]

Another important aspect of family traditions is that weddings and funerals are organized in the sense of equal participation and active participation of the community, mutual respect and assistance. In this way, such noble qualities as sympathy, tolerance, solidarity, national unity were strengthened among the relatives. Hashars have a special moral significance in the formation of such qualities as traditional community activities. Noting that hashars are formed as national values, B. Ubaydullaeva stressed its advantages.

The Uzbek people also following the traditions of marriage, having a lot of information about in-laws in choosing a bride or groom, takes into account their social origin, role and prestige in society. If the mind, manners, and well-being of the bride and groom are the first factor, then their relatives, the position of the generation in the community, and public opinion in this regard are the second, and often the decisive factor. In marrying children with a good one, the community opinion, the public opinion of the majority play an important role in not making mistakes in this regard. [9.129,171 p.] As our wise people say: "A wedding made by advice does not diverge".

The processes of globalization that have taken place in recent years are reflected in family relationships, including the relationship between parents and children. In modern Uzbek families, on the other hand, the father's rule is gradually based on equal parental cooperation or liberalization.

The Western concept of the family is seen as a means of maintaining a unique, individual approach and demonstrating a person's talents and abilities,



achieving specific goals. In turn, there is a principle that the community does not interfere at all with the inner, inner world, psyche and personal life of a person.

In the East, however, there is a completely different view, that is, the focus is on the community. Every tradition, ceremony takes place together with the community, i.e. close relatives, neighbors and the wider neighborhood. The community is interpreted as the social control of a person, the regular participation of the individual in the community, the proof that he is acting within the framework of common moral norms. In the East, a person's behavior in isolation from society is considered "social alienation".

Respect for adults, mutual cooperation, concern for the fate and future of children, caring for them have always been one of the basic rules of family values and customs. Unfortunately, during the last totalitarian regime, these values were seriously undermined. The family tree was forgotten, everything possible was done so that the professional skills of the family, the transfer of family crafts and professions from generation to generation were forgotten. The devotion of relatives to the same profession was condemned under the label of "kinship." Thus, the traditional professional and economic "place" of families and clans in society began to be forgotten.. [6. 124,125 6]

The study we are discussing, dedicated to restoring family values and family ties, allowed each family to become economically, culturally, and professionally free during the years of independence. That is, the development of family business through the free activity of each family as an independent "state" within an independent country, the talent of the Uzbek people in various fields of activity has grown thanks to the endless opportunities that have opened up all the qualities of its members, its unique qualities, such as enterprise and enterprise, quick study several foreign languages became fully realized, the traditions of national hospitality and generosity were further developed.

In Uzbekistan, the family and family issues have risen to the level of state policy, and the strength of the family is equated with the development of the state. After all, a small unit of society not only embodies values and traditions, but also delivers young people who are the future of the country. Therefore, the "Family Code" adopted in our country on April 30, 1998 is a real resolution that legally regulates relations in order to continue the national traditions of the Uzbek family..

Articles 57-58-59 of the Family Code clearly state the relationship of kinship, in-laws and

marriage. In particular, it states that "persons derived from a common third party (ancestor) are considered relatives. The closeness of kinship on the direct family tree between two persons is determined by the degree of kinship, i.e. the number of births. Children are first-degree relatives in the correct family tree relative to their parents, second-degree relatives to grandparents, third-degree relatives to great-grandparents".

The Code also provides that brothers, sisters, their children, brothers and sisters of parents, their children, brothers and sisters of grandparents, their children and the like are called collateral relatives. [10. P. 40,42] The "Family Code" has legally improved and strengthened the traditions that our ancestors and people valued and respected.

## CONCLUSION

In conclusion, it should be noted that the Uzbeks developed from the ancient past in the form of a large patriarchal family and had a habit of having many children. Family property, household, and even the upbringing of children, each developed in its own way, all the problems and successes of the family were solved together. This attitude has become one of the main factors in the formation of the mentality of the Uzbek ethnos, embodying many positive traditions of kinship in Uzbeks, in particular, hospitality, tolerance, mutual respect, benevolence, love for their homeland, compassion and harmony.

It is no secret that modern Uzbek families consist of small families (nucleus families), in which the number of children is artificially limited. Different thinking, the blind imitation of foreign traditions, has somewhat damaged the original kinship of the Uzbek family. In a multi-ethnic Uzbekistan, along with new habits emerging as a result of national mixing, there are also unique thinkers among young people. So we think it is very important to follow the following in order to preserve the original national traditions and pass them on to the next generation;

- First of all, to preserve our national traditions in the era of globalization and to convey to young people the essence of kinship;
- Establish propaganda in the media, social networks, such as family holidays, family health, family spirituality, family values;
- Strengthen the role model of adults in continuing dynastic traditions in the family;
- Strengthen our mentality by explaining the positive qualities of kinship, the original goals.



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## BORROWED WORDS AND THEIR PROPERTIES

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### ANNOTATION

*Borrowing as means of replenishing the vocabulary of present-day Uzbek is of tons more importance and is comparatively lively handiest within the discipline of clinical terminology and social-political terminology as many terms are often made up of borrowed morphemes, primarily morphemes from classical languages. The element played via borrowings within the vocabulary of a language relies upon the records of each given language, being conditioned by using direct linguistic contacts and political, economic and cultural relationships among nations.*

**KEY WORDS:** *morphemes, social-political terminology, replenishing, borrowings, innumerable, substitute, approach.*

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### INTRODUCTION

Borrowing as a means of replenishing the vocabulary of present-day Uzbek is of tons more importance and is comparatively lively handiest within the discipline of clinical terminology and social-political terminology as many terms are often made up of borrowed morphemes, primarily morphemes from classical languages.

The element played via borrowings within the vocabulary of a language relies upon the records of each given language, being conditioned by using direct linguistic contacts and political, economic and cultural relationships among nations. Uzbek history carries innumerable activities for all forms of such contacts. It is far the vocabulary machine of each language that is mainly attentive to each alternate in the lifestyles of the talking community.

The improvement of the contacts among nations and the dominance of English language as enterprise language purpose a big float of phrases into Uzbek language, as a result, enriching its phrase – inventory.

### MATERIALS AND METHODS

The influence which English exerted on our language is seen in all aspects of existence, social, political and infrequently any walk of life changed into unaffected with the aid of it. The primary point to be emphasised is that here we are not coping with completely new thoughts introduced from a different kind of civilization and subculture, however, as a substitute the imposing by using a dominant race in their own terms for thoughts which had been already familiar to the difficulty race. This sort of situation manifestly way that there will arise pairs of phrases the native and the foreign time period for the identical concept and a struggle for survival between the two, in order that one of the words become eventually lost from the language, or survived best with a few differentiation of meaning.

Borrowed words have been called «The milestones of philology» – said O. Jespersen – because they permit us to fix appreciatively the dates of linguistic changes. They show us the course of civilization and give us information of the nations. The well-known linguist Shuchard said «No language is entirely pure», that all the languages are mixed.



Borrowed words enter the language as a result of influence of two main causes of factors; linguistic and extra-linguistic.

Borrowed words have been considered in many scientific works, monographs and publications. But detailed analysis of words borrowed into Uzbek from English in detail has not been done so far.

The principle constituent part of the vocabulary system of any language is formed via borrowed words. Handiest borrowed phrases which were loaned from English into Uzbek have been considered inside the article.

Etymologically, the vocabulary of any language includes businesses – the local words and the borrowed words. E.g., in its 15 century long records recorded in written manuscripts the English language occurred to be available in lengthy and close contact with numerous different languages, specifically Latin, French and antique Norse (or Scandinavian). The etymological linguistic analysis confirmed that the borrowed stock of phrases is larger than the local stock of words. Uzbek language, in addition to English, has been in long and close touch with different languages, in particular Arabic, Persian, Russian.

## RESULTS AND DISCUSSIONS

A native phrase is a word which belongs to the unique inventory. An English local word is a word which belongs to Anglo-Saxon starting place. To the local words we include words from commonplace Germanic language and from Indo-European stock.

A borrowed phrase, a mortgage phrase or a borrowing is a phrase taken over from another language and modified in phonemic form, spelling, paradigm or which means in line with the requirements of the language.

The native words in English are further subdivided by diachronic linguistics into those of the Indo-European stock and those of Common Germanic origin. The native words of Uzbek language belongs to Turkic language family, the origin of which based on Altay-Yenisey manuscripts. It has been noticed that native words readily fall into definite semantic groups. Among them we find terms of kinship: father-ota, mother-ona, son-o'g'il, daughter-qiz, brother-aka etc; words naming the most important objects and phenomena of nature: sun-quyosh, moon-oy, star-yulduz, wind-shamol, water-suv; names of animals and birds: bull-ho'kiz, cat-mushuk, goose-g'oz; parts of human body: arm-qo'l, ear-quloq, eye-ko'z, heart – yurak.

Words belonging to the subsets of the local phrase – stock are for the most component characterised with the aid of a extensive variety of lexical and grammatical valency, high frequency price and a

advanced polysemy; they may be often monosyllabic, display top notch word – constructing energy and input some of set expressions, e. g., watch DE Weccan is one of the 500 maximum common English words. It is able to be used as a verb in greater than ten different sentence styles, with or without item and adverbial modifiers and blended with distinct instructions of words.

Borrowed words are phrases taken over from different languages. Many linguists' bear in mind overseas impact performs the maximum critical function inside the history of any language.

But the grammar and phonetic gadget are very solid and are not frequently inspired by way of other languages. For example, in its 15 century long history recorded in written manuscripts the English language happened to be available lengthy and close touch with numerous other languages in particular Latin, French and vintage Norse. The extremely good influx of borrowings from these resources can be accounted for by means of a number of historical causes. due to the superb have an impact on of the Roman civilization Latin changed into for a long time utilized in England because the language of gaining knowledge of and religion. antique Norse become the language of the conquerors who have been on the equal stage of social and cultural improvement and who nudged as a substitute without difficulty with the neighborhood populace within the 9th, tenth and the primary half of of the 11th century. French (Norman dialect) become the language of the alternative conquerors. Who added with them plenty of new countries of a higher social system evolved feudalism it changed into the language of higher training, of legitimate files and faculty practise from the center of the 11th century to the stop of the 14th century.

Uzbek language additionally evolved under the impact of Persian, Arabic and later Russian languages. Persian language unfold in our territory in 500–300BC, on the grounds that that point peoples of central Asia were in near contact with Iran, the birthplace of Persian language. Till 15th century it was «style» and suitable to put in writing poems and prosaic works in Persian, even though vintage Turkic language becomes also used amongst nation, in particular by using regular people. Inside the VII century Arabs conquered principal Asia, carrying their faith and language to the peoples. As a result, Arabic language turned into fundamental until XI–XII centuries. Books have been written in Arabic language too. e.g. first rate scientists and pupils Avicenna (Ibn Sina), Farabi, Beruni created their works in Arabic language. Simplest in XV century Alisher Navoi, notable author and statesman proved the beauty and importance of the Turkic language, starting to write his exceptional masterpieces in this language, though he knew Persian and Arabic





languages very well. And starting with XVIII century Uzbek language became beneath the impact of Russian language. In the observe of the borrowed detail in English the principle emphasis is as a dominated positioned at the middle English length and in Uzbek it is middle Turkic language.

Borrowings of later periods have become the object of research most effective in recent years. Those investigations have proven that the waft of borrowings has been consistent and uninterrupted. They refer to numerous fields of social – political, medical and cultural lifestyles. A large part of them (forty one%) is clinical and technical terms.

While we communicate approximately the function of native and borrowed words within the language we need to now not think about only the number of them but their semantic, stylistic man or woman, their word building capability, frequency fee, collocability (valency) and the productiveness of their word-constructing styles.

If we approach to the take a look at of the function of native and borrowed phrases from this factor of view we see, though the local words aren't numerous they play an critical position in the English and Uzbek languages. They have value, great word – forming electricity, wide collocability high frequency, many meanings and they're stylistically impartial. Nearly all phrases of local origin belong to very critical semantic agencies. The wide variety and character of the borrowed words tell us of the relations among the peoples, the extent of their tradition, and so forth. It is for this reason that borrowings have frequently been known as the milestones of records.

The well known linguist Shuchard said «No language is completely natural», each of them is mixed.

It needs to be mentioned that while the overall historical motives for borrowing from distinct languages were studied with a considerable degree of via the purely linguistic reasons for borrowings are nevertheless open to investigation. The variety and character of borrowings do not handiest depend on the ancient conditions, on the nature and period of the contacts, but also on the diploma of the genetic and structural proximity of languages worried. The nearer the languages the deeper and more flexible is the impact.

Borrowed phrases input the language due to influence of predominant causes or factors: linguistic and further-linguistic. Monetary, cultural, commercial, political members of the family of audio system of the language with different countries confer with more-linguistic factors. As an example, due to the great have an effect on of the Roman civilization Latin was for a long term used in England because the language of mastering and faith.

Vintage Norse of the Scandinavian tribes turned into the language of the conquerors. French (Norman dialect) was the language of the other conquerors who added with them lots of latest notions of a higher social machine, evolved feudalism. It turned into the language of higher lessons, of reputable files and faculty. The equal is in Uzbek language. Due to the enlargement of Islam faith, Arabic turned into used for hundreds of years in valuable Asia because the language of science and religion[1].

For about two centuries Russian language keeps a dominant function in the nations of former Soviet Union. It changed into priority to understand Russian and it changed into a language of verbal exchange and friendship. Those factors are extra-linguistic ones.

The absence of equivalent words within the language to specific new subjects or a phenomenon makes human beings to borrow words. E.g. the phrases football, volleyball, pitchman in Uzbek; to save money the linguistic way, i.e. to apply an overseas word in preference to extended native expressions and others are referred to as linguistic causes.

The closer the two interacting languages are in structure the easier it is miles for words of one language to penetrate into the alternative.

Borrowings input the language in approaches via oral speech (through on the spot touch between the human beings) and through written speech by way of indirect touch through books) phrases borrowed orally are commonly brief and that they undergo greater adjustments in the act of adopter. Written borrowings are often alternatively lengthy and they are unknown to many human beings, speaking the language.

We distinguish translation loans, borrowings right and semantic loans. Translation loans are words and expressions formed from the fabric already present in the language but according to patterns taken from another language, with the aid of way of literal morpheme – for – morpheme translation, e.g. wall-newspaper – devoriy gazeta.

The time period «semantic loan» is used to indicate the development in a phrase of a brand new that means due to the affect of an associated phrase in some other language. The English word pioneer supposed «explorer» and «one who is a number of the first in new fields of pastime». Now underneath the influence of the Russian phrase «Пионер» it has come to intend «a member of the young Pioneers' business enterprise».

Borrowings proper are phrases which are taken from any other language with their sound image bureaucracy and their meaning.

The number of borrowings on vintage English became meager. Inside the center English period



there was an influx of loans. It is far often contended, that for the reason that Norman conquest borrowing has been the chief aspect within the enrichment of the English vocabulary and as a result there has been a pointy decline within the productiveness and function of word-formation. Historic evidence, however, testifies to the truth that at some stage in its complete history, even within the durations of the mightiest influxes of borrowings, other tactics no less intense were in operation – word – formation and semantic improvement, which involved both native and borrowed factors. If the estimation of the position of borrowings is primarily based at the study of phrases recorded inside the dictionary, it is simple to overestimate the effect of the overseas words, because the variety of local words is extremely small in comparison with the range of borrowings recorded. The best genuine manner to estimate the relation of the native to the borrowed element is to consider the two as truly used in speech. If one counts every phrase used, which include repetitions, in some reading depend, the share of native to borrowed words may be quite distinctive. On this kind of matter, every creator uses giant more local phrases than borrowings. Shakespeare, for example has 90%, Milton eighty one%, Tennyson 88%. This suggests how important the comparatively small nucleus of native phrases is. Different borrowings are marked through extraordinary frequency cost. The ones well set up inside the vocabulary may be as common in speech as native phrases, whereas other arise very hardly ever. The amazing variety of borrowings in English left some imprint upon the language. The first effect of foreign impact is discovered in the quantity of its vocabulary. Because of its history the English language, more than some other modern language, has absorbed overseas factors in its vocabulary. But the adoption of foreign phrases should not be understood as were quantities alternate. Any importation into the lexical system brings approximately semantic and stylistic changes inside the phrases of this language and adjustments in its synonymic organizations.

It has been mentioned that when borrowed phrases had been equal in that means with the ones already in English the adopted word very frequently displaced the local word. In most cases, however, the borrowed phrases and synonymous local phrases (or phrases borrowed in advance) remained inside the language, becoming extra or less differentiated in which means and use. As a result the wide variety of synonymic businesses in English substantially accelerated. The synonymic agencies have become voluminous and acquired many phrases rarely used. This brought approximately a rise in the percentage of stylistic synonyms. Due to the differentiation in which means between synonymous phrases many local phrases or

phrases borrowed in advance narrowed their means or sphere of application.

Abundant borrowing intensified the difference between the word stock of the literary national language and dialects as well as between British English and American English. On the one hand a number of words were borrowed into the literary national language which is not to be found in the dialects. In a number of cases the dialects have preserved some Anglo-Saxon words which were replaced by borrowings in the literary language. On the other hand, a number of words were borrowed into dialects are not used throughout the country.

In spite of the numerous outside linguistic influences and the etymological heterogeneity of its vocabulary the English language is still, in vital traits a Germanic language. It has retained a ground painting of Germanic words and grammar. A comparative have a look at of the character and function of native and borrowed words display that borrowing has in no way been the leader manner of replenishing the English vocabulary. Word-formation and semantic development have been for the duration of the entire history of the English language a lot greater efficient than borrowing. The extremely good number of borrowings bringing with them new phonon-morphological sorts, new phonetic morphological and semantic features left its imprint upon the English language. However, underneath the have an impact on of the borrowed detail phrases already current inside the English modified to a degree their semantic shape, collectability, frequency and phrase forming capacity. Borrowing additionally significantly enlarged the English vocabulary and taken approximately a few modifications in English synonymic organizations, inside the distribution of the English vocabulary through sphere of utility and in the lexical divergence between the two editions of the literary country wide language and its dialects.

Uzbek language is also under steady have an effect on of borrowings. We're living within the age of development and generation. New discoveries new innovations, result in new notions which are everyday via languages, and Uzbek language is likewise among them. The phrases related with improvement of era, recreation phrases, regular words have been penetrating into Uzbek language from different languages, in particular from English, Russian and through Russian or English from many European languages.

## CONCLUSION

In its turn many Uzbek phrases entered the phrase inventory of world languages, which include of sport terms: Kurash, halol, chala, the names of quinine: plov, manti, somsa, the names of garments: chapan and etc.



When in two languages we find no trace of the exchange of loan words one way or the other. We are safe to infer that the two nations have had nothing to do with each other, but if they have been in contact, the number of the loan-words, and still more the quality of the loan-words, if rightly interpreted, will inform us of their reciprocal relations, they will show us which of them has been the more fertile in ideas and on what domains of human activity each has been superior of the other. If all other sources of information were closed to us except such loan-words in our modern North-European languages as «piano», «soprano», «opera», «libretto», «tempo», «adagio» etc. we should still have no hesitation in drawing the conclusion that Italian music has played a great role all over Europe.

There are many words, one a native word, the alternative a Romance loan, originally of either same or similar that means with a few distinction made today, which include «freedom», and «liberty», «happiness», and «felicity», «assist», and «aid», «love», and «charity», and we ought to locate that the local phrase has a greater emotional experience is homely and unassuming whereas the mortgage phrase is chillier, aloof more dignified greater formal.

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# ABDURAKHMAN JAMI IN THE DESCRIPTION OF KAZIZADA RUMI

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## ANNOTATION

*In the article "Abdurakhman Jami in the description of Kazizada Rumi" the teacher-student relationship between outstanding persons of XV century Qazizada Rumi and Abdurahman Jami is highlighted. It is depicted that Abdurahman Jami was not only philosopher and specialist in literature but also deeply knowledgeable person in astronomy, mathematics and geometry.*

**KEY WORDS:** science, intelligent, mathematics, biography

## DISCUSSION

A lot of research has been done on the life activities of Abdurahman Jami and his multifaceted talent has been recognized. In this article, we want to focus on the achievements of Abdurahman Jami in the field of science and the description of his intelligence by Qazizada Rumi.

One of the great mathematicians and astronomers who became famous in Movarounnahr in the early 15th century was Qazizada Rumi. The scholar's full name is Salahuddin Musa ibn Muhammad ibn Mahmud. [1.186.] Qazizada Rumi is a great astronomer. He taught astronomy and mathematics to Mirzo Ulugbek for several years and instilled in him a deep and inexhaustible love for these sciences. Mirzo Ulugbek later in his world-famous work "Ziji jadidi Koragoniy" mentioned Qazizoda Rumi with gratitude and honors him as "my teacher". According to Mirzo Ulugbek himself, his teacher was Qazizoda Rumi [1.187.]. Ulugbek founded a madrasah in Samarkand in 1417-1420 and appointed Qazizoda to the post of rais ul-muallim.

Abdurahmon Jami was one of the intelligent people who was highly valued by the great scholar Qazizoda Rumi, who was Mirzo Ulugbek's mentor.

There are many sources about the life of Abdurahman Jami. The most reliable sources of the life and work of the thinker Jami include: "Rashhi bol bar sharhi hol" - a biographical biography written by the thinker himself five years before his death (1487).

In it, Jami described the main stages of his life. Abd al-Wasi Nizami's "Maqamati Hazrat

Mawlana Jami", Ali bin Husayn Kashifi's "Rashahot ayn al-Hayat", Zayiddin Wasifi's "Badoe' ul-Waqoe", Alisher Navoi's "Majlis-an-nafois", "Hamsat ul-mutakhayirin" and other works contain information about Abdurahmon Jami. It is also possible to mention the various anthologies (selected works of different authors) in which the works of Jami are found. The most important of them are Sultan Husayn Bayqara's "Majolis al-ushshaq", Davlatshah's "Tazkirat ush-shuaro", Khandamir's "Habib as-suyar", and Safavid Shah Ismail's son Sam-Mirza's anthology. The authors of these works were contemporaries of Jami and were in contact with him. That is why the evidence they present is true.

Methodologically, in the analysis of the life and work of Abdurahman Jami, The service of scholars like E. E. Bertels, M. Radjabov, A.Afsahzod {2} is great.

Nuriddin Abdurahman ibn Nizamiddin Ahmad ibn Shamsiddin Muhammad Jami was born on November 7, 1414 (23rd of Sha'ban 817 AH) in the village of Harjird, between Herat and Mashhad. Jami is a literary nickname that refers to the poet's birthplace. Jam is derived from the name of the center of the province of the same name, where the village of Harjird is located. Jami means "originated from Jam."

Jami's father and grandfather were mufaqih, that is, scholars of jurisprudence, and held important public positions in the province. According to sources, Jami had amazing abilities. He started attending school at the age of four. In a short period of time, he studied Arabic grammar, the Qur'an and



classical Persian literature, including the works of famous poets such as Abu Abdullah Rudaki, Abulqasim Firdavsi, Umar Khayyam, Nizami Ganjavi, Jalaliddin Rumi, Husrav Dehlavi, Sa'di Sherazi, Hafiz Sherazi. His first teacher was Mawlana Zaynuddin Abubakr Tayyibadi, a student of the famous philosopher and scholar Mawlana Sa'duddin Taftazani. But the real teacher of the future poet and thinker was his father - Nizamiddin Ahmad, a very educated and enlightened man of his time, a great scholar of classical literature.

At the age of eleven, Jami moved to Herat with his parents. He continued his education in Herat: first at the Nizami Madrasa, then at the Dilkash Madrasa, where he studied Arabic, logic, poetry theory, public speaking, theology, philosophy, and other subjects known at the time. Well-known scholars of that time, such as Mavlono Junaid Usuli and Khoja Alouddin, studied under the Samarkandis. From them he also learned the basics of exact sciences such as mathematics, geometry, astronomy. Once he has knowledge of the exact sciences, he begins to engage independently in poetic creation and scientific research.

At the age of twenty, Jami began to write special commentaries on astronomy. This means that he had a special love for astronomy and was able to study the works in depth and write commentaries. He sent some of his research on astronomy to Ulugbek's observatory in Samarkand. The famous astronomer of that time Qazizoda got acquainted with the works of Rumi Jami, appreciated the research of the young scientist and invited him to Samarkand. In 1436, Jami went to Samarkand, known as the center of science, where he had long dreamed of studying.

In Samarkand, he studied in the famous Ulugbek madrasah, and got classes from leader teachers at that time, such as Ulugbek, Qazizoda Rumi, Fazlullah Abullaysiy. He studied several sciences, such as astronomy, geodesy, mathematics, philosophy and jurisprudence. Fakhridin Ali Safi's "Rashahotu aynil-hayot" (Drops of life-water) describes this as follows: "In Samarkand, Qazi Rumiyyim, one of the scholars of his time, went to his class. At first there was an argument in the dialogue and it lasted a long time, in the end the Qazi liked their words and Mawlana Fathullah Tabrizi was one of the sages and he had a career with Mirzo Ulugbek.

It was narrated that at that meeting, Mirzo Ulugbek Qazi ordered Rumi to meet in his madrasah in Samarkand, and all the nobles of the world were present at that meeting. Judge Rum used to recite the *musta'ids* and *khushtabs* in the assembly. It is said in the attributes of Hazrat Mawlana Abdurahman Jami: "Since Samarkand was established, it was never in the possession of the power of others, and no one like Jami would live cross this rive Amu" [4.178].

According to the source, Mawlana Yusuf Samarkandi, one of the close disciples of Qazizoda Rumi, narrated that when Mawlana Abdurahman Jami came to Samarkand, he was engaged in the commentary "Tazkira" on the board of allied science [4.184.]. "Hayat" is an Arabic word meaning the science of the shape and motion of the sky and the objects in it, as well as the science of the earth, astronomy. It is clear from the above quotation from Rashahot that Abdurahman Jami wrote commentaries on Tazkira, a work on astronomy. According to the source, Qazizoda Rumi, mentioned by the name of Qazi Rum, praised the comments written by Abdurahman Jami in the margin of the book "Tazkira". Qazizoda Rumi said, "Every day, in every meeting, the status of a word or two of those inevitable words would come to truth and reform, and the judge would be very pleased with it" [4.184.].

According to the source, he created a work by Jami "Sharhi mulahhas" in which Jami expressed his views. The source said that such thoughts had never occurred in Qazizadeh Rumi's memory. This fact shows that Jami has reached a very high status in this field of science.

This evidence shows that Jami was very capable of comprehension, understanding, knowing. According to the author of "Rashahot", during his studies he was diligent in acquiring knowledge and was engaged in the study of the works of scientists. Teachers emphasize Jami's special abilities and thirst for knowledge. It is said that one day the great astrologer and mathematician, mathematician Ali Kushchi (died in Istanbul in 1474) examined Jami in geometry and algebra. The scientist was amazed: he would get a logically based and detailed answer until he asked the question.

Emphasizing Jami's high ability and unique talent in the exact sciences, Qazizoda Rumi's words: "A young man as highly talented, noble and responsive as Jami has not yet come from the farthest reaches of Amu" [5.78.]. According to witnesses, Jami, who is a poor and thin young man, did not try to overcome dry nonsense or show off what he had learned like most of his fellow students, but he was always the first when the student was asked to demonstrate depth of thought or independent reflection. In the heart of young Jami, humility and benevolence, a sense of self-worth were developed and combined with independent thinking.

According to sources, Jami showed independence in his behavior towards teachers, maintained his reputation, but had great respect for them. This is evidenced by his words: "I hope to win their love and die with sincerity towards them in my heart" [6.68.].

Jami's knowledge in a wide and varied field was an indication that he could rise very quickly, that his career could grow. But he returns





with the intention of entering the service of the ruler of Herat, which he had previously thought of. Jami also rejects an offer to replace Said Ali Hashim in the palace of Mirzo Ulugbek's son Abdullatif. The author of Rashahot explains the reason for his refusal to serve in the palace: "One day, Jami's friends take him to one of the high-ranking Shahrukh's officials, and he waits for them at the door. After meeting with the official, Shahrukh told his comrades that he would no longer go with them to any government official and that he would stay away from them.

The following conclusions can be drawn from the thoughts of Qazizada Rumi about Abdurahman Jami, who brought up such a great thinker as Mirzo Ulugbek:

1. Abdurahman Jami was educated in Samarkand in the most famous madrasah of his time, founded by Mirzo Ulugbek, from such an intelligent and great scholar as Qazizoda Rumi, who brought up Ulugbek, and enjoyed the knowledge of such a great man.

3. The fact that Abdurahman Jami was mentioned and praised by the gifted student when he spoke about science in front of all the nobles of the world at the high-ranking meeting of Qazizada Rumi testifies to the great status of this student of science.

4. The fact that the level of general maturity and talent is much higher than that of other scholars can be justified by the description of Qazizada Rumi that "since the construction of Samarkand, no one like him has passed on this side of the Amudarya."

5. Qazizadeh Rumi's description of Jami shows that the young scientist has a high level of talent and ability to put into practice the knowledge he has acquired.

6. The fact that he wrote commentaries on the work on total astronomy, Tazkira, and that Qazizada Rumi used them with pleasure at every meeting, shows that he was a high-ranking astronomer.

7. Jami's Sharhi Mulahas collection was also highly praised by Qazizada Rumi, and the fact that the ideas contained therein did not even occur in Qazi's Rumi's memory indicates that Jami had a high status.

In general, it can be said that everyone brought up in an enlightened family grows up to be as highly intelligent as Abdurahman Jami. Every father who wants to bring up a great child like Abdurahman Jamimust possess knowledge and morals and strive to be worthy of the degree of his child's mastery. Every young person with a strong knowledge and intelligence like Jami can find the courage to pass the exam of scholars like Qazizada Rumi. Educated by world-renowned teachers and admired by them, Jami's spiritual heritage serves as one of the world's most precious treasures of

spirituality. The main reason for the survival of the immortal spiritual heritage of Jami is that from his youth he loved and mastered all the sciences, especially the exact sciences - astronomy, mathematics and geometry. His ability to imagine the whole world from a young age, his wide and deep scientific views were the basis for the birth of very beautiful spiritual masterpieces.

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## THE ROLE OF YOUTH EDUCATION - THE GREAT HERITAGE OF BABUR

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### ANNOTATION

*In order to rightfully bear the title of a person, it is necessary to be worthy of his highest destiny, "wrote the great thinker, commander Zakhiriddin Muhammad Babur. Based on this, Babur adhered to this principle in his life. This article is dedicated to his place in the history of world culture, study and propaganda literary heritage, the influence of noble ideas on the minds and hearts of our compatriots, especially the younger generation.*

**KEYWORDS:** *Temurid Dynasty, Homeland, recognition, Baburname, great heritage, Empire of Baburids*

### DISCUSSION

The Temurid dynasty, which ruled for a total of five centuries, left its invaluable scientific, spiritual and cultural heritage to its descendants, and made an outstanding contribution to world civilization. A worthy successor to the affairs of their great ancestors is Babur. In the history of the peoples of Central Asia, the Temurids period occupies a special place. This time, when public administration and economic relations, science and education, culture and spirituality reached an unprecedented peak, world-famous scientists, musicians, and poets appeared.

Like Amir Temur, Zakhiriddin Muhammad Babur also managed to build one of the largest empires. If we evaluate his activities according to what he did for his era, in particular, for India, by gradually uniting a number of fragmented feudal states of India into a single powerful empire, Babur stopped the devastating internecine and religious wars, thereby ushering in a new stage in history this country, marked by a high rise in the economy, culture and beautification. "Babur is an extraordinary person," wrote Jawaharlal Nehru. "He is an outstanding ruler, a man of the Renaissance, who loves art, literature, who knows how to enjoy the beauty of life. After his arrival in India, great shifts took place."

In this struggle, he appears to be a courageous, brave, visionary politician and a talented commander who possessed boundless courage. There were cases when with two or three warriors he opposed a large enemy and won. Having created a highly disciplined army, he became an indisputable authority for his soldiers, enjoyed their unlimited respect, for he always shared with them all the difficulties and hardships of military campaigns.

The English historian Eduard Holden puts Babur on a par with Caesar as a commander, public figure and writer with a charming character: "The essence of a man of high noble qualities was imprinted on his forehead."

Least of all, Babur was interested in the monarch's throne, he was concerned about the creation of a centralized state, ensuring the welfare of the country. The famous American scholar-researcher Harold Lamb wrote about this: "... Babur, like Ulugbek in Samarkand, considered himself not just the ruling monarch, but a man called to be responsible for governance ... His extraordinary qualities left their mark on the century of greatness of the Empire Baburidov, which began with Akbar. "

Zakhiriddin Muhammad Babur entered the world history not only as a great statesman of his era, but also an outstanding master of words, whose works were included in the treasury of world culture

...



During his short life, Babur left mankind a rich literary and scientific heritage, made a huge contribution to the development of Uzbek literature. The alphabet "Hatti Baburi", the treatise "Aruz Risolasi", the book on the Islamic religion "Mubaiyyin", the translation of the philosophical and Sufi work of Khoja Ahrar "Risolai Volidia", other scientific and artistic works about poetry, music, military affairs and, of course, a unique encyclopedic work of "Baburname" to this day is of great interest throughout the world. They provide a valuable insight into the history, geography, ethnography, flora and fauna, peoples, languages and life of the population of Central Asia, Afghanistan, and India from the late 15th to the early 16th centuries.

The reader will see the image of the author as a connoisseur of the beauty of nature and man, a singer of the best moral qualities of an individual, an objective chronicler of historical events that took place before his eyes, condemning violence and hypocrisy. He appears as a wise scientist, philanthropist, connoisseur of creativity of people of science and art, who can objectively and from the point of view of the most advanced views of his time evaluate the activities of historical figures.

In the poetry of Babur, questions of morality and spiritual perfection of man are also raised. The poet exalts a person, treats him with great respect, and places human dignity high. He rejects that which contradicts this. According to Babur, selfishness, pride, greed, vanity are unsuitable qualities that destroy a person. The poet gives sincere advice to people. In his poems, he talks about how a person should cultivate the best moral qualities in himself.

Touching on this topic, the poet sees the main purpose of human life in kindness, generosity, nobility and honesty. He considers friendship the most important side of human quality and a powerful force in the fight against the enemy.

Speaking about the artistic language of the works of Babur, it is necessary to note its simplicity, general accessibility, clarity and conciseness. The poet does not like loud phrases and complex expressions. The simplicity of Babur's language contributes to a clear perception by readers of his creations, a rich palette of feelings and emotions.

Babur calls for avoiding meaningless chatter, expressing your thoughts briefly, clearly and simply, not using words that people don't understand. In particular, he notes: "Write easier, with a clear and clean syllable: you will have less work and those who read."

Of course, these lines from "Babur-name" indicate that the poetic mastery of Babur had a deep and tangible influence on the pictorial language of his

prose work, which gave him great artistic beauty and wide popularity.

And, of course, the peak of Babur's scientific and literary heritage, the creation that brought him world fame, is undoubtedly "Baburname" - a literary monument of prose in the Uzbek language, which orientalist V. Bartold called "the best work of Turkic prose". The book is written in a memoir genre, in terms of reliability and breadth of coverage of information is the most important and valuable historical and prose work, unparalleled among similar works written in the Middle Ages in Central Asia, Iran, Afghanistan and India. In addition to stories about military campaigns and travels, Baburnam contains numerous information about the political and economic structure of different countries, nature, science and culture, about the life and language of these peoples, and provides verbal portraits of contemporaries, statesmen, artists, musicians, and historians. Extremely valuable are information about the minerals of the cities of Central Asia, their purpose in the economic life of the country is noted. Babur writes with great love and admiration about Samarkand, gives a description of the Ulugbek Observatory, noting the perfection of this building. The main thing is that the author not only collects and describes his observations, but also summarizes them, giving what he saw is an accurate description. Babur writes: "In this annals, I charged myself with the obligation that every word I wrote was true and every business should be presented as it happened."

"Baburname" stands above any historical chronicle compiled by the court chroniclers of that time, therefore it is not surprising that, during the author's lifetime, work aroused great interest of scientists, and since the 19th century has been the center of attention of orientalists around the world.

In the 16th century, Baburname was twice translated into Farsi, and then into English, Russian, French, German, Turkish, Spanish, Japanese and other languages. Of particular interest was Japan, where scholar Eiji Mono prepared her two-volume critical text in Turkic, and then translated it into Japanese, devoting thirty years of his life to this.

"Babur's memoirs are not a warrior's diary about an attack or retreat," writes the English historian Lane Puul. "In these memoirs are personal observations and elegant thoughts about the world of a fine connoisseur of oriental literature, a noble, educated and observant person who has deeply studied human souls and is extremely objective in assessing situations."

Independence gave unlimited opportunities to study deeper and more fully our ancient and unique history, to realize our roots and spirituality, to discover new precious facets of the creativity and



work of the great ancestor - Zakhiriddin Muhammad Babur, to make his creative heritage the property of the whole people and the wide scientific community ...

In 1992, the Babur International Fund was created, intended for in-depth study of the invaluable heritage of Babur and Baburids, manuscripts and works published around the world. As a result of archaeological expeditions to foreign countries from the National Library of France, the British Museum, the Bodlensky, Royal Windsor and Oxford University libraries, book collections in Afghanistan, India, Iran, Turkey and the United States brought copies of the rarest manuscripts of works of Uzbek literature, in particular, Navoi and Babur, who have become the property of our people today. Dozens of books were published, over a thousand unique manuscript and lithographic publications were returned to Uzbekistan. The Alisher Navoi State Museum of Literature has opened a hall dedicated to the life and work of Babur.

The most ancient and unique manuscripts of Baburname, dating back to the last quarter of the 16th century, have come down to us in the translation of Abdurrahimkhan into the Persian language. They are richly illustrated by masters of Indian miniature painting. Of these manuscripts, Baburname currently knows two complete lists kept at the British Museum in London and the National Museum in New Delhi. 69 separate miniatures are the property of the State Museum of Oriental Art in Moscow. Of the three illustrated lists of Baburname known to us in terms of completeness and uniqueness, excellence in miniatures illustrating their miniatures, the manuscript of the British Museum is unsurpassed. These miniatures are now the property not only of the descendants of Babur, but also of a wide circle of researchers, all lovers of the beautiful.

For example, photocopies of Babur's treatise on prosody were delivered from libraries in France and England. According to the catalog published in Turkey, another copy of the manuscript called "Wakoyi-Boburi", stored in Iran, which is the most unique among the famous lists of Babur's works, became known. The manuscript includes "Mubayyin" (a treatise on the foundations of Islam) - a sofa consisting of Turkic verses, as well as poetic works, a treatise on the theory of versification and memoirs. The texts are accompanied by glossaries (comments on the text) and a translation into Persian. The manuscript, which served as the object for further scientific studies of Babur's work, is also the highest example of calligraphy and book art. Almost all of these works are printed in our republic and put into scientific use.

In 2005, during a scientific expedition to the Tehran National Library, a previously unknown list

of Babur's "Kulliyat" was discovered. Hand-written lists of our rich historical heritage are cherished in the Cincinnati Museum of Art, the New York Central Museum and the Senate Library. Of particular interest to scientists is the cultural heritage of the Baburid era, relating to the period of the XVI-XIX centuries. A valuable copy of the Qur'an of the 11th-12th centuries, written in kufi writing, the work of the 17th century Farhangi Jahongiri and the Khamzaname manuscript, decorated with miniatures, presented in the museum's exposition are located in the department of rare monuments. The Farhangs of Jahongiri, written by Mir Jamaliddin Husain for 30 years, is a work that has made a valuable contribution to the development of linguistics. Another copy, copied from the manuscript of this work, is stored in the library of Congress in Washington.

Babur's spiritual heritage is priceless, what can modern youth learn from it?

The historical, cognitive and educational significance of the heritage of Babur, whose life and work is devoted to the triumph of good, humanism and creation, is enormous. Even today it serves the improvement of man, plays an important role in the education of the younger generation. Following the traditions of Alisher Navoi, Babur in his work highlights the singing of a real person, magnifies him, urges him to value honor and dignity.

Zakhiriddin Muhammad Babur was not only a diverse personality - a major statesman, commander, talented scientist, great poet, great connoisseur and patron of art, but also a passionate patriot. By fate, he transferred his military campaigns in Afghanistan and India, but until the end of his days did not leave a desire to return to his homeland. The heavy emotional experiences generated by separation from her are expressed in a number of rubyi letters:

A stranger is a cell, everything is ashamed in it, a lot,

For a long time my soul, like a bird, was sad.

What I have undergone here is hard for me to describe:

Wash the tears from my eyes

On the face - ink letters.

There is no homeland and no more happiness,  
And there is nothing but pain.

I came to this land of my own free will,

There is no will to leave him.

The multifaceted work of our great ancestor today also carries an educational mission for the young generation. The ideas of kindness and humanism, sung in the works of Zakhiriddin Muhammad Babur, have not lost their value and significance over the centuries and are very consonant with the enormous changes that have taken place in the life of our country during the years of independence. The motto "If you do not do good in



this life, why do you live?" serves as a parting word to today's reader of Baburname.

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# THE IMPORTANCE OF GAMES IN EDUCATION

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## ANNOTATION

*This article discusses the role of games in the educational process.*

**KEYWORDS:** *play, education, upbringing, nationality.*

## DISCUSSION

When we watch traditional children's games, we observe in the games the peculiarities of the people's way of life, culture, child rearing. "Researcher of Uzbek children's folklore G. Jahongirov sees pampering as rubbing." Therefore, if we look closely at the materials of Uzbek children's folklore, ethnographical poetic passages and figurative expressions are used in the process of performing various customs, rituals and rituals associated with the cradle or childhood, when children are crying or crying and restless. differs from pampering due to its performance. Interestingly, there is an Uzbek version of such a two-stage game. In the first stage, everything from the thumb to the silence is described and introduced to the little owner:

Бош бармоқ,  
Қорамалдоқ,  
Ўрта зийрак.  
Ҳожи мирак.  
Кичкина бўбак.

During the counting process, all the fingers are bent one by one. The second stage starts again with the thumb, and everything is restored in turn:

Бош бармоқ айтarkan: – Бозор бораман.  
Қорамалдоқ айтarkan: – Бирга бораман.  
Ўрта зийрак айтarkan: – Том тешаман.  
Ҳожи мирак айтarkan: – Худодан  
қўрқмайсанми?  
Кичкина бўбак айтarkan: – Оламанда,  
қочаман.

In this way, folk pedagogy instilled its teachings in hard-hearted people. Although the number is not involved in the process of counting the fingers, the bending itself begins to suggest that there is a specific order in the arrangement of things, that there

is a community in the unity of words and actions that represent that order. In this sense, the counting of fingers in this way is of particular importance as the child begins a new conscious process in his spiritual life.

"Sanama" is one of the main genres of game folklore, which clearly shows the correct distribution of the leader (beginner or mother) game members in children's play. Dates are the starting part of the game. It does not have a complete compositional completeness. Listening to and listing numbers, in particular, is of endless interest to children. Every child loves to be a "counter", to achieve fairness, justice in the correct implementation of the rules of the game. At the same time, their creative ability to recite poetry, memorize, and perform naturally.

A short description of what is to be found in a "riddle-riddle" game, represented by a symbol and analogy of an event, etc.; The puzzle is given. All students in the group participate equally in the game. If the teacher says the words "education", "upbringing", "information" separately, no one will try to hold hands. If the teacher says the words "education-education" or "education-education-information" together, then the students hold hands and form a chain. The game will be repeated 5-6 times. Children who participate in this place develop speed, memory, thinking.

Group games provide teamwork and solidarity. Such games reflect the achievements and development of the society, and new games appear and the old ones, which could not meet the requirements of the time, disappear. Both girls and boys are starting to get interested in such new games. The upbringing of a harmoniously developed person begins at an early age, which is called the spring of life. Both the baby's body and head develop and grow rapidly in infancy. For a fast-growing body, mental



and physical movement must be provided in an amount and content that is commensurate with the rate of growth.

Movement in games performs two functions: the first is to physically strengthen the child's body and limbs, to make the child agile, to teach agility, speed, endurance, perseverance, self-confidence; the second is to make children observe, to sharpen and deepen their spiritual gaze, to make unexpected decisions, and in both cases to teach ingenuity. "In action games, all kinds of movement are obvious. These include walking, running, jumping, throwing, overcoming obstacles, resisting, and more. Properly played games help to develop discipline, sensitivity, agility, speed, endurance, and playing games as a team helps to cultivate friendship and camaraderie. Therefore, "Fortress Defense", "Change the location", "Raise the stone", "Walk around your snake", "Trap", "Who is a sniper", "White poplar, blue poplar? ...", "Throw the ball", "Hit the target clearly", "Relay over obstacles", "To the player in the middle of the ball", "Relay to lift the object", "Ahil trio", "Hold the hoop", "Tunnel", "Take the rope under your feet", "Jumping off the roads», « Who is stronger? ». such as action games are performed according to plan.

"Many years of scientific research have shown that the physical activity of children and adolescents is severely limited. This is especially true for young children, whose movement activity is reduced by 50 percent as they come from kindergarten to school. It is clear that this situation will continue in the coming years. A comparative study of the chronometric data of high school students 'work time shows that during the school year, a day and a day of students' physical activity, movement games, exercise for a maximum of 6 - 8% of the total time, up to 40% of sleep, 33-35% of mental work corresponds to 17-20% of other types of activity. In particular, a sharp decline in physical activity in children and adolescents is observed in schools with in-depth study of certain subject.

Therefore, the solution of the problem "For a Healthy Generation" should be considered an important state issue for physical education of the younger generation. The importance of play in a child's life is immense, just as activity, work, service are as important in an adult's life as play is in a child's life. Just as a child is in play, so is he at work when he grows up. Therefore, children who will become entrepreneurs in the future will be brought up in the game first. Consequently, the whole history of the development of each child as an adult and as an employee can be seen in the way the game becomes more complex and gradually becomes a work in progress. Knowledge alone cannot lead us to great heights. Without a good upbringing, a person can use knowledge to the detriment of his homeland and

nation. That is why the sages say, "Knowledge given without training is the sword in the hand of a madman. "How much a toy affects children and how children react to the game depends on how well the adults can educate them and bring them up in the community. In order for children to develop in all respects, toys should be chosen in a way that suits their activities, mental and physical development, the formation of abilities and skills.

Educator A. S. Makarenko argues that "the toy is the 'material basis' of the game, involved in the creation of the toy game, manifested as a specific partner of the child, influencing his personality".

According to the types and appearance of toys are divided into the following categories: plot-figurative; technical toys; construction, building materials toys; didactic toys and games; toys for sports and movement games; prefabricated toys; theatrical and decorative toys; toys; melodic musical toys; handmade toys and play materials, various play equipment. The ability to indulge in fantasy is the basis of role-playing games. The positive change in this situation is to place the twins in different groups of the preschool so that they do not separate from their peers and interact differently with them. After 3 months, the situation changed for the better. The children's game was played along with the speech. The little ones began to plan their actions, creating new play situations. The source of national education is nationalism! At the heart of the concepts of "nation", "nationality", "national pride", "national etiquette", "culture of interethnic communication" is the Arabic word "mil". The word in Arabic means "core", "essence", "basis".

National children's games serve for the physically and spiritually healthy growth of the younger generation and as a result prepare the ground for the next generation. Children's games have not only common but also local specificity. For this reason, the study of the historical roots of the games allows us to make an objective, scientific analysis of the past, the way of life of our people. This is one of the current problems of ethnology.

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# INNOVATIVE PROCESSES IN THE DEVELOPMENT OF THE ECONOMY OF REGIONS

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## ANNOTATION

*The article explores a number of factors that determine the need and opportunities for innovative development of the regional economy.*

**KEY WORDS:** *content of innovative processes, market infrastructure, innovative potential, factors of innovation, innovative activity.*

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## DISCUSSION

It is well-known that the XXI century is characterized by a sharp acceleration of scientific and technological progress in all sectors of the economy. Therefore, in Uzbekistan, the ongoing socio-economic reforms, along with predominantly market content, are aimed at creating technologically advanced technological production. This is expressed, along with other very important points, in the fact that in all sectors of the economy development is increasingly based on innovative processes. In modern conditions, the economic development of each region of the country depends not only on investment processes, but also on how innovative they are. The region cannot remain within the framework of the historically established technological level and structure of the economy, because in this case the social and economic problems will not only be preserved, but also aggravated. From an economic point of view, the creation of new and modern industries and enterprises allows you to create new markets for existing business entities, and more efficiently use the labor and raw materials potential of the region. The training of appropriate personnel for them and their use means strengthening the intellectual potential of the region. Higher labor productivity and population incomes provide a reliable basis for accelerating socio-economic development. Therefore, in Uzbekistan, the announcement of 2020 as the "Year of the Science, Education and Development of the Digital Economy" and the efforts being made within its framework, with its main content in mind,

are to further intensify investment and innovation processes, including in the regions.

In Uzbekistan, the consistent introduction of market mechanisms in various sectors of the economy and macroeconomic policies are aimed at creating a modern high-tech, highly efficient and dynamically developing economy. Accordingly, in the adopted state investment programs, priority is given to measures to upgrade production on a new technical and technological base, that is, technological progress is placed at the center of economic development. In turn, the new technical and technological base brings the greatest effect when it is innovative in nature. Innovations can be considered, first of all, as a result, as a fundamentally new tangible and intangible good with new properties (new products, materials, processes, methods, etc.). On the other hand, they are a process in which changes are aimed at the development, dissemination and use of innovations. In the second sense, innovations are interpreted as the result of the process of innovations (innovation process), developing in time and having distinct stages and stages. In our opinion, in relation to a developing economy, the interpretation of innovations should be somehow expanded, and here any progressive changes in the productive forces and in the organization of production that significantly increase economic results can be considered as innovations.

In conditions of global competition, the ability of the national economy to create and introduce innovations decisively determines its place in the world economy. Therefore, giving the national economy an innovative focus is very important. With



the onset of the coronavirus pandemic, the need and relevance of introducing innovations in all spheres of socio-economic life has especially intensified, which is also associated with an increase in the value of the economy's ability to function autonomously (economic sovereignty). This follows from the fact that in the conditions of global crises, each country, one way or another, is forced to solve its problems with its own resources, although one cannot ignore the importance of external sources - material, financial, scientific, etc.

"The Strategy for the Further Development of the Republic of Uzbekistan in 2017 - 2021", approved by the Decree of the President of the Republic of Uzbekistan dated February 7, 2017, proceeds from the need to strengthen the innovative component in the development of the economy, including in certain regions of the country. In 2018 alone, in Uzbekistan, within the framework of the State program, 76 thousand projects were implemented with a total value of 21 trillion soums and 1 billion US dollars. The total cost of 456 projects implemented in cooperation with foreign investors amounted to 23 billion US dollars, including the cost of projects implemented in cooperation with the World Bank, European Bank for Reconstruction and Development, Islamic Development Bank and Asian Development Bank - 8.5 billion dollars USA.

In our opinion, from an economic point of view, innovation should be considered at the global, national and regional (local) levels. With regard to the national and regional economies, the interpretation of innovations should be somewhat expanded, and here any progressive changes in the productive forces and in the organization of production that significantly increase economic results can be considered as innovations. It should be noted that during the period of overcoming the consequences of the coronavirus epidemic, this approach is also of practical importance.

In essence, the innovative orientation of the economy, and in this sense, contributes to the successful socio-economic development of the region for the following reasons:

- firstly, any innovation requires and is accompanied by an increase in the level of intellectualization of the labor force and the population, since through innovations, the achievements of human intelligence, scientific and technical results, the intellectualization of labor activity, and the increase of its high technology are implemented;

- secondly, innovations expand the range of goods and services produced, as well as improve their quality, which contributes to the growth of the needs of each person and society as a whole and the

satisfaction of these needs, and from a market point of view it creates both demand (income growth) and supply (expands production). In a crisis, this may be the starting point for overcoming the recession;

- thirdly, innovations make it possible to involve relatively cheap local resources in production, turn them into new productive forces, create goods and services with less labor, materials, energy. In the regions, this is especially true, since a significant part of the agricultural food raw materials is simply lost due to the lack of not only capacities, but also ways of storage and processing;

- fourthly, the concentration of innovations in one sphere or another helps bring the reproduction structure in line with the structure of changing needs and the structure of the external environment, create clusters of certain areas and take advantage of cooperation and enlargement of production. However, without new technological, financial and logistical innovations, clusters cannot justify themselves;

- fifthly, innovations serve as an incentive for entrepreneurial activity, especially in the field of small business, encourage the search and development of new goods and technologies in order to resist and win the competition, occupy new market niches in the domestic and foreign markets.

It is believed that a critical part of innovation is concentrated in developed countries. However, the creation of their own innovations in any country never stops. At the same time, the allocation of necessary financial and material resources and the creation of organizational conditions give an impetus to a significant increase in their number, that is, they ensure the real functioning of the innovative potential of the country and the region. In this sense, the following indicators of innovative potential are distinguished:

- 1) The volume and share of the cost of research and development in the gross domestic product of the country and region (the presence of innovative potential in the economy);

- 2) The number of articles in scientific and technical publications per million people (scientific results of the innovative potential of society);

- 3) Indicators of the creation and implementation of innovations - the number of patents, inventions, new products, new designs and ideas (technological results of the innovative potential of society).

The most general condition for strengthening the innovation orientation of the economy is stable economic growth. It leads to the expansion of volumes and qualitative improvement of the main factors contributing to the strengthening of the innovative potential of the regions:





a) With stable economic growth, an increase in real incomes of the population occurs simultaneously with an increase in the share of income from entrepreneurship in them, which strengthens material incentives for innovation;

b) Human capital (the presence and strengthening of the education system, the functioning of academic lyceums and vocational colleges, higher educational institutions, the introduction of training in the latest areas of science and technology);

c) The development of infrastructure (improvement of living conditions, transport and communications, various other services);

d) Improving the management system of local authorities and business entities;

e) Social world and social partnership;

f) The openness of the region to foreign economic relations (the possibility of obtaining innovations from outside and the implementation of results in foreign markets), the presence of foreign economic infrastructure.

Note that in Uzbekistan, these factors are involved. So, at present, there is a significant increase in resources for the formation of human capital (strengthening the education system - since 2017, the task was to almost completely enroll children in the preschool education system, the system of functioning of vocational education is being improved, the accelerated expansion of the higher education system has been envisaged (60 percent of school graduates are enrolled in higher education, introduced new directions of bachelor and magistracy). An accelerated development of infrastructure is taking place (improvement of living conditions - a sharp expansion of the scale of standard housing construction in rural areas and multi-storey residential buildings in the city, taking into account the financial capabilities of the population, transport (all types of public transport have been restored in the country recently on a scale significantly exceeding the previous level) and communications (in 2018, the State Program for the Development of ICT in Uzbekistan was adopted), various types of other services).

The system of managing economic resources is improving, primarily the finances of central and local authorities and business entities - in 2018, measures were taken to ensure transparency of the public procurement system, the most scarce material resources will be realized through electronic exchange trading with free access for all business entities, significantly expanded the financial independence of local governments at all levels. Innovations presuppose the presence of legal (inviolability of private property, observance of the rights of producers, organizational and legal norms),

organizational and institutional (presence of state and non-state institutions supporting producers), economic (economic entities must have the necessary amount of capital), financial (the ability to attract financial resources from other spheres and sectors, state financial support), personnel (training and retraining of personnel belt areas), scientific and technical (scientific research) assumptions of market infrastructure.

The innovative directionality of economic development cannot be provided in isolation from global economic processes, from world scientific and technological progress. The use of its results is based on relevant monetary and financial conditions. Therefore, the government has taken measures to substantially expand opportunities for obtaining innovations from outside (since 2017, a course has been taken to liberalize foreign economic relations - the mandatory sale of part of foreign exchange earnings has been canceled, financial conditions for the export of goods and services have been simplified, a full transition to a market currency exchange rate has been made, import privileges have been introduced) advanced technologies and equipment of world standards, guarantees for foreign investors are strengthened).

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# IMPROVEMENT OF HEAT TREATMENT IN THE PRODUCTION OF REINFORCED CONCRETE PRODUCTS

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## ANNOTATION

*The longest-lasting and most energy-intensive technological process in the production of concrete and reinforced concrete structures is the reduction of the setting time of concrete by heat treatment of concrete. In this regard, the main goal of the topic is to recommend energy-saving technologies to concrete technology. In addressing these issues positively, it would be advisable to use alternative types of energy sources. Therefore, saving material and energy consumption is one of the important tasks in concrete production technology. Cement consumption in concrete production can be reduced by 10-25% using different methods.*

**KEY WORDS:** *concrete product, energy sources, technology, material.*

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## DISCUSSION

Development of heat treatment procedures for various reinforced concrete products, taking into account the climatic conditions of Uzbekistan, from achieving economic efficiency by improving the order of heat treatment and reducing the cost of concrete and reinforced concrete.

Iron and concrete products are developed and implemented in the organization of heat treatment regimes in manufacturing enterprises in normative documents, in the sex or polygons.

It turned out that the temperature of the environment is not taken into account, the heat treatment regime for all seasons of the year is the same. To date, the recommendations in the manuals on the developed heat treatment regime have been found to be appropriate for the cold seasons of the year. As noted in the scientific literature, the optimal temperature of isothermal heating is 80-850s. In the studies we conducted, two different isothermal heating temperatures were selected. The first was the 600s, the second was the 800s, and in both studies the intermediate plates, the base of the power transmission lines, the reservoir walls were tested in

the production process by the potoc aggregate method (Tables 1 and 2). On the heat treatment chambers, along with the Reinforced Concrete Products, Cube samples with sides from the same concrete mixture were placed, from which 10 cm was obtained. After the heat treatment process was completed and the material was taken from the mold, the cube samples were also emptied from the mold and stored together with the reinforced concrete pieces. After achieving the design strength of the concrete, it was determined that the strength of the cube samples to compression using gravity press. In addition, the strength of concrete in reinforced concrete products was checked using test methods without breaking. In cases where the isothermal heating temperature is 800s, the concrete reaches its initial consistency faster, but its design consistency is determined to be 600-8% less than that of iron concrete products where the isothermal heating temperature is 10s. This means that in the hot seasons of the year in dry hot climates, when heat treatment of iron concrete products, its isothermal heating temperature is desirable to be 600s.



**Heat Treatment Mode When Isothermic Heating Temperature is 600s**

**1-TABLE**

/p	Classes of concrete	Heat treatment mode, when the item has the specified thicknesses		
		160 mm	160-300 mm	300-400
	B25	13(2+10+1)	14(2+11+1)	15(2+11,5+1,5)

**Heat Treatment Mode When Isothermic Heating Temperature is 800s**

**2-TABLE**

/p	Classes of concrete	Heat treatment mode, when the item has the specified thicknesses		
		160 mm	160-300 mm	300-400
	B25	8 (3+3+2)	9 (3+4+2)	10 (3+4,5+2,5)

Saving energy consumption in the production of concrete and reinforced concrete products.  
 We carry out the accounting work on the basis of appropriate recommendation:

The sum of the internal volumes of 6 units of the steam chamber combined into one block:

$$V_k = 7 \cdot 4 \cdot 3,5 \cdot 6 = 588 \text{ m}^3$$

The surface of the outer walls of the camera above the floor:

$$F_1 = [(3 \cdot 7 + 4 \cdot 0,3) + (2 \cdot 4 + 3 \cdot 0,3)] \cdot 2(3,5 - 0,5) = 186,6 \text{ m}^2$$

One side surface of seven curtain wall:

$$F_1 = 7 \cdot 3,5 \cdot 3 + 4 \cdot 3,5 \cdot 4 = 73,5 + 56 = 129,5 \text{ m}^2$$

The outer walls of the camera below the threshold level and the surface below it:

$$F_3 = [(3 \cdot 7 + 4 \cdot 0,3) (2,4 \cdot 3 \cdot 0,3)] \cdot 2(0,5 + 0,3) + (3 \cdot 7 + 4 \cdot 0,3) = 49,76 + 197,58 = 247,34 \text{ m}^3$$

Surface module of the camera's walls:

$$\frac{F_1}{V_k} = \frac{186,6}{588} = 0,32 \text{ m}^{-1} \text{ (0,3 will accept)}$$

Accounts in turn are executed in the form of tables



3-TABLE

Current variant of heat treatment $\tau_0^a = 3 + 6 = 9$ hours	Proposed variant of heat treatment $\tau_0^m = 3 + 3 = 6$ hours
Heat consumption for heating concrete, taking into account the thermal separation of cement	
$Q_6 = 30$ thousand kkal/m <sup>3</sup>	$K = \frac{80 - t_a}{65} = \frac{80 - 30}{65} = 0,77$ $Q_6 = 30 * 0,77 = 23,1$ thousand kkal/m <sup>3</sup>
Heat consumption for heating metal molds	
$Q_m = 23$ thousand kkal/m <sup>3</sup>	$K = 0,77$ ни ҳисобга олган ҳолда $Q_m = 23 * 0,77 = 17,71$ thousand kkal/m <sup>3</sup>
Useful consumption of heat energy	
$Q_\phi = Q_6 + Q_m = 30 + 23 = 53$ thousand kkal/m <sup>3</sup>	$Q_\phi = 23,1 + 17,71 = 40,81$ thousand kkal/m <sup>3</sup>
In the period of steaming to the camera, the surface of the walls of the camera Comparative consumption of heat loss from the surface of 1 m <sup>2</sup> :	
$\tau_0^a = 9$ hours, $\Delta t = 80 - 15 = 65^\circ\text{C}$ $Q_1 = 3,25$ thousand kkal/m <sup>3</sup>	$\tau_0^m = 6$ hours, $\Delta t = 80 - 30 = 50^\circ\text{C}$ $K = \frac{\Delta t \cdot \tau_0^m}{650} = \frac{50 \cdot 6}{650} = 0,46$ $Q = 3,25 * 0,46 = 1,5$ thousand kkal/m <sup>3</sup>
Vain consumption of heat for 1 m <sup>3</sup> concrete	
$Q_1 = \frac{q_1 \cdot F_1}{V_a} = \frac{3,25 \cdot 186,6}{64,8} = 9,36$ thousand kkal/m <sup>3</sup>	$Q_1 = \frac{1,5 \cdot 186,6}{64,8} = 4,32$ thousand kkal/m <sup>3</sup>
Comparative consumption of heat lost to the camera from the surface of 1 m <sup>2</sup> of the surface of the surface of the steaming walls:	
$\tau_1 + \tau_2 = 6 + 9 = 15$ hours $q_2 = 5,5$ thousand kkal/m <sup>2</sup>	$\tau_1 + \tau_2 = 5 + 4 = 9$ hours $q_2 = 4,54$ thousand kkal/m <sup>2</sup>
Comparable consumption of heat as a result of the cooling of the camera in the days ( $\tau_3 + \tau_4 = 56$ hours) (Through 1 m <sup>2</sup> outer surface)	
$q_2^1 = 7,8$ thousand kkal/m <sup>2</sup>	$q_2^1 = 7,8$ thousand kkal/m <sup>2</sup>
Idle consumption of heat in the quenching cycle for 1 m <sup>3</sup> concrete	
$Q_2 = \frac{(q_2 + 0,2q_2^1)F_1}{V_a} = \frac{(5,5 + 0,2 \cdot 7,8)186,6}{64,8} = 20,33$ thousand kkal/m <sup>3</sup>	$Q_2 = \frac{(4,54 + 0,2 \cdot 7,8)186,6}{64,8} = 17,76$ thousand kkal/m <sup>3</sup>
Comparative consumption of heat lost from the surface of the curtain walls 1 m <sup>2</sup> during the cooling period after the vaporization ceases:	



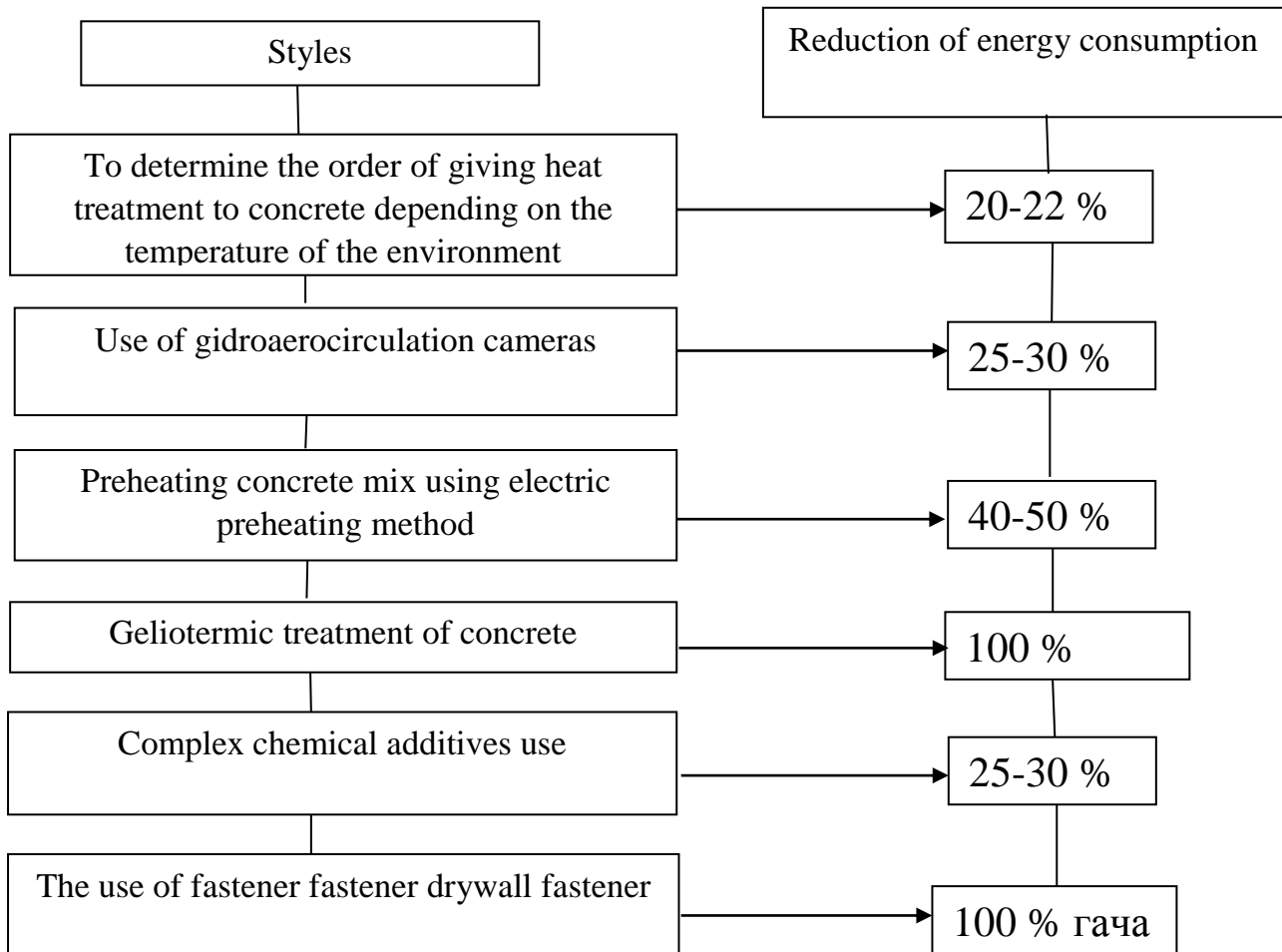
$q_3=8,15 \cdot 1,22=9,94$ thousand kkal/m <sup>2</sup>	$q_3=8,15 \cdot 0,76=6,2$ thousand kkal/m <sup>2</sup>
Comparative consumption of heat lost from the surface of the curtain walls 1m <sup>2</sup> as a result of the cooling of the camera on weekends:	
$q_3^1 = 11,3$ thousand kkal/m <sup>2</sup>	$q_3^1 = 11,3$ thousand kkal/m <sup>2</sup>
The cost of 1m <sup>3</sup> of lost heat consumption as a result of cooling of curtain walls for concrete	
$\frac{Q_3 = (q_3 + 0,2q_3^1)F_2}{V_a} = \frac{(9,94 + 0,2 \cdot 11,3)129,5}{64,8} = 24,38$ thousand kkal/m <sup>2</sup>	$Q_3 = \frac{(6,2 + 0,2 \cdot 11,3)129,5}{64,8} = 17,31$ thousand kkal/m <sup>2</sup>
The walls of the camera below the floor satchel and the comparative consumption of heat lost through the bottom:	
$\tau_0^m + \tau_1 = 9 + 6 = 15$ hours $q_4=3,23$ thousand kkal/m <sup>2</sup>	$\tau_0^m + \tau_1 = 6 + 5 = 11$ hours $q_4=3,73$ thousand kkal/m <sup>2</sup>
When 1 M <sup>3</sup> is calculated for concrete	
$Q_4 = \frac{q_4 \cdot F_3}{V_a} = \frac{3,23 \cdot 247,3}{64,8} = 12,33$ thousand kkal/m <sup>3</sup>	$Q_4 = \frac{3,73 \cdot 247,3}{64,8} = 14,24$ thousand kkal/m <sup>3</sup>
The sum of wasted heat costs:	
$\Sigma Q_0 = Q_1 + Q_2 + Q_3 + Q_4 = 9,36 + 20,33 + 24,38 + 12,33 = 66,4$ thousand kkal/m <sup>3</sup>	$\Sigma Q_0 = 4,32 + 17,76 + 17,31 + 14,24 = 53,63$ thousand kkal/m <sup>3</sup>
Total heat consumption in the camera	
$\Sigma Q + Q_\phi + \Sigma Q_0 = 53 + 66,4 = 119,4$ thousand kkal/m <sup>3</sup>	$\Sigma Q = 40,81 + 53,63 = 94,44$ thousand kkal/m <sup>3</sup>
We convert the heat consumption into steam consumption by the appropriate coefficient	
$Q_{6yr} = \Sigma Q \cdot 1,8 = 119,4 \cdot 1,8 = 2,15$ kg/m <sup>3</sup>	$Q_{6yr} = 94,44 \cdot 1,8 = 170$ kg/m <sup>3</sup>

The economic efficiency achieved as a result of heat treatment of reinforced concrete products is as follows:

Hence, in the order of the current heat treatment, the order of the heat treatment if an average of 1 kg of normative Steam is spent for 215 m<sup>3</sup> of concrete if set taking into account the ambient temperature, the steam consumption is 170 kg, or in other words, the amount of steam spent on giving heat treatment to concrete is reduced by 21%.

In conclusion, we can say that the use of concrete fastening methods in place of complex (figure 3.1), along with a significant reduction in energy consumption in the reinforced concrete industry, allows the preparation of long-lasting and durable reinforced concrete products and structures.





In the scheme presented above optimal ways and methods of reducing energy consumption in the iron concrete industry in dry-hot climates are shown.

Note: the reduction in energy consumption was calculated in relation to the method of steaming.

Experiments of foreign researchers on improving the heat treatment regime were studied, analyzed and improved in accordance with the climate of the Republic.

As a result of research on the improvement of the heat treatment regime, a heat treatment regime was developed for concrete in the B25 class. The isothermal heating temperature was tested 80s instead of 850-600s. At this temperature, the design strength of the concrete was determined to be 8-10% more.

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## FEATURES OF MANIFESTATION OF SPIRITUAL ALIENATION IN THE MODERN WORLD

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### ANNOTATION

*This article socially and philosophically analyzes the problem of spiritual alienation. And also, from a scientific point of view, it is substantiated that as an objective-subjective process, spiritual alienation manifests a crisis of the spiritual world of a certain group and society as a whole.*

**KEYWORDS:** *spirituality, spiritual crisis, spiritual alienation, objective-subjective process, social alienation, self-awareness, self-estrangement, love and mercy, philanthropy.*

### DISCUSSION

Man is a subject that actively drives social processes. Because it takes a priority place in the understanding and logical interpretation of the important problems that arise in the field of relations with society. One of the problems with social processes is alienation. Therefore, alienation is defined as the activity of an individual in the sphere in which he lives - the process and subjective actions of the object as a result of which society is the result, and if we consider this problem in the context of the dependence on the individual and his socio-cultural space, a wide opportunity for understanding and studying alienation as

Alienation occurs from the socio-philosophical point of view-as a result of the inability of people to take the necessary measures to change their lives on the positive side, morally and spiritually depressing themselves. As a result, they try to conduct activities in violation of the moral and moral requirements established by society. The priority is the deviation from their obligations before society, the implementation of actions that lie in the environment or goals of society in which they live, the self-dissatisfaction of people, the alienation of oneself, the inability to trust their abilities.

Despite the fact that the problem of alienation has occupied an important place in philosophy for more than a century, it continues to attract the attention of many scientists even today. This situation is due to the fact that this problem is not only solved, but also becomes more complicated due to the influence of a number of socio-economic factors. "Alienation is a social process in which a person's activity and its results turn into an

independent force and express his or her entry into a state of domination over a person and committing evil to him or her. In the absence of social control over the labor condition, means and product, the person becomes a namosn in the transformation of the dominant social groups into a management object by means of deception. Alienation is reflected in the mind of a person in a certain way (the perception of social norms as alien and evil norms, the feeling of loneliness, apathy, etc.). The origin of the alienation concept-Shi T.Gobbs, J.Russo, and was developed by Hegel. Some aspects of alienation are being studied in Philosophy, Sociology and social psychology of the 20th century." Therefore, alienation of human activity is one of the most important social problems. Alienation covers not only in the economic and social sphere, but also in all spheres of human activity. Alienation is the sum of the relationship between a person and reality, manifested in the forms of external and internal dependence and negative characterization.

When we talk about spiritual alienation, it is worthwhile for us to come to a stop even to the concept of "spirituality". In social philosophy, like other social sciences and Humanities, the concept of spirituality is not given a unique definition. I.Abdullaev writes that "spirituality is an Arabic word, derived from the verb "spirit"and means a lot of meanings, such as spirit, mind, perception, spiritual state, inner mood, restraint, courage, feature, essence, care, sadness, taste. To him the philosopher T.Mahmudov expressed: in such a definition of "spirituality", many things seem to be added. In it, along with the characters belonging to the "spirituality", the meanings representing



contemplation and spirituality are also three. It is also possible that all people who are good and high in spirituality will not be bold and courageous. The separation of people into "spiritually, enlightened, educated, virtuous, wise or spiritually, spiritual impoverished, uneducated, ignorant, ignorant people" also means a superficial look at the issue. First of all, it is impossible to distinguish people from "spiritually" and "spiritually". Because man appears that he is truly spiritually formed in the process of Social Development. There is no man without spirituality. Only spirituality can be harmonious or radical, rich or poor, high or low" 2, writes. In our view, spirituality is a manifestation of the high aspiration of man to know other people and to serve them. Also, spirituality is a sign of the existence of a hierarchy of certain values, goals and meanings, which represents the highest level of spiritual and spiritual development of the world by man.

Spiritual alienation is the distance of a person from his own world of consciousness and contemplation. Spiritual alienation is the denial of a person of his life values. In our opinion, spiritual alienation is an object-subordinate process, the process of which not only represents the crisis of the spiritual world of Man, social groups and society as a whole, but also leads to a decrease in the ability to rationalize spiritual and moral values. Spiritual alienation is the social alienation of not only people, but also social groups. To overcome spiritual alienation, it is necessary to carry out wide-ranging reforms in the legal, spiritual, social, political and economic (material and production) spheres and at all social levels of Social Development: personal, socio-group, Social, state, civilization and globally. Therefore, it is more important than ever to pay attention to spirituality and Enlightenment, moral upbringing, the desire of young people to acquire knowledge, to achieve perfection, as the world is changing rapidly, various new threats and dangers are emerging that undermine the stability and strong development of peoples. At the same time, the worldview to globalization should be based on the fact that mankind knows its profound essence, that is, its own, and lives according to it. After all, spirituality, alienated from the essence, is not a sign of progress, but, on the contrary, a crisis. While we are working to restore our national identity in this very dangerous period, it is worth to be proud that we can freely rely on the invaluable spiritual heritage of the overwhelming Patriots who have achieved the highest marks of achieving perfection, their spiritual treasure.

Spiritual alienation is the loss of spiritual unity at the level of this society. Spiritual alienation is a distance of people's worldview from each other. After all, an alienated person in his essence does not consider others by his interests and feelings. "The

alienation generates anxiety and ultimately-the same concerns arise as a result. Turning into a stranger, a yacht, means a break from the world, which means deprivation of the opportunity to dispose of human power. Therefore-alienation means not being able to actively influence the helpless, the environment, the goods and people; this means that the world will be able to strike at my rights, and I will not be able to defend myself."

Spiritual alienation is not the meaninglessness of this life, but the meaninglessness of the mind. The only way out of this meaningless situation is to turn to the spiritual and spiritual power that unites man and the whole being, recognizing him as the only universe, to feel the love of God for man through this power. Such a process of cognition is called irrational cognition in mysticism. The great thinker of the East, Imam Gazzali, describes and describes such a science as follows. "After all, science is the power that opens the eyes of the blind soul, gives light in the dark darkness and gives strength to the weak bodies. With knowledge, the servant abhors rise, reach higher ranks.

Contemplation on knowledge is equivalent to fasting in the daytime, negotiating it, bedoring the night with prayer. The worship of Allah will be with the knowledge of understanding the Tawhid, glorifying Allah and revering him. With science, kinship ties are connected. With the haram, the helm is separated. Science is a peshwo-Imam, Amal follows him. People who enjoy knowledge are happy, and mahrams are unhappy." Therefore, it is important that science is developed in every member of society that aspires to a higher culture. After all, if a person lives without knowledge, blindly, sincerely (unselfish) lives with other members of a frantic society, alienated, without enthusiasm, without joys, in mutual conflicts and quarrels. It is known that all conflicts in society arise in people either from the shallowness of knowledge, or from the depth of feelings, or from the lack of both, as well as from the violation of behavior. At the same time, philosophers argue that neither reason nor emotions can be the Supreme judge on the issue of spirituality. Being enlightened makes a person smarter, and yet he can not turn it into a good person. It is known that if a person has a strong emotional state, then the harm from this is greater than the benefit.

Well, the process of spiritual alienation manifests itself in a specific form in the activities and actions of each person. As a process, spiritual alienation means, on the one hand, changes in the spiritual sphere of individual and social life, self-organized, on the other. On the second hand, spiritual alienation is characterized by the loss of the ability to rationalize values in social life. On the third hand, spiritual alienation is clearly manifested in the marginality of today's society. Out of the four,



spiritual alienation is an expression of deviant behavior growth among these people, Consumer moods, individual, socio-group and nationwide identity crisis, etc.

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# ELECTRICAL ENERGY QUALITY AND ITS STABILIZATION MEASURES

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## ANNOTATION

*When it is said that "quality indicators of electricity", it is understood that the basic parameters of electricity production in mining, transmission and distribution correspond to the established norms.*

**KEY WORDS.** *Frequency deviation, frequency vibration, voltage deviation, Network non-sinusoidality, voltage vibration, adjustment in power station and substations*

## DISCUSSION

The quantitative characteristic of the quality of electrical energy is determined by the coefficient of the form of the curve and the coefficient of symmetry of the voltage, with the deviation of voltage and frequency, with the vibration of the voltage and frequency.

Frequency deviation this is an average value that indicates the difference in the real value of the frequency in the range of 10 minutes from the nominal value. In the normal case, the deviation of the frequency is allowed from the nominal value of  $\pm 0,1$  GHz. in a short time, it can be changed to  $\pm 0,2$  GHz.

Frequency vibration - this is the difference between the load of the main frequency and the smallest wear in the rapid elongation of the mode parameters, when the frequency elongation speed is not less than 0.2 GHz per second.

The oscillation of the frequency is not allowed to deviate from  $\pm 0,2$  GHz, the increase from  $\pm 0,1$  GHz can be given.

$$\Delta f = f_{H\bar{O}} - f_{HM} \quad \Delta f \% = \frac{f_{H\bar{O}} - f_{HM}}{f_{HOM}} 100\%$$

The deviation of the voltage is this - in the slow change of the operating mode, that is, when the rate of change of voltage does not exceed 1% per second, it is said that the actual value of the voltage differs from its nominal value.

$$\Delta U = U - U_n \quad \text{or} \quad \Delta U \% = \frac{U - U_H}{U_H} 100\%$$

In normal working cases, the deviation of the voltage is allowed at the following values:

- Up to  $5 \div +10\%$  electric blanket when wearing and Managing on clamps of apparatus;
- Up to  $2,5 \div +5\%$  the performance of the sleeves;
- $\pm 5\%$  in the remaining electric consumers clasp.

In cases after an accident, a decrease in tension is allowed by another 5%.

Voltage fluctuations. The voltage is determined by the indicators on the oscillation tone:





1. Vibration of the voltage  $\delta U$  - this is the difference between the maximum and minimum values of the voltage acting ethically when the operating mode changes fast enough, that is, the voltage change speed is not less than 1% per second.

2. Frequency of change in voltage (1/s, 1/min, 1/hours)

$F=m/T$  in this  $m$ - the number of changes in the voltage  $t$  time interval, when the voltage change rate is not less than 1% per second.

3. The range of consecutive changes in voltage  $\Delta t_{kj}$ .

The picture below shows a graph of the change in voltage by time, in which during 12 seconds the voltage spreads 5 time knots.

In picture  $\delta U_1, \delta U_2, \dots, \delta U_5$ , - voltage chang;

$\Delta t_{12}, \Delta t_{23}, \dots, \Delta t_{m5}$  – time interval between successive extremities;  $T$  is the interval time from which the measurement was taken.

The net nosinusoidality is characterized by the nosinusoidality coefficient of tension curvature and can be found from the following formula:

$$K_{HC} = \frac{\sqrt{\sum_{v=2}^{\infty} U_v^2}}{U_1} 100\% \approx \frac{\sqrt{\sum_{v=2}^{\infty} U_v^2}}{U_{HOM}} 100\%$$

In this  $U_v$ -  $v$ -chi the effect value of the voltage in the harmonic,  $U_1$ . is the effect value of the first most basic harmonic.

The coefficient of nosinusoidality should not exceed 5% in any consumer.

When we say the voltage symmetry, it is understood that the amplitude or phase angle of the phase or linear voltages is not equal to the surface of the silences.

Normalized indicator of nosimmetry this is a reverse bias voltage  $U_2$ , and it is thus indicated:

$$\varepsilon_2 = \frac{U_2}{U_{HOM}} 100\%$$

The allowable value of this coefficient is 2%.

The change from the norm of the quality indicators of electrical energy leads to the waste of electrical energy in the power supply system, a decrease in the level of reliable operation of electrical devices, a violation of technology processes and a decrease in the production of products.

Voltage deviation.

What kind of electricity is built to match the rated value of the voltage of the consumer, thereby changing the voltage to the norm does not affect its normal operation. When changing from the specified norm, the working condition of consumers may be impaired (changes in the character of electrothermic devices, changes in the degree of illumination of light bulbs, changes in the electric conductor valide FIK, etc.).

The main reason for the voltage deviation in the power supply system is a change in the mode of electricity consumption, a change in the state of the supply power system, a change in the sufficient resistance of the line 10-6kv.

The change in the specified norms of voltage affects both the technical and economic indicators of consumers.

The deviation of the voltage is tied to a number of frequent alternating currents. The consequences of the voltage deviation will be not only in its value, but also in the dependence on the duration of the voltage deviation and the volume of consumers affected by the voltage deviation. For example: for some specific consumers who have experienced a short period of time, the consequence of the voltage deviation can be reduced from the outgoing expenditure to the expensive, eliminating this deviation.

The reduction in voltage worsens the quality. The time increases by 10% when the voltage decrease is 20%.



If a 2220 PCs sewing machine (AT-120-5) is running in the sewing sex, a 5% reduction in the rated value of the voltage will lead to the production of 131m fabric for 1 hour.

The picture shows the power constants of the levels of voltage of the light flux and the time of operation of the lamp.

- 1-light flux F
- 2-light reversing circuit  $\eta$
- 3-Power P
- 4-average working life T (on the percent)

A 1% nominal value increase in voltage for incandescent lamps leads to an increase in consumption by approximately 1,5% and an increase in the luminous flux by 3,7%, a decrease in the working life by 14%. An increase in the voltage by 3% leads to a decrease in the working life of the incandescent lamps by 30%. An increase in voltage by 5% will reduce the working time of the lamps by 2 March. When the voltage of fluorescent lamps increases by 10%, their working life is reduced by 20-30%.

Understanding the damage caused by voltage deviation

The characteristics of the consumer of electricity can be divided into technical and economic components by voltage.

Technical characteristics these are understood as the frequency of rotation of the conductors, the time of melting in the electropeches, the flux of light in the lighting fixtures and the dependence of the voltage on the active power consumed by the electric conductors.

The economic damage to the voltage deviation can be determined in the presence of voltage indicators that affect the technical description.

$$Y=3(U) - 3(U_{\text{HOM}}) \quad (2.1)$$

$3(U)$  – well, the costs that he went for the production of products in the voltage

$3(U_{\text{HOM}})$  –  $U_{\text{HOM}}$  in nominal voltage, the expenditure that went for the production of products.

Costs that are with electrical consumers with the effect of voltage deviation are called economic description.

$$Y= f(U)$$

With the help of the economic description, it is possible to determine the optimal modes of voltage and effective methods of its maintenance.

The final conclusion of the economic description includes the cost of the product produced, the costs incurred for electricity and the costs incurred during the life of the consumer. When working in asynchronous conductor voltage deviation, the following sum of the output voltage will come out of the cost.

$$Y=Y_1+Y_2+Y_3+Y_4 \quad (2.2)$$

Here  $Y_1$ -the costs associated with productivity change.

$$Y_1=(\Pi_{\text{HOM}} - \Pi) \alpha t \quad (2.3)$$

Here is the productivity of the  $\Pi_{\text{HOM}}$  and  $\Pi$  controller in one hour when working with rated and deviation voltage.

$\alpha$ - the number of products produced using the same.

t- time of spending specification.

The founders of the sum of the active  $Y_2$  and reactive  $Y_3$  power while working with the harm of the asynchronous conductor are the same:

$$Y_2=(P-P_{\text{HOM}})C_0t; \quad Y_3=(Q-Q_{\text{HOM}})C_0tK_{\text{HП}} \quad (2.4)$$

$P_{\text{HOM}}$  P – power consumption in nominal and voltage deviation of the conductor;

$Q, Q_{\text{HOM}}$  – for a similar reactive power;

$C_0$  – cost of spent 1kvt-hour electricity,

$K_{\text{HП}}$  – the coefficient of change in wastage is kWt/kWt.

The change in the operating life of the controller from the voltage deviation is as follows:

$$Y_4 = \frac{C_{\text{A}}}{\hat{A}} (\psi - \psi_{\hat{m}}) t$$

Here is the price of the Su-conductor,

B-the working life of the controller with rated voltage.



Relative irradiation of insulation is as follows.

$$\Psi = \left\{ \begin{array}{l} (47U^2 - 7.55U + 1) K_3^2, \text{ агар } 0, 2 \leq U \leq 0 \\ K_3^2, \text{ агар } 0 \leq U \leq 2.0 \end{array} \right\}$$

Here is the loading coefficient of the  $K_3$  – conductor.

Methods of adjusting the voltage in the power supply system can be described as follows:

a) Adjust the power station and substation tires.

Voltage can be adjusted when changing the start current of generators at maximum hours of loading and at minimum hours of loading on the power station tires.

Reducer 6-20 kv substations can be adjusted using Transformers, static capacitors, synchronous compensators, autotransfor - motors to adjust the voltage in the tires.

b) Adjust the transmission lines.

Individual adjustment in the transmission tires of the substation is an effective method. In these cases, transformers with adjustment under load are used, capacitors that are connected in series to the transformer and lines that can provide additional voltage.

v) Joint adjustment – the first (a) and second (b) methods are used together.

g) Adjust the voltage additionally. This method is additionally used when the desired level is not achieved when using other methods.

D) Adjust the power supply system by changing

In power supply schemes, the amount of reactive power, orientation and resistance of the network in some places are changed, that is, dressing the possibility of adjusting the voltage at some points of the network.

To keep the voltage level in the required amount, two different methods are used. The first - this is the use of special rectifier devices, the second-this is the application of various arrangements without the use of special rectifier devices.

The second group of events for adjusting the voltage includes:

1. For head reducer substation transformers can be adjusted under load (RPN) using transformers with which.

2. Application of compensation structures.

3. Application of special voltage adjusting devices.

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## FORMATION OF SKILLS AND SKILLS OF LITERATE WRITING

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### ANNOTATION

*This article analyzes the creation of a psychological model for students to master the punctuation of the Russian language. Punctuation errors made by students of Uzbek schools in writing in the Russian language are analyzed. The basics of the correct understanding of written language by students are highlighted. The importance of the correct formulation of punctuation laws in texts and the strong development of written language by the writer is also shown.*

**KEY WORDS:** *psychological model, level of punctuation literacy, anticipation and retention. Failed actions, successive and simultaneous recognition of missing characters, lack of necessary characters, written text.*

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## ФОРМИРОВАНИЕ УМЕНИЙ, И НАВЫКОВ ГРАМОТНОГО ПИСЬМА

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**АННОТАЦИЯ.** В данной статье анализируются о создании психологической модели освоения учащимися пунктуации русского языка. Анализируются пунктуационные ошибки, допускаемые учениками узбекских школ в письменной речи по русскому языку. Освещены основы правильного понимания учащимся письменной речи. Также показано значение правильной постановки пунктуационных знаков в текстах и прочном освоении пишущим письменной речи.

**Ключевые слова:** психологическая модель, уровень пунктуационной грамотности, упреждение и удержание. Провилосообразные действия, сукцессивное и симультанное узнавание недостающие знаки, отсутствие необходимых знаков, письменный текст.



Настоящая статья посвящена проверке принципиальной возможности построить курс обучения русской пунктуации в узбекской школе в соответствии с нашим представлением с психологических механизмах формирования пунктуационно грамотного письма. Не зависимо от условий выполнения действия в основе пунктуационно грамотного письма лежат правилосообразные действия, выработанные у человека в результате сформированных у него приемов умственной работы по применению пунктуационных правил.

Как показало наше исследование, миновать этот этап формирования грамотного письма нельзя, хотя в дальнейшем с изменением условий выполнения действий должен измениться его операционный состав.

Наше исследование показало также, что основные психологические причины пунктуационных ошибок школьников связаны с тем фактом, что существующая методика обучения русской пунктуации в узбекской школе построена без учета психологических закономерностей становления пунктуационной грамотности: в ходе обучения практически минует этап формирования правилосообразных действий.

Перед началом экспериментального обучения мы проверили уровень синтаксических и пунктуационных умений учащихся контрольных и экспериментальных классов, которая заключалась в следующем: учащимся предлагались готовые печатные тексты, в которых были пропущены пунктуационные знаки (запяты).

Выяснилось, что статистически значимых различий в уровне синтаксических и пунктуационных умений между учащимся контрольных и экспериментальных классов не было.

Поскольку это умение является необходимым для решения пунктуационных задач в сложном предложении, обучающий эксперимент был направлен на формирование такого умения. При этом были учтены результаты анализа способов пунктуационного оформления сложных предложений на русском языке, показавшие, что для грамотного оформления готового текста необходима совокупность следующих умений:

1) Умение определять, является ли предложение простым или сложным, требующее

распознавания главных членов и объединения их в основу предложения.

2) Умение распознавать, чем соединены простые предложения в составе сложного.

3) Умение определить, как расположены части сложного предложения.

Использованный в формирующем эксперименте альтернативный подход состоит в признании необходимости и целесообразности формирования правилосообразных действий на основе распознавания не только союзов и союзных слов, но и других синтаксических признаков, в частности, семантико-синтаксического блока - основы предложения.

Для формирования этих умений необходимо было обучать учащихся выделять главные члены предложения и объединять их в ядро блока – основу предложения: определять вид простого предложения; устанавливать связь между словами и объединять элементы предложения в семантико-структурные блоки, разделяющих сложное предложение на пунктуационно оформляемые части. В этих случаях блоком является простое предложение или часть сложного.

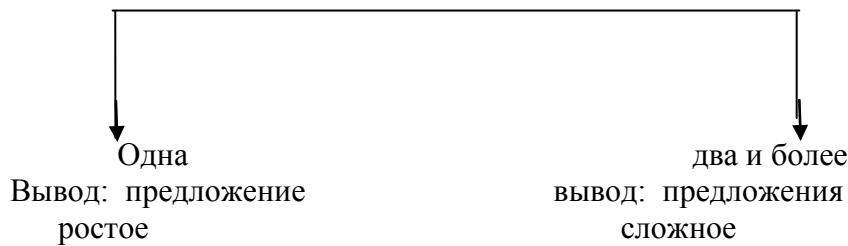
В нашем эксперименте, в отличие от действующей методики, учащиеся вооружались приемами умственной работы, который позволял решать пунктуационную задачу.

В контрольных классах испытуемые обучались по школьному учебнику. В экспериментальных классах изучение материала велось иначе: была намечена работа, включающая несколько шагов.

1-шаг. Школьники учились отличать простые предложения от сложных. Для этого они должны были определить, сколько основ (термин «основа» обозначает главные члены предложения) в предложении. Ход рассуждений был таков: одна основа – предложение простое, две и более – предложение сложное. Схематически это выглядело так:



### I. Определи, сколько основ в предложении



После того, как было выработано и закреплено умение распознавать структуру сложного предложения, мы перешли к работе над 2 шагом. Учащиеся должны были определить, как соединены части сложного предложения. Ход рассуждений при работе с предложением усложнился, включив новую мыслительную операцию, и выглядел теперь так:

### II. Определи, чем соединены части сложного предложения



С помощью этой операции приема мы учили распознавать все варианты соединения простых предложений в сложном предложении с тем, чтобы предотвратить в дальнейшем ломку выработанных умений, и подготавливали к восприятию новых знаний на следующих этапах изучения сложного предложения.

Второй вариант соединения частей сложного предложения приводил учащихся к новому, 3 шагу.

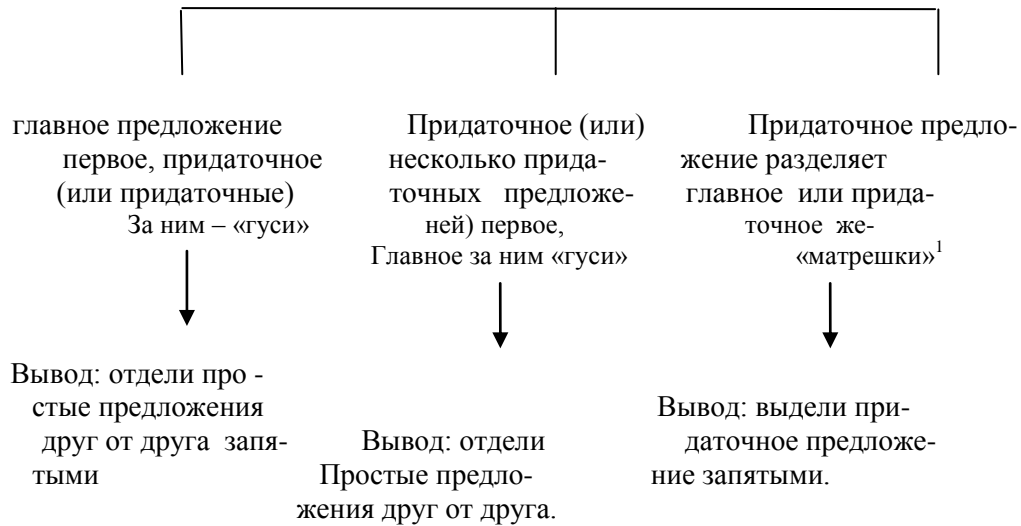
3 шаг включает знакомство учащихся с вариантами структур

сложноподчиненного предложения с союзами и союзными словами. Учащиеся анализировали предложения, где главное предложение предшествовало придаточному или следовало за ним.

Учащимся показывали, что для правильной постановки знаков препинания в предложениях важно видеть порядок расположения частей сложного предложения. Теперь ход рассуждений при анализе сложного предложения был таков:

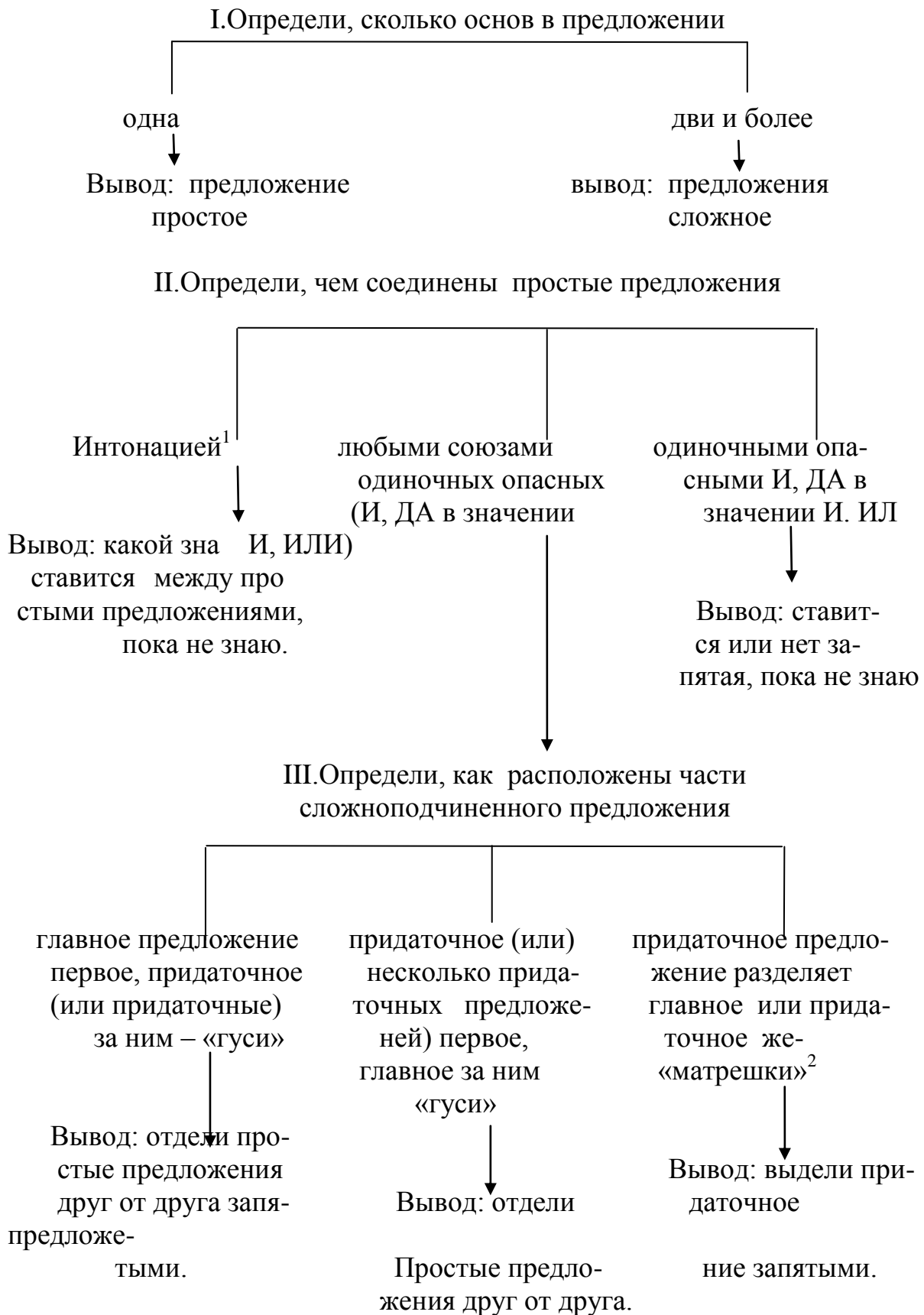


### III. Определи, как расположены части сложноподчиненного предложения



После этого учащимся сообщалось, как ставить знаки препинания в сложном предложении с союзами и союзными словами.

В окончательном виде ход рассуждений учащихся при анализе сложного предложения выглядел так:





1. С помощью этой операции приема мы учили распознавать все варианты соединения простых предложений в сложном с тем, чтобы предотвратить в дальнейшем ломку и коренную перестройку выработанных умений и подготавливали к восприятию новых знаний на следующих этапах изучения сложного предложения.

В ходе обучения динамика формирования пунктуационных умений проверялась методом среза. Срезы проводилось после изучения темы и в конце учебного года. Результаты срезов давали представление о процессе формирования пунктуационных умений. Срезы по результатам завершения изучения темы показывали степень сформированности умений; в конце учебного года срез позволял констатировать степень устойчивости пунктуационных умений.

Для предотвращения разрозненного выделения в предложении сказуемых и подлежащих количество заданий, состоящих из «набора» слов, ограничивалось и перемежалось с заданиями, для выполнения которых надо было объединять в блок соответствующие элементы предложения. Причем вначале давались задания найти в предложении основу.

После выполнения каждого задания школьникам предлагалось на аналогичном материале вновь его выполнить, а затем по ходу записи вычлененных элементов и блоков предложения произвести графический разбор. Это делалось для того, чтобы выработать у школьников умение по ходу записи предложения графически выражать операции его слухового восприятия.

Анализ контрольных работ, проведенных после обучения показал, что школьники контрольных классов сохранили те же ошибки, которые были выявлены до обучения.

1) Отсутствие запятой между придаточной и главной частью сложного предложения, когда придаточная предшествует главной.

2) Отсутствие выделения или ошибочное выделение придаточной части, когда она разделяется главную часть.

3) Отсутствие запятой перед союзом И, соединяющим части сложносочиненного предложения.

Третью группу составили ошибки, когда учащиеся неверно поставили пунктуационный знак и ошибочно решили синтаксическую задачу.

В Экспериментальных классах эти ошибки исчезли вообще. Предупреждены ошибки, называемые «лишними знаками». Ошибки же, связанные с объективными трудностями лингвистического материала, сократились до 2,9 на одного учащего вместо 7,4 до обучения.

Таким образом, ученица неверно решила пунктуационную задачу в предложении ошибочно поставив запятую между однородными придаточными частями сложного предложения, соединенными союзом И.

Мы проанализировали причины ошибок, допускаемых при решении синтаксических и пунктуационных задач школьниками контрольных классов, и показали на типичном примере процесс решения одной из этих задач учащимся экспериментальных классов.

Если бы у всех школьников экспериментальных классов процесс решения любой синтаксической и пунктуационной задачи протекал так, как было показано выше, эти учащиеся не допускали бы ошибок. Однако из полученных ответов видно, что и эти школьники допускают ошибки, хотя количество ошибок у них значительно меньше, чем в контрольных классах.

Возникает вопрос: в чем причины ошибок у школьников, обучавшихся по экспериментальной программе?

Анализ ответов этих учащихся в процессе обучения и на экзамене, а также результатов различных контрольных заданий и индивидуальных диагностических экспериментов показал, что учащиеся экспериментальных классов при решении синтаксических и пунктуационных задач обнаруживают следующие основные недостатки:

1. Ошибки в распознавании и вычленении необходимых элементов синтаксических конструкций и в их объединении в блоки.

2. Большая или меньшая задержка в вычленении необходимых элементов синтаксических конструкций, связанная с дефектами упреждения предстоящего текста.

3. Сбои в удержании элементов или блоков синтаксических конструкций в оперативной памяти.

Таким образом, причины ошибок у школьников экспериментальных и контрольных классов оказались одинаковыми.

Это различие состоит в том, что у школьников, обучавшихся по экспериментальной методике, указанные выше недостатки выявляются при решении задач на материале значительно более сложных синтаксических конструкций. Ошибки у этих учеников обычно возникают при решении составных задач, где одновременно следует решать несколько синтаксических и пунктуационных задач (одно пунктуационное поле накладывается на другое), и неоднократное переключение внимания влечет за собой нарушения всех или части описанных выше механизмов письменной речи.



Сопоставить ответы, даваемые на устном экзамене школьниками экспериментальных и контрольных классов, было невозможно, так как учащимся контрольных классов не предлагались вопросы описанного типа.

Приведенные результаты экспериментального обучения позволяют сделать вывод о том, что созданная нами методика экспериментального обучения пунктуации обеспечивает:

1. Значительное повышение уровня синтаксических умений и навыков.

2. Повышение пунктуационной грамотности учащихся 4 – 10 классов общеобразовательных школ.

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## ABOUT LINGVODIDAKTIK ANALYSIS OF THE POTENCIAL VOCABULARY AND TRAINING ON THE SPECIALITY (ESP)

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### ANNOTATION

*This article deals with linguadidactic analysis of potential vocabulary and issues related with teaching English potential vocabulary to students of economical direction in higher education.*

**KEY WORDS:** *potential vocabulary, reproductive lexicon, suffixion, receptive lexicon, word formation.*

**LANGUAGE:** *English*

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### DISCUSSION

At the non-lingual higher education institutes on a world scale, particularly in the conditions of Uzbekistan, the serious attention is paid to teaching problems of foreign languages. In the State educational standards, educational program and plan highly qualified specialist is put (set) great requirements in knowledge of foreign language. Specialists ought to study the information provided in a foreign language in their field, skills and qualifications are integral part of the professional competence of highly educated specialist.

Study of the history of teaching methods of foreign languages, the theoretical and experimental research in this field shows that effective training issues have not been studied enough so far until nowadays.

The introduction of professionally oriented learning technologies at the present time is recognized as a key link in the training of mature professionals.

Another feature of teaching English for the purpose of specialization is that for students of the Faculty of Economics, reading a text in a foreign language is a complex thinking activity, which is aimed at deciphering graphic symbols and turning them into semantic signals, i.e. understanding what is being read. Thus, the main task for students studying for professional purposes is to be able to get the information expressed in the written text.

Vocational-oriented learning technology is defined as technology that can shape the knowledge, skills, and competencies that enable learners to develop personality traits for their future careers, as well as functional responsibilities for their duties.

These include the teaching of foreign language vocabulary in different audiences. Being the basis of language teaching, vocabulary teaching is the necessary source for the language development.

It is impossible to study the types of speech activities without mastering the vocabulary. It is known that, lexical material and speaking topics are selected in order to teach English. Speaking skill is formed through reproductive (in speaking and writing) and receptive (in reading and listening) learning of lexical units. Therefore, first of all it is necessary to develop modern technology of forming the lexical skills at students and to implement them in practice.

Vocabulary is divided into three categories according to assimilation: real, potential and units that do not belong to the vocabulary. The real lexicon consists of active and passive parts. Potential vocabulary is the units the meaning of which can be understood independently by students while perceiving it. And out of vocabulary words are those words which are applied to express the meaning of the text designed for reading and listening, but there will be no necessity to use them in the students' speech any more. "Foreign language material" means all lexical, grammatical,

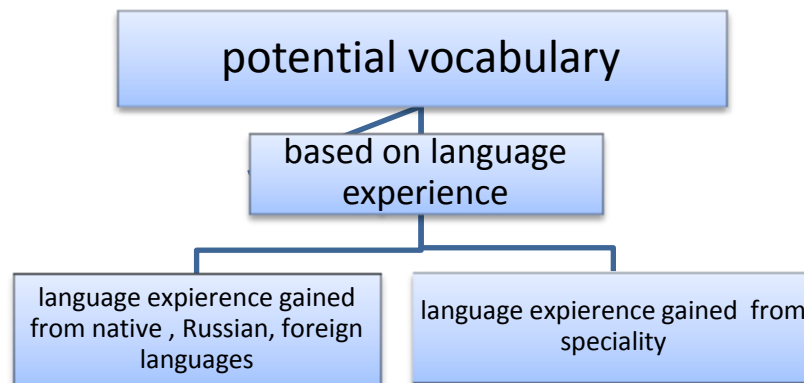


pronunciation material available in this language. The “language minimum” is the part of the language material that is necessary and sufficient for the learning process. They are called lexical, grammatical, and pronunciation minimums.

In teaching vocabulary special attention is focused on the issues related with the selection of lexical minimum and creation of its methodological typology. Under the guidance of I.V.Raxmanov, “The dictionary of the most used foreign words”, in co-authorship with M.M.Falkovich “The English language dictionary-minimum for institutions”, and dictionary minimums for higher education institutions in learning English were compiled by V.P.Polyakov and others.

In the methodological literature, the lexical minimum of a foreign language is usually divided into active and passive parts (I.V.Rakhmanov,

A.A.Mirolyubov, N.I.Gež, G.V.Rogova, S.F.Shatilov, I.M.Berman and others). According to the given descriptions, **active lexical** minimum consists of lexical units necessary to be used in all types of student’s communication. For example, money, bank, sum, million. **Passive lexical** minimum, or so called **receptive lexicon**, is lexical units necessary for comprehension of information in a foreign language through listening and reading. Likewise, the literature created by V.A.Bukhbinder, G.V.Rogova, M.A.Pedanova, J.J.Jalolov, X.Soyazarov and others contains some ideas about content and structure of the potential lexicon. According to their utterance, being based on language experience, **potential lexicon** is lexical units which meanings are partially studied in advance and assimilated independently.



Potential vocabulary is also described in G.V.Rogova’s manual (Methodology of teaching English in the comprehension school, 1991). According to her, there are three bases in potential vocabulary, they are: interlinguistic base (professionalisms, neologisms, terms, reductions, composite words), intralinguistic base (word formation supplements and words formed by conversion) and external linguistic base (eg. schemes, tables, diagrams, a variety of formulas, symbols). The importance of these bases is that they help to comprehend the meaning of the potential word.

In J.J.Jalolov’s textbook (Methods of teaching foreign language, 1996) a **potential vocabulary** is described as a potential dictionary when students comprehend independently the meaning of the word while perceiving the text. Potential dictionary includes the following:

- The form and the meaning in a foreign and native languages are common: (business, market, office, training, export, import, credit, budget ...).
- The stems and affixes are familiar artificial words: (manag + er, deal + er, import + er, productive + ness, corporat ( e ) + tion) .

- Previously learned parts of compound words: (trademark, businessman, intercompany, multinational, postcard).
- Words formed by converting methods: (offer - to offer, pay - to pay, shop -to shop).
- Full form familiar abbreviations: (PO (postal office), P/C (paid cash), S/B (savings bank), t&d (time and date)).
- The same syllabic words in English and Russian: (economy, finance, system, manufacture, qualification, agency).
- Words whose meaning is understood from the context.

Hence, a potential word is a unit which is formed on the basis of a productive model of language, which occurs in such a model (given above). Understanding the essence of this model content gives an opportunity to comprehend the meaning of the unknown potential word in English independently. The words learnt by a student will enrich his or her potential vocabulary over time.

As we consider, according to R.Hampira: “A potential word is a unit that is made on the basis of a productive model of language, which occurs in such a model, but word which still does not move to



language.” In his view, the term “potential” implies that the word is given in a word-formation model through the language system” (2). And E.A.Zemskaya describes this phenomenon as follows: “Potential words are formed by productive types of word formation and fill in the blanks in word formation paradigms. (3)

So how should be understood the type of word formation? *Word-formation type* is the main cell of the word-formation system in a language, within which new words are formed based on the similarity of words of this or that type. The type of word formation is characterized by the generality of the following features: on the one hand, the motivational words, and on the other hand, the motivational words which belong to the same word group; the generality of the methods of formation, the meaning of the word-formation element of the semantic and formal relations between the motivator and to be motivated. Both E.S.Kubryakova (5) and P.A.Soboleva understand in the same way. The concept of word formation type productivity is very important for word formation because the word formation type is basically a scheme-formula in which new words are formed. Outside of word-formation types, i.e., in breaking the typical word-formation laws, some words also occur in the pattern of individual words. Naturally, such words are rare in language. Scientists consider the “scale of word-formation rows” to be a key indicator of productivity. It means that within all existing constraints, a particular type of word formation serves as a model for the creation of new words, and therefore it is considered productive, i.e., gives more productions (word). Perhaps the number of words in this word-formation type may not be large, but this word-formation scheme itself can constitute neologisms.

Researches on the study of foreign texts without a dictionary show that K.I.Krupnik, having studied the problem of students’ “potential dictionary”, describes it in the form of a set of lexical units that have not yet been studied, but the meaning of which can be determined. Because on the basis of internal order factors, i.e. word-formation elements, knowing general roots, on the basis of known meanings of the studied words, their meanings will be also known in the process of reading without a dictionary. K.I.Krupnik also includes such phenomena as polysemy, conversion, common root words, word composing in the sources of potential vocabulary of students.

N.G.Mokreeva, on the other hand, dealt with the problem of teaching to understand words that were not learned in French teaching in high schools. In this regard, she noted: “The study of the experience of teaching a foreign language in high school shows that the main barrier to understanding texts in reading are unlearned words.”

According to these criteria, the following groups of words are distinguished:

- Words that have been studied before, but used in another task, corresponding to the sound-graphic appearance.

- Derivative words are words that have only a sound-graphic similarity to the previously learned words.

- International words are sound-graphic words similar to the words in the native language.

The words in these three groups were linguistic material for N.G.Mokreeva's research. N.G.Mokreeva developed two approaches to working on unstudied French words based on the following:

Working with selected words, then working with words in context (text), and finally, works on teaching the use of semantic factors in context.

The group of experimental data obtained by N.G.Mokreeva shows, that the most effective method of teaching the understanding of unstudied words is he sequence of work, and working with extracted words is added to work with words in context.

In other words, experienced methodologists of our country have been engaged in the problem of teaching students the correct meaning of common root words in the reading process, and they have conducted a lot of experimental works on this topic, achieved high results in these studies.

There are also many intermediate cases between extremely productive types and less productive types, reflecting different linguistic facts. Therefore, attempts to determine the level of productivity will be more subjective. A number of methodists classify potential words into a separate group that is not dependent on learners’ passive vocabulary. In our view, potential words are not a collection of words that are unconsciously located in the human mind, but are “born” by a learner based on known word-formation laws to understand their meaning. Hence, a potential word is a unit which is formed on the basis of a productive model of language, which occurs in such a model (given above). Understanding the essence of this model content gives an opportunity to comprehend the meaning of the unknown potential word in English independently. The words learnt by a student will enrich his or her potential vocabulary over time.

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# INNOVATIONS IN EDUCATION AS A NECESSARY CONDITION FOR THE DEVELOPMENT OF CREATIVITY OF UNIVERSITY STUDENTS

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## ANNOTATION

*In modern society, the problem of creativity and creativity is very relevant. Despite a large amount of research, there is still no consensus on how and when to develop creativity. Until the end of the 20th century, there was a strong belief that the only possible age for the development and formation of creativity is preschool and primary school age, but at the turn of the century, a significant number of works claiming the opposite appeared.*

**KEY WORDS:** innovation, education, development, creativity.

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## INTRODUCTION

The goal of our research is to develop personal creativity in University students. What prevents this, when it would seem that everyone has long agreed that society needs creative graduates, creative specialists? The answer is obvious: the education system itself.

Much has been written about the shortcomings of the education system: we do not teach our students to be active, creative individuals, preferring a long-outdated reproductive model of education. In most cases, the teacher tries to give as much material as possible at the lecture, to tell everything, without giving students the opportunity to understand the material themselves, to think of something, to find answers to questions. Students can only come to the practical class and tell all what they heard at the lecture. Western countries have long ago moved away from this type of training: they do not give ready-made answers to all questions, and students' originality and flexibility of thinking are always welcome. A logical question arises: is it possible to teach creativity? The answer, in our opinion, is unambiguous. It is possible, and it should be done not only in schools, but also at the University. Changes are needed not only for the position of teachers, but also for curricula that do not have disciplines that

specifically teach creativity and creative thinking. This applies to all specialties, not just creative ones. If you need to teach mathematics, physics, or a foreign language, then why don't you teach creativity, because it's no secret that employers make creativity one of the most important requirements for an applicant, as well as in any resume, you can find creativity among the personal advantages of an applicant.

The word "creativity" has become fashionable, but if you look at it, no one really knows what it means. This word was first used by the American psychologist joy Paul Guilford in 1959, understanding creativity as a special kind of thinking - the so-called divergent ("divergent, going in different directions") thinking, which allows many ways to solve a problem, leads to unexpected conclusions and results. Such thinking is contrasted with convergent ("converging") thinking aimed at the only correct solution.

Human uniqueness and individuality are closely linked to the problem of creativity. The development of personal creativity as a subject of scientific research has a peculiar specificity: in the scientific description, "creativity" is identified with the concept of "creativity" and its derivatives (prerequisites for creativity, General and special





abilities, potential, etc.), where there is a danger of leaving the scientific foundations of the nature of creativity. Therefore, it makes sense to consider and analyze scientific research on the structure and content of the concept of "creativity" from a psychological point of view.

Why, in most cases, are the tasks and problems that students face aimed at using convergent thinking? The most significant advantage of traditional intellectual search over creative search is that it is guaranteed to lead to an acceptable (in most cases for the teacher) result. But this is only possible with a few assumptions:

1. the Problem or task in principle has the only correct solution or a clearly limited range of correct solutions;

2. A well-known algorithm for solving this problem;

3. There is a complete and correct initial data for its solution [2].

It must be recognized that most educational tasks that a person they are trained to solve problems at school, and then at the University, are built in this way and are solved in accordance with the convergent strategy of intellectual search. Perhaps this is one of the explanations for the fact that many excellent students who do well with academic tasks are helpless when trying to solve real problems that lie in wait for them both at work and in other life situations. Statistics show that 80 % of life success depends on the creativity of a person, and only 20 % - on his intelligence.

It is obvious that not all real life and professional tasks and problems that a person faces correspond to the above assumptions. A significant number of situations do not fully respond to them or do not respond at all, especially if you have to act in rapidly changing conditions. This often concerns the judgment about the completeness and accuracy of the source data. When faced with any life problems, we are almost always forced to act in situations where the information we know is obviously incomplete, and in the reliability of the information that is available to us, it is impossible to be completely sure. And since this is the case, traditional intelligence does not guarantee that the problem will be solved adequately, even if we know exactly how to solve it.

In creative thinking, it is not so much how true certain elements of information are, but how useful a particular combination of them seems, whether it will allow us to see the problem in a new, unusual perspective, and see possible ways to solve it. Ideas should be evaluated by the teacher not so much from the position of right / wrong, but from the position of functionality, originality, applicability in specific conditions.

The peculiarity of thinking that proceeds in accordance with the creative strategy is the expansion of the volume of ignorance at the initial stages of

working on the problem. In traditional thinking, the further a person progresses in working on a task, the more certain it becomes for them. With creative thinking, a person begins to work on a problem, only more options for its solution-it turns out that the degree of uncertainty for him increases.

The position of a teacher who forces students to do something and intimidates them has long been recognized as ineffective. It is much more effective to create such conditions when the student will have a desire to fulfill certain requirements and awareness of their personal significance. The famous slogan "Don't teach them, let them learn for themselves" suggests that we need more creative approaches to learning, classes, and education in General. By including students in creative and cognitive activities, teachers create favorable conditions for the formation of fundamental personal qualities that contribute to the development of creative potential. If we allow students to be more open, discuss new material, and come up with bold new ideas, we will be on our way to a new education system that will result in more creative and competitive graduates.

The researcher identified six parameters of creativity:

- 1) the ability to detect and pose problems;
- 2) the ability to generate ideas - fluency;
- 3) the ability to produce a variety of ideas - flexibility;
- 4) the ability to produce ideas that differ from public views, respond to stimuli in a non - standard way-originality;
- 5) the ability to improve the object by adding details;
- 6) the ability to solve problems, that is, the ability to analyze and synthesize [3].

Thus, only continuity at all stages of innovative education, aimed at educating and supporting gifted and talented students and students, and at forming the creative potential of individuals with high morals, will ensure the revival of the Uzbekistan and the competitiveness of its citizens in relation to Western specialists.

The main goal of innovative education in Uzbekistan should be to preserve and develop the creative potential of people and society. The essence of innovative education of the XXI century is the organic inclusion of creativity in all its processes. This problem is global, because it determines the need for the formation of a national innovative education system that will radically change the creativity, intelligence, morality, spirituality and education of society, which will contribute to the formation of an innovative economy.

This problem can only be effectively solved by implementing continuity at all levels of education in your country: pre-school, school, professional and University. At the same time, it is important to avoid a one-sided approach to the problem of continuity,



which considers it only as the consistency of educational programs. As a result, the child is ready for school and student at the higher education is determined only by the presence of a certain amount of knowledge of the students, but not the formation of certain personal qualities, which are not only the backbone of the success of school and higher education, but also the basis for the development of creative potential of personality.

Continuity should cover the goals and objectives, content, methods, and even some forms of organization of training and education.

Research and practice show that the development of creativity can be delayed, and sometimes destroyed at any stage of personal development. There is a need to introduce special psychological and pedagogical training of teachers to identify and develop the creative potential of all students in the process of mastering the educational program material. This will require teachers to apply developing principles of learning (problem-solving, dialogic, individualization), teaching methods that involve students in creative activities (problem, research, project, etc.), the ability to stimulate the processes of self-knowledge and self-development of the individual.

The search is determined by a measure of anticipation, forecasting the optimality of each subsequent step of the decision and its consequences. The depth of forecasting provides opportunities for faster decision-making and is an indicator of creative development of the individual [1].

Thus, the concept of "creativity" in modern science is interpreted as a multidimensional and multidimensional concept. In a broad sense, it is an independent phenomenon that represents a single integral system and functions in all spheres of human life as: a creative process, a creative product-the result of the creative process and the properties (qualities) of a creative type of personality.

Conclusion. In a narrow sense (an aspect of our research), creativity is defined as a general universal ability to create, which is more or less characteristic of each person. Creativity is formed and manifested in activities. In this case, the creative environment is a condition for realizing the creative potential of a person.

The difficulty of opening, innovative breakthrough of a new one is expressed in overcoming the existing habitual approaches to solving the problem. Originality is born out of overcoming the "right", obvious, and generally accepted. Therefore, the ability to make non-standard, original decisions characterizes a creative person.

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# THE IMPACT OF THE FORMATION OF HIGH HUMAN EMOTION IN STUDENTS PEDAGOGICAL PSYCHOLOGICAL BASIS

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## ANNOTATION

*This article is devoted to one of the most urgent problems of teaching the organization of problem learning. It reveals the psychological features of the formation of moral, ethical, mental and mental qualities of students by organizing problem-based learning. This article is the first to reveal the pedagogical features of the formation of spiritual and ethical characteristics of students in the process of studying the poet's work.*

**KEY WORDS:** human emotion, psychological and pedagogical basis, creativity.

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## INTRODUCTION

In our country, serious attention is paid to the formation of an independent-minded, creative and creative person, raising his spirituality, ensuring mental and spiritual perfection. Therefore, the educational system is changing, adapting to the updated principles of pedagogical thinking. Because the period of independence the main goal of literature education is to raise the morale of the student, forming in it the characteristics inherent in the creative person. In particular, it was recognized that by teaching the life and creative activity of the poet, it is possible to encourage students not only to artistic creativity, but also to seek and live in life in general, to mobilize such goodness as the creation, discovery of their own opportunities. The fact that students need to gradually understand the personality of each creator by entering his creative laboratory is fully consistent with the principles of updated pedagogical thinking. In this way, the student is motivated by a desire, interest in research, he learns to understand the hearts of other people by feeling a certain creative spirit.; others seek to feel their grief, to recognize a person. For this reason, the problem of studying the life and creative activity of the poet in the literature education of the independence period is of paramount importance.

The techniques that come into our national education under the name of "new pedagogical technology" also presuppose the achievement of high results in a short period of time, without exerting excessive mental and physical effort on the part of the reader-teacher. For a short period of time, the formation of theoretical knowledge in them, the formation of skills, qualifications and moral qualities in certain activities, at the same time, their control and evaluation require high pedagogical skills and knowledge from the teacher.

The independent thinking of the reader does not occur spontaneously, automatically. To do this, it is necessary to introduce new ways of mastering knowledge and the necessary assignments into the educational system. One of such ways is problematic education. World pedagogy with the issue of problematic education V.Akan, M.Makhmutov, V.Marantsman, N.Mochalova, A.Matyushkin, T.Kudryavtsev, A., in national pedagogy A.Zunnunov, S.Nishanova, O.Musurmonova, Q.Husanboeva and other scientists were engaged. The whole focus in this work is on proving that the student's independence in the lesson and the basis for increasing the effectiveness of education. In them, the work of the student on the way of acquiring knowledge is based on the scientific-practical aspect that has a great effect on the assimilation of



knowledge. In particular, the doctor of ped.s. Q.Husanboeva, emphasizing the importance of problematic education, writes: "problematic education involves the educating personality as the core of this situation. There is no problematic situation outside the subject, the person. The problematic situation involves the motivations and needs of the child as a necessary part of his own. It is for this reason that education is carried out in harmony with the upbringing of the child, the assimilation of knowledge, the formation of the worldview.

The solution of the problem implies that the joint participation of students, consisting not only of a dialogue between the pupil and the teacher, but also of the active mental work of the entire class community, the individual characteristics of the child's personality are maximally taken into account. Only in such conditions are other members of the team in the classroom, the part of which they participate in a dialogue with the teacher, not passive observers, during the whole educational process they can literally become a person of creativity, a person of thought

The functions of problem education in the scientific literature are defined as follows:

1. To ensure that the student has mastered new knowledge and methods of activity.
2. To cultivate the independence and creative abilities of students in the acquisition of knowledge.
3. Increase the level of knowledge of education.
4. To ensure the formation of a scientific worldview in the student.
5. Formulate the independence and thinking of students in the acquisition of knowledge, their inner desire to know the secrets of man and the world in their hearts.

In the process of literary education, it is more important not only to give ready-made judgments, but also to teach the reader to think, reason, discuss and draw their own conclusions. From private events it is necessary to rely on the inductive method of predicting and summing up the general law, that is, on the contrary, that is, on the basis of general aspects, a deductive method of transition to property will help. These two forms of deduction are widely used in literature education. They are two components of a holistic thinking process. With the help of these teaching techniques, attitudes towards people, life, events, problems are formulated in the students. The desire for higher emotions arises from mental thirst, a conscious desire for spiritual perfection.

In the process of teaching the dramatic epic of Abdulla Oripov "The road to paradise" in the literature education of academic lyceums, we envisioned to rely on such natural inclinations of pupils-students. A person becomes a weak-willed

person, if he does not struggle with spiritual perfection, seek or seek. However, human life consists of tireless struggles. Self-struggle is the pursuit of stability, perseverance, willpower, the desire to make an impartial and fair decision in oneself is the pursuit of perfection. It provides students with comfortable opportunities in problematic learning to activate such aspirations.

In today's education, the knowledge that the students are expected to master, the skills that they need to acquire, the ability to organize their participation in the means of transfer and involvement in solving certain problems – undoubtedly, will ensure the effectiveness of Education.

As noted Russian methodist scientist by V.Marantsman, problematic education allows the student to formulate the consistency of thinking, the ability to systematically approach the phenomenon. When used in the analysis of artistic works, it affects the thinking ability of the students and them. A.Zunnunov noted that asking questions to the reader will help to create a problematic situation.

Another of the problems raised in the game is to reveal to what extent the life worth of feelings of loyalty, friendship, loyalty. We perceive from the interpretation of the poet and other images in the work that sincerity, loyalty in human relations is of great importance. Through the images of the guy and friend mentioned in the epic, human feelings are expressed more deeply. The epic depicts the adventures of two lucky in the desert. Each ring of these adventures served to convey a certain philosophical meaning. There is someone who once sensed and offended his parents, even if for a moment there is someone who has offended, there are ambitious people who, as a monument to their ancestors, adorn their name in large letters; those who betrayed the soul of their loved ones and strife, strangling each other; young-is he old those who do not return from the abyss before the "soul trouble"; those who earned the gemini himself; in this way, no person, even those life of their own parents; even those who are without a face, who, by the way, provoked by the scales recognized as the "just of the righteous", and led his affairs until the examination- so the poet conveys judgment over these kinds of immoralities, injustices, which are encountered in life by such artistic means as judgment,

Among the above symbolic images comes the image of sound at the end of the saga. In the image of this epic hero, we see the embodiment of the power of truth and justice, which is regarded as divine power. The solution of the epic conjugation is thus manifested in the image of sound. With this, the writer put forward the idea that the way of life, the way of living, is the way of friendship. Abdulla Oripov embodies human perfection, generosity and courage in the images of a young man and a friend.





The image of a friend is important when opening the image of a young man in a friend.

Create a young man who has met his only friend alone in the "is the world" he says thanks. A friend is also very happy that he found a young man. It turns out that the fate of a friend with a guy is the same. The guy does not fight against the unfortunate, he did not make two baskets for the sake of excessive trust in people and did not fall into battle. And the friend, on the contrary, suffered greatly from Gemini in life, losing confidence in people in general. For this nature, he also lacks the two paysa rewards, paradise stayed outside the gate.

A friend even in the "is the world" stands firm in his opinion about people. In this regard, the author gives us a new drawing of the sides of the young man in his noble and human appearance:

Ўйлаб қара, тарихда бор ибрат доимо:  
Не-не зотлар гар ўзлари топса ҳам  
тўзим  
Одамзотга кўрмаганлар ёмонлик раво.  
Эзгуликнинг йўли оғир, серғалва  
гарчанд  
Юксакларга кўтаради соҳибин бироқ.  
Маили менинг руҳим синиқ, хаёлим  
порканд,  
Ҳис қилурман, эзгуликнинг оқтоби  
порлоқ.

The guy, who makes up these noble thoughts, decides to give the missing two paces of reward to a friend from the account of his rewards. However, the friend had the same opinion. His intention is also to give the guy the missing two paysa rewards from his account.

However, both these dignitaries will not agree to accept each other's noble proposal. Himself entering the battle, leaving the old man outside of him, both see it as a nomad. For such glorious and noble qualities as courage, solemnity, mutual loyalty, the great power in the image of sound, which is reflected in the work in the style of the lyrical hero – the truth and the truth informs both the friend and the young man that he will give life.

The guy is a well-known whitewash, especially a man who has experienced life difficulties with the weather, since he has little experience of life. He saw and endured terrible events, days from hell. But it's not even fluffy people. He could not fight against those who are evil, and from the hypocrite he is so tired, saturated that he does not want to see their faces, even in the "it is" world. Despite being a poet, the poor lived a small life, so there was no bad left to plunder him spiritually. Salivary even, unhappy in love, loved one is not loved.

Abdulla Oripov puts an important problem from the father's language in the epic and answers this problem in the image of the guy. After all, you yourself were purified, you yourself suffered from

others. On you worked as much as you could, and on the rest you were helpless, he says. The father told his son, and the young man had a deeper understanding of another truth in this. Even the fact that man is only a purebred cannot be the basis for complete sinfulness. Not to fight against those who are the subject of suffering of others is like a partnership for the reasons that cause that suffering. And the poet is such a noble person that it is his duty to fight against naughty, ugly people in life, not his desire. Since the same work has not been carried out, it means that he is also guilty, guilty, for the suffering of the helpless poor because of the trampled, disgrace, conscience, bad people. But there is also a reason why the guy could not realize his good intentions. He was a shattered in the heart of the language of intrigue, a sobbing to the faithful people. Because:

Ёлғиз эди дунёда у, лекин чинакам,  
Ёлғизлатиб қўйган эди ҳаёт бешафқат.  
At the end of the epic, these thoughts from the language of sound show the educational significance of the work:  
Икки дўстнинг садоқати, меҳри,  
ҳиммати,  
Коинотнинг қадридан ҳам тургайдир  
баланд.  
Ҳар не билан ўлчанмайди дўстлик  
қиммати,

Қулатгай у сарҳадларни қудрати билан.  
The work "The road to paradise" teaches each reader to be purified, to be sincere in struggles, realizing that these ways of life are not smooth and smooth.

The author believes that the purity of a particular person, the fact that he is good, is still not enough for him to be a perfect person. Everyone is responsible for the purity and well-being of others. If this is not so, then this person is also a responsible, for the suffering that he inflicted on the people of those who are despicable, if he looks at it indifferently, seeing that this is happening. And this means that one must constantly bravely fight against evil and evil. The work at the same time calls on each person to educate in himself the qualities of goodness, generosity, humanity.

We realized that when a person was alive, constant "built" and built "the way to life. But it is inevitable that this path will continue even in the world. In what image he lived throughout his life, a person cannot change his appearance even in that world. Consequently, according to the essence of the "path", which he built, he raised the servant either to paradise, or to hell. When two men do not pay the reward, they show the way to the guy bustle libra: "two men pay the reward to you to find be prepared, all right, cry, please, all right entreat! "When the young man says," May I go to hell, tap without any gravity, "rather than asking for the reward of others,"





he bluntly blunts that he will not return from his faith. With this behavior, he glorifies the name of Man and achieves divine reward. The guy is given the opportunity to earn two points of reward, but he is told to give up licking to someone who asks for rewards and see his parents' at this short opportunity:

«Ота-онам висолини кўраин бир қур.

Лекин билгил, мен уларга арз этиб бешак,  
Савоб сўраб йиғламасман, кечирсин худо».

Indeed, the young man reached the will of the father and mother, saw them in battle, but did not want to share their rewards. To what extent he glorified his parents in his life, he once again proved that he was a faithful child even in the world and received divine rewards.

In the game the image of the mother and the status of the son who is forced to the will of the mother are ravaged in incredibly impressive landscapes. The mother is depicted in a beautiful castle in paradise. The son holds himself in a pan, seeing his mother even if from afar, in the hope of saturation with the last. The mother is not aware of this, but with her heart she feels, feels her son.

Mother is in a beautiful castle in paradise. Angels around. Through the image of this landscape, the poet glorifies how high his native status is. The guy also feels the divine light of the mother under the mask. In the answer of the Angels, the status of the mother in the presence of Allah is a bright expression:

«У – онадир, бандаларнинг ибтидосидир,

Унга ҳурмат жойиз эрур икки оламда,  
Унинг меҳри самоватнинг илк садосидир,

Шу боисдан ғалат ҳислар кўзғар одамда».

And the mother says: "I also shave my hair to say that I have a child in paradise!" Why did the son pray from the mother at the last moment? The son begs a blessing from the mother after the road. Mother receives divine reward through prayer. In this way, the young man made use of the opportunity given to him in the world in accordance with the status of a person in the stability of belief, brought to an end the road towards paradise. The same surroundings will suddenly crack. What does this landscape in the solution of the events of the work mean? through questions such as: by the end of the lesson, students can be motivated to think, to discover judgments about the personality and life of a person through the analysis of the work. Literature as an integral part of spirituality has a significant impact on the worldview of the reader youth. In particular, the educational-philosophical conception of the dramatic epic "the road to war" encourages them to live in the prosperity of el-yurt, burn for the triumph

of goodness, goodness, honesty; it is the basis for their deep understanding that indifference, inactivity are both spiritual and social vices.

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# THE THEORY OF THE “SOCIAL STATE” AND THE PROBLEMS OF THE HUMAN FACTOR IN IT

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## ANNOTATION

*This article highlights one of the most pressing problems of our time-the social state, which includes the theory of the social state and questions of the human factor in it, as well as the socio-philosophical aspect. In the coverage of the article, based on historical data, the scientific foundations of the development and rise of the social state were highlighted.*

**KEY WORDS-** *Sociology, culture, industry, revolution, nature, social policy, history.*

## Аннотация

В данной статье освещается одна из актуальных проблем современности-социальное государство, включающая теорию социального государства и вопросы человеческого фактора в нем, социально-философский аспект. В освещении статьи на основе исторических данных были освещены научные основы развития и возвышения социального государства.

**Ключевые слова.** Социология, культура, промышленность, революция, природа, социальная политика, история.

## DISCUSSION

The concept of the social state as a social system has a complex internal structure, forming an orderly, integral, inherent organic connection and unity of different social relations. Every social system has its own structural structure. All spheres of society, including economic, political, legal, spiritual, social life, science, etc., are an integral element of major social systems.

The word system is derived from the Latin “systema” - that is, a “structure” made up of “parts” that can be divided into parts. Hence, a system according to this definition is an integral set of interrelated elements that are inextricably linked with each other. Despite the fact that this concept has been widely used since ancient times, it is considered to be a scientifically unprocessed and undefined category.

Nevertheless, some elements of a systematic approach to nature and society were formed in antiquity. In particular, Plato and Aristotle sought to reveal the peculiarities of knowledge as a holistic system. With the further development of the exact sciences into a new era, the study of geometric and mechanical forms of systems began. By the nineteenth century, a movement had begun to develop systems theory in the natural sciences,

particularly chemistry and biology, in which Ch. Darwin (1809 -1882) played an important role in the theory of the origin of species. Based on a systematic study of the knowledge in his field, the scientist discovered the evolutionary development of living nature through natural selection. The Russian chemist D. Mendeleev (1834-1907) based on these ideas created a periodic table of chemical elements. In his time, the scientist showed the place of each of the elements in the system as integral parts of the system. These discoveries in the exact and natural sciences that elements are parts of integrity led to the creation of the theory of the social system in the social sciences and humanities.

An important role in the formation of the general theory of systems and the basic principles of the systemic approach was played by A. Bogdanov’s work “Universal Organizational Science. Tectology”, written in 1912. Many of the theoretical views, conceptual classifications, which the author formulated in his work, have a modern character, and his ideas were accepted almost unchanged in the subsequent study of systems.

In particular, in the 1940s, a “systematic movement” began at the initiative of the Austrian biologist and philosopher Ludwig von Bertalanffy



(1901-1972). The scientist brought together representatives of different sciences to create a “general theory of systems”. V. Dorofeev writes about this: “In the 40s of the XX century, the famous biologist Ludwig von Bertalanffy (considered in the West as the founder of the systemic approach) explained that systemic approach is the most convenient tool in understanding the process of perception of the external world by humans. Indeed, the systemic approach emerges as a means of shaping the whole mind, which is involved in the human being's perception of the whole environment, the continuous connection with the outside world.”

The movement embraced both the social sciences and sociology in particular. After all, since the emergence of sociology as an independent science, forming its components, scientists have always tried to understand society. Such an analytical approach, which is universal for all sciences, should also be acceptable to the positive science of society. Attempts to portray society as an organism as a self-developing whole with the ability to express itself and maintain balance were, in fact, an expectation of a systemic approach.

E. Durkheim had taken action to clarify the social nature of the system. The further development of this theory is associated with the names of T. Parsons and N. Smelzer. In particular, T. Parsons developed the concept of E. Durkheim and discovered that “Structural differentiation of social systems is an evolutionary feature.”

In sociology, the concept of social system was first used as a sign of behavior in T. Parsons' 1937 book, *The Structure of Social Behavior*. Since that time, the theory of social systems has developed as a relatively new branch of general sociology. According to T. Parsons, “Any existence creates a stable social structure on the basis of systemic activity”.<sup>1</sup> In his 1951 book, “*Social Systems*”, the scientist describes structure and system as complementary and non-existent concepts.<sup>2</sup> These two concepts consist of the two main superstructures of human existence, the social life of society, namely, the motionless form and the changing essence. The advantage of the system is to ensure stability through the regulation of events and processes taking place in society, that is, social reality. After all, the system stimulates the formation of social institutions during the regulation of social reality. Thus, every element of society is an integral part of a vast system.

Later, with the efforts of R. Merton, this theory became firmly rooted in the idea that society

as a sum of dynamic processes is an integral system consisting of an orderly sum of many elements. These authors proved that any information about society can be interpreted in terms of functionality or dysfunction of the social system, and at the same time in the 50s of the last century laid the foundation for one of the largest schools of sociology - structural-functionalism.

Inspired by the ideas of E. Durkheim, British social anthropologists B. Malinowski and A.R. Radcliffe-Brown created the methodological basis of the concepts of “structure” and “function”. At the same time, the authors argue that “function” means direct dynamics, and dynamics in its place is a system.<sup>3</sup> Indeed, society as a whole system requires the study of the connections that its components make with one another. Thus, Radcliffe-Brown was one of the first scientists to apply this theory in the analysis of different societies.

As H. Abels explores the components of the system, the system is:

- Structural connection of structural elements;
- Purposefulness;
- Subordination of components to integrity;
- Long-term stable and balanced existence;
- is a set of features such as variability and relevance from the environment.<sup>4</sup> Indeed, the system ensures that their coexistence is proportional to the sum of the interconnected units.

According to Yu.G. Volkov: “a system is a set of parts that are more or less interconnected for a certain period of time”.<sup>5</sup> Thus, systems, especially social systems theory, is one of the fundamental theories of the social sciences and humanities, on the one hand, as a means of regulating relations and relationships between individuals, small groups, different communities, and on the other hand, as a method of their scientific study.

The systematic approach has become a universal tool of the cognitive process over time. Indeed, this approach is a unique method of understanding complex dynamic processes as a whole. As early as 1972, philosophers stated that “a systematic approach to the objects studied is now gaining the status of a general principle: all special disciplines use a systematic approach based on their level of development and internal needs.” (V.S. Tyuxtin.)

<sup>3</sup> The history of sociology in Western Europe and in the USA. Ed. Osipov G. - M.: NORMA-Infra, 2001. -- 320 p.

<sup>4</sup> Abels H. The problem of social order in sociology. [www.soc.pu.ru: 8101/publications/pts/ abels.html]

<sup>5</sup> Sociology. / Ed. Prof. Yu.G. Wolf. - Ed. 2nd, Ex. and ext. - M.: Gardariki, 2003. - 512 p.

<sup>1</sup> Dobrenkov V.I., Kravchenko A.I. History of foreign sociology. - M.: INFRA-M, 2008. -- 294 p.

<sup>2</sup> Parsons T. The structure of social action / Parsons T. On the structure of social action. - M.: Academic project, 2000. - 99 p.



T. Parsons, on the other hand, emphasizes the role of the four elements in ensuring the development of society, namely, the biological organism, the social organism (in terms of the system), the individual and culture. Their movement in a functional connection with each other ensures the existence of society. Within these four elements, the individual is crucial, and the individual displays individual behavior because of his or her needs, values, and thus motivates the system to move in an orderly fashion. Unlike E. Dyurgkeym, T. Parsons founded the European School of Systemic Functionalism as a primary important category in the science of sociology. Later, G. Spencer, B. Malinowski, A. Radcliff-Brown from this school studied the similarities and differences of social systems, socio-dynamic problems in ensuring the functionality of the system, the characteristics of social interactions and relationships within the system. In particular, G. Spencer compares society with a biological organism, compares its individual parts (education, state, etc.) with the body parts of a living organism (heart, nervous system, etc.) and proves that each of them forms an integral whole. G. Spencer believes that, like biological organisms, even the simplest forms of society are made up of complex parts.

Based on the scientific observations of the representatives of this school, it was established that the individual is an integral component, an essential element of the social system. It has been proven that structure and function form a coherent process that complements each other precisely because of the dynamic nature of the system. These approaches, in turn, allowed for a detailed analysis of the activities of all components that ensure the development of society at different levels (macro, meso, micro). According to the conclusions of the representatives of this school, dynamic processes ensure the existence of society. Dynamics and movement occur through a single system. Hence, the system is one of the fundamental factors that ensure the existence of society, i.e. humanity.

At the present stage, the German sociologist N. Luhmann further refines and modernizes the definitions of the concept of social system. Contributes to the general theory of social system and methodology of structural analysis. His works: "Social Systems: General Theory" (1984) and "Society of Society" (1997) were self-published in a collection of six articles entitled "Social Enlightenment."

N. Luhmann points out that a social system has a specific meaning in it as a different aspect of biological systems. In addition, N. Luhmann argues that it is expedient to study the systematic nature of communication (i.e., the process of information exchange) that takes place in a society in the context

of the theory of social systems. Thus, Luhmann interpreted society as a self-conscious autopoietic system. Luhmann borrowed the term "autopoiesis" from the famous neurologist Humberto Maturana and used it to refine the theory of social systems. According to Luhmann, social systems not only continue to function as a dynamic process, but the system is fragmented, collapsing. This is a phenomenon equivalent to death in biological systems. From a social point of view, however, it affirms that society, like other social systems, is limited and likely to fail. So, communication also comes to an end.

The development of system analysis in sociology has gone through the following three stages.

**The first stage:** At this stage, society was distinguished from the point of view of natural science (biology) by its homogeneity, similarity, or even equality to a biological organism. The fact that society, like a living organism, is made up of interconnected and interconnected parts, and on this basis, the task of the sociologist, was to study this interdependence. At this stage, sociologists concluded, based on a systemic approach, that the system was not only closed (and therefore entropic, i.e., prone to the disappearance of differences), but also open, i.e., weakly enclosed.

**Phase Two:** In this case, the concept of "system" was defined as an abstraction that reflects the behavior of complex objects, consisting mainly of interconnected parts. Tasks were modified from analyzing the interdependence of parts, taking into account the interactions of different systems and subsystems. However, improvements to the system approach have led to the emergence of some problems, such as system boundaries and emergency feature issues. If the system is open, i.e. there are moving boundaries, then how do you create and maintain them? Moreover, a system is not only a set of their elements and the relationships between them, but also a new whole that has its own (emergency) properties and is unexplained and renewed in terms of their elements and the relationships between them.

**Third stage:** At this stage the theory of reference systems was formed. According to this theory, a system is different from the external environment and it can recreate its own boundaries. According to Luhmann, society is an example of such a system of self-renewal and self-awareness. He always separates himself and the external environment. This is why it is seen as a "system".

The elements of a social system that have this concept are not human, but rather communication. Any communication that takes place in the world belongs to society, and society is defined by a clear connection: there is no communication outside of society. To this society Luhmann gives a



definition of world society. Communication is transformed into actions; measures serve to overcome the complexity of the system.

In short, in sociology, the concept of the social state is accepted as a “social system” and is implemented in the process.

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# THE THOUGHTS RELATED TO THE CULT OF WATER IN ZOROASTRIANISM

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## ANNOTATION

*The article discusses the views and customs associated related to water elements of the Zoroastrian religion in the Fergana Valley today as a manifestation of common culture in lifestyle and ceremonial life, as well as the syncretization of these rituals and religious views shown.*

**KEYWORDS:** Zoroastrianism, Zoroaster (Zarathustra), Angramano, "Avesta", goddess, Anahita, water resources.

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## INTRODUCTION

In the works of the ancient Greek scholar in the V-IV centuries BC the name of Zoroaster (Zarathustra) was first met. The Greeks called him Zoroaster, and the religion he founded "Zoroastrianism"<sup>1</sup>. The religion of Zoroastrianism was spread in the Middle East and Central Asia two thousand and seven hundred years before now.

## THE CONTENT OF THE ISSUE

According to Zoroastrianism, as the beginning of this world exists the end of it exists too, that is the universe is not unlimited in the dimensions

of time and period. Life consists of constant disagreeable struggles between good and bad, true and false, light and dark. The forces of light, goodness, and kindness were ruled by Ahura-Mazda and the sacred spirit "Spenta-Mine", the dark and evil forces were ruled by the instigator spirit Angramano (later was called Archiman – A. A.). The army of Archiman included giants, gods, personalized evil concepts like envy, indolence, deception, evil forces, and witches, they tried to harm fire, land, water, and livestock.

Archiman created death, winter, cold, hot, harmful animals, and insects. Ahura-Mazda was the god of kindness, health, and happiness. Zoroaster said: "We honor Ahura-Mazda, he created live-stock, water, plants, and light". Ahura-Mazda was thought to have created life and the first Man.

## GODS RELATED TO WATER IN ZOROASTRIANISM

According to the cosmogony of Zoroastrianism, the earth was round. It stood on water, moisture, water was the base of everything, the earth was surrounded by the ocean, it was honored and valued as if wood in the water and even more than fire. In Zoroastrianism, the first of the six substances (goddess) surrounded the earth was Apam-Napat<sup>2</sup>. It was said to have a life power that

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<sup>1</sup> Koster W. Le myth de Platon, de Zarathustra et des chaldéens. – Leiden, 1951; Carnoy A. J. Lumières iraniennes et anatoliennes sur l'hieronymie grecque // Proceedings of the Twenty Third International Congress of Orientalists. – London, 1954. – P. 171–172; Duchesne-Guillemin J. The Western Response to Zoroaster. – Oxford, 1958; Afnan R. Zoroaster's Influence on Greek Thought. – New York, 1965; Conti R. Cosmogonie orientali e Filosofia presocratica. – Roma, 1967. – P. 292–293, 408; Biesterfeld W. Der Platonische Mythos des Er (Politeia 614b-621d). – Münster, 1970; West M. L. Early Greek Philosophy and the Orient. – Oxford, 1971; Schmeja H. Iranisches und Griechisches in den Mithramysterien. – Innsbruck, 1975; Pyankov I. V. Central Asia in the news of antique history of Ktesia. – Dushanbe, 1975.

<sup>2</sup> See Apam Napat's descriptions of other religions: Mythological dictionary. – M.: Soviet Encyclopedia, 1990. – P. 672.



the life power in the water should be enriched with the juice of plants.

In Zoroastrianism water was a sacred element, first of all, its clearness was cared about. The water resources – rivers, lakes, or wells were strictly protected from any kind of dirt. If it was necessary to wash any ceremonial dirty thing, the water was gathered in a special place, but the dirty thing was not washed directly with the water. The dirty thing was firstly washed with the urine of a cow, dried in the sun or the sand, and then finally washed with water. Also, it was banned to go out when it was raining, because it was believed to make the water and the earth “dirty” by this. In Zoroastrianism water was valued as the most necessary element for the human and in "Avesta" was noted the followings: “The punishment of the one, who witnessed before the clean water and fire, in the hell is worse than all the suffering of this world”<sup>3</sup>.

In “Avesta” there are many texts about Ardvi Sura – the goddess of water and high yield. The attitude to water was reflected in the second name of the fifth section– “Aban yashta” too and it means “Eulogy for water”<sup>4</sup>.

## ANAHITA

In “Avesta” “Anahita” was interpreted as the god of the earth, water, and fertility. In many cases, Anahita was connected with Ardvi by the researchers. The divine river mentioned in “Avesta” was connected with rain and fertility. The etymology of the word “Ardvi” means “wet” and “moisture” to<sup>5</sup>.

Among the ancient people there was a belief of fertility, the goddess of this belief, according to the traditions of "Avesta", was Anahita-Ardisura. Anahita was the goddess of water, fertility, and fertility too. It was interpreted that Anahita was wearing clothes knitted from the skin of 30 otters and the otters were the symbol of fertility. One big chapter of the “Yasht”(section/book) was devoted to this goddess that Anahita was the holy goddess of waters. She lived among the stars and rode the cart ridden by four horses and struggled against the giants.

The image of Anahita found its reflection in the stone and clay sculptures made in ancient times too. The Zoroastrians kept such sculptures of the goddess of water and fertility in their houses and

temples. During the ceremonies, they worshipped to her and prayed for the sake of Anahita and held sacrificing ceremonies.

During the archeological excavations carried out at the ancient monuments in the different regions of Central Asia, many sculptures of this goddess decorated with jewels were found. Particularly, in the castle of Qo'yqirilgan in Khorezm the sculpture of Ardvi-Sura Anahita and many other sculptures were found<sup>6</sup>. Besides, in the middle flow of the Sirdarya, there was a complex of temples related to a female goddess in the middle ages. The Arsubanuket city, which was built in honor of the goddess of the Banukent river in Choch and the Aris river, can be an example of it.

In the ancient people's imagination "first of all water and then other things appeared". Water was the purifying element like fire. As proof of the cult of water the temple of Saks, which was built in the II thousand years BC in honor of fire and water valued as holy elements in Zoroastrianism, can be mentioned. In the yard of the temple, there was a sacred well under the tent<sup>7</sup>Also, in the mourning ceremonies of the Zoroastrian wavy lines were drawn on the special dishes which the deceased's bones were put in and on the thresholds too. These lines denoted water.

For the ancient tribes in Central Asia, the source of all the waters on the earth was lake Vorukash. This lake was connected with the Sirdarya. The water of this river was valuable for the Saky tribes that lived on the bank of the river. In the low flow of the Sirdarya, the cities (Uygarak, Tagiskent, Yettisuv) belonging to the culture of Sakys were studied by the researchers. While studying the architecture of these cities and other findings, the specialists concluded that these constructions built by Sakys had a religious meaning and were connected with worshipping to the Sirdarya. But in some cases such interpretation is quite discussable and arguable<sup>8</sup>.

The tradition of considering water as a source of life and a symbol of purity has survived in Central Asia until the present day. In particular, G. P. Snesarov writes that Ardvi Sura - Anahita faced to transformation in the Khorezm region and remained under the name of Mother Anbar<sup>9</sup>.

Momoi Hurbibi, the shrine of Chashma spring in Sukh district of Fergana region, must also

<sup>3</sup> Avesta. Historical-literary monument / Translation by Askar Mahkam. – Tashkent: Shark, 2001. – P. 122.

<sup>4</sup> Rak I.V. Myths of ancient and early Medieval Iran. – 1998.; Rahimov N. The cult of water of ancient Iranian tribes of Central Asia / Scientific records of Khujand state university. Khujand, 2009. – p. 66.

<sup>5</sup> Rahimov N. The cult of water of ancient Iranian tribes of Central Asia... – P. 67.

<sup>6</sup> Tolstov R.P. About ancient Ox and Yaksart deltas. – M., 1962. – P. 210.

<sup>7</sup> Rahimov N. The cult of water of ancient Iranian tribes of Central Asia... – P. 66.

<sup>8</sup> Rahimov N. The cult of water of ancient Iranian tribes of Central Asia... – P. 66–67.

<sup>9</sup> Snesarov G.P. Relicts of pre-Muslim beliefs... – P. 240–251.



have a transformed, localized name given to Ardivi Cura - Anahita, the goddess of blessing and prosperity in the "Avesta"<sup>10</sup>. According to legends, water was extremely scarce in Sukh in ancient times. The place of the present Chashma was a dry place where the "haft yoron", that's "seven brothers" and their only sister, Hurbibi, lived. Hurbibi was a beautiful, virgin girl, the beauty of her face was like a fourteen-day-old moon, and she was a tall, wealthy girl with long and constantly combed hair touching the ground. She did not get married and devoted all her life to praying to Allah. Therefore, by the will of Allah there appeared Chashma spring here. It is believed that if anyone goes to the head of the spring with good intentions and clean body and remembers the patron of the spring Hurbibi giving charity to her spirit and makes her spirit happy, their wishes will come to true<sup>11</sup>.

In "Avesta" Ardivi-Sura – Anahita was one of the seven goddesses created by Ahuramazda, according to Sukh-Tajik legends, Momoi Hurbibi was the only sister of seven brothers (haft yorons). The following qualities were given to her: her beautiful statue like a cypress, her shining face like the moon, she constantly combed long hair, and her virginity for a lifetime without marriage repeat the qualities of Ardivi-Sura-Anahita<sup>12</sup>.

In Central Asia the water goddess is depicted in two appearances: a mirror in her hand, snakes or dragons next to her (for example, the temples of Erkurgan and Dalvarzintepa); the second - the four-armed goddess - the senmurvs, and the two-armed one - sitting on a throne on a dragon, was depicted with a lily on the crown. The first of these is related to the ancient beliefs in the country, the second is a combination of images.

In verse 4 of the third chapter of the "Videvdad", Zoroaster asks Ahura Mazda, "Where is the third place in the world where the land is the happiest of all?" Ahura Mazda replied, "Hey, Spiytmán, Zoroaster! Such a place is a land where Ashavan planted more wheat, oil, and fruit trees than anyone else, people brought water to drylands and plowed the watery lands."

In Zoroastrianism, Anahita's companions were snakes and fish. The snake was connected with fertility, one of the main functions of the water goddess. The fish was given special respect because it was food for the people near the river.

According to legends, until the twentieth century, the image of a snake was a symbol of fertility and performed one of the main functions of the water goddess. In the myths of many ancient peoples, from the Greeks and Romans in the West to India and China in the East, the snake or dragon was considered as the guardian of moisture. On the wall pictures in Varakhsha and Panjikent, a dragon erupting a fountain out of its mouth was depicted.

To regulate the rainfall and ensure the development of the country the ruler's union with the dragon, which retains moisture through a mysterious marriage with the god of celestial moisture was the main topic in Sak-Sugdian mythology. As the archaeologist R. Suleymanov wrote, this topic is not related to the mythology of "Avesta", but its roots go back to the archaic common-Indo-European mythological series. There is no information about Rustam, the hero of the Sak-Sogdians, in "Avesta". In "Shahnama", he is portrayed as the grandson of the dragon Zakhok from his mother and as a pagan, the enemy of Zoroastrianism.

It should be noted that in the Uzbek folklore, the snake was a mythological symbol of water and rain. In particular, in Uzbek folk tales, the image of a snake is interpreted in connection with the water of life, springs, wells, rivers, and ponds<sup>13</sup>. Particularly, when the hero of the Uzbek folk tale "Suv Bola" (Water boy) was talking to a fish in the spring, the sky suddenly darkened. Suddenly the wind blew, the storm rose and it began to rain. The boy wondered what it was, and a dragon came down from the sky and landed at the head of the spring<sup>14</sup>.

## CONCLUSION

In conclusion, although the religious beliefs and various cults of Zoroastrianism related to water have not been preserved in the valley today, the views and customs associated with some of its elements continue as local views and a manifestation of common culture in the lifestyle and ceremonial life of the people. It shows the syncretism of religious views in ceremonial life.

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## NĀRADA BHAKTI SŪTRA: A STUDY

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### ABSTRACT

*The Nārada Bhakti Sūtra is a popular work on Bhakti ascribed to Nārada. The work composed in simple sūtra style in simple language and it contains eighty four sūtras. The major content of this work is devotion and it defines as - 'Sū twasmin parama prema rūpā' 'Amṛtaswarūpā cha' i.e. That (devotion), verily, is of the nature of supreme love of God And it is of the nature of Nectar. Nārada prefers the devotion is supreme and it should be perform alone. However Nārada state two kinds of devotion- primary devotion and secondary devotion; where unmotivated alone devotion is called primary devotion. By practicing renunciation, praises of God and avoid evil company etc , man can develop Bhakti and after attaining the supreme love devotee becomes overjoyed; peaceful and doesn't desire anything else. Narada holds that the path of devotion is supreme than Karma yoga and Jñāna yoga.*

### INTRODUCTION

*Nārada Bhakti Sūtra* is a popular treatise of *bhakti mārga* ascribed to *Nārada*. In the ancient scriptures the name *nārada* is closely associated with devotion. With his *vīṇā* always sang the glory of *Hari* or *nārāyaṇa* and it is his primary function. We have found that the *Nārada* devotion occupies a very high place. As a great teacher of devotion *Nārada* inspired so many persons like *vālmīki*, *vyāsa*, *śukadeva*, *prahlāda*, *druva* etc to practice devotion. Moreover *Nārada* can be considered as the friend, philosopher, guide and consoler of all-goods, demons and men.<sup>1</sup> In the *Bhāgavatapurāṇa*, *Nārada* is included in the incarnations of *Viṣṇu*, who was the founder of *pāñcharātra* tradition of *bhakti*. However the name *Nārada* is also found in *Chāndogya Upaniṣada* where he went to *sanatakumāra* for attaining wisdom. The story of *Nārada* in a detailed form is given in *Bhāgavatapurāṇa*. We have found six treatises as the work of *nārada*. These are *Nārada Bhakti Sūtra*, *Nārada smṛti*, *Narādīya śikṣā*, *Nārādīya purāṇa* and *Nārada pancarātra*. However, there is no clear evidence

that the *Nārada Bhakti Sūtra* was written by *Nārada* but *Swami Sivananda* in his edition point out that the *Nārada* discourse on devotion to *Vedavyāsa* to wrote *Bhāgavatapurāṇa* where *Nārada* said "I shall explain *bhakti* in the form of sūtras" (vide *Sribhāgavatapurāṇa* Canto- I. 4 & 5).<sup>2</sup> Whatever be the dispute, the truth is that the *Nārada Bhakti Sūtra* is a best work on *Bhakti mārga*, where *Nārada* propounds the doctrine of love to god for the ordinary man.

### Structure and contents of Nārada Bhakti Sūtra

The *Nārada Bhakti Sūtra* was composed in a simple sūtra style. It is very lucid and practical in its exposition of *Bhakti* in simple language. The treatise consists of total eighty four sūtras or aphorisms. While Indian philosophical schools were developed in the form of Sūtras, without a commentary it is too difficult to understand these sūtras, the *Nārada Bhakti Sūtra* has an expressible charm and beauty to understand its meaning easily.

The main content of this work is devotion. The first twenty four sūtras deal with the nature of *Bhakti*. Next sūtras from 25 to 33 explain the greatness of





*Bhakti*. From sūtras 34 to 50 explain the methods to practiced *Bhakti*. Description of the external marks in a true devotee has described from sūtras 51 to 66 and the last eighteenth sutras 67 to 84 glorify the great devotee. In some edition all 84 aphorisms are divided into five sections.

### Concept of *Bhakti* in *Nārada Bhakti Sūtra*

The word *Bhakti* originated from the Sanskrit root ‘*Bhaj*’ which means ‘to be attached to god’. *Bhakti* is love for love’s sake The devotees always want God alone, no other selfish expectation there. By following the introductory formula to announce the title of Sūtra works in Sanskrit, *Nārada* begins his work as follows – ‘*Athāto bhaktim Vyākhyāsyāmah*’<sup>3</sup> i.e. now, therefore we shall expound *Bhakti*. The word ‘*Atha*’ means ‘now’ indicates that after having already expounded the disciplines of *Karma* and *Jīāna* etc. ‘*Athah*’ means ‘therefore’ indicates that therefore this work is undertaken to provide a practical guide to approach God through *Bhakti*. After that *Nārada* defines *Bhakti* as follows –

‘*Sā twasmin parama prema rūpā*’ ‘*Amṛtaswarūpā cha*’<sup>4</sup>

[That (devotion), verily, is of the nature of supreme love of God And it is of the nature of Nectar]

While *Sāṅḍilya* defines *Bhakti* as ‘absolute attachment of God’<sup>5</sup>, *Nārada* defines ‘supreme love of God. Supreme love doesn’t seek any aspects even liberalization, only single mindedness and satisfaction are there. But it is also a significant point that blind faith is no considered as supreme love. *Nārada* uses the word ‘*Asmin*’ instead of specifying God by any of the usual terms. Therefore he indicates all concepts of God i. e. with form or without form. By using the word ‘*Amṛta*’, *Nārada* indicates the meaning nectar and immortal both. Devotion is real nectar and it gives immortality. However *Nārada* quotes different definitions of *Bhakti* defined by different thinkers from sutra 15-18, but his own opinion is that the essential characteristics of *Bhakti* are the consecrations of all observances and activities through complete self surrender to the Lord and extreme anguish in the event of forgetting Him. And that is the supreme devotion. As an example for true devotion *Nārada* count only the infinite, unquestioning heartfelt love of the Gopīs of Vraja – ‘*Yathā vrajagopikānām*’<sup>6</sup> i.e. Just as the love of the Gopīs of Vraja. *Nārada* describes the nature of that love in the sūtras from 51 to 54. According to him the nature of love towards God is inexpressible in words, just as the taste of a dumb man but that love manifests itself in a fit receptacle in a qualified person only at some place or time. This pure love is without attributes, without the poison of desires, every moment

increasing, unbroken, and subtlest and of the nature of inner experience. Though love is one but it expressed in eleven different modes-

1. Attachment to the glorification of the blessed qualities of God
2. Attachment to His beautiful form
3. Attachment to His worship
4. Attachment to His remembrance
5. Attachment to His service
6. Attachment to His friendship
7. Attachment to Him as a son
8. Attachment to Him as that of a wife for her husband
9. Attachment to self surrender
10. Attachment to being filled with him
11. Attachment to Him as expressed in the pang of separation from Him<sup>7</sup>

And in this love or devotion no favorable conditions are needed because it is proof of itself and it is of nature of peace and supreme bliss. By attaining this love, the devotee sees nothing but love, hears only about love, and speaks only of love and thinks of love alone. It is called *Ekānta Bhakti* or primary devotion and considered as best devotion. That is also called *Ahaitukī* or unmotivated devotion.

### Secondary devotion or *Gauṇa Bhakti*:

In the *Nārada Bhakti Sūtra*, *Nārada* holds that the devotion is two kinds – primary devotion or *Mukhyabhakti* and Secondary devotion or *Gauṇa bhakti*. Unmotivated alone devotion is called primary devotion. It is true that one cannot be enter the stage of highest devotion immediately, to enter that stage we must need to prepare ourselves and this stages are called secondary devotion or *Gauṇa bhakti*. *Nārada* classified secondary devotion in three kinds<sup>8</sup>- according to the qualities i.e. *sattva*, *rajas* and *tamas* or according to the distinction of the worshippers as the affected the seeker after knowledge, self interested motives that impel the devotee i.e. *ārta*, *jijñāsu*, *arthārthī*.

The first classification is according to the predominance of different guṇas and it is based on the qualities of mind. ‘*Worship done without selfishness in Sāttvikā devotion. Worship done for getting power and wealth is Rājasikā devotion. Worship done to injure others in Tāmasikā devotion.*’<sup>9</sup>

The second classification is according to the predominance of volition, emotion or cognition. *Srimadbhagavadgītā* mentioned its four varieties<sup>10</sup> but *Nārada* mentioned only three types because the fourth denotes *Mukhyabhakti* and other three stages are *Gauṇabhakti*. That three types are – *ārta*, *jijñāsu*, *arthārthī*. *Ārta* i.e. the affected devotee like *Draupadī* &





*Gajendra*; *jijñāsu* i.e. the seeker after knowledge like *Uddhava*; *arthārthī* i.e. the self interested like *Dhruva*.

We can designate the lower level of *Bhakti* or secondary devotion as aparabhakti and the supreme level of *Bhakti* or primary devotion as parabhakti. In that case first is the path and second is the realized goal. *Gauṇabhakti* may leads to *Mukhyabhakti*.

### How a person develop *Bhakti* :

*Bhakti* is its own means therefore the means described by *Nārada* are only accessory. In the *Nārada Bhakti Sūtra*, states the following means or *Sādhana* to cultivating devotion –

1. **Renunciation:** Devotion itself a form of renunciation. *Bhakti* never practiced for any selfish purpose. By abandoning all sensual pleasures and all types of attachment to sensual objects man can attain the all activities are given up. Social customs and practices may be followed in like manner, to extent only as scriptural injunctions. Eating, drinking dressing should be continued as long as one wears in this body. On the attainment of *Bhakti*, life in society should not be given up and all righteous must be done but their fruits to be surrendered to Lord.
2. **Singing and listening the glory or praises of God:** By listening and singing of the attributes and glories of God, even while engaged in the ordinary activities of life in the world, *Bhakti* may be developed.
3. **By the company of the great soul:** Whereas , the love or devotion is alone, other things are of no value but to develops it company of great souls or gurus , mahatmas are needed. However that the company of great souls are difficult because there is no difference between the Lord and his devotees. Therefore *Nārada* advice that the devotion be practiced alone.
4. **Avoid the civil company:** To attain devotion, evil company should be certainly given up by all means. It is the cause of lust, anger, delusion, loss of memory, loss of intellect and total ruin. Description of women, wealth, atheists or enemy should not listen and egoism, hypocrisy and other vices should be given up.
5. **Moral life:** Non violence, truthfulness, purity, compassion, piety and other essentials of good life to be maintained and the teachings of different treatise on devotion should be meditated upon and actions that rouse

devotion should be performed by a seeker of devotion.

**Fruits of *Bhakti* :** According to *Nārada*, *Bhakti* is both the end and the means – ‘*Svayam phalarūpateti brahmakumārah*’.<sup>11</sup> Those who desire liberation may adopt this path alone. For that purpose *Nārada* described the fruits of *Bhakti* in the sūtras 4, 5, 6 respectively –

- a) On attaining this supreme love or devotion man becomes perfect, immortal and absolutely satisfied.
- b) Who attained this supreme love, he doesn't desire anything else neither grieves nor hates anything, he doesn't indulge in sensual pleasures nor he never feel any urge.
- c) After attaining the supreme love devotee becomes overjoyed, peaceful and completely immersed in the enjoyment of the bliss of Atman.

### CONCLUSION

In the *Nārada Bhakti Sūtra*, *Nārada* described the *Bhakti Mārga* i.e. the path of devotion as a practical method of approaching to God, where Love of God is supreme and devotion alone is preferable. Like *Srimadbhagavadgita*, *Nārada* also holds that the devotee should dedicate his all actions to God. This path is higher than *Karma yoga* and *Jñāna yoga*.

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5. ‘*Sā parānuraktirīśvare*’ – *Sandilya Bhakti Sūtra.2*
6. *Nārada Bhakti Sūtra.21*
7. *Ibid, sūtra 82*
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# INCREASING THE EFFICIENCY OF INNOVATIVE ACTIVITIES OF ENTERPRISES FOR THE PRODUCTION OF BUILDING MATERIALS

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## ABSTRACT

*This article presents the results of innovative development of the economy of Uzbekistan, the strategy for the development of innovative activity in the country, the adopted regulations and economic results achieved through innovative activities in the building materials industry, as well as comments, suggestions and conclusions on improving the efficiency of innovative activities.*

**KEY WORDS:** *innovative activity in the economy, strategy for the development of innovative activity in the country, innovative projects, building materials industry, production of building materials, increasing innovative potential.*

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## INTRODUCTION

According to the analysis of indicators of the country's economic development, innovation processes occupy a special place on the basis of achievements and successes in all areas. In particular, the development of the production activities of industrial enterprises in various sectors of the economy cannot be carried out without the development of innovations, so today it is necessary to accelerate the implementation of innovative processes. Therefore, the study of the theoretical and methodological foundations of innovation and the use of innovative technologies in production in the building materials industry in the economy is one of the basic requirements of our time.

On September 21, 2018, the Decree of the President of the Republic of Uzbekistan "On the strategy of innovative development of the Republic of Uzbekistan for 2019-2021" was adopted. The main goal of the strategy is the development of human capital, which by 2030 will be included in the top 50 countries of the world according to the Global Innovation Index, which shows how much attention is paid to innovations in the country [1].

## MATERIALS AND METHODS

The adoption of laws conducive to the development of sectors of the economy and innovation in the country, as well as the implementation of research results that ensure the integration of science and industry, are of great importance in the country. In particular, in order to ensure the implementation of the Decree of the President of the Republic of Uzbekistan dated May 7, 2018 No. PP-3698 "On additional measures to improve the mechanisms of innovation in industries and sectors" in 2019, 39 state and economic authorities are developing the real sector of the economy. Roadmaps were developed and effective cooperation was established. Funds to support innovative development and innovative ideas were created in about 20 organizations for a total of 45.46 billion soums. Amounts were allocated [2].

Investment projects totaling 113.42 billion soums were mastered. soums aimed at implementing innovative projects. Of these, 77.0 billion soums were made through domestic investment, 1.8 billion soums from foreign direct investment and 34.62 billion soums from technical assistance. A significant part of these investments was directed to healthcare



42% (47.1 billion soums), education 30% (33.7 billion soums) and industry 26% (29.2 billion soums) [2].

23 residents of the Yashnabad innovation technology park in the Yashnabad district of Tashkent received 3.1 million soums. Investments in US dollars were used to produce chemical technology, machinery, and building materials.

The obsolescence of fixed assets at some building materials enterprises and the growing demand for technical and technological re-equipment of production also determine the urgency of this problem. At the same time, studies aimed at improving the efficiency of innovation play a key role in creating powerful industrial potential through the implementation of progressive changes in the building materials industry and increasing production efficiency.

The share of spent investments in the construction materials industry in 2019 amounted to \$ 1.3 billion, of which foreign direct investment amounted to \$ 680.4 million (52%). This is almost 4 times more than in 2016 (360.2 million dollars). The influx of foreign direct investment (\$ 72.5 million) in the sector exceeded 9 times.

As part of a regional development program in this area, 757 projects were launched in the amount of \$ 248.6 million. USA. At the same time, the funds were directed mainly to projects for the production of modern energy-efficient building materials. In particular, in 2019, 3.5 million tons of cement, 150,000 cubic meters of reinforced concrete products, 1.8 million rolls of wallpaper, 200,000 units of sanitary ware, 180,000 tons of building fittings, 27 million units of ceramic blocks. New capacities were created for the production of 35,000 cubic meters of aerated concrete blocks, 30,000

mixers, 10 million square meters of drywall, 250,000 square meters of decorative panels, 10.2 thousand tons of paints, 2.7 million square meters of ceramic tile. ,

The advantage of these recently launched projects and the assimilated investments for the development of the industry lies in the fact that, first of all, the industry will include new modern equipment and technologies, an increase in the product range, new jobs will be created, and the production of energy-efficient building materials will be controlled by high computer technologies. In addition, there is an increase in labor productivity in the production process, lower costs.

## DISCUSSION

Currently, due to the effective use of the results of innovation, enterprises producing building materials create new opportunities and become competitive, which, in turn, increases labor productivity, reduces costs, increases sales and achieves planned profits.

This allows the company to achieve financial stability. Therefore, at the present stage of development, it is advisable to assess the level of innovative development of production of industrial enterprises in order to increase their economic efficiency, competitiveness and export potential.

In the process of research, scientific, theoretical and practical research of ways to increase the economic efficiency of innovation in the production of building materials, the use of coefficients that evaluate the level of innovative development based on various parameters in different situations of enterprises is required.

**Table 1**  
**Indicators of the enterprise innovation system [3]**

Subsystem	Resource structure
Financial subsystem	Research and investment, intangible assets, sources of financing, financial stability and solvency
HR subsystem	The composition of the staff, the share of employees in the intellectual sphere (programmers, researchers, designers, technologists) in the total number of employees
Logistics Subsystem	Modern innovative and information technologies, computer systems, modern equipment, materials, laboratory and office equipment
Organizational and Management Subsystem	Organizational structure, technology for all functions and projects, organizational culture. Modern forms of organization and management of innovation
Information subsystem	General information about various scientific, innovative and innovative activities, scientific and technical literature, literature on patents, inventions, new high technologies, systems and equipment, computer systems, scientific and technical documentation, reports, regulations, other design documents, different types of communities scientific data and information, information about competitors.
Marketing subsystem	Level of competitiveness, availability of demand, necessary marketing activities



## Result

The share of research work in the internal costs of the enterprise and total production costs in the development of equipment is determined by the following formula.

$$K_I = \frac{Z_{niokr} + Z_m}{Z_{ob}} \quad [3]$$

Here:

$Z_{niokr}$  - the cost of research;

$Z_m$  - the cost of acquiring technology;

$Z_{ob}$  - production costs.

According to this formula, if the total annual cost of research and implementation of new technologies in production at the enterprise is 4%, then the enterprise will achieve innovative and competitive development. Conversely, if the total annual cost of research and development of an enterprise is less than 4%, then the company may have negative results and a crisis.

When assessing the innovative activity of the enterprise, the above parameters are measured and opportunities are created to eliminate the negative consequences identified in it, to ensure the innovative development of the enterprise in a market, financial stability and competitiveness.

## CONCLUSION

When analyzing and evaluating the innovative potential of building materials enterprises, first of all, it is necessary to pay attention to the rational distribution and justification of resources between its main components. In the future, the influence of key technical and economic factors will be analyzed to achieve a change in the composition of innovative potential compared to the previous one. At the same time, on-farm reserves will be determined to increase the innovative potential of the enterprise.

In particular, as a result of the analysis formed on the basis of the above proposals, it is advisable to perform the following tasks in order to have an innovative stage of development in the building materials industry:

- The effective use of existing innovative technologies in the building materials industry, as well as the acquisition of new equipment and technologies, know-how and intellectual property;

- Further intensification of research and development through the development of a scientific and experimental base at enterprises of the building materials industry;

- Development of effective mechanisms for resolving issues of streamlining and financing of relevant organizations during experimental work in the innovation process;

- identify ways to further attract stocks, bonds and foreign investment to accelerate the development and implementation of innovations.

The above areas create favorable conditions for accelerating the innovative development of business entities in the field of building materials, as well as low cost of production, high quality, competitive products and innovative production efficiency of enterprises.

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# HOW CAN GRAPHIC ORGANIZERS DEVELOP THE HIGHER LEVEL WRITING SKILLS OF SELECTED GRADE 7 STUDENTS IN MAYAMOT NATIONAL HIGH SCHOOL?

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## ABSTRACT

*The present study attempts to determine the level of communication skills in the written language and to prove how graphic organizers develop the higher level writing skills of the students. The study determined the least mastered skills of selected grade seven students through their composition writings. The common graphic organizers utilized by the grade 7 English teachers were also determined by means of survey. Content analysis was used as a research technique for the objective systematic, quantitative and qualitative description of the manifest content of communication. Through the theme writing compositions, pre-test and post tense, errors committed by the students in composition writing were computed. That is to determine if graphic organizers help the students to develop the writing skills.*

**KEYWORDS:** *writing difficulty; writing skills; graphic organizers*

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## INTRODUCTION

Writing has always been difficult to learn and to teach. But writing opens opportunity for a person to understand the world and be understood as well. Learning to speak and write in English in this age of globalization is necessary especially if a person would like to compete in the knowledge-based world (Nauman, 2008). Writing effectively is especially important for students with and without disabilities in middle and high school students as they prepare for higher education and careers (Sundeen, 2014). With this, trainings and exercises can be done in the classroom.

Given all good benefits of writing, it seems that skills attached to it have been least prioritized. This might be one of the reasons why students do not pay much attention in acquiring skills for writing especially the higher level composition skills.

My grade 7 students belong to those who least to love writing and that is very evident in their submitted writing compositions. Maybe Carroll (1990) is true about his study. My students probably had traumatic experience in their previous writing activities. Some of them do not exert effort in writing in English. They tend to literally write in Filipino and use open and close quotation marks on it. The over flowing fragments are

demonstrated as well in most of my students compositions. The over used, misused and abused usage of the conjunction, “and” is clearly observed in their composition writing.

The problem is not only the acquisition of the English language skills in general, but the whole educational system (Licunan, 2007).

Demands for students in the new K-12 Curriculum as far as writing skills are concerned challenged the students and most especially the teachers. After revisiting Department of Education (DepEd) English 7 curriculum, it is found out that as early as 13 years old, ideal age of grade 7 students, students can already compare and contrast, recognize features of literary writing and academic writing, identify the purpose of writing, craft paragraphs with five to seven sentences, extract information from a text using a summary, precis, and paraphrase, compose short personal narrative texts and a lot more.

I just wonder if the skills needed for student’s to meet expectations for writing in the K-12 curriculum and the writing standards are met. And if those writing skills are mastered, how come that students’ composition are still found problematic?





## STATEMENT OF THE RESEARCH PROBLEM

The present study attempts to determine the level of communication skills in the written language and to prove how graphic organizers develop the higher level writing skills of the students.

On the basis of the identified writing skills, answers will be provided to the following specific questions:

1. What are the common difficulties that grade 7 students have in composition writing?
2. What are the graphic organizers that can help grade 7 students develop higher level writing skills?
3. How effective are the proposed graphic organizers based on the result of the pre-test and post-test scores?

## PURPOSE OF THE STUDY

This study aims to prove that graphic organizers develop the higher level writing skills of grade seven students.

## SIGNIFICANCE OF THE STUDY

It is the basic assumption of this study that there are writing skills that grade seven students have not fully developed. For this reason, there is a need to revisit the K-12 curriculum for Grade 7 English. Furthermore, based on the previous studies that will be discussed in this paper, graphic organizers can develop the least mastered writing skills of the students. The language teachers, on the other hand, might consider this tool in teaching higher level writing skills to their students.

## LIMITATIONS OF THIS STUDY

This study aims to describe how graphic organizers develop the writing skills of the students. The study focused on the writing skills that grade seven students have not yet developed and tried to explain how complicated the writing process is. Still, the results of this study are constrained by three main factors. First, respondents of the study can be improved by having a larger and more diverse population. Second, the elicitation instruments such as formal theme book can be turned as a standardized test which will undergo validation of experts. In that note, there will be a reliability of test result. Third, the graphic organizers can be explored and modified to accurately or appropriately address every least mastered writing skill. Thus, it will definitely develop the students' writing skills in general.

## Definition of Terms

Writing Skills- are composition skills on which students develop for composition writing

Writing Difficulties- are writing skills on which students have not yet developed

Less Competent Writers- are group of students on which teachers considered as strugglers in acquiring composition skills

Graphic Organizer- is a visual displays on which students clearly visualize how ideas are organized.

Formal Theme Book- is an assessment tool on which students demonstrate writing skills through written compositions.

Higher Level Writing Skills- are composition skills on which generating ideas, sequencing the content and revising are concerned.

ESL Learners-are students on which English is their second language

## REVIEW OF RELATED LITERATURE

On order to determine the position of the study in relation to other studies which have already been written on the same problem, a review of related literature and studies already conducted is hereby.

### Writing in the Eyes of ESL learners

The writing process can be extremely demanding for students because it calls upon many experiential, cognitive, linguistic, affective and psycho-motor memories and abilities (Westwood, 2008). Writing is interpreted in the same way by Berninger et.al. (2002). Their simple view of writing considers that the active creation of text involves on the one hand lower-order transcription skills such as handwriting, punctuation and spelling, and on the other hand, higher-order self-regulated thinking processes involved in planning, sequencing and expressing the content.

Choudhury (2013) expressed the struggles of English as a Second Language (ESL) students. She stated that,

“Of the four core language skills of listening, speaking, reading and writing, writing is obviously the most difficult skill for second and foreign language learners to master. The main reason for this difficulty is the fact that writing is a very complex process which involves both creating and organizing ideas and translating them into cohesive texts which are readable. However, in the English classrooms in India, this skill is generally taken for granted with little or no focus on the complex process of writing. This article takes up this issue, beginning with a few introductory remarks on the teaching of English language skills in the Indian context, and then moving on to a discussion about the differences between speech and writing before proposing a five-step



procedure for the development of writing skills in English.”

Saddler (2006) confirms that poor writers typically exhibit major difficulties at two levels, namely coping with grammar, spelling, punctuation and handwriting (lower level), and generating ideas, sequencing the content and revising (higher level).

In the study conducted by Zhaou (2009), ESL learners experienced difficulties in verbs (tenses and forms), noun forms, articles, prepositions and sentence construction. Learners needed guidance as well concerning vocabulary, word choice and grammar. The study documents an ongoing inquiry into a group of ESL learners' awareness and needs for language instruction. The fundamental question is what ESL learners perceive as their needs for language instruction and how teachers can act on that motivation in order to engage in effective instruction.

Silverman, Coker, Proctor, Haring, Kelly, Piantadosi, and Hartranft (2015) found out that there was an overwhelming number of ESL students who are not proficient in writing. The said study focused on vocabulary, morphology, syntax, handwriting, spelling and composition.

Similarly, in a case study conducted by Francisco (2014), ESL students found writing as frustrating because it's a repeatedly correction of grammar, margins, ideas, misspelling, and series of editing activities. She also acknowledged ESL learners in her studies were not beginners either considering language or academic skills. Moreover, even though they were not beginners, they needed clear and precise guidance in order to advance.

According to Sundeen (2014) students with disabilities often find expressive writing frustrating and difficult. The prospect of writing a well-developed five-paragraph essay can be especially daunting. One reason is that struggling writers may have difficulty conceptualizing how the elements of an effective essay are developed.

Applebee and Langer (2011) found that high school students spent over 80% of their writing time in tasks that would not be considered composition. Rather, high school writing consists mostly of fill in the blank, short answer exercises, and copying of information from teacher presentations. For struggling writers, effective writing instruction will be critical to their success at all grade levels.

### **Graphic Organizers as Tool in Teaching Higher Level Writing Skills**

Graphic organizers are visual displays of key content information designed to benefit learners who have difficulty organizing information (Fisher & Schumaker, 1995). Graphic organizers are meant to help students clearly visualize how ideas are organized within a text or surrounding a concept. They provide students with a structure for abstract

ideas. They help students put their writing ideas in order and they are considered as great tools for arranging information in preparation for writing essay. These visual displays help the learners make connections and structure thinking for their writing projects. In addition, they act as instructional tools in student's writing process (Kim, Vaughn, Wanzek, and Wei, 2004).

Writing is a specific genre that usually begins after reading (Withington, 1996). Students are then given an opportunity to express what they learned from reading. Later on, they can be able to write effective compositions of their own.

One effective way to encourage students to write is by utilizing graphic organizers or visual representation of knowledge. In a study conducted by Ledo, Barbeta and Unzueta (2015), fifth graders with identified learning disabilities improved their composition skills with the aid of graphic organizers. The results of their study demonstrated that the use of computer graphic organizers during planning had positive effects on the participants' compositions as measured by three of four of the dependent variables. Increases in the mean scores across the following dependent variables were observed: (a) number total words written, (b) amount of time spent on planning, and (c) number of common story elements. It has been clearly explained in their study that when looking at mean scores, participants wrote more words (from 20.25 to 41.86 more), planned for longer periods of time (from 1.00 to 5.00 more minutes), and included more story elements in their compositions (from 0.80 to 3.10 more out of a possible 6.00). There were nominal to no improvements in overall organization across the four participants. The results suggest that teachers of students with SLD should consider using computer graphic organizers for narrative writing planning.

In another study conducted by Lee and Tan (2010), they have proposed that visual organizers (graphic organizers) can scaffold students' metacognition load. Therefore, those students can be able to coordinate information and had improved their relevance of ideas in writing. 14 students had a clearer interpretation of feedback from the teacher about the 3 pre writing activities with the help of graphic organizers. On the other hand, 12 of the respondents learned to be flexible in grouping and regrouping their ideas in writing.

Also, they would also like to propose ways in which visual organizers can scaffold students' metacognitive load. In online courses, students need to coordinate information across representations. Visual organizers like metacognitive maps are helpful in scaffolding students' metacognitive load. Tantalizing to that, Visual organizers like graphic organizers could provide students with a simulation-like environment



where as students negotiate their learning goals and strategies they could revise and re-group their ideas in the organizers, without the need to elaborate them in sentences, in order to see the possible outcome of a chosen strategy.

However, the two researchers admitted that they did not differentiate the effect of feedback from the use of graphic organizers in this study. This is because they did not intend to set up an experimental study to examine the effect of feedback and organizer separately. Rather, feedback in the students' organizers is taken as a holistic strategy in this study.

Therefore, graphic organizers can bring positive effect in developing students's writing skills. Grade 7 students will surely enjoy writing as well with the aid of these visual organizers. In the proposed studies of Baxendell (2003), Cummins, Lopez and Maning (2015), Bromley, DeVitis, and Modlo (1999), Withington (1996) and Sundeen (2015), they have thoroughly expalined the use of specific graphic organizers.

Graphic organizers can be devided into five. The concept maps consist the first group. Generally speaking, this kind of maps show a central idea with its corresponding characteristics. This strategy as expalined by Sundeen (2015) allows the students to visualize the process of developing essays.

The second group consists the flow diagram or sequence chart. These graphic organizers deals with procedure in which acording to Sundeen (2015) encourage interaction between the teacher and the students. Teachers provide a lot of practicefor the students. Teachers also interact with te students in this step by step process.

Pre writing planner or the main idea and details chart is the third kind. The graphic organizers under this kind encourage the students to particiate in narrowing the theme or general topic. Keywords may be collacorated in a circle, still visua dispalys,.

Rough draft Planner is the fourth kind. Cause and Effect Diagram and Expository Essay planning Map can be under this category. The graphic organizers help emphasize the relationships. Color coding, shapes, arrows may be used for this. They help students to map their compositions with introduction, body and conclusion.

The fifth kind is Ah-Ha Moment of the other types of graphic organizers like Venn Diagram and a like. In this point in ime, students have already gained confidence since they were able to accomplish the rough draft planner.

With th help of these graphic organizers, students will surely not get bored in thewriting activities. They will never fear writing and tend to engage themselves in all writing practices. It will soon lead to a holistic writing skills development.

## PROPOSED METHODOLOGY

### Research Design

The researcher wanted to find out how graphic organizers develop the writing skills of selected grade 7 students in Mayamot National High School, school year 2015-2016.

Content analysis was used as a research technique in this study. It is a research technique on which provides an objective systematic, and quantitative description of the manifest content of communication (Calderon and Gonzales, 2011).

In this study, the compositions of 40 grade 7 students were analyzed by identifying the least developed writing skills that appeared in those compositions. On the other hand, Grade 7 English teachers were asked to answer a survey on how often they use graphic organizers in teaching writing in the 7<sup>th</sup> grade.

After the identified least developed writing skills of grade 7 students and the corresponding graphic organizers appropriate to teach each skill, a writing development program will then be conducted. Graphic organizers will then be utilized in writing activities in the classroom.

In a regular writing activity, those 40 participants will be using graphic organizers in their writing activities while the other member in the class will not. After the last two grading periods (third and fourth grading periods), their compositions will undergo analysis once again which will serve as post test and results will be compared to their first analyzed composition which will serve as their pre test.

Since the aim of the study is to compare two results based on average, weighted mean will be used. This statistical procedure is best used once variables like writing skills in this study are abstract or continuous. It means that they cannot be counted individually such as adequacy, efficiency, excellence, extent, seriousness of the problem and a like (Calderon and Gonzales, 2011).

### Participants

The participants of the study are 40 selected grade 7 students who are 13 years of age. Singleton and Ryan (2004) studied one's first and second language acquisition is dependent on one's age. They have found out that in both scientific world and society at large, speech milestones are affected by age-related stages in early language development.

As a matter of fact, K-12 curriculum planners and education at large, considered age in education. DepEd's and even the Commission on Higher Education, governing the private schools, ideal age for grade students is 13. Thus, age factor was considered as well in the study.

### Sampling Technique

The 40 selected grade 7 students and participants in the study were chosen since the



researcher happened to be their English teacher. The result of the study directly benefits the students. Therefore, a purposive sampling is utilized. Target population such as the researcher's own students are already identified. Since the aim of the study is to compare two results based on average, weighted mean will be used. This statistical procedure is best used once variables like writing skills in this study are abstract or continuous. It means that they cannot be counted individually such as adequacy, efficiency, excellence, extent, seriousness of the problem and a like (Calderon and Gonzales, 2011).

**Research Instrument**

Theme writing compositions are used as elicitation task and data gathering instruments. The theme given to the student in the first writing activity (pre test) and the theme given for the next activity (post test) are derived from the learner's manual in the revised K-12 curriculum for grade 7. "I am proud to be a Filipino." and "Why it is more fun in the Philippines?" are the specific themes.

Participants explore each theme using 250 words minimum for an hour writing activity. They write their own title as well. The first writing activity was conducted without the aid of graphic organizers

while on the next writing activity (after series of writing activities using graphic organizers), students will be using graphic organizers.

The said elicitation task is used because it is an interactive and negotiated process. It is considered as a guided writing. It is an assessment for writing on which it bridges between objective and subjective formats (Calderon and Gonzales, 2011). Students are already given guidelines, theme, and rubrics in writing.

On the other hand, grade 7 English teachers answered a survey form on how often they utilize graphic organizers in teaching writing. This is to find out if students are exposed to different tools in learning writing or developing skills in writing.

**DATA COLLECTION AND DATA ANALYSIS**

**Pre Testing**

The identified 40 participants in the study wrote their first composition with the theme, "I am proud to be a Filipino." These compositions underwent analysis through identifying the errors committed by students in their composition.

**Table 1.1**  
**Least Mastered Writing Skills of Grade 7 Students**

Type of Errors	Number of Students Committing Errors	Percent Base = 40	Rank	Number of Errors Committed	Percent Base = 907	Rank
1. Capitalization	38	95.00	1	323	35.61	1
2. Misspelling	37	92.50	2	305	33.63	2
3. Margin	27	67.50	4	29	3.20	4
4. Fragmentary	35	87.50	3	180	19.84	3
5. Punctuation	18	45.00	5	27	2.98	5
6. Wrong Tenses (Simple Tenses)	9	22.50	6	20	2.20	6
7. Unnecessary Words	3	7.50	9	3	0.33	9
8. Number (Singular or Plural)	7	17.50	7	16	1.76	7
9. Compounding Nouns	4	10.00	8	4	0.44	8

It can be seen from the data in table 1 that the 40 students committed a total of 907 errors in composition writing. The most number of errors committed was in the proper way of capitalizing words. The number of errors committed was 323 or 35.61 percent of the total errors of 907 and committed by thirty-eight or 95.00 percent of the students. This was followed by misspelling. The number of error was 305 or 33.63 percent of the total errors committed by thirty-seven or 92.50 percent of the students. Fragmentary took the third spot. The number of errors committed was 180 or 19.84 percent

of the total errors committed by thirty-five or 87.50 percent of the students. The other types of error were not serious.

For instance, the fourth in the rank was observing margin where 29 errors or 3.20 were committed by twenty-seven or 67.50 percent of the students. Appropriate use of punctuations at the end of the sentence ranked fifth. The number of errors committed was 27 or 2.98 percent of the total errors committed by eighteen or 45.00 percent of the students. Sixth in the rank was the accurate use of simple tenses. The number of errors committed was





20 or 2.20 percent of the total errors committed by nine or 22.50 percent of the students. It was followed by number or the correct use of singular and plural pronouns. The number of errors committed was 16 or 1.76 percent of the total errors of committed by seven or 17.50 percent of the students. Compounding nouns like using hyphen or pace in between words or simply combining the two words without hyphen or

space took the eight spot. The number of errors committed was 4 or 0.44 percent of the total errors of and committed by four or 10.00 percent of the students. The last type of error committed was the appearance of unnecessary words. The errors were only 3 or 0.33 percent of the total errors committed by three or 7.50 percent of the students.

**Table 1.2**  
**Excerpts from the Students Composition**

Type of Errors	Excerpts
<b>1. Capitalization</b>	Composition # 4- <i>"for me its more fun in the Philippines..."</i>
<b>2. Misspelling</b>	Composition # 10- <i>"...Foreners they are beilive in the Filifinos are friendly happy Ecited..."</i>
<b>3. Margin</b>	Composition # 15- <i>"In Palawan theres a Boracay its so Beautiful in the Baguio there's a chocolate hills. Puerto. Prencesa underground river you see Bats. In the Philippines we have festivals. Respect other people in my country. Od and helpful neighbour and beautiful festival. Because colourful praps and same dance..."</i>
<b>4. Fragmentary</b>	Composition # 17- <i>"Filipino to because this is my country and my lahi..."</i>
<b>5. Punctuation</b>	Composition # 21- <i>I'm a Filipino I'm proud to my color and we have so many many smart here in the Philippines and everyone is so industrious..."</i>
<b>6. Wrong Tenses (Simple Tenses)</b>	Composition # 28- <i>"...father and I were go to the market... I and my family were go to the sports center... and everyone is so happy"</i>
<b>7. Unnecessary Words</b>	Composition # 30- <i>"...I'm proud to Be a filipino my love my school I am to be my many to the future for tomorrow..."</i>
<b>8. Number (Singular or Plural)</b>	Composition # 33- <i>"...Philippines in proud of Beautiful Philippines and happy family they has tourist spats..."</i>
<b>9. Compounding Nouns</b>	Composition # 36- <i>"...my beleve my self and all that men are known that there Is any obstacle..."</i>
<b>10. Composition in Filipino</b>	Composition # 40- <i>"...in happy to my peresent proud to be Filipino because this is my Bayan at ditto ako nakatira sa Francisville..."</i>

Table 2 shows the excerpts from the writing compositions of grade 7 students. The composition # 4 demonstrated that the student did not capitalize the first letter in starting the composition. Student owning the composition # 10 committed four rows in a row. Foreigners became "Foreners". Beilive (believe) messed with its vowels. "Filifinos" (Filipinos) became problematic. And, with too much excitement, the student forgot the x of the word excited.

It is obvious that margin was not properly observed in composition # 15. While composition # 17, I believe, showed an unclear message. Therefore, the student was tagged for fragment. Thoughts in composition # 21 mixed and appeared as run on sentence because there were no proper punctuations like period to at least end a sentence. I have no idea why were was partnered with go in composition # 28.

The problem continued. Aside from fragment issue in composition # 30, the student ineffectively include about the school or about future and tomorrow. Multiple errors were found in composition # 8. Aside from capitalization and spelling concerns, number or pronouns used did not match with its antecedent. The student used they referring to the Philippines instead of it.

Aside from fragment issue, the word my self in composition # 36 is incorrectly written. It can be compounded without a space as myself. Finally, in composition # 40, if the student can really not translate the thoughts in English, writing such sentences in Filipino is the last sort.





**Table 2**  
**Graphic Organizers that Grade 7 English Teachers Commonly Used.**

	Graphic Organizers	TOTAL	Average	Rank
1	Story Map	11	1.83	16
2	Detail Chart	9	1.50	6
3	Sequence Flow Chart	10	1.67	12
4	Clue Chart	9	1.50	6
5	Action Diagram	8	1.33	3
6	Dialogue	9	1.50	6
7	Time Order Spider	9	1.50	6
8	Reporter's Note-Taking Chart	6	1.00	1
9	Research Diagram	7	1.17	2
10	Biography Time Line	8	1.33	3
11	Step by Step Process	11	1.83	16
12	Narrowing a Writing Topic	9	1.50	6
13	Explanatory Paragraphs	10	1.67	12
14	Expository Essay Planning Paragraph Map	10	1.67	12
15	3 Paragraph Essay Planning Map	11	1.83	16
16	The Outliner	11	1.83	16
17	BLT Essay Sandwich	10	1.67	12
18	Sensory Observation Chart	8	1.33	3
19	Summarizing	11	1.83	16
20	Responding to Literature	9	1.50	6

Table 2 tells that almost all grade seven teachers do not use graphic organizers in teaching writing. They are asked to rate how often they use the graphic organizers in their writing activities. 1-1.99 means that the graphic organizer has never been used in teaching writing. 2-2.99 means that the graphic organizer has been used seldom. 3-3.99 means that teachers use the graphic organizer sometimes. 4-4.99 means that graphic organizer has used frequently in writing activities. Lastly, 5 means that the teachers let their students use the graphic organizers in their composition writing.

Based on the table, the result spoke that almost all cited graphic organizers have not been utilize by teachers in teaching writing to their students.

**Post Testing**

Since the least mastered skills have been already identified and the graphic organizers appropriate for each writing skill are pointed out, teachers may now use graphic organizers in conducting the writing activities. Then, students will write the final composition that will serve as post test. Errors will be then identified using content analysis. Its result will be compared to the pre test to

identify if students error lesson or the least mastered skills before in composition writing have been finally developed.

**CONCLUSION**

Writing indeed is a difficult process according to Westwood (2008). On the other hand, it is the most important human invention in the history said Carol (1990). However, students still found it boring and unrewarding Caroll, (1990) added.

As a matter of fact, ESL learners like the Filipino students share the same struggles with Indian students since the skills are taken for granted (Choudhury (2013). It is a very similar issue to that of Chinese students. The identified least mastered writing skills are very much the same to the finding of Choudhury’s study.

It just shows that these grade seven students are not alone in struggling and will never be alone as well in improving. Our neighbouring counties and fellow researchers are offering ways in improving teaching strategies though teaching tools like graphic organizers. This might be an invitation for teachers to engage their students in a more fun way of developing the students writing skills. And, hooking student’s attention and sustaining their



interest in writing through graphic organizers will provide students best experiences in writing.

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# PROBLEMS OF TECHNICAL OPERATION OF RESIDENTIAL AND INFRASTRUCTURE BUILDINGS IN SEISMOACTIVE AREAS

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## ABSTRACT

*This article analyzes the technical condition, seismic strength and spatial viability of residential and infrastructure facilities, as well as analyzes the effects of earthquakes in which measures are taken to strengthen the structural elements of the structure.*

**KEY WORDS-** *buildings, infrastructure facilities, technical condition, effects of earthquakes*

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## INTRODUCTION

Currently, rapid population growth affects the growing demand for housing, utilities and utilities infrastructure, the further development of production processes and modern technologies, changes in the environmental impact on humans, and therefore the level and methods of use on housing, public and industrial buildings are also changing.

Increased demand for modern buildings and structures will lead to the emergence of new standards and requirements in the construction industry, old built buildings are physically outdated. This in turn complicates the process of technical operation.

Similar problems are more common in areas with difficult engineering and geological conditions, in residential buildings that are not built in accordance with the requirements of SNiP or in a local style, based on building materials that do not have sufficient strength, do not meet seismic requirements.

Therefore, the time has come to reassess the technical condition of residential and infrastructural buildings built in a local style based on existing seismic standards, to develop measures for the structural strengthening of buildings with insufficient strength and spatial integrity.

The article [1] examined the effect of an earthquake of various intensities and frequency in nature on the seismic resistance of a wooden building. Based on experimental and theoretical calculations, it was found that the frequency

composition of the seismic impact significantly affects the seismic resistance of frame buildings.

The work [2] is devoted to the calculation of a two-story reinforced concrete frame with crossbars with initial stresses. It is believed that the frame structure in question is susceptible to emergency impact. Using the finite element method, the values of internal forces in structural elements are found.

In works [3,4], free and forced vibrations of the box-like structure of a large-panel building were studied. The box-shaped structure of a building is considered as a system consisting of beam and panel elements.

## RESEARCH METHODOLOGY

In seismically active areas there are specific difficulties in the technical operation of housing and infrastructure. As a result of the July 20 earthquake in the Ferghana region, mainly buildings that were not built in accordance with the requirements of earthquake resistance were seriously damaged.

As a result of scientific and technical research, it turned out that the individual housing stock of the Ferghana region is divided into categories: 40% of residential buildings are made of raw brick, 34% of wood, 15% of burnt bricks, 10% of plywood, wood cladding. In addition, the levels of damage and destruction of buildings during earthquakes of magnitude 7, 8 and 9 that can occur are determined on a normative basis: Level 1 - minor damage (eliminated by routine repairs); Level 2 -



serious injury (requires perfect repair); Level 3 - severe injuries (requiring rehabilitation); Level 4 - malfunctions (reconstruction and strengthening of structures is required); Level 5 - fragments (it is recommended to demolish the building).

The results of the study showed that a possible earthquake of 7 points can damage 60% of individual houses in the region, an earthquake of 8 points can damage 76% of individual houses, and an earthquake of 9 points can damage almost 100% of individual houses.

Defects, space-planning decisions, insufficient strength of building materials, physical and mechanical properties of base soils, non-compliance with the effects of groundwater and violation of technical operational requirements lead to damage and destruction of residential buildings in seismically active areas.

The parts of the building that need to be inspected are: floor and foundations, load-bearing structures, roof, exterior decoration of the building, interior decoration of the building, water supply networks, sewer networks, power supply networks and electrical equipment, heating networks and

To reduce the cost of maintaining residential and infrastructure buildings in seismic areas, it is necessary to optimize maintenance and overhauls.

The purpose of the technical assessment of buildings is to determine the supporting structural system of buildings, the basic geometric parameters, the seismicity of the district and the district in which the building is located, and to verify the compliance of the main parameters of the building with spatial strength and seismic construction requirements.

Assessment of the technical condition of buildings includes an initial technical inspection and verification of equipment in kind. In both processes, attention should be paid to the degree to which the technical condition of the building parts meets the requirements of the relevant SNiP standards.

equipment, gas supply networks and equipment, adjacent territory, fire safety elements.

Assessment of the technical condition of a particular building SNiP 2.01.16-97. According to the "Rules for assessing the physical deterioration of residential buildings" [5] is performed on the example of table 1 below.

**Table 1**  
**Generalized demolition parameters building structural elements**

N <sup>o</sup>	Structural elements and parts of the building	Share of building construction price: K <sub>i</sub> , %	Demolition level in technical assessment: P <sub>i</sub> , %	Percentage of drift (multiplying 3 and 4 tables): K <sub>i</sub> *P <sub>i</sub> , %
1	2	3	4	5
1	Foundations	7	20	140
2	Supporting structures (walls or building frames)	36	20	720
3	Partitions	6	20	120
4	Coatings and overlappings	12	20	240
5	Roof	3	40	120
6	Floors	6	60	360
7	Doors and windows	4	60	240
8	Interior finishes	5	60	300
9	Outdoor finishes	3	60	180
10	Engineering equipment	12	80	960
	Other items	6	30	180
	Total:	100	-	3560

As a result of the calculation performed on the basis of Table 1, it was found as a sample that the total degree of damage to the building is 35.6%:

$$P = \sum K_i * P_i / 100 = 3560 / 100 = 35.6\% \quad (1)$$

It is recommended to determine the total financial cost of the costs of reinforcing, restoring and repairing the capital structures of the building

based on the generalized demolition indicators based on the following formula:

$$C_1 = C * P * N_i \quad (2)$$

where: C<sub>1</sub> - the total cost of strengthening, restoration and repair of building structures; C is the financial value of the building, obtained on the basis of cadastral documents; R is the general indicator of damage to the building; N<sub>i</sub> is the indexation



coefficient adjusted for the transition from the last determined cadastral value of the building to the current value of the year.

If it is necessary to find the value of the total cost of strengthening, restoration and repair of damage to a particular part or structural element of the building, it is recommended to use the following formula:

$$C_{li} = C * K_i * P_i * N_i / 100 \quad (3)$$

where:  $C_{li}$  is the value of the total cost of strengthening, restoring and repairing damage to the i-structural part or structural element of the building;  $C$  is the financial value of the building, obtained on the basis of cadastral documents;  $K_i$  - i - the share of the structural part or structural element in the value of the building;  $P_i$  is the degree of erosion, determined by the technical assessment of the design;  $N_i$  is the indexation coefficient adjusted for the transition from the last determined cadastral value of the building to the current price.

## CONCLUSION

It should be noted that the data presented in column 3 of table 1 have generalized details and do not provide sufficient accuracy in assessing the real situation, determining the costs of reconstruction of a particular building. Therefore, when compiling design estimates for buildings, we recommend that you include a clause to determine the proportion of individual structural elements in the building. Information about this object should also be included in the technical passport of the building accepted for use. Changes in the share of structural parts in the value of the building as a result of major repairs and reconstruction of the building should also be recorded in the passport of the building. As a result, we will have a reality in determining the cost of the next major overhaul and reconstruction of buildings operating in seismic areas.

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# LEGAL EDUCATION OF AN INDIVIDUAL - ONE ASPECT OF PSYCHOLOGICAL PREPARATION TO FAMILY LIFE

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### ABSTRACT

*This article illuminated the process of legal education of an individual and knowledge of family law is one of the important aspects of entry into family life. The research given that an analysis of the validity of existing marriage and family relations shows that most specialists, such as lawyers, psychologists, and educators, sociologists dealing with the problems of legal education in the family, consider the main condition for the sustainable existence of marriage and the family as such to be the legal, moral, and psychological level of youth education as well.*

**KEY WORDS:** *legal education, knowledge, psychological level, sustainable existence, marriage.*

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### INTRODUCTION

Preparing a person for marriage is an integral part of the general system of legal education of a person. At the same time, until recently, it was believed that a young person, upon reaching 17 years old, was completely ready to create a family [1]. However, pedagogical and psychological research convinces us that this is not so, and therefore the readiness of young people to marry and start a family should be the goal of psychological and pedagogical work.

Legal education of an individual and knowledge of family law is one of the important aspects of entry into family life. An analysis of the validity of existing marriage and family relations shows that most specialists, such as lawyers, psychologists, and educators, sociologists dealing with the problems of legal education in the family, consider the main condition for the sustainable existence of marriage and the family as such to be the legal, moral, and psychological level of youth

education, including a certain degree of awareness of compliance with legal and moral standards adopted in society.

### METHODS

Marital duty and responsibility to family members determine the nature of the relationship in the family. But these categories, being moral, legal, psychological, are an expression of economic necessity. Because of this, society is extremely interested in monitoring marital and family relations. And this control is carried out through social and legal norms. These norms are determined by various levels of social structure and regulate almost all areas of marriage and family relations, starting with the choice of a partner in a marriage union and ending with the behavior of partners in the termination of marriage and the complete breakdown of the family [2, p.45].

Legal and moral standards control and manage family and marital relations. Moral norms



are a form of expression of public opinion. Moral norms are elements of moral consciousness. In accordance with this, in an individual legal consciousness, each legal norm is subjective in nature.

## RESULTS AND DISCUSSIONS

At many historical stages, in various social, ethnic groups, the relationship between public and individual legal consciousness develops in different ways.

The instability of moral standards, and, consequently, a certain variability of moral and legal consciousness, leads to the fact that the moral and legal sanctions of society, regulating the sexual relations of citizens and the moral behavior of spouses, are changing.

All these factors, based on the legal upbringing of citizens, have a significant impact on the stability or instability of marriage, as a public institution, as it is accompanied by monotony of relations in marriage and, possibly, by an unfairly distributed circle of responsibilities, as well as different economic responsibilities of each spouse.

To date, there has been a significant weakening in the family of the regulatory impact of previously established in society and enshrined in the public consciousness norms of behavior. Such factors are connected, first of all, with the fact that in modern conditions some important functions have disappeared, which played a significant role in the traditional Uzbek family. The functional roles typical of the male spouse, the female guardian of the family hearth have also partially changed. All these factors have led to a change in ideas about the essence of marriage and the tasks of the family as a social institution. The creation of a family, in the view of a certain part of young citizens, is increasingly becoming a means of satisfying their intimate needs. In itself, this trend is logical, but the most important thing is the creation of a strong family, which in the future should form the basis of society.

Family life, in contrast to other forms of gender relations, presupposes, first of all, the relations of a man and a woman fixed in the law, and therefore, legal relations with all the ensuing consequences. Young people who marry immediately from the sphere of group and interpersonal relations fall into the sphere of family relations regulated by society at the state level. All legal regulation of social and public relations, in comparison with other forms of regulation, has the specifics that the state seeks to clearly organize social relations and ensure the integrity of the social system.

In the Republic of Uzbekistan, the rules of law in the field of marriage and family relations reflect the basic principles of relations between the sexes, relations between spouses and children. The regulation of marriage and family relations consists

in legal regulation, which determines their social essence by fixing the basic civil rights and obligations of family members to each other. The behavior of the spouses is limited by the framework of moral and ethical standards and in this connection is acquiring public significance. To date, no one is forcing marriage, but everyone should be required to obey the laws of marriage.

Thus, from the point of view of educating citizens, an essential point in the psychological readiness of citizens to marry, to fulfill the role of spouses, is their readiness not only to fulfill the needs for being close to a person of the opposite sex, but also to realize the significance of their actions. In the legal education of citizens, in addition to moral obligations to each other, civil liability and civic duty are also essential, which is primarily associated with an increase in the overall responsibility for any actions. Knowledge of the norms of marriage and family relations inevitably affects the level of psychological preparedness of youth for their future family life.

In addition, it should be noted that the changes recorded by sociologists in the current state of marriage and the family as a whole can be explained by the fact that certain groups of young people, by law, being physiologically and biologically ready for marriage, nevertheless do not fully achieve the level of personal development necessary for this, because psychologically they are not ready to perform the social and legal functions of spouses.

The system of preparing citizens, especially young people for a future family life, along with sex education and the formation of a common family culture, as well as interpersonal communication skills, which primarily consists in the ability to balance one's interests and actions with the interests and desires of another person, should include the formation of a certain level of legal education.

A significant part of the propaganda and educational work in the field of family relations is carried out at the place of residence in the mahallas. However, unfortunately, we cannot say that the ongoing work yields tangible positive results, although civilian lawyers, makhalla elders, elders, and long-livers often take part in these events. But, as the practice of pedagogical work and psychological research in this area shows, not all young people have a clear understanding of the role of civil and family law. According to the indicators of our sociological research, one of the reasons for this state of affairs in the legal education of an individual is that some psychological characteristics of young people's awareness of various types of social norms are not taken into account.

It is well known that in psychology any regulatory requirement can fulfill its task of regulating behavior only if a person has a positive attitude towards him. From the point of view of the



legal education of youth, a purposeful legal pedagogical process should include the assimilation by citizens of the value of various types of social and legal norms, which will ensure the formation of an adequate attitude towards them. We can assume that the formed positive attitude of young people to the rule of law, to the values of legal education can serve as a certain indicator of their readiness for marriage, in other words, an indicator of their civic maturity.

Our sociological studies among young people up to 30 years of different ages have shown that 35% of the respondents derive knowledge of civil law from friends, peers, 25% receive legal knowledge from various sources, for example, from the media, from parents, etc.

Thus, this means that the formation of the personality and its individual sides of its character occurs under the influence of various types of social and legal norms. Psychological and pedagogical norms can sometimes be realized by people only as an external influence or perceived as his own personal norms of behavior. In the legal education of citizens, especially young people, in preparation for family life, first of all, it should be noted the lack of a proper attitude to law, as a necessary personal value for some young people. Based on this, it can be assumed that in the future, the legal and moral standards governing marriage and family relations will not serve as an effective guide for this category of young people determining the behavior of husband and wife in the family. Based on the foregoing, it follows that an understanding of the socio-legal nature of marriage and the family, as well as civic duty in the family, can be significantly distorted as a result of the influence of some group norms towards, first of all, the satisfaction of purely individual needs for interpersonal communication at the level of a small group.

## CONCLUSION

This is due to the presence of certain shortcomings in the system of legal education, propaganda work aimed at preparing citizens, especially young people for marriage.

The solutions to these problems are perhaps the following:

- Conducting among youth a comprehensive system of measures for legal education and advocacy at the place of residence, work and study;
- The formation of the youth of the necessary knowledge base on civil and family law;
- The formation of a clear awareness of civil responsibility for any social actions, an understanding of the social significance of each action. In the process of forming legal knowledge among young people, it is necessary to carry out special work on the formation of the correct attitude of young people to various social and legal norms, understanding their integrity in the social life of

everyone and in society as a whole. It is necessary to disclose the importance of various regulatory systems of social and legal regulation of social behavior of citizens.

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## L.N. TOLSTOY AND M.K. GANDHI

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### ANNOTATION

*This article is about a friendly relationship between the great Russian writer L.N. Tolstoy and the great leader of the national liberation movement of India M.K. Gandhi.*

**KEYWORDS:** *East, religion, India, public figure, religious and philosophical views.*

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## Л.Н. ТОЛСТОЙ И М.К. ГАНДИ

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### Аннотация:

*В данной статье идет речь о дружественном отношении между великим русским писателем Л.Н.Толстым и великим лидером национально-освободительного движения Индии М.К.Ганди.*

**Ключевые слова:** *Восток, религия, Индия, общественный деятель, религиозно-философские взгляды.*

### DISCUSSION

The great Russian writer, classic Iek Nikolayevich Tolstoy had a rich library in the East. Along with the work of Western philosophers, he was deeply interested in the teachings of Lao Tzu, Confucius, Buddha, Muhammad. He praised the achievements of ancient Indian philosophy and culture, wrote articles, stories, tales related to the religious ideas of the East: "On Faiths" (1886), "Siddart, nicknamed Buddha, that is, a saint. His life

and teaching" (1884–1887), "Karma" (1894), "Buddha" (1904), "Teachings of Lao Tze" (1907), "Mohammedan sayings that did not enter the Koran" (1908) and others. Tolstoy made translations of Krishna's sayings from Premananda Bharati's book "Shree Krishna. The Lord of Love" (N.Y., 1904).

L. Tolstoy was close to public figures of the East, including Gandhi, mainly due to his religious and philosophical works, his moral and ethical concept of non-resistance to evil, propaganda of the



“Law of Love”, and a call to observe the moral commandments of Christ in the life of the state and society, and at the same time a fierce and vivid denunciation of oppression and violence.

On these issues, L. Tolstoy had a rather large correspondence with representatives of the intelligentsia of the East, including India. Correspondence began in the second half of the 1890s. The first Indian correspondent of Leo Tolstoy was Upendra Krishna Dutt. The publisher of The *Agua* magazine from Madras, A. Ramazeskhan, wrote to him in 1901, in 1903 the publisher of *Review of Religion*, the head of Indian Muslim Sunnis, Mufti Muhammad Sadyk, who, having read about Tolstoy in *Encyclopaedia Britannica*, says that he denies the Trinity and the divinity of Christ, considered that Tolstoy is Muslim in his religious views. In the same year, a letter came from P. M. Das Sharma, a researcher of ancient Indian philosophy. In 1905–1907, he was written by the publisher of *The Light of India* magazine in Los Angeles, Baba Premanand Bharati, reporting on his solidarity with the religious and moral views of Leo Tolstoy, in 1907 - D. Gopal Chetti - editor and publisher *The New Reformer* magazine (Madras), who wrote the book *Count L. Tolstoy: his Life and Teaching* (Madras, 1909), as well as an article about L. N. Tolstoy on his 80th birthday. Tolstoy received his magazine “*The New Reformer*” until his death. In 1907–1908, Abdullah al-Mamun Zuravardi, doctor of philosophy, publisher of *The Light of the World* magazine (London) wrote to Tolstoy, in 1908, philosopher S. R. Chittal, as well as editor of *Free Hindustan* magazine Taraknath Das, in 1909 - Bishen Narain, a lawyer by training, who also shared the religious and philosophical views of Tolstoy, then the editor of *The Vedic Magazine*, Professor Rama Deva (Kangra) and others.

Mohandas Karamchand Gandhi (1869–1948), leader of the national liberation movement of India, became interested in the teachings of Leo Tolstoy in South Africa, where he arrived in 1893. He wrote: “I intensively studied the works of Tolstoy. The *Brief Gospel*, *So What Do We Do?* and his other books made a strong impression on me. I increasingly understood the limitless possibilities of love” (Gandhi M.K. *My life*. M., 1969).

Later, he recommended to his supporters for reading Tolstoy's work “*The Kingdom of God is within us*” (1890–1893), “*Slavery of our time*” (1900), “*The First Step*” (1891–1892), “*What is Art*” (1897–1898), “*Where is the way out*” (1900), “*Letter to the Hindu*” (1908).

October 1, 1909. A letter to M.K. Gandhi to L.N. Tolstoy asking him to express his opinion on the struggle of Indian immigrants in South Africa against discrimination by the method of non-violent

resistance and asking for permission to translate and publish an article by L.N. Tolstoy.

The views of Leo Tolstoy helped, according to Gandhi, to give a stable form to the idea of non-violent resistance, which became the basis of the anti-discrimination movement and for the rights of Indian immigrants in South Africa and was soon called *satyagraha* (“*satya*” - truth, “*agraha*” - firmness, that is, firmness in truth). Subsequently, non-violent protest led by Gandhi became the most widespread form of national liberation struggle in India.

Despite differences on some issues, the views of Tolstoy and Gandhi coincided in many respects. The worldview of each of them was based on religion, which, according to their conviction, like religious scriptures, could not be approached dogmatically. They considered true religiosity not ritualism, but righteous behavior. Both rejected violence, negatively related to what they called modern civilization, called for simplification, manual labor, etc.

Even before his correspondence with L.N. Tolstoy, M.K. Gandhi, in his weekly newspaper *Indian Opinion*, published in 1905 an article entitled *Count Tolstoy* (September 2), as well as several instructive stories by Tolstoy: “*Are there a lot of people Do you need land?*” (published under the title “*Greed*”), “*God sees the truth, but he will not soon tell*” (“*God loves the truth*”), “*How are people alive*” (“*The thread of life*”), etc. And on November 26, 1910, that is, soon after the death of Leo Tolstoy, Gandhi published in the *Indian Opinion* the last letter he received from Tolstoy on September 7, 1910, and a long article about Tolstoy.

Other Indian newspapers, such as the *Hindu Leader*, the essay in *Hindu*, called *Russian from the Russians*, and *Modern Review* magazine, reported about Leo Tolstoy's death, as well as earlier about his departure from home. In his December issue wrote: “In the person of Count Tolstoy, one of the greatest personalities has left mankind. We will no longer see it in a bodily shell, but over time, its influence will undoubtedly increase and will be read even more. His novels even touch those who are not used to indulging in serious thought. However, everyone who is interested in the progress of mankind cannot help but think about what he has written about peace and war, about non-resistance and about philosophical anarchy

L. Tolstoy loved India, the Indian people, who fight for freedom and justice. Therefore, he has many books in his library about India. He translated a lot of works of Indian writers into Russian.ism.”





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## FEATURES OF CROSS-CULTURAL COMMUNICATION ON THE INFORMATION

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### ANNOTATION

*This research aims to identify the main trends of cross-cultural communication on the Internet. We analyse the hidden peculiarities of cross-cultural communication using a questionnaire method. The results of the study will help identify the main features and trends, advantages and disadvantages of the youth's cross-cultural communication on the Internet correctly.*

**KEYWORDS:** *communication; information sharing; cross-cultural communication; youth; Internet; social networks.*

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## AKTUELLE FRAGEN STUDIENVERTEILUNG DER INTERKULTURELLEN KOMMUNIKATION IN INFORMATIONSFELDERN

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### Anmerkung

*Der Artikel zielt darauf ab, die wichtigsten Trends in der interkulturellen Kommunikation im Internet zu identifizieren. Die Merkmale der interkulturellen Kommunikation von Jugendlichen im Internet werden analysiert. Die Studie verwendete die Fragebogenmethode. Das Ergebnis der Studie ist die Ermittlung der Hauptmerkmale und -trends sowie der Vor- und Nachteile der Entwicklung der interkulturellen Kommunikation der Jugend im Internet.*

**Schlüsselwörter:** *Kommunikation; Informationsaustausch; Interkulturelle Kommunikation; Junge Leute; Das Internet; soziale Netzwerke.*



Im 21. Jahrhundert entwickelt sich der Globalisierungsprozess zunehmend weiter. Dieses Phänomen führt zu einer Ausweitung der Verbindungen verschiedener Kulturen und Völker. Ein Mensch lebt in der Gesellschaft, was bedeutet, dass er ständig mit anderen Mitgliedern der Gesellschaft in Verbindung tritt. In modernen Studien wird der Begriff „Kommunikation“ am häufigsten als der sozial bestimmte Prozess der Informationsübertragung und -wahrnehmung unter den Bedingungen der zwischenmenschlichen, Gruppen- und Massenkommunikation verstanden, der auf der Nutzung verschiedener Kanäle und Mittel beruht [1, 11].

Dank der Informationstechnologie, der Massenverteilung von PCs, der rasanten Entwicklung des Internets und der Entstehung verschiedener sozialer Netzwerke erfolgt die interkulturelle Kommunikation heute nicht nur über direkte Kontakte, sondern auch über das globale Netzwerk [2, 33].

Dieses kommunikative Umfeld hat bestimmte Regeln und Normen der Kommunikation und beeinflusst den Lebensstil, die Wertorientierung und das Verhalten junger Menschen. Es ist anzumerken, dass die Auswirkungen des Internets auf die interkulturelle Kommunikation enorm sind, da es zu einem der Hauptkommunikationsmittel wird. Es hat sowohl positive als auch negative Seiten, daher besteht das Hauptziel der Studie darin, die Merkmale der interkulturellen Kommunikation im Internet unter jungen Menschen zu identifizieren und zu untersuchen, da junge Menschen eine besonders wichtige Gruppe sind, die die Grundlage für die Zukunft bildet. Im Verlauf der Studie wurden drei Haupthypothesen aufgestellt: Interkulturelle Kommunikation beeinflusst Kultur; - In der Sprache erscheinen neue Wörter, die allgemein verstanden werden. Interkulturelle Kommunikation beeinflusst die Wertorientierung junger Menschen.

Das Internet im 21. Jahrhundert ermöglicht Menschen in verschiedenen Teilen der Welt die Kommunikation und macht nahezu alle Informationen öffentlich zugänglich. Einerseits wirkt sich die Kommunikation über soziale Netzwerke mit ausländischen Bürgern oder das Erhalten von Informationen über aktuelle Ereignisse in der Welt positiv auf die Kultur aus, erweitert den Horizont und setzt Trends in der modernen Welt [3, 27].

Andererseits können die negativen Auswirkungen der interkulturellen Kommunikation nicht geleugnet werden, da negative und destruktive Informationen über Rassismus, Fremdenfeindlichkeit, ethnischen Hass sowie die Möglichkeit der Rekrutierung bei terroristischen Organisationen über das Internet verbreitet werden. Für eine umfassendere Untersuchung der Merkmale

der interkulturellen Kommunikation im Internet wurde während der Studie eine Umfrage unter 400 Befragten durchgeführt, darunter Studenten der Stadt Samarkand.

Der Fragebogen zielte darauf ab, die wichtigsten Trends und die Bedeutung der interkulturellen Kommunikation zu identifizieren. 100% der Befragten nutzen soziale Netzwerke und das Internet, was auf ihre Beliebtheit in der modernen Welt hinweist. Unter ihnen kommunizieren 42% mit Ausländern im Internet, und jeder der Befragten weist auf die positiven Auswirkungen dieser Kommunikation hin. Darüber hinaus ergab die Umfrage, dass das soziale Netzwerk "Vkontakte" das beliebteste und gefragteste Unternehmen für die Kommunikation mit Ausländern ist. 51% der Befragten gaben dies an.

"Facebook" war an zweiter Stelle in der Popularität; 27% der Befragten haben sich für dieses soziale Netzwerk entschieden. Als nächstes kommen Instagram und Twitter. Es wird angemerkt, dass 72% der Befragten Konten ausländischer Prominenter in "Instagram" abonniert haben. Über dieses soziale Netzwerk verfolgen junge Menschen das Leben der berühmtesten Menschen der Welt. Den Befragten wurde die Frage gestellt: "Welche Wörter / Ausdrücke haben Sie von ausländischen Gesprächspartnern über das Internet übernommen?" Die folgenden Antworten gingen ein: Umarmungen, Okay, Drama, Lol, Hallo, aktuelle Stimmung usw. Durch die Kommunikation mit Ausländern lernen die Befragten die Besonderheiten der Mentalität und Kultur des Landes, das Wetter, politische Nachrichten, Ausdrucksformen, Merkmale des Alltags und die Verbesserung des Wissens durch interkulturelle Kommunikation in einer Fremdsprache. Es stellte sich heraus, dass moderne Jugendliche, die das Internet nutzen, internationale Nachrichten lernen.

Die meisten Befragten interessieren sich am häufigsten für politische und kulturelle Nachrichten (78% bzw. 66%). 36% bevorzugen Wirtschaftsnachrichten.

Die meisten Befragten argumentieren, dass interkulturelle Kommunikation für eine effektive Kommunikation und ein effektives Verständnis in der modernen Welt wichtig ist. Es fördert die Globalisierung und Integration, den interkulturellen Erfahrungsaustausch von Bürgern verschiedener Länder und trägt dazu bei, die Toleranz gegenüber Vertretern anderer Rassen und Nationalitäten zu fördern, hilft, den Kenntnisstand von Fremdsprachen zu verbessern und den Horizont zu erweitern. Es wurden aber auch die negativen Auswirkungen des Internets festgestellt.

Es gibt eine große Anzahl von Orten extremistischer, terroristischer Natur, über die



verschiedene Organisationen Propaganda betreiben, um ihre Ideologien zu vermitteln. Darüber hinaus verfügt das Globale Netzwerk über eine große Anzahl von Standorten, Gruppen und Gemeinschaften mit Selbstmordcharakter, an denen junge Menschen zum Selbstmord gezwungen werden. Die Befragten stellen fest, dass es im Internet häufig Betrugsfälle gibt, um materielle Ressourcen zu erhalten.

Somit können wir die folgenden Schlussfolgerungen ziehen:

Erstens trägt interkulturelle Kommunikation zur Globalisierung bei, da das Internet eine einheitliche Kommunikationsumgebung schafft und neue Regeln für Lebensstil und menschliche Kommunikation genehmigt.

Zweitens ist die Mehrsprachigkeit eines der charakteristischen Merkmale der Kommunikation im Internet. Manchmal ist die Sprachbarriere ein ernstes Hindernis für die interkulturelle Kommunikation. Das Internet als Umfeld für die Anwendung neuer Technologien löst jedoch die Probleme der Sprachbarriere erheblich.

Drittens können Sie durch die Kommunikation mit ausländischen Bürgern die Kultur verschiedener Völker kennenlernen, ihre Worte übernehmen und ihre eigene Kultur einführen.

Viertens schafft die Informationstechnologie unbegrenzte Möglichkeiten für interkulturelle Kommunikation. Menschen in allen Ecken des Planeten können direkt miteinander kommunizieren, während sie nicht nur chatten, sondern auch in Echtzeit sprechen und verschiedene Dateien (Fotos, Videos, Audio) teilen können. Während der Studie wurden alle Hypothesen bestätigt.

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## SIGNIFICANCE OF THE ACTIVITY APPROACH IN TRAINING RUSSIAN LANGUAGE AT HIGHER EDUCATION INSTITUTION

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### ANNOTATION

*In this article, the authors discuss effective methods of teaching Russian to students.*

**KEYWORDS:** *method, Russian language, foreign language, personality, modernization of education*

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## ЗНАЧЕНИЕ ДЕЯТЕЛЬНОСТНОГО ПОДХОДА В ОБУЧЕНИИ РУССКОМУ ЯЗЫКУ В ВУЗЕ

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### Аннотация

В этой статье авторы обсуждают эффективные методы обучения русскому языку студентов.

**Ключевые слова:** *метод, русский язык, иностранный язык, личность, модернизации образования*

### DISCUSSION

During the period of independence of the country, socio-economic and cultural changes in Uzbekistan changed the role of a foreign language in society, and from a discipline, it turned into a basic element of the modern education system, as a means of achieving the professional realization of a person. At the threshold of the new century, the attitude towards the study of foreign languages in Uzbekistan has significantly changed. The educational and self-

educational functions in schools and higher educational institutions, the professional importance of education in the labor market as a whole, significantly increased, which entailed an increase in motivation in learning foreign languages.

The current stage of development of society is characterized by increased attention to improving the educational process. The socio-cultural development of personality and the student's foreign language communication training within the framework of the





university program is one of the most important social and educational tasks of our time, and is associated with such problems as increasing interest in the subject "Russian language", weak or insufficient foreign language training of former students, strengthening of creative potential students.

One of the key ideas of modernization of education in recent years has been the idea of forming competencies, manifested in the students' ability to integrate, transfer and use knowledge in various life situations. Today's graduate must meet the requirements of the modern labor market. He must be ready to work in conditions of market competition, to fulfill the tasks that are set before society, to have in-depth knowledge, practical skills and modern skills, to be able to practically use knowledge in practice. In professional pedagogy an important role is played by the formation of a broad general culture and familiarity with different areas. In accordance with this, the demand for the use of foreign languages has increased. New tasks involve changes in the requirements for the level of language proficiency, the definition of new approaches to the selection of content and organization of material.

As factors that are of great importance in formatting a young specialist in the field of economics, sociability and a willingness to cooperate are named. The higher school is called upon to develop students' abilities to realize themselves in the new socio-economic conditions, to be able to adapt in various life situations. The content of modern education in higher educational institutions is determined by the goals and objectives at all stages of training, where training is aimed at developing intercultural communication in a foreign language. During the teaching of a foreign language, it is important for the teacher to develop non-standard thinking of students. Russian as a foreign language, therefore, also becomes a means of socio-cultural communication.

As you know, the modern methodology of teaching foreign languages is based on the principles of communicative learning. Its goal is to develop students' ability to effective intercultural communication. "Professional pedagogy should teach a student to think independently, contribute to the formation of a critical mind. At this stage in the development of English language teaching methods, communicatively-oriented concepts are most widely used - communicative, design, intensive, and active methods "[1, 22]. In this case, the mastery of a foreign language is considered as the acquisition of communicative competence, taking into account the levels of proficiency in a foreign language. Communicative competence is understood to mean the ability to correlate language means with tasks and communication conditions, taking into account social norms of behavior and the communicative expediency of utterance.

Thus, the basic key competency that a student must master as a result of studying at a language university is communicative competence.

The main requirement for the level of knowledge of a foreign language is to ensure that a person with the help of a foreign language can solve his life and professional tasks. Most people today perceive a foreign language as one of the ways to broaden their horizons, gain knowledge of the world, develop and expand their business, and establish new contacts. Thus, for many, a foreign language has ceased to be an end in itself. People learn a language not only in order to only know it, but in order to communicate and develop in various fields of activity. Such an approach, when a foreign language becomes an instrument contributing to the achievement of new frontiers, is true. In this case, the main task of teaching a foreign language at the present stage is the formation of "foreign language communicative competence." Foreign-language communicative competence is the ability (knowledge, skills) to understand others and to generate their own programs of speech behavior in a foreign language, adequate to the goals, areas and situations of communication.

As a consequence, it is worth noting that the formation and development of communicative competence in a foreign language involves working in two main directions:

- Development of communication skills - communication skills in a foreign language;
- Development of skills of correct speech behavior in various life, domestic and professional situations.

An effective means of achieving the above goals is, in our opinion, a communicative-activity approach. The communicative component of this approach is justified by the fact that it is through communication that a person cognizes the world, accumulates new knowledge, and acquires skills. Communication in a foreign language helps a person to do all this by familiarizing himself with the values and culture of another country. The operational aspect of the approach does not imply passive obtaining of ready-made knowledge through a teacher, but their acquisition in the process of independent research activity, solving problem situations. If we understand competency as the ability to establish links between knowledge and the situation, as well as the ability on this basis to detect and carry out an action that allows solving a problem, then the formation of communicative competence is impossible without an activity approach.

A common concept for all available theories of developing learning is the concept of activity. "The very concept of activity," emphasized VV Davydov, "can be that initial abstraction, the concretization of which will allow us to create a general theory of the



development of social life of people and various particular theories of its individual spheres" [2, 64].

It is no coincidence that most of the studies of recent decades relate specifically to the communicative and active approach to teaching, in particular foreign languages, since communicative and active abilities are formed in students only when they do not passively learn new knowledge, but are included in independent educational and cognitive activities. This means that for the formation of communicative abilities among students it is necessary to constantly train them in performing all types of activities: speaking, reading, listening and writing.

The concept of "learning through activity" was proposed by the American scientist John Dewey. [3, 10]. The main principles of his concept are: taking into account the interests of students, learning through teaching thought and action, free creative work and cooperation. From the foregoing, it is possible to teach communication only by involving students in activities of various kinds and by modeling real life situations that will be interesting and useful to students. Consequently, the communicative-activity approach in the lessons of a foreign language can be carried out through various types of activities in a foreign language, namely: project activities, problem teaching methods, situation modeling and others.

Let us dwell on some of them. The project method is the study of a specific problem, its practical or theoretical implementation. The aim of the project method is the development of independent, creative activity of students. This method combines an individual, independent form of work with group exercises. As a result of creative practical activity, students receive new knowledge and skills that they implement in creating the final product. The significance of this method in the framework of the communicative - activity approach lies in the fact that it is aimed at the development of communicative skills. Each stage of work on a project involves making communication - discussions, reports, brainstorming, round table discussions, general discussions. Within the framework of the discipline, the Russian language of this kind of activity occurs as a co-operative, which determines the value of this method. In addition, the project method within the framework of the foreign language discipline allows you to form such communication skills in a foreign language as:

- ability to express your thoughts verbally and in writing;
- the ability to correctly formulate questions and queries in information search engines;
- possession of a monologue, dialogue and discussion form of speech communication;

- interaction with partners in the group;
- conflict resolution.

The case study method is a method of active learning, which is based on working with specific learning situations that are problematic in nature. This method is called the method of specific situations and situational analysis. The task of students includes analyzing the proposed situation, isolating the problem, clarifying the essence of the problem, finding possible ways to solve this problem and choosing the best way. This technique suggests using not fictitious, but real everyday, social, economic and professional situations. This kind of work is aimed at gaining practical experience in conditions close to real ones. [4, 40]

From the point of view of the communicative-activity approach, the use of the case-method in foreign language classes can be successful, because this method is complex: it involves all types of speech activity: reading, speaking, listening in the process of interaction with other group members and the teacher. Thus, the communicative component of the approach is implemented, which is due to the active activity of students in order to resolve problem situations.

The case study method is an effective tool in teaching a foreign language, because:

- creates the necessary language environment and motivates students to use a foreign language for real communication;
- contributes to the effective development of the skills of such types of speech activity as reading, listening and speaking;
- helps to shape communication skills, as well as a number of analytical, creative and social skills. [5,9]

In addition, the use of fiction in the lessons of Russian language teaching is very effective.[6,197]

So, summing up the above, we note that all types of communicative competence are interconnected and interdependent. Communicative competence implies the ability and ability of the student to conduct speech activities, which are based on automated skills, and more specifically, communicative skills, characterized by stability, stability, lability and flexibility. The formation of the components of communicative competence can be facilitated by a didactically substantiated system of exercises that will be applied in various types of classes in a foreign language



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## THE EFFECTIVENESS OF DISTANCE LEARNING IN TEACHING FOREIGN LANGUAGES

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### ANNOTATION

*In this article, the author discusses the benefits of using a distance modeling system in education when teaching a foreign language.*

**KEY WORDS:** *professional education, foreign languages, educational base, model, distance education, training system.*

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## ЭФФЕКТИВНОСТЬ ДИСТАНЦИОННОГО ОБУЧЕНИЯ В ПРЕПОДАВАНИИ ИНОСТРАННЫХ ЯЗЫКОВ

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### Аннотация

*В этой статье автор обсуждает преимущества использования системы дистанционного моделирования в образовании при обучении иностранному языку.*

**Ключевые слова:** *профессиональное образование, иностранные языки, учебно-методическая база, модель, дистанционное образование, система обучения.*

### DISCUSSION

In the innovative strategy of the pedagogical process in vocational education, the role of the university rector, deans and teachers of foreign languages as direct carriers of innovative processes significantly increases. With all the variety of technologies for teaching foreign languages: didactic, computer, problem, modular and others, the implementation of leading pedagogical processes remains with the teachers of foreign languages. With the introduction of modern technologies in the

educational process, foreign language teachers are increasingly mastering the functions of a consultant, adviser.

This requires special psychological and pedagogical training from them, as in the professional activity of a teacher, not only special, subject knowledge in the field of pedagogy and psychology, technology for teaching a foreign language is realized. On this basis, a readiness is formed for the perception, assessment and implementation of pedagogical innovations (innovations, changes). The



educational and methodological base, educational and information technologies of any university are such that they do not depend on whether it is a full-time study, or part-time, or remote.

If knowledge, all educational material, all its didactic component are formalized and are in a formalized form, in computers, it's all the same, in principle, where to apply this knowledge: either to an audience (equipped accordingly), or to a user located outside the educational institution .

The world telecommunication infrastructure today makes it possible to create systems of continuous continuous self-study of foreign languages, universal information exchange, regardless of time and space zones.

Distance learning of foreign languages entered the 21st century as the most effective system of training and the continuous maintenance of a high qualification level of specialists. Teaching foreign languages was remotely intended for students who, for some reason, could not attend stationary educational institutions. So, the main task of the University of London, organized in 1836, is to help and conduct examinations for obtaining certificates and degrees for students who did not attend ordinary educational institutions [1, p. 72].

The system of teaching foreign languages on the basis of one university for students studying is not stationary (oncampus), but at a distance, in absentia or remotely, i.e. based on new information technologies, including computer telecommunications (offcampus). At the new University of South Wales in Australia, he provides distance learning and distance learning of foreign languages.

The cooperation of several educational institutions in the preparation of distance learning distance learning programs makes them more professionally high-quality and less expensive. A similar practice was implemented in the Keprikon inter-university tele-education program, in the development of which the universities of Argentina, Bolivia, Brazil, Chile and Paraguay took part, and the Commonwealth of Education program in Britain, which agreed to organize a distance learning network for foreign languages for all countries of the commonwealth.

Autonomous educational institutions created for the purpose of distance education of foreign languages in the United States at the National University of Technology (Colorado) prepare students for various specialties. At this stage of the study, it seems appropriate to consider integrated factors, such as technological, which is determined by the information technologies used to develop, deliver, support training courses and the learning process of foreign languages in general; pedagogical determined by a set of methods and techniques used in the course of the educational process in foreign languages;

organizational, characterizes the specifics of the organizational structure of the educational institution of distance learning. The "ideal model" of distance education in foreign languages includes an integrated environment, with a variant definition of the role of various components - technological, organizational and methodological.

The list of the main technologies used in universities by the distant education of foreign languages, of course does not mean that any particular model should be characterized by the use of only one of them. Multimedia - an approach based on the use of several complementary information technologies, seems to be the most effective in the field of foreign language education. Technologies used today Distance learning of foreign languages can be divided into 1. non-interactive (printed materials, audio-video media); 2. means of computer training in foreign languages (electronic textbooks, computer testing and knowledge control, the latest multimedia tools); 3. Video conferences - advanced telecommunication facilities for audio channels, video channels and computer networks.

Interactive databases systematize data arrays that can be accessed via telecommunications. Using these resources, course developers can maintain local databases for both students and teachers of foreign languages. So, at MurdochUniversity, the catalog of library services that are available over the Internet has more than 70 pages. Students and teachers of foreign languages at Ohio State University have access to 9 major libraries and a number of databases via the Internet [2, p. 43-44].

CompuServe users have access to databases such as Academic American Encyclopedia, Dissertation Abstracts, ERIC, Magazine Database Plus, Peterson's College Database. Computer-mediated communications allow more active use of such methods of teaching foreign languages as debates, modeling, role-playing games, discussion groups, brain attacks, Delphi methods, nominal group methods, forums, and project groups.

Thus, we understand that the previous model of teaching foreign languages should be replaced by a new model based on the following provisions: the student is at the center of the learning technology; the essence of technology is the development of self-learning ability; students play an active role in learning; at the heart of learning activities is collaboration.

Distance education in foreign languages gives students access to non-traditional sources of information, increases the effectiveness of independent work, gives completely new opportunities for creativity, acquisition and consolidation of various professional skills, and allows foreign language teachers to implement fundamentally new forms and methods of teaching.





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## LESSON COMPETITION ELEMENT IN RUSSIAN

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### ANNOTATION

*This article discusses issues related to improving the effectiveness of the lesson.*

**KEYWORDS:** *task, element, training, topic, relay race, efficiency, Russian language, goal, texts, dictionary, quizzes.*

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## ЭЛЕМЕНТ СОРЕВНОВАНИЯ НА ЗАНЯТИЯХ ПО РУССКОМУ ЯЗЫКУ

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### Аннотация

В данной статье рассматриваются вопросы, связанные с повышением эффективности урока.

**Ключевые слова:** *задание, элемент, обучение, тема, эстафета, эффективность, русский язык, цель, тексты, словарь, викторины.*

Одним из способов развития познавательного интереса, связанного с использованием эмоционального фактора общения, является введение в учебный процесс элемента соревнования.

Стимулирующее влияние введения соревнования в учебный процесс объясняется действием присущего каждой личности ориентировочно-исследовательского рефлекса, проявляющегося в этом случае в форме стремления к самоутверждению и самовыражению. Учебные действия при соревновании побуждаются стремлением как можно лучше понять, лучше выполнить задание,

точнее выразить свою мысль. Элемент соревнования можно вносить во все речевые действия обучаемых, способствуя тем самым стимулированию их инициативе при совершении речевых действий и заинтересованности их в достижении цели этих действий.

При внесении элемента соревнования выполнение заданий превращается в своеобразную игру, игру с элементом соревнования.

Эффективность использования игр-соревнований в учебном процессе в колледже, в частности в процессе овладения студентами вторым языком, в том, что они, поднимая



эмоциональный тонус обучаемых, способствуют успешному выполнению заданий, вызывая к действию такие побудительные силы, как инициативность и мотивированность действий, облегчают выполнение трудных заданий, решение сложных познавательных задач.

Особенно ценно использование игровых предложений при обобщении, повторении и закреплении материала определённого тематического цикла занятий. Элемент соревнования можно вводить и в выполнение самостоятельных домашних заданий. Например, устроить соревнование между студентами в том, кто в учебниках по специальности на русском языке найдёт и выпишет больше примеров с употреблением определённых конструкций, подберёт больше пословиц, поговорок или загадок со словосочетанием определённой формы и т. д. Эти задания побуждают студентов пересмотреть большое количество материалов по специальности на русском языке, обратить внимание на языковую форму оформления этих материалов.

Соревнование же в том, кто лучше и правильнее отреагирует на реплику преподавателя, полнее и правильнее построит своё высказывание в зависимости от той или иной речевой ситуации, стимулирует студентов на мобилизацию внимания, реализацию всех своих речевых умений и навыков.

Применяя элемент соревнования, можно облечь в форму игры процесс выполнения многих упражнений, направленных на выработку продуктивных речевых действий.

Например, в игре «Угадай-ка» преподаватель прячет карточку, на которой написана определённая фраза из изученного текста. Стараясь угадать ее, студенты называют множество подобных фраз.

Несколько игр с элементом соревнования, которые можно использовать при закреплении и повторении любой темы:

#### 1. Кто больше найдет?

Соревнование в нахождении в словарях, текстах, статьях и других материалах конструкций определенной формы.

#### 2. Загаданный вопрос.

Один из студентов (водящий) на несколько минут выходит из аудитории. В это время преподаватель пишет на доске вопрос, который должны запомнить играющие и быстро стирает его. Заходит водящий: каждый, к кому он обращается, должен дать свой вариант ответа на этот вопрос. По ответам водящий должен угадать загаданный вопрос. Водящего заменяет тот, по чьему ответу он угадал вопрос. Игра повторяется.

Другой вариант этой игры: водящий, спрятав карточку с вопросом, дает ответ на него. По содержанию этого ответа студенты должны отгадать, какой вопрос написан на карточке.

Соревноваться в успешном выполнении задания могут не отдельные студенты, а небольшие группы.

Несколько игр на групповые соревнования:

#### 1. Эстафета.

Каждая группа получает карточку с заданием: написать фразу с определенным словом, написать словосочетание или продолжить рассказ, добавляя подходящую по смыслу фразу. Студент, получив карточку, выполняет задание и передает карточку дальше.

Каждый из студентов имеет право написать одно словосочетание, фразу или предложение. Выигрывает группа, которая быстрее всех и с меньшим числом ошибок выполнит задание.

#### 2. Кто лучше?

Группы соревнуются между собой в том, кто лучше и быстрее напишет характеристику одного из студентов, письмо друзьям, докладную записку, протокол собрания.

Большой интерес у студентов вызывают викторины. Викторины желательно проводить после изучения определенных тематических циклов.

Группа делится на две команды. Преподаватель предлагает студентам вопросы, ответ на которые надо найти самостоятельно, а в процессе игры задать членам противоположной команды. Часть вопросов студенты придумывают сами. На самой игре студенты коллективно обсуждают заданные вопросы, а затем один из них дает ответ. Назначается руководитель игры, он дает задания, подсчитывает правильные ответы и подводит итоги.

Эти и другие подобные игры не только способствуют стимулированию интереса к русскому языку, но и воспитанию таких ценных качеств, как чувство товарищества и взаимной поддержки. Слабые студенты, включившись в общий ритм соревнования, преодолевая неуверенность в себе, начинают успешнее работать, стараются не допускать ошибок и быстрее выполнять задания.

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## PERSONAL-ACTIVITY APPROACH IN TEACHING STUDENTS

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### ANNOTATION

*This article discusses the personality-activity approach in education. It is explained that with the development of activities, the student also forms his own system of values, supported by society, and becomes an active subject of educational activity, through which self-determination, determination of the path of life's path are set. And also it is explained that in general, the personal-activity approach in training is, first of all, the formulation and solution of the main task of education.*

**KEY WORDS:** *education, types of activity, the subject of educational activity, in the learning process, design teaching methodology, personality-activity approach.*

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## ЛИЧНОСТНО-ДЕЯТЕЛЬНОСТНЫЙ ПОДХОД В ОБУЧЕНИИ СТУДЕНТОВ

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### Аннотация:

*В данной статье рассматривается личностно-деятельностный подход в образовании. Объясняется что с освоением деятельности учащийся также формирует и свою систему ценностей, поддерживаемую социумом, и становится активным субъектом образовательной деятельности, через которую задаются самоопределение, определение траектории жизненного пути. А также объясняется что в целом личностно-деятельностный подход в обучении – это прежде всего постановка и решение основной задачи образования.*

**Ключевые слова:** *образование, виды деятельности, субъект образовательной деятельности, в процессе обучения, проектная методика обучения, личностно-деятельностный подход.*





В мире ничего не стоит на месте все течет, все меняется. Так и в образовании, если раньше от педагогов требовали дать учащимся как можно больший объем знаний (результат – знания), то в настоящее время все больше требуется, чтобы учащиеся овладели способностями взаимодействия с миром (результат – умения).

Здесь очень подходит изречение Альберта Эйнштейна, который говорил: «Теория – это когда все известно, но ничего не работает. Практика – это когда все работает, но никто не знает почему. Мы же объединим теорию и практику: ничего не работает и никто не знает почему».

При таком подходе к обучению учащихся основным элементом работы является – решение задач, т.е. освоение новых видов деятельности: учебно – исследовательской, поисково-конструкторской, творческой и др. В этом случае фактические знания станут следствием работы над задачами, организованными в целесообразную и эффективную систему. Как говорил Блез Паскаль: «Всё наше достоинство – в способности мыслить. Только мысль возносит нас, а не пространство и время, в которых мы ничто. Постараемся же мыслить достойно – в этом основа нравственности». Поэтому с освоением деятельности учащийся также формирует и свою систему ценностей, поддерживаемую социумом, и становится активным субъектом образовательной деятельности, через которую задаются самоопределение, определение траектории жизненного пути. При таком подходе к обучению категория деятельности становится фундаментальной и маслообразующей всего процесса обучения.

Основоположником концепции «учения через деятельность» считается американский ученый Д.Дьюи. Основные принципы его системы:

- учет интересов обучающихся;
- учение через обучение мысли и действию;
- познание и знание – следствие преодоления трудностей;
- свободная творческая работа и сотрудничество.[3]

Для обеспечения всесторонне развитого человека от учащихся требуется организованное участие разнообразных видов деятельности в постепенно расширяющихся отношениях – от отношений в подгруппе, группе, факультете и до включения в общественно-политическую жизнь мирового сообщества.

В содержании обучения деятельностный аспект или деятельностная модель

обучения выражается в том, что содержание обучения есть деятельность в связи с решением проблемы и деятельность коммуникации как овладение социальной нормой, вербальная деятельность и виды невербального самовыражения, т.е. учебный процесс представляет собой:

1. взаимодействие,
2. решение коммуникативных (проблемных) задач.

Говоря изречением Конфуция: «Я слышу и забываю. Я вижу и запоминаю. Я делаю и понимаю». Понимание и принятие нацеливает на деятельность фокусирует внимание обучающегося на проблеме, на решении коммуникативных задач. Коммуникативная задача – проблема, требующая разрешения противоречия: ты знаешь - я не знаю, ты умеешь - я не умею, а мне надо знать и уметь (у меня есть потребность). Для решения коммуникативной задачи, во-первых необходимо сформировать потребность (например, в виде вопросов), во-вторых – как эту потребность реализовать. Либо субъект реализовывает ее сам, либо обращается к другим. В любом случае он общается: с самим собой или с другим. Отвечая на вопросы можно либо решить задачу, либо получить новую задачу. Наибольший интерес при организации учебной деятельности представляют задачи интеллектуально-познавательного плана, которые учащийся осознает самостоятельно, такие как жажда знаний и необходимость их усвоения, стремление к расширению кругозора, углублению, систематизации знаний. Соотнося такую деятельность с познавательностью и интеллектуальной потребностью человека, получается положительная мотивация обучающегося для работы над учебной задачей, не реагируя на отвлекающие факторы.

Центральной единицей в процессе обучения считается понятие учебной задачи. Так Д. Б. Эльконин, считает, что «основное отличие учебной задачи от всяких других задач заключается в том, что ее цель и результат состоят в изменении самого действующего субъекта, а не в изменении предметов, с которыми действует субъект» [13]. Учебной задаче присуждается высшая степень проблемности, если в ней учащийся сам: сформулирует проблему, находит ее решение и решает, проконтролирует правильность полученного решения. При постоянном решении таких учебных задач формируется систематическая, самостоятельная, поисковая деятельность, которое называется личностно-деятельностным подходом в обучении.



В работах Л.С. Выготского, А.Н. Леонтьева, С.Л. Рубинштейна, Б.Г. Ананьева были заложены основы личностно-деятельностного подхода в психологии, в них рассматривалась личность как субъект деятельности, которая сама формировалась в деятельности и в общении с другими людьми и определяла характер этой деятельности и общения.

Для перестройки образовательного процесса личностно-деятельностный подход в обучении можно рассматривать, как один из системно-образующих факторов.

С точки зрения педагога, в условиях личностно-деятельностного подхода, обучение и педагогическое общение необходимо реализовывать по данной схеме  $U_1 = U_2$ , где  $U_1$  – это учитель, преподаватель, т.е. – человек, вызывающий подлинный интерес к предмету общения, к себе как к партнеру, информативная для обучающихся содержательная личность, интересный собеседник;  $U_2$  – это учащийся, студент, общение с которым рассматривается учителем, преподавателем как сотрудничество в решении учебных задач при его организующей, координирующей, положительно стимулирующей и подкрепляющей реакции.

Но также необходимо организовать учебное сотрудничество и самих обучающихся в решении учебных задач, для формирования коллективного субъекта и реализации принципа коллективной коммуникативности обучения. Этот принцип можно соотнести с принципом «индивидуального обучения через групповое». Другими словами, в учебном процессе воспользуемся такой схемой: «субъект»  $U_1$  (учитель, преподаватель)  $\leq U_2 + U_3 + U_4 + \dots + U_n$  (учащиеся, студенты), в результате чего образуется единый взаимодействующий коллективный, совокупный субъект ( $U_3$ ).

С точки зрения обучающегося, в условиях личностно-деятельностного подхода (при особом учете организации субъектно-субъектного учебного взаимодействия самим педагогом) прежде всего предполагает свободу выбора обучающимся пути, учебника, методов, а в отдельных случаях даже партнера обучения – педагога.

Личностно-деятельностная модель обучения интенсифицирует реализацию возможностей за счет активизации обучающегося, его автономии и деятельностной основы обучения. Когда человек делает, он осваивает нечто новое и продвигается по пути своего развития. Он расширяет поле своих возможностей, он завязывает отношения, которые

развиваются в результате этой деятельности. Он пробует различные инструменты, которыми может впоследствии воспользоваться, расширяет свою познавательную сферу, приобретает новую пищу для мышления, осваивает некоторые социальные действия, которые его утверждают в социуме.

Для обучающегося его деятельность – это не только учебная, но настоящая, что отражается и в подходе, названном личностно-деятельностным, где деятельность представляется как динамическая саморазвивающаяся иерархическая система взаимодействия человека (в данном случае – учащегося) с миром. Личностно-деятельностный подход ориентирует учащихся на получение знаний и на способы их усвоения, на образцы и способы мышления и деятельности, на развитие познавательных сил и творческого потенциала учащегося. Так как в деятельностной модели технология обучения в первую очередь ориентируется на личность учащегося и состоит в осуществлении разного вида деятельностей для решения проблемных задач, имеющих для учащегося личностно-смысловой характер, учебные задачи становятся интегративной частью деятельности, которая для самого учащегося становится жизнедеятельностью.

Деятельность будет адекватна усваиваемому знанию, если она аналогична деятельности человека, обученному ему, и выводит в центр рассмотрения «homoagens» – человека действующего. Главнейшей составляющей действий «homoagens» являются действия умственные (так как умственные действия всегда сопутствуют физическим, но не всегда физические – сопутствуют умственным). Поэтому процессу выработки стратегий учебным действиям, которые определяются как способы решения учебных задач, уделяется особое внимание.

Одной из технологий, направленной на реализацию личностно-ориентированного подхода, так же является и проектная методика обучения, истоки которой лежат в процессах проектирования.

Сегодня проектирование, которое предполагает создание проекта, замысла, идеи, с реализацией которых связана жизнь обучающегося, – важнейший фактор развития образования и поэтому практика его организации многообразна. Большинство авторов (таких, как Н.Г.Алексеев, Е.С.Заир-Бек, В.Р.Имакаев, Т.И.Шамова), чьи работы посвящены данному вопросу, рассматривают проектирование как осознанная и целенаправленная поэтапная деятельность, заканчивающаяся созданием



определенного продукта в результате реализации этой деятельности.

Введение элементов проектирования в учебную деятельность позволит разнообразить учебный процесс. Реализация проектирования возможна на различных уровнях самоорганизации и саморегулирования деятельности учащихся, в зависимости от выбора

его первоначального этапа. Деятельность участников проектной работы, такие как движущие силы их и субъектность, зависит постановки целей и итогов проекта.

Рассмотрим содержание основных этапов учебного проектирования в виде приведенной ниже таблицы 1.

Таблица 1.

## Содержание основных этапов учебного проектирования

Этапы проекта	Решаемые задачи	Деятельность учащихся
Начальный (Организационный)	<ul style="list-style-type: none"> <li>- ознакомление с характером и организацией проектной документации;</li> <li>- определение условий и организации проектных работ;</li> <li>- формирование коллектива для проектной работы;</li> </ul>	<ul style="list-style-type: none"> <li>- обсуждение особенностей творческой деятельности и организация результатов проектных работ;</li> <li>- согласование характера и организации работ;</li> <li>- самоопределение по направлениям и видам деятельности;</li> <li>- рассмотрение условий проектной деятельности и составление рабочих групп;</li> </ul>
Исследовательский	<ul style="list-style-type: none"> <li>- маркетинговое исследование;</li> <li>- постановка проблемы и определение путей решения проекта;</li> <li>- выявление необходимых условий достижения результата;</li> </ul>	<ul style="list-style-type: none"> <li>- анализ, сбор и обработка информации;</li> <li>- выдвижение и анализ перспективных идей и предложений;</li> <li>- утверждение ведущей идеи проектной деятельности;</li> </ul>
Конструкторский	<ul style="list-style-type: none"> <li>- разработка и установление требований к решению проблемы проекта;</li> <li>- составление проектной документации по результатам проекта;</li> </ul>	<ul style="list-style-type: none"> <li>- поиск оптимального решения проблемы проектной деятельности;</li> <li>- проведение исследований;</li> <li>- определение требований к результатам деятельности (конструкции проекта);</li> <li>- разработка конструкторской документации;</li> </ul>
Технологический	<ul style="list-style-type: none"> <li>- разработка технологического процесса</li> <li>- выявление условий выполнения работ и составление технологической документации;</li> </ul>	<ul style="list-style-type: none"> <li>- поиск оптимальных путей реализации проектного задания и разработка технологического процесса;</li> <li>- разработка технологической документации и общее составление бизнес-плана работы;</li> </ul>
Созидательный (Практический)	<ul style="list-style-type: none"> <li>- подготовка материально-технической базы;</li> <li>- организация практической деятельности;</li> <li>- изготовление объекта</li> </ul>	<ul style="list-style-type: none"> <li>- материально-техническое обеспечение и организация коллективного выполнения работ;</li> <li>- текущий контроль и коррекция процесса практической деятельности;</li> <li>- изготовление и контроль элементов изделия;</li> <li>- сборка и отладка объекта коллективной деятельности;</li> <li>- анализ характеристики изделия;</li> </ul>
	<ul style="list-style-type: none"> <li>- анализ результатов практической деятельности и самооценка результатов работ;</li> <li>- педагогический анализ</li> </ul>	<ul style="list-style-type: none"> <li>- апробация изделия;</li> <li>- определение соответствия результатов работ по заданию;</li> <li>- индивидуальный анализ процесса и</li> </ul>



Аналитический	процесса результатов проектной деятельности; - определение уровня образовательных и личностных достижений участников;	результатов; - обсуждение результатов работ, публичная защита и оценка результатов проектной деятельности; - оценка эффективности выполненных работ; - анализ удовлетворения потребностей и определение путей повышения уровня работ;
Заключительный (итоговый)	- применение полученных результатов; - планирование развития проектной деятельности.	- внедрение результатов работ и принятие решений по развитию проектных работ; - выдвижение предложений по совершенствованию содержания и организации работ; - планирование последующей проектной деятельности.

В целом личностно-деятельностный подход в обучении – это прежде всего постановка и решение основной задачи образования: создание условий развития гармоничной, нравственно совершенной, социально активной через активизацию внутренних резервов, профессионально компетентной и саморазвивающейся личности. Все обучение строится с учетом, что личность находится в центре обучения, образования. И, соответственно, все образование, центрируясь на обучающемся, на его личности, становится антропоцентрическим по цели, по содержанию и формам организации.

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## EFFECTIVE USE OF PROBLEM TRAINING ELEMENTS

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### ANNOTATION

*In this article, the author discusses effective methods of problem-based learning in an audience.*

**KEYWORDS:** *information technology, education, training, situation, efficiency*

## ЭФФЕКТИВНОЕ ИСПОЛЬЗОВАНИЕ ПРОБЛЕМНЫХ УЧЕБНЫХ ЭЛЕМЕНТОВ

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### Аннотация:

*В этой статье автор обсуждает эффективные методы проблемного обучения в аудитории.*

**Ключевые слова:** *информационная технология, образование, обучение, ситуация, эффективность*

Сегодня умелое использование информационных технологий, педагогических технологий в образовании не требуется. В настоящее время в учебной практике используются различные виды педагогических технологий. Одной из наиболее эффективных технологий в образовательном процессе является проблемная технология обучения. Проблемное обучение - это передовая технология обучения. Его задача - стимулировать процесс активного обучения и формировать исследовательский метод мышления. Проблемное обучение - это одновременное взаимодействие учителя и учеников в классе, которое развивает важные способности к творческому мышлению персонажа в его личности. В процессе

проблемного обучения и учителя, и ученики постоянно проверяют свои интеллектуальные, физические и духовные способности для решения учебных и практических задач. Навыки и компетенции, приобретенные в этом процессе, приводят к формированию качеств, необходимых для жизни в условиях информационного общества.[1,с.11].

Проблемное обучение заключается в том, чтобы побудить студентов свободно мыслить, свободно выражать свое мнение и развивать свои идеи дальше. При этом студент должен уметь внимательно слушать, мыслить независимо и индивидуально, мыслить как команда, анализировать, обсуждать в группе и формулировать собранную идею. Успех





проблемного обучения зависит от следующих факторов: решение проблем учебного материала; активизация познавательной деятельности студентов; совмещение учебного процесса с игрой, работой; уметь эффективно использовать методы решения проблем преподавателем (педагогом); построить цепочку вопросов для решения проблем, чтобы решить проблемную ситуацию и объяснить это студентам в логической последовательности.[2,с.6].

Суть проблемного обучения заключается в том, что учитель управляет учебной деятельностью учащихся путем создания проблемной ситуации в процессе обучения и приобретения новых знаний путем решения учебных задач и вопросов.

Проблемная ситуация возникает в конкретной педагогической среде, которая целенаправленно организована с использованием определенных педагогических инструментов. Также необходимо разработать конкретные методы создания таких ситуаций, основанные на характеристиках изучаемых предметов.

Важным аспектом организации и проведения проблемного обучения является то, что учитель должен хорошо понимать как свою образовательную, так и педагогическую функцию. Учитель никогда не должен давать ученикам готовую правду или решение, но должен мотивировать их на получение знаний, помогать им запоминать информацию, события, времена и явления, необходимые на уроках и жизненных действиях.

Проблемное обучение обладает огромным потенциалом для осознанного и глубокого усвоения знаний, оживления познавательной деятельности студентов в определении их активного отношения к окружающей среде. В некоторых случаях учитель должен не только вызывать интерес учеников, но и не самостоятельно решать проблему обучения, а в других случаях направлять самостоятельную работу учеников в решении проблемы обучения, что приводит к способности учеников самостоятельно получать знания и интеллектуальной деятельности.

Ряд интерактивных методов может быть использован для создания проблемных ситуаций. Их эффективность включает в себя: проблемные технологии; Технология бумеранга; Технология ФГМУ; Метод круглого стола; Аквариумный метод и др.[3, с.24].

Вышеуказанные способы создания проблемной ситуации не ограничивают ее другие варианты. Каждый учитель может искать и находить разные возможности для его организации в процессе творческой работы с

учебными материалами в своей практической деятельности.

Таким образом, задачей проблемного обучения является сотрудничество со студентами в эффективном усвоении системы знаний и методов умственной и практической деятельности, развитие у них навыков творческого применения знаний в новой ситуации, решение проблем обучения и воспитания. Проблемное обучение ведет к созданию инноваций, креативности и формированию самостоятельного мышления.

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# POST COVID-19 LOCKDOWN PERSPECTIVES AND RECOVERY PROCESS IN AFRICA

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## ABSTRACT

*The emergence of Corona virus since December 2019 in a city called Wuhan in China has brought a nightmare in the world that can never be forgotten in a hurry. Developed nations of the world have been on the receiving end with more fatalities that nobody can ever imagine or believe. Quality and sophisticated health facilities could neither stop the spread and high mortality rates especially in advanced nations with standard hygiene and good living styles. The sudden entry of the COVID-19 in Africa took the continent by storm with predictions of devastating effects and highest death rates. State emergency rules and lockdowns were declared across various nations in the continent in order to arrest the pandemic velocity on the poor citizens. During these periods, different perspectives and contradictions came up on how to cushion the effects on the economy and proper safety measures after the pandemic. This research is to critically analyse various opinions and my personal contributions on what African leaders need to put in place for quick economy recovery. Looking inwards on how to reposition our poor health facilities and other abandoned projects for the progress of each nation within the continent.*

**KEYWORDS:** *pandemic, lockdown, covid-19, virus, outbreak, diseases, symptoms, economy*

## 1. INTRODUCTION

Coronavirus disease 2019 nicknamed (COVID-19) emerged in December 2019 in Wuhan, the capital of Hubei province, China. While the outbreak in China is almost over, this highly contagious disease is currently spreading across the world, with a daily increase in the number of affected countries, confirmed cases and infection-related deaths. Updated data are published on a daily basis on the ECDC, US Centers for Disease Control and Prevention (CDC) and World Health Organization (WHO) websites. On 30th January 2020, the World Health Organization (WHO) declared that the outbreak of COVID-19 constituted a Public Health Emergency of International Concern (PHEIC). Based on the high levels of global spread and the severity of COVID-19, on 11 March 2020, the Director-General of the WHO declared the COVID-19 outbreak a pandemic. COVID-19 is an acute respiratory disease caused by a newly emerged zoonotic coronavirus.

The virus is transmitted from human to human via droplets coughed or exhaled by infected persons and by touching droplet-contaminated surfaces or objects and then touching the eyes, nose or mouth. The most commonly reported clinical symptom in laboratory-confirmed cases is fever (88%), followed by a dry cough (68%), fatigue (38%), sputum production (33%), dyspnoea (19%), sore throat

(14%), headache (14%) and myalgia or arthralgia (15%). Less common symptoms are diarrhoea (4%) and vomiting (5%). Around 80% of the reported cases in China had mild-to-moderate disease (including non-pneumonia and pneumonia cases), 13.8% had severe disease and 6.1% were critical (respiratory failure, septic shock, and/or multiple organ dysfunction/failure).

The corona virus landed in Africa in the month of February 2020 with first contact experienced in Egypt. For Africans, it was like a death sentence but speculated symptoms gave them more consolation which seems to be prevalence among the people.

The general belief was that coming to Africa will be more devastating with presumption of having the highest death rate according to WHO predictions. This view came as a result of not having good medical facilities and other needed equipment to contain with the spread of the virus. Current pictures show, Africans might escape the worst of the pandemic, but will have to be cautious about it.

The World Health Organisation (WHO) Regional Office has reported South Africa, Algeria and Nigeria are countries with the highest COVID-19 cases in Africa as cases increased to about 86,000 as at Tuesday 20/05/2020.

This disclosure was made via an update on its official Twitter account, @WHOAFRO dated



Tuesday 20/05/2020. According to World Health Organisation Lesotho, Comoros and Seychelles were countries currently with the lowest confirmed cases in the region.

It said that Lesotho had only one confirmed case with zero death; Comoros had 11 reported cases and one death while Seychelles recorded 11 confirmed cases with no death.

“There are over 86,000 confirmed COVID-19 cases on the African continent – with more than 33,000 recoveries and 2,700 deaths,” it said.

According to the report, South Africa had 16,433 cases and 286 deaths followed by Algeria with 7,201 cases and 555 deaths, while Nigeria had 6,175 confirmed cases and 191 deaths.

It added that Ghana had 5,735 reported cases and 29 deaths, while Cameroon recorded 3, 529 confirmed cases, and 140 deaths.

## 2. CONSEQUENCES AND IMPACTS OF TOTAL LOCKDOWN IMPOSED BY AFRICAN LEADERS

### Social Distancing

According Professor Charles Soludo (2020), social distancing in most parts of Africa will remain impractical. Communal living is not just about culture, it is a matter of economic survival. The question is the end game for a poor society such as Africa? New infections have re-emerged in Wuhan, and both Singapore and South Korea are going back to the drawing board. Since we cannot sustain lockdowns indefinitely or even until the spread stops/declines, it means that we would sooner or later remove the restrictions. What happens then? There would still be infections, which can still spread anyway. Why not then adopt sustainable solutions early enough without weeks or months of avoidable waste and hardship?

### Funding And Provision Of Palliatives During Lockdown

Next, African states cannot pay for lockdowns. Many countries depend on budget support from bilateral and multilateral donors, and with acute balance of payments problems. They do not even have leg rooms to simply print money. Most are now begging for debt relief and applying for urgent loans from the IMF and the World Bank. In Africa, both the governments and the people are begging for “palliatives”. In the western societies from where we copied the lockdown/border closure, their citizens are literally paid to stay at home (by silently dropping monies into their accounts plus other incentives). Despite these, check out the restiveness/protests in several of these countries and the unrelenting pressure to eliminate the restrictions (even in countries where thousands are dying each day due to Covid-19).

### Level Of Proverty In The Continent

With some 80% of Africa’s population living from hand to mouth on daily toil and struggle, complete lockdown would never be practicable, almost impossible in our social settings. In most cases, the orders simply create opportunities for extortion for the security agencies: those who pay, move about! Attempts to force everyone into a lockdown for extended period may indeed be enforcing a hunger/stress-induced mass genocide. More people could, consequently, be dying out of hunger and other diseases than the actual Covid-19. In normal times, thousands die every day in Africa due to other illnesses and communicable diseases.

Lockdowns worsen these as many of the victims of these now have little or no cash to attend to themselves. Soon the pharmacy shops will run out of imported drugs. Even local pharmaceutical manufacturing firms need imported inputs but cannot efficiently source them under lockdowns/border closure (even more so with restrictions in China and India). Soon local, adulterated ones may fill the gap. A summary point is that the millions of persons in the street, who are struggling between life and death each day with numerous other challenges do not, and will never, understand why so much additional hardship is being foisted upon them because of the novel coronavirus. For most of them (wrongly though), it is an elite problem since for them, the “hunger/other disease virus is more dangerous than corona virus”. The hungry and desperate millions may be forced to take desperate actions to survive, and little surprise that crime has spiked in several African countries with lockdowns.

### Other Impacts:

According Lukman AbdurRaheem (2020), other strategic impacts will be experienced as follows:

#### Political Impact:

1. Weakened governance capacity
2. Suspension of direct diplomatic relations.
3. Delayed signing of bilateral and multilateral agreements.
4. Prevent governments and their agencies from discharging direct oversight functions because of fear of infection and death.

#### Economic Impact:

1. Shutdown of business activities.
2. Inflation and hike in prices
3. Cut-off of supply chain
4. Disruption of business activities of artisans.
5. Fall in oil prices
6. Temporary unemployment for some and permanent loss of jobs and incomes for others.
7. Value of various currencies would crash and is crashing already.
8. Savings of ordinary people will vanish because they will keep on withdrawing their



money for food and basic things of life that are already inflated.

#### **Social Impact:**

1. Shutdown of places of worship.
2. Shutdown of recreation centres.
3. Compulsory observance of social distancing including self-isolation for some people.
4. Evolving new ways of social and cultural interactions.
5. Disruption of weddings, concerts, sports, conferences, parties and other social events.
6. Restriction on freedom and social liberty of people.
7. Emergence of new ways of greeting and strange social interactions.

#### **Technological Impact:**

1. Widespread E-activities: E-governance. E-commerce etc.
2. Increased relevance of ICT softwares and application.
3. Increased online social interaction.
4. Increased acceptance of online education and training for students.
5. Emergence of forced online Communities.

#### **Environmental Impact:**

1. Increased environmental awareness for the people.
2. Growing concerns about personal hygiene by the people.
3. Increased used of sanitizers and disinfectants.
4. Proliferation of dangerous substances in the public domain as sanitizers and protective masks.
5. The earth is heavily abused with toxic materials, pollutants and life-threatening biological weapons.

#### **Legal Impact:**

1. Curtailed fundamental human rights.
2. Delayed dispensation of justice
3. Increased use of force on people.
4. Close down of courts.
5. Inability to conduct due diligence on legal aspects of businesses.
6. Forced decongestion of prisons/amnesty

### **1. Preparing For Post Lockdown Advocacy Using An Office Setting Post Covid-19 Lockdown; Safety And Health Advisory**

The last couple of months have seen us all locked at home as part of official steps to contain the spread of the killer Covid-19 especially in Africa. From all indications, Nigeria, Ghana is likely to relax

the lockdown very soon, and may replace with a daily curfew. Part of the plan is to now insist on the facemask in public etc. It will become mandatory. In readiness for this new regime, we should be well advised and prepared. In addition, we also need to put all measures in place towards guaranteeing maximum protection at the work place for everyone. For everyone's safety, it will be necessary to ensure the fullest compliance. Truth is this Covid-19 is too deadly to joke with.

#### **Wearing Of Face Masks:**

It is now mandatory to wear this within the office. Indeed from all indications, everyone must now wear the facemasks outside our homes. The Company will make arrangements for all staff to have the masks to be worn within the office. There will be no excuse for not wearing the mask within the office at all times.

#### **Sanitizers, Hand Washing Et Al:**

All citizens must mandatorily apply the sanitizers before going and coming home. We must have them at the gate house for visitors, the reception, and at key points within the offices, marketplace etc. No visitor comes into the agency without washing their hands with soap and water or applying the sanitizer. Staff are more encouraged to wash your hands with soap and water, which is also a strong preventive. Every time anyone goes out of the office, on return, the sanitizer must be used. The receptionists will ensure full compliance. This is also one of the must-do expectations from the government.

The plan should be to create reasonable spacing between individuals to comply with the social distancing instruction. In addition, let us suspend hugging and handshakes. Also all shared cups, plates and eating utensils need to be well washed and kept dry. Please don't share your cardigans or jackets as well. If anyone is cold, they must use their personal clothing to keep warm.

#### **Other Safety Measures:**

Staff must observe routines like coughing into our elbows. Office assistants must regularly wipe door handles, toilet seats etc., with methylated spirit and disinfectants.

#### **Agency Vehicles:**

The inside of official and pool cars must be regularly wiped with sanitizers or methylated spirits (steering wheels; gear knobs; hand brakes; door handles etc.) Drivers must also use sanitizers before they drive these cars. For those who have official or private drivers, please ensure your drivers comply. There is enough proof to show that these are serious contact points.

#### **Vitamin C:**

Staff are encouraged to buy and take regular doses of Vitamin C to build the immune system. This is critical. Recommended dosage is 1000mg daily. Staff are also encouraged to consume fruits rich in





Vitamin C. The objective is to boost and build up the immune system. Sadly, many patients reportedly died because of weak immune system.

#### **Fluids:**

You are also encouraged to hydrate very regularly by drinking lots of fluid, especially room temperature water. In addition, at least early in the day and late in the evening, staff are encouraged to take hot beverages. The reason is that in the early period of the C-19, the virus spends between three and four days around the throat area before moving to the lungs where it does the main damage. Taking lots of room temperature fluids and hot beverages at least twice daily helps flush it down to the digestive area where the digestive fluids reportedly can neutralize it.

#### **Vigilance:**

For everyone's sake, staff must be observant and remain vigilant. Should you notice any member of staff showing symptoms like persistent cough, sneezing, showing signs of being generally unwell etc., please notify management immediately, so that such a staff is assisted towards seeking medical observation and help. Such staff must promptly present relevant medical reports before they are allowed to return to work.

#### **Others:**

Screen savers must be developed to remind all staff of the need to regularly comply with these instructions. We must also design and paste posters in strategic positions within the office conveying these key instructions and the need to comply.

#### **Office Sanitation:**

Organisations must liaise with the relevant state authorities to come and disinfect our offices with their special disinfectants. This must include the external and internal spaces. We also want to confirm from them how regularly we need to do this. We are doing all these and more to ensure that we are all kept safe. Coronavirus is deadly.

## **2. Imperatives Of Working Remotely From Homes- Post Covid-19**

For some months now, surveys after survey have shown that the majority of people want to work from home. While this world-wide shutdown didn't happen to test out just how effective working from home is, it's been a nice side effect. And some people have discovered that they hate it.

Now, it's important to remember that Corona-commuting is not the same as normal tele-commuting. When you work from home in regular times, your kids are at school, the cafés are open, and you're not concerned about you or your loved ones maybe. So, don't think this is how working from home has to be. It isn't. But, even working from home during normal times isn't something that works for everyone.

On the flip side, while some people are finding that they hate working from home, in their eyes, as the thoughts of giving up expensive leased office space dances before them. If everyone works from home, then overhead costs drop. It's not an insignificant expense.

But, before businesses decide to increase working from home, think through these things.

If you live in a large house where you can easily have dedicated office space, working from home can be great. If you live in a small apartment with four roommates, working from home is not a practical long-term solution. Depending on what you do, sitting at the kitchen table for hours on end can wreak havoc on your back and your roommates' patience.

Working at home works better for higher paid people with more resources at home. While working at home can save commuting costs (which can be substantial in some areas for some people), if you don't have enough space to have a dedicated desk and appropriate office chair, it won't work well.

Teamwork can be harder at home □

I'm not going to argue that you can't build a strong team remotely. I've worked from home for a month plus now and have built strong relationships with people who I've never actually met in person. It's possible. But it's harder.

It can seem awkward and like a huge time waster to ask at the beg- video conference if everyone is caught up doing something else. But, when you walk into the office in the morning and say, "Oh my word, please tell me you're watching this!" it's a casual conversation.

Those kinds of conversations do help for team building. When you get to know your coworkers as individuals, you're more willing to listen to their ideas and ignore their flaws.

People need people in Africa context □

Even though we like to say people are either extroverts or introverts, it's not that black and white. Human contact is an essential aspect of mental health. Some people need more contact than others. When working from home during normal times, you can go to a café, meet friends for lunch, or fulfill your people-needs with your healthy social life. That's enough for a lot of people! But, for some people, it's not enough. They need more contact, and working in an office

Work never ends □

When you work from home, boundaries can become confusing on all sides. Your neighbors see you at home and (if you're female) think you're available for free babysitting. Your boss knows your computer and all your materials are right there, so surely you can knock out this one project at 9:30 p.m at night via African time! It's easier to set boundaries with other people, though, then it is with yourself. It can be challenging to make yourself step away from





the “office” when it’s next to your bed. Days blur into nights, and there are no bright lines for off-and-on the clock.

All of this doesn’t mean I’m not a champion for working at home. I am! I love it. Or at least, I did love it, and I’ll love it again when children go back to school, and my favorite cafés re-open. But, if you have found that you hate working from home, there’s not something wrong with you.

If you’re a business owner that is tempted to go to a 100 percent remote model, think about how that moves will impact your business and your employees. It may be fantastic. It may not be. Talk with people before you make final decisions. And no matter what, everyone keep safe out there.

I am also putting forward arguments in favor of remote working (where this is possible)-:

The environment is better off when we work from home, let’s do it for future generations. Our families are better off too, let’s do it for loved ones. Office politics is harder when you can’t grovel, let’s try it. The extra time from giving up our daily commute is good for our health, that’s a good reason to. Our wardrobe is much cheaper too, none of those ties & suits, I vote yes.

We eat healthier when we eat at home, that’s certainly an excellent reason. We spend less when we don’t have to commute, that should feel like a salary increase. Office bullying is harder when you work remotely, and when it occurs, easier to prove. Operating cost is lower when staff work remotely, and that should help businesses in these difficult times.

### 3. LOCKDOWN REFLECTIONS

#### The Big Picture In Lockdown\*

In as much as COVID-19 pandemic is regrettable by what it portends for inclement times, I also want to say it can also be a blessing in disguise.

Brainstorming with a friend, we came to the conclusion that this is the best time to ask ourselves serious questions so as to reinvent oneself.

If you have been working for a company for more than 5yrs and you don't have 100k savings ... \*You Need To Think\*

If you have been doing a particular hustle for more than 5yrs and nothing to show for it... \*You Need To Think.\*

If you've spent one month at home under Lockdown drawing from your reserves without cash inflows from other sources.....\*You Need To Think.\*

IF You've spent 30 days at home browsing the internet, responding to greetings in Facebook, looking up pictures in Instagram, watching YouTube videos, responding to WhatsApp chats, calling everyone and nobody is calling you.... \*You Need To Think.\*

IF you've spent 30 days at home eating delicacies ,drinking choice wine, sleeping, watching movies and

exercising in your gym without reading a word from any book.....\*You Need To Think\*

\*30 days Lockdown means 720 idle hours. \*720 idle hours translates to 43,200 minutes of idle time.

\*8 Man hours work-time per day translates to 240 hours lost time or capacity under- utilization or inefficiency index.

Life has given us almost three months to think about ourselves and come out with a Grand Strategy and productive plan to stem the tide. What we are facing now is almost the same thing retirees face when they retire and even worse.

One thing to note for sure is that, at the end of this pandemic, many businesses will suffer severe setbacks and new ones will emerge out of thick skin. Start-Ups will swallow SMEs, Digital media will bury traditional media, and Artificial Intelligence will take out unskilled labour.

Billionaires will feel the heat and new ones will need longer time to emerge. So, ask yourself, which side will I belong to when this Lockdown is over?

Meanwhile, as we speak, most companies are also typing their own \*redundancy\* letters to be distributed. Don't spend your time waiting for \*COVID-19\* daily statistics and doing all manner of social media challenge.

It is only in the third world Africa inclusive that the Lockdown is considered holidays without electricity, ventilators, test kits and face masks.

### 4. WAY FORWARD

#### Summary And Recommendations:

As a matter of urgency, African countries should urgently open their borders for free flow of economic activities as well as quickly remove the stay at home/lockdown orders. Africa cannot sustain lockdowns measures.

Government should provides incentives like tax break and holidays for organisations in order to kick-start economic activities.

Banks should provide moratorium and lower interest rate on loans so that investors can go back to the draw board and map out strategies to revive the economy.

Companies will stay execution on retrenchment and take some hit on their profit margin. Jobs loss should not be considered now to avoid traumatic and psychological postures on the citizens.

A renewed push for economic diversification to ensure most of consumptions is provided locally and reduces pressure on our local currencies and create a balance trade margin.

Africa needs to shut her doors to develop inwards in order to revolutionize their economies. This is imminent because global economy has been negatively affected so nowhere to run to because every nation or continent is struggling to find a new road map.



Expanding or looking at International business at this point is not achievable as the coast is not clear and very rough at the moment. The International Business World is in jeopardy and still struggling to find a new footing through this Covid-19 pandemic. They are yet to focus on the effect of Covid-19 and how to navigate through its negative impact.

Looking inwards to develop local contents to ignite local economy in the communities where they are found and further development for international market is the way to go. This will create employment and grow local community and a summation of this in the continent will reflate the economy faster.

Massive development of the country's agricultural products with added value for export will bring foreign earnings. In Nigeria for instance, there are identified agricultural products from various communities that have been abandoned, undeveloped. This is the time to rejuvenate them. A mass agricultural programme to be put in place.

Policy relaxation to encourage MSMEs businesses is important particularly in community commercial activities. The use of locally fabricated component should greatly be encouraged. This is a product being looked for internationally. Intervention funds from governments and other international agencies should be shop for immediate rescue of the economies. These will engage part of our 65% young population in local content manufacturing and secure the future economy of African youths.

We need a total change in our mindset from leadership to citizenship. We need those that are committed to stemmed down or properly provide structures for poverty alleviation. This means, all intervention funds particularly for rural dwellers should be given through their local Microfinance Banks who can follow up on the financed projects. Too many unco-ordinated special purpose mechanisms for financing do not really provide expected results.

African leaders at different levels should be able to tackle weak health systems and infrastructure through establishment of standard laboratories, intensive care units, and isolation centres across their boundaries. The health infrastructure should be recalibrated for the good of the people, and in readiness for future emergencies. As long term measure, emphasis will be placed on integrating local content in proven researches in cure, and production of materials in the health sector.

Major rural road construction programmes and Mass housing programmes should be put in place to avoid more rural to urban drift. Large scale installation of residential solar systems, utilizing mainly local materials.

Governments should be time-sensitive on expenditures and to be prioritized over less critical spending and possibly financial controls are to be strengthened to detect, eliminate and sanction

instances of waste, funds misappropriation and corruption.

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## PREDICTION OF PRESSURE DROP BY FLOW TO TWO PHASES, GAS-LIQUID IN VERTICAL PIPES

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### ABSTRACT

*Prediction of pressure drops in vertical pipes when the flow is two phases gas-liquid, requires knowledge of the flow pattern that is being presented. In an earlier article <sup>[17]</sup> the authors presented these flow patterns and how to evaluate them. This article introduces some methods for evaluating the pressure drops in the two-phase, gas-liquid, vertical flow, and presents examples for clarifying these correlations.*

**KEYWORDS :** *Flow to two gas-liquid phases, vertical pipes, pressure drops.*

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### 1.-INTRODUCTION

In the design of pipes with two-phase flow, the engineer is primarily concerned with the calculation of pressure drop, which should be estimated quite accurately. It has been recognized for years that in order to improve the prediction of the different constituent parameters of this phenomenon, which are the volumetric fraction of each phase (holdup), pressure drop, heat and mass transfer, as well as other hydraulic parameters, it was necessary to consider the detailed structure of the flow configuration. These configurations, which are related to the distribution of phases within the pipe, are called flow patterns or regions. Many experimental and theoretical work has been carried out to predict the pressure drop and the type of flow pattern produced in the pipes, but so far, no general correlation has been found. This is due to the existence of a certain number of complications that hinder the use of a single correlation. The largest of these, in the two-phase flow is the variety of flow patterns that can occur. The type of flow pattern found depends on fluid properties, flows, and equipment geometry.

Although no general correlation has been found applicable to all flow types, correlations have been developed for specific flow patterns. One of the first to do a visual classification of flow patterns was Alves <sup>[1]</sup>. Flow patterns are empirically correlated based on the flows and properties of fluids. The mechanism of momentum transfer varies with the flow pattern.

### 2.- PREDICTION OF PRESSURE FALL IN VERTICAL PIPES

Similar to flow in horizontal pipes, in the vertical flow there are correlations or semi-empirical models to calculate pressure drops, and there are also theoretical models for the same purpose. Both classes of models are based on the work of the researchers who developed the correlations for horizontal flow. In the case of semi-empirical models, Lockhart and Martinelli's work is the basis, and in theoretical models, the assumption of homogeneous flow is fundamental in the development of new models.

#### **Semi-empirical correlations**

Following the approaches of Lockhart, Martinelli and Baker, Kern<sup>[2]</sup> proposes Davis <sup>[3]</sup> correlation to find friction losses in flow to two vertical gas-liquid phases. In his correlation, Davis modified the Lockhart-Martinelli module as follows:



$$X_D = 0.19 X(Fr)^{0.185} \quad (1)$$

Where:  $X_D$  = Lockhart-Martinelli module modified by Davis. ;

$X$  = Lockhart-Martinelli module.

$Fr$  = Froude number:

$$Fr = \frac{V_M^2}{gD} \quad (2)$$

$V_M$  = mixing velocity

$$V_M = \frac{\frac{W_L}{\rho_L} + \frac{W_G}{\rho_G}}{3600 A} \quad (3)$$

Davis Method:

1.- Determine the flow rate by calculating the Reynolds number for each phase and using the Lockhart-Martinelli criteria: If  $Re > 2000$ : Turbulent Regime ; If  $Re < 1000$ : Viscous Regime.

2- Get Lockhart-Martinelli parameter  $X$  See reference [3].

3.- Calculate the velocity of the mixture consisting of the liquid and gas phases, with equation 3.

4.- Calculate Froude number with equation 2.

5.- Get the  $X_D$  parameter of Davis with equation 1.

6.- Calculate the Lockhart-Martinelli  $\phi_G$  parameter using the Davis equation:

$$\phi_G = \exp \{ 1.4659 + 0.49138 (\ln X_D) + 0.04887 (\ln X_D)^2 - 0.000349 (\ln X_D)^3 \} \quad (4)$$

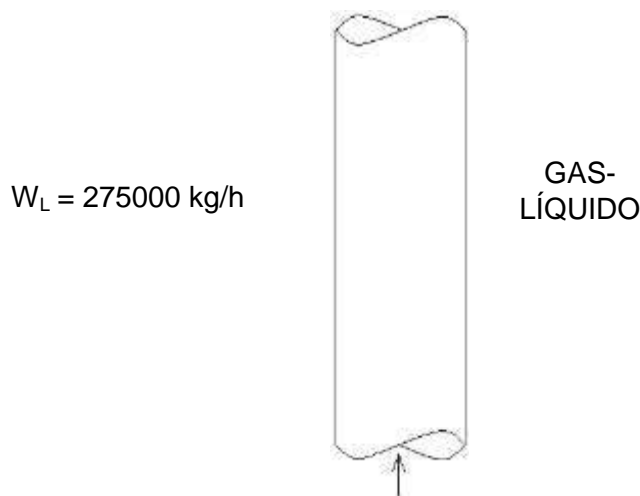
7.- Calculate friction pressure drop with equation A.

$$\Delta P_{2F} = \phi^2 \Delta P_{1F} \quad (A)$$

### Example 1

What is the pressure drop that can be obtained in a 18-inch 40-inch pipe, if 275000 kg/h of liquid pass up with a density of  $537 \text{ kg/m}^3$ , viscosity of 0.1 cp and 5.7 dinas/cm of surface tension? In addition, 325000 kg/h of vapours with density of  $32 \text{ kg/m}^3$  and viscosity of 0.01 cp pass through the pipe.

1.- Translation



2.-Planning

2.1.-Discussion

Flow pattern can be obtained by map of González Ortiz <sup>[4]</sup> or by using Oshinowo-Charles <sup>[5]</sup> for upstream flow.





2.2.-Pressure drop.

Davis correlation will be used to obtain frictional pressure losses.

### 3.-CALCULS

3.1.-Flow pattern.

D = 16.876 in=.04287 m ; A . 0.1443 m<sup>2</sup>

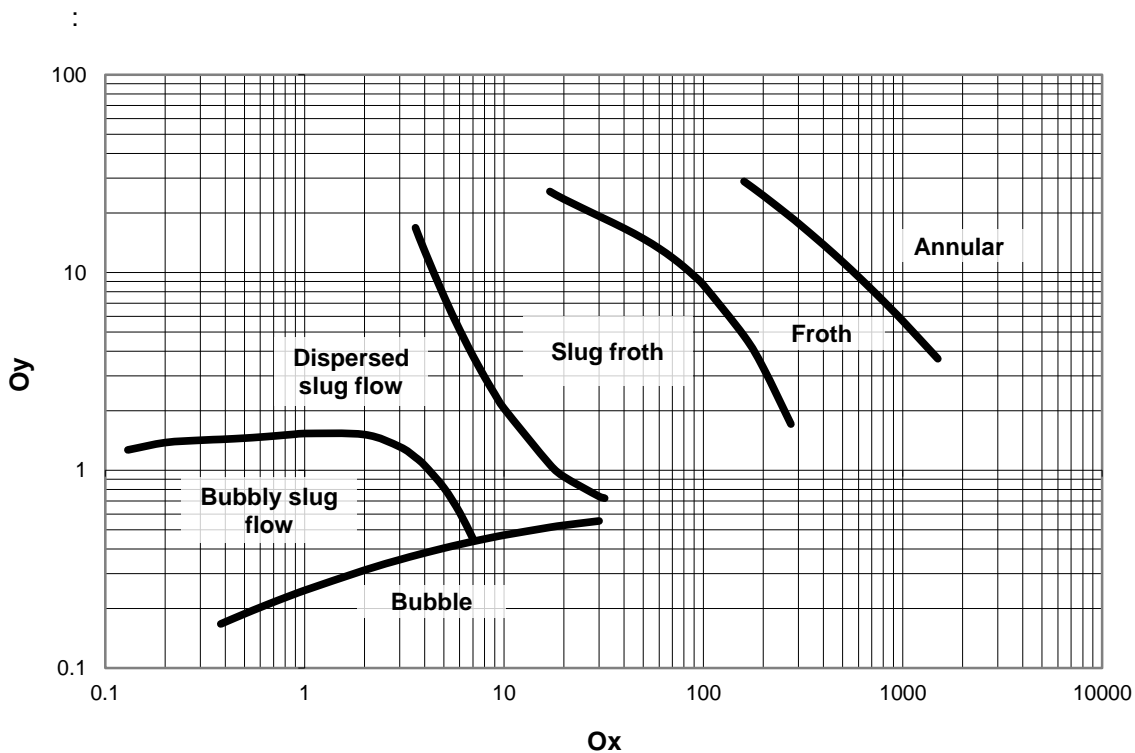
From the Map of González Ortiz<sup>[4]</sup>

$$v_{SG} = \frac{325000 \frac{\text{kg}}{\text{h}}}{3600 \frac{\text{s}}{\text{h}} \left( 32 \frac{\text{kg}}{\text{m}^3} \right) (0.1443 \text{ m}^2)} = 19.55 \frac{\text{m}}{\text{s}}$$

$$v_{SL} = \frac{275000 \frac{\text{kg}}{\text{h}}}{3600 \frac{\text{s}}{\text{h}} \left( 537 \frac{\text{kg}}{\text{m}^3} \right) (0.1443 \text{ m}^2)} = 0.986 \frac{\text{m}}{\text{s}}$$

The flow is foam and is very close to the borders with scrambled and annular flows.

From the Map of Oshinowo-Charles<sup>[5]</sup>:



$$v_{2F} = 0.986 \frac{\text{m}}{\text{s}} + 19.55 \frac{\text{m}}{\text{s}} = 20.54 \frac{\text{m}}{\text{s}}$$



$$Fr_{2F} = \frac{\left(20.54 \frac{\text{m}}{\text{s}}\right)^2}{9.81 \frac{\text{m}}{\text{s}^2} (0.4287 \text{ m})} = 100.28$$

The properties of water are obtained from tables, for which it is considered a temperature of 20 °C, because it is an average ambient temperature.

$$\Lambda = \left(\frac{0.1 \text{ cp}}{1 \text{ cp}}\right) \left[ \left( \frac{997 \frac{\text{kg}}{\text{m}^3}}{537 \frac{\text{kg}}{\text{m}^3}} \right) \left( \frac{72.75 \frac{\text{dina}}{\text{cm}}}{5.7 \frac{\text{dina}}{\text{cm}}} \right)^3 \right]^{\frac{1}{4}} = 0.788$$

$$Ox = \frac{100.28}{\sqrt{0.788}} = 112.96$$

$$R_v = \frac{325000 \frac{\text{kg}}{\text{h}} \left(537 \frac{\text{kg}}{\text{m}^3}\right)}{275000 \frac{\text{kg}}{\text{h}} \left(32 \frac{\text{kg}}{\text{m}^3}\right)} = 19.83$$

$$Oy = \sqrt{19.83} = 4.45$$

The flow is foaming bullet and is located near the border with the foam flow. In conclusion, the flow pattern determined by these maps is a frothy flow in the transition of bullet and scrambled flows.

### 3.2.-Pressure drop

The Davis method, then applied, does not need the calculation of the flow pattern present in the vertical line. Only the flow pattern was determined in order to show the use of vertical flow pattern maps.

Pressure drop in the liquid phase:

$$Re_{SL} = \frac{0.4287 \text{ m} \left(0.986 \frac{\text{m}}{\text{s}}\right) \left(537 \frac{\text{kg}}{\text{m}^3}\right)}{\left(0.001 \frac{\text{kg}}{\text{cp}}\right) (0.1 \text{ cp})} = 2.27 \times 10^6 \text{ turbulent}$$

From Moody's graph:

$$e/D = 0.00013$$

$$f_D = 0.0125$$



$$\Delta P_L = \frac{0.0125 \left( 0.986 \frac{\text{m}}{\text{s}} \right)^2 \left( 537 \frac{\text{kg}}{\text{m}^3} \right) (1\text{m})}{2 \left( 9.81 \frac{\text{mkg}}{\text{s}^2 \text{kgf}} \right) (0.4287\text{m})} = 0.776 \frac{\text{kgf}}{\text{m}^2}$$

Pressure drop in the gas phase:

$$\text{Re}_{SG} = \frac{0.4287\text{m} \left( 19.55 \frac{\text{m}}{\text{s}} \right) \left( 32 \frac{\text{kg}}{\text{m}^3} \right)}{\left( 0.001 \frac{\text{kg}}{\text{ms}} \right) (0.01\text{cp})} = 2.68 \times 10^7 \text{ turbulent.}$$

From Moody's graph:

$$e/D = 0.00013$$

$$f_D = 0.0122$$

$$\Delta P_G = 6.379 \times 10^{-7} \left( 325000 \frac{\text{kg}}{\text{h}} \right)^2 (1\text{m}) \left( \frac{0.0122}{(0.4287\text{m})^5 \left( 32 \frac{\text{kg}}{\text{m}^3} \right)} \right) = 1774 \frac{\text{kgf}}{\text{m}^2}$$

Parameter X:

$$X = \left( \frac{0.776}{1774} \right)^{0.5} = 0.0209$$

Parameter  $X_D$ :

$$v_M = \frac{\frac{275000 \frac{\text{kg}}{\text{h}}}{537 \frac{\text{kg}}{\text{m}^3}} + \frac{325000 \frac{\text{kg}}{\text{h}}}{32 \frac{\text{kg}}{\text{h}}}}{3600 (0.1443 \text{m}^2)} = 20.54 \frac{\text{m}}{\text{s}}$$

$$\text{Fr} = \frac{\left( 20.54 \frac{\text{m}}{\text{s}} \right)^2}{9.81 \frac{\text{m}}{\text{s}^2} (0.4287\text{m})} = 100.28$$

$$X_D = 0.19 (0.0209) (100.28)^{0.185} = 0.00932$$

Two-phase drop pressure:



$$\phi_G = \exp\{ 1.4659 + 0.49138 (\ln 0.00932) + 0.04887 (\ln 0.00932)^2 - 0.000349 (\ln 0.00932)^3 \}$$

$$\phi_G = 1.313$$

$$\Delta P_{2F} = (1.313)^2 \left( 1774 \frac{\text{kgf}}{\text{m}^2} \right) = 3059 \frac{\text{kgf}}{\text{m}^2}$$

#### 4.-RESULT

Friction pressure drop is 3059 kgf/m<sup>2</sup> per tube meter.

It is worth noting the non-dependence of Davis correlation on the flow pattern developed in the pipe, as can be seen in the method applied to this example.

#### Homogeneous models

Based on the homogeneous flow model<sup>[6]</sup>, Hughmark and Pressburg<sup>[7]</sup> proposed the following balance equation to assess two-phase flow pressure losses in vertical pipes:

$$\frac{L(W_L + W_G)}{\frac{W_L}{\rho_L} + \frac{W_G}{\rho_G}} - (P_1 - P_2) + \Delta P_{2F} = 0 \tag{5}$$

The first term of this equation corresponds to the pressure change due to potential energy. The second term corresponds to the total pressure drop for flow to two vertical upward phases. The third term is the pressure drop due to friction. The latter is produced by two mechanisms:

- 1.- The friction exerted by the fluid on the walls of the tube.
- 2.- The turbulence between the two phases, which is a function of the slip velocity:

$$V_{SLIP} = V_G - V_L \tag{6}$$

Where: VSLIP - sliding velocity between the two phases. V<sub>G</sub> - actual velocity of the gas phase. V<sub>L</sub> - actual velocity of the liquid phase.

Hughmark and Pressburg defined the following parameter to relate the physical properties of the liquid to the total speed mass of the mixture:

$$\Psi = \frac{1}{\mu_L^{0.147} \sigma_L^{0.194} G_T^{0.70}} \tag{7}$$

Where: μ<sub>L</sub> - viscosity of the liquid in cp. ; σ<sub>L</sub> = -surface tension of the liquid in dina/cm. G<sub>T</sub> - total mix mass velocity mass in lb/(ft<sup>2</sup> s).

Assuming that the only the liquid flows through the pipe, these researchers developed the graph in Figure 1, in which they linked the frictional pressure drop to two phases with the sliding speed and the parameter . Hughmark and Pressburg also present a graph to calculate the liquid holdup for the flow to two phases vertical upwards (Figure 2). To produce this graph, they defined a parameter where they relate the physical properties of the phases and their more than flows:

$$X = \left( \frac{W_L}{W_G} \right)^{0.9} \frac{\mu_L^{0.19} \sigma_L^{0.205} \rho_G^{0.70} \mu_G^{2.75}}{G_T^{0.435} \rho_L^{0.72}} \tag{8}$$

Where: W<sub>L</sub> and W<sub>G</sub> - massive flows of the liquid and gas, respectively, in lb/s.

ρ<sub>L</sub> and ρ<sub>G</sub> - liquid and gas densities, respectively, in lb/ft<sup>3</sup>.

#### Hughmark-Pressburg method:

- 1.- Calculate pressure drop due to potential energy difference:



$$\Delta P_{\text{potencial}} = \frac{L(W_L + W_G)}{\frac{W_L}{\rho_L} + \frac{W_G}{\rho_G}} \left[ \frac{\text{kgf}/\text{m}^2}{\text{m}} \right] \quad (9)$$

2.- Calculate the X parameter of Hughmark - Pressburg with equation 8.

3.- Obtain the liquid holdup using the graph in Figure 2.

4.- Calculate the actual speed of each of the phases:

$$v_L = \frac{W_L}{1097.28 R_L \rho_L A} \left[ \frac{\text{ft}}{\text{s}} \right] \quad (10)$$

$$v_G = \frac{W_G}{1097.28(1-R_L)\rho_G A} \left[ \frac{\text{ft}}{\text{s}} \right] \quad (11)$$

Where: WL and WG - massive flows of liquid and gas in kg/h.

$\rho_L$  y  $\rho_G$  = liquid and gas densities in  $\text{kg}/\text{m}^3$ . A - transverse area of the pipe in  $\text{m}^2$

5.- Calculate the sliding velocity between phases with equation 6.

6.- Calculate the Parameter  $\psi$  of Hughmark-Pressburg with Equation 7.

7.- Obtain  $\frac{\Delta P_{2F} - \Delta P_L}{L}$  by the graph in Figure 1, using the sliding velocity between the phases and the parameter  $\psi$ .

The coordinate units are : the abscissa is in ft/s and the ordered in  $(\text{lbf} / \text{ft}^2) / \text{ft}$ .

8.- Calculate the pressure drop of the liquid phase, assuming that it occupies the entire volume of the pipe:

$$\frac{\Delta P_L}{L} = 3.182 \times 10^{-3} \frac{f_D G_T^2}{D \rho_L} \left[ \frac{\text{lbf}/\text{ft}^2}{\text{ft}} \right] \quad (12)$$

Where:  $G_T$  - total mass velocity of the mixture in  $\text{kg}/(\text{m}^2 \text{ s})$ .; D - internal diameter of the pipe in m.  $\rho_L$  = density of the liquid in  $\text{kg}/\text{m}^3$ .

9.- Calculate friction pressure drop:

$$\frac{\Delta P_{2F}}{L} = \frac{\Delta P_L}{L} + \left( \frac{\Delta P_{2F} - \Delta P_L}{L} \right) \left[ \frac{\text{lbf}/\text{ft}^2}{\text{ft}} \right] \quad (13)$$

To convert  $\frac{\text{lbf}}{\text{ft}^2}$  to  $\frac{\text{kgf}}{\text{m}^2}$ , multiply by 16.0185.

10.- Get total pressure drop:

$$\Delta P_{\text{Total}} = (P_1 - P_2) = \Delta P_{\text{potencial}} + L \left( \frac{\Delta P_{2F}}{L} \right) \left[ \frac{\text{kgf}}{\text{m}^2} \right] \quad (14)$$



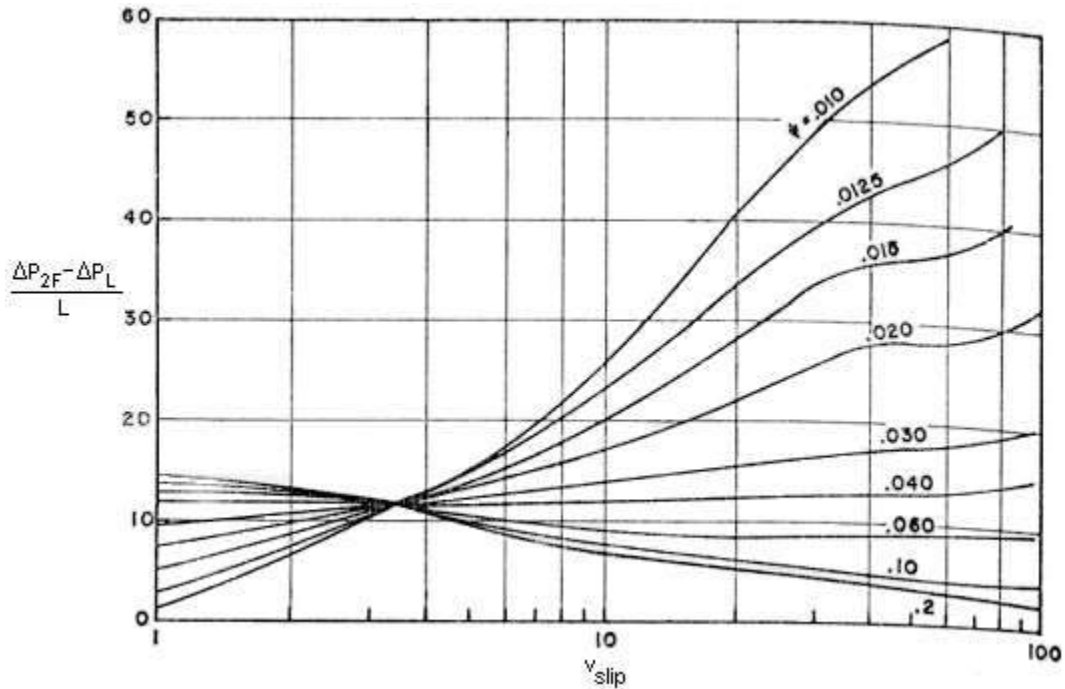
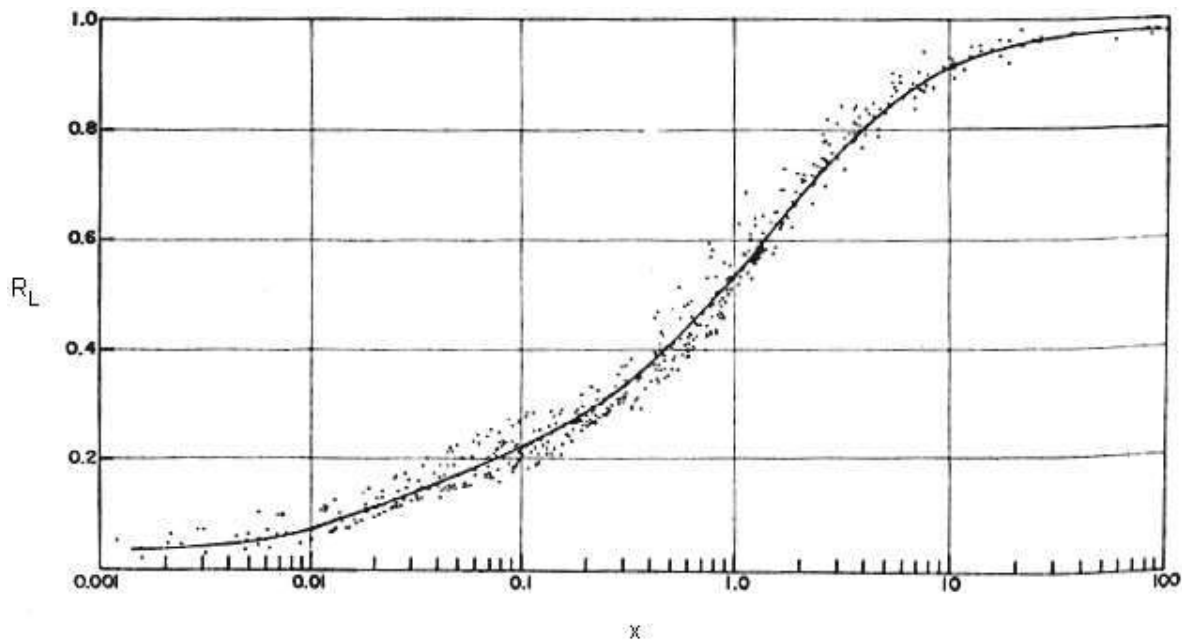


Figure 1.- Hughmark-Pressburg graph for friction pressure drop. (1961)



Figure

2.- Hughmark-Pressburg graph for liquid holdup. (1961)

**Example 2**

If the above example were resolved by the method proposed by Hughmark and Pressburg, what would be the pressure drop?

**3.-CALCULATIONS**

**3.1.-Holdup liquid**



$$G_T = \frac{275000 \frac{\text{kg}}{\text{h}} + 325000 \frac{\text{kg}}{\text{h}}}{3600 (0.1443 \text{m}^2)} = 1155 \frac{\text{kg}}{\text{m}^2 \text{s}} = 4158004 \frac{\text{kg}}{\text{m}^2 \text{h}} = 236.56 \frac{\text{lb}}{\text{ft}^2 \text{s}}$$

$$\rho_L = 537 \text{ kg/m}^3 = 33.5 \text{ lb/ft}^3$$

$$\rho_G = 32 \text{ kg/m}^3 = 2 \text{ lb/ft}^3$$

$$X = \frac{\left( \frac{275000 \frac{\text{kg}}{\text{h}}}{325000 \frac{\text{kg}}{\text{h}}} \right)^{0.9} (0.1 \text{cp})^{0.19} \left( 5.7 \frac{\text{dina}}{\text{cm}} \right)^{0.205} \left( 2 \frac{\text{lb}}{\text{ft}^3} \right)^{0.70} (0.01 \text{cp})^{2.75}}{\left( 236.56 \frac{\text{lb}}{\text{ft}^2 \text{s}} \right)^{0.435} \left( 33.5 \frac{\text{lb}}{\text{ft}^3} \right)^{0.72}} = 3.02 \times 10^{-8}$$

In Figure 2, the  $R_L$  in the  $R_L$  chart X is asymptotic to very small values of the X parameter. Therefore:  $R_L = 0.05$   
 3.2.-Sliding velocity between phases

$$v_L = \frac{275000 \frac{\text{kg}}{\text{h}}}{1097.28 (0.05) \left( 537 \frac{\text{kg}}{\text{m}^3} \right) (0.1443 \text{m}^2)} = 64.69 \frac{\text{ft}}{\text{s}}$$

$$v_G = \frac{325000 \frac{\text{kg}}{\text{h}}}{1097.28 (1 - 0.05) \left( 32 \frac{\text{kg}}{\text{m}^3} \right) (0.1443 \text{m}^2)} = 67.52 \frac{\text{ft}}{\text{s}}$$

$$v_{\text{SLIP}} = 67.52 \frac{\text{ft}}{\text{s}} - 64.69 \frac{\text{ft}}{\text{s}} = 2.83 \frac{\text{ft}}{\text{s}}$$

3.3.-Friction pressure drop.

$$\psi = \frac{1}{(0.1 \text{cp})^{0.147} \left( 5.7 \frac{\text{dina}}{\text{cm}} \right)^{0.194} \left( 236.56 \frac{\text{lb}}{\text{ft}^2 \text{s}} \right)^{0.70}} = 0.0218$$

From fig. 1:

$$\frac{\Delta P_{2F} - \Delta P_L}{L} = 12 \frac{\text{lbf}}{\text{ft}^2}$$



$$Re_L = \frac{DG_T}{\mu_L} = \frac{0.4287 \text{ m} \left( 1155 \frac{\text{kg}}{\text{m}^2 \text{ s}} \right)}{0.1 \text{ cp} \left( 0.001 \frac{\text{kg}}{\text{m s}} \right)} = 4.951 \times 10^6$$

From Moody:

$$e/D = 0.00013$$

$$f_D = 0.0123$$

$$\frac{\Delta P_L}{L} = 3.182 \times 10^{-3} \frac{0.0123 \left( 1155 \frac{\text{kg}}{\text{m}^2 \text{ s}} \right)^2}{0.4287 \text{ m} \left( 537 \frac{\text{kg}}{\text{m}^3} \right)} = 0.2268 \frac{\text{lbf}}{\text{ft}^2}$$

$$\frac{\Delta P_{2F}}{L} = 0.2268 \frac{\text{lbf}}{\text{ft}^2} + 12 \frac{\text{lbf}}{\text{ft}^2} = 12.2268 \frac{\text{lbf}}{\text{ft}^2} = 195.85 \frac{\text{kgf}}{\text{m}^2}$$

#### 4.-RESULTS

The friction pressure drop is 195.85 kgf/m<sup>2</sup> per tube meter, value just over ten times less than that obtained with Davis' method.

Note that the Hughmark-Pressburg correlation does not take into account the flow pattern present in the pipe. After Hughmark and Pressburg, Orkiszewski<sup>[8]</sup>, based on the work of Griffith and Wallis<sup>[9]</sup>, developed a correlation to predict pressure drop in oil wells and in pipes with upward vertical two-phase flow. In studying this phenomenon, Orkiszewski found a strong dependence on pressure drop in two factors: the difference in speeds of both phases (the sliding velocity between phases), and the geometry of the two phases (the flow pattern). The upstream patterns considered by Orkiszewski in its correlation are:

1.- Bubble flow. ; 2.- Bullet flow. ; 3.- Transition flow. ; 4.- Annular-fog flow.

According to this author, the total pressure drop is given by:

$$\left[ \frac{\Delta P_{2F}}{L} \right] = \frac{\tau_f + \rho_{2F} (\text{sen} \theta) \frac{g}{g_C}}{1 - AC} \quad (15)$$

Where:

L - height of the pipe run.

$\tau_f$  = friction pressure drop.

$\rho_{2F}$  = density of the mixture.

$\theta$  = the inclination angle of the pipe.

AC - Acceleration Pressure Drop:

$$AC = \frac{G_T v_{SG}}{g_C P_{av}} \quad (16)$$

$G_T$  = mixture mass velocity :



$$G_T = \frac{W_L + W_G}{3600 A} \quad (17)$$

$v_{SG}$  = gas surface velocity .

$P_{av}$  = average pressure in the pipe.

The inclination angle for upstream is 90 degrees, and for downflow it is 270 degrees or - 90 degrees. To determine the flow pattern, Orkiszewski defined the following dimensional parameters:

$$Gv = \frac{Q_G}{A} \left( \frac{\rho_L}{g \sigma_L g_C} \right)^{1/4} \quad (18)$$

$$Lb = 1.071 - 0.2218 \frac{v_{NS}^2}{D} \geq 0.13 \quad (19)$$

$$Ls = 50 + 36 Gv \frac{Q_L}{Q_G} \quad (20)$$

$$Lm = 75 + 84 \left( Gv \frac{Q_L}{Q_G} \right)^{0.75} \quad (21)$$

Where:

$Gv$  = dimension speed of the gas. ;

$Lb$  - number of the upward bubble flow, defines the border between the bubble and bullet flows. ;

$Ls$  - number of the upward bullet flow, defines the border between bullet flows and transition.

The number of the ascending mist flow, defines the border between transition and mist flows.

$Q_G$  and  $Q_L$  - volumetric flow of the gas and liquid phases in  $m^3/h$ .

$A$  - transverse area of the pipe in  $m^2$ .

$\rho_L$  - density of the liquid in  $kg/m^3$ .  $\sigma_L$  = surface tension of the liquid in  $kgf/m$ .

$g$  - Acceleration of Gravity -  $9.81 m/s^2$

$g_C = 9.81 m kg/(s^2 kgf)$  ;  $D$  - internal diameter of the pipe in ft.

$v_{NS}$  = mixing velocity in ft/s, equation 22:

$$v_{NS} = v_{SL} + v_{SG} \quad (22)$$

The flow patterns were defined by Orkiszewski as follows:

Bubble flow:  $\frac{v_{SG}}{v_{NS}} < Lb \quad (23)$

Bullet flow:  $\frac{v_{SG}}{v_{NS}} > Lb \text{ y } Gv < Ls \quad (24)$

Transition flow:  $Lm > Gv > Ls \quad (25)$

Mist flow:  $Gv > Lm \quad (26)$

From previous work and his own, this researcher was able to establish a series of correlations to calculate friction pressure drop and mix density, for each of the flow patterns. Bubble flow:

For this regimen, the density of the mixture and the liquid holdup are given by:

$$\rho_{2F} = R_L \rho_L + (1 - R_L) \rho_G \quad (27)$$



$$R_L = 0.5 - 0.625 v_{NS} + \left[ (0.5 + 0.625 v_{NS})^2 - 1.25 v_{SG} \right]^{1/2} \quad (28)$$

Where:

$v_{NS}$  = mixing velocity in ft/s. (Equation 22)

$v_{SG}$  = surface velocity of the gas phase in ft/s.

The friction pressure drop is given by Darcy's equation:

$$\tau_f = \frac{f_{2F} \rho_L \left( \frac{v_{SL}}{R_L} \right)^2}{2g_C D} \left[ \frac{\text{kgf/m}^2}{\text{m}} \right] \quad (29)$$

The friction factor for two-phase flow is calculated using the Chen equation, or is obtained by the Moody graph, where the Reynolds number is defined as:

$$Re_B = \frac{D v_{SL} \rho_L}{\mu_L R_L} \quad (30)$$

#### Bullet Flow:

The density of the mixture to two phases is given in this case by:

$$\rho_{2F} = \frac{G_T + \rho_L v_r}{v_{NS} + v_r} + \Gamma \rho_L \quad (31)$$

Where:

$v_r$  = velocity of Taylor's bubbles rise in m/s.

$\Gamma$  = dimension coefficient of liquid distribution;

$G_T$  - mass mixing velocity in kg/(s m<sup>2</sup>). (Equation 17);  $\rho_L$  - density of the liquid phase in kg/m<sup>3</sup>.  $v_{NS}$  = Mixing velocity in m/s. (Equation 22)

The Reynolds number for this flow is:

$$Re_S = \frac{D v_{NS} \rho_L}{\mu_L} \quad (32)$$

To get the ascent speed of Taylor's bubbles, DeGance and Atherton<sup>[6]</sup> defined the following parameters:

$$N_1 = 0.572 \times 10^5 \left[ -0.35 + \left( 0.1225 + \frac{0.04931 v_{NS}}{D^{0.5}} \right)^{1/2} \right] \quad (33)$$

$$N_2 = 0.5721 \times 10^5 \left[ -0.546 + \left( 0.2981 + \frac{0.01849 v_{NS}}{D^{0.5}} \right)^{1/2} \right] \quad (34)$$

Where;

$$\text{If } Re_S > N_1: \quad v_r = (1.985 + 4.958 \times 10^{-5} Re_S) D^{0.5} \left[ \frac{\text{ft}}{\text{s}} \right] \quad (35)$$

$$\text{If } Re_S < N_2: \quad v_r = (3.097 + 4.958 \times 10^{-5} Re_S) D^{0.5} \left[ \frac{\text{ft}}{\text{s}} \right] \quad (36)$$

$$\text{If } N_2 < Re_S < N_1: \quad v_r = 0.5 \left[ \gamma + \left( \gamma^2 + \frac{13.59 \mu_L}{\rho_L D^{0.5}} \right)^{0.5} \right] \left[ \frac{\text{ft}}{\text{s}} \right] \quad (37)$$





$$\gamma = (1.423 + 4.958 \times 10^{-5} Re_s) D^{0.5} \left[ \frac{ft}{s} \right] \quad (38)$$

En donde:

D = inner diameter of the pipe ft.

$\mu_L$  = Liquid viscosity centipoise.

$\rho_L$  = liquid density lb/ft<sup>3</sup>.

The liquid distribution coefficient ( $\Gamma$ ) depends on the type of continuous liquid phase, and is determined by the corresponding equation:

Continuos líquid phase	$v_{NS}$ (m/s)	Equation
Water	< 3	39
Water	> 3	40
Petroleum	< 3	41
Petroleum	> 3	42

$$\Gamma = \frac{0.013(\log \mu_L)}{D^{1.38}} - 0.681 + 0.232(\log v_{NS}) - 0.428(\log D) \quad (39)$$

$$\Gamma = \frac{0.045(\log \mu_L)}{D^{0.799}} - 0.709 - 0.162(\log v_{NS}) - 0.888(\log D) \quad (40)$$

$$\Gamma = \frac{0.0127[\log(\mu_L + 1)]}{D^{1.415}} - 0.284 + 0.167(\log v_{NS}) + 0.113(\log D) \quad (41)$$

$$\Gamma = \frac{0.0274[\log(\mu_L + 1)]}{D^{1.371}} + 0.161 + 0.569(\log D) - \log v_{NS} \left( \frac{0.01[\log(\mu_L + 1)]}{D^{1.571}} + 0.397 + 0.63(\log D) \right) \quad (42)$$

Where:

$\mu_L$  = viscosity of the liquid phase in centipoise.  $v_{NS}$  = mixing speed in ft/s. (Equation 46)

D - internal diameter of the pipe in ft.

In order to eliminate the discontinuities in pressure between flow regimes, the coefficient  $\Gamma$  is subject to the following restrictions:

If  $v_{NS} < 3$  m/s:  $\Gamma \geq -0.065 v_{NS} \quad (43)$

IF  $v_{NS} > 3$  m/s:  $\Gamma \geq \frac{v_r (G_T - v_{NS})}{(v_r + v_{NS})(v_r + v_{NS} + 1)} \quad (44)$

Where:  $G_T$  - mass mixing velocity in lb/(s ft<sup>2</sup>).

$v_{NS}$  = mixing speed in ft/s. (Equation 46)

Friction pressure drop is given by the following equation:

$$\tau_f = \frac{f_{2F} \rho_L v_{NS}^2}{2g_C D} \left( \frac{v_{SL} + v_r}{v_{NS} + v_r} + \Gamma \right) \left[ \frac{kgf}{m} \right] \quad (45)$$

Where:

$\rho_L$  - density of the liquid phase in kg/m<sup>3</sup>. ;  $v_{NS}$  - mixing speed at m/s.



$g_c = 9.81 \text{ m kg/(s}^2 \text{ kgf)}$  ;  $V_{SL}$  - surface speed of the liquid phase in m/s.

$V_r$  - velocity of ascent of Taylor's bubbles in m/s. ;  $D$  - internal diameter of the pipe in m.

The friction factor is obtained by the Moody chart (see the article published by the authors<sup>[10]</sup> "Prediction of pressure drop in horizontal pipes with gas-liquid flow – EPRA Journal of multidisciplinary Research vol.6,issue 5,may 2020, p.315) ,or calculated with Chen's equation, using the Res.

#### Transition Flow:

The density of the mixture in this regimen is the average of the mixing densities of the bullet and mist flows, and is expressed as follows:

$$\rho_{2F} = \frac{L_m - G_v}{L_m - L_s} [\rho_{2F}]_{bala} + \frac{G_v - L_s}{L_m - L_s} [\rho_{2F}]_{neblina} \quad (46)$$

Similarly, frictional pressure drop is the average friction loss of bullet and mist flows:

$$\tau_f = \frac{L_m - G_v}{L_m - L_s} [\tau_f]_{bala} + \frac{G_v - L_s}{L_m - L_s} [\tau_f]_{neblina} \quad (47)$$

Where  $[\tau_f]_{neblina}$  it is calculated using the following expression for the volumetric flow of the gas:

$$Q_G = A(L_m) \left( \frac{\rho_L}{g \sigma_L g_C} \right)^{-1/4} \quad (48)$$

#### Mist Flow:

The calculation of the parameters for this flow pattern is similar to that of the bubble flow, as the mixing density and frictional pressure drop are given by:

$$\rho_{2F} = R_L \rho_L + (1 - R_L) \rho_G \quad (27)$$

$$\tau_f = \frac{f_{2F} \rho_G \left( \frac{v_{SG}}{1 - R_L} \right)^2}{2 g_C D} \left[ \frac{\text{kgf/m}^2}{\text{m}} \right] \quad (49)$$

Due to the absence of a slippage between the phases, the liquid holdup is in this case:

$$R_L = \frac{Q_L}{Q_L + Q_G} \quad (50)$$

To obtain the friction factor, the Moody plot or Chen equation is used, using a Reynolds number defined by:

$$Re_M = \frac{D v_{SG} \rho_G}{\mu_G} \quad (51)$$

Relative roughness is determined by the Weber number:

$$We = \left( \frac{v_{SG} \mu_L}{\sigma_L g_C} \right)^2 \frac{\rho_G}{\rho_L} \quad (52)$$

$$\text{If } We < 0.005: \quad \frac{\varepsilon}{D} = 34 \frac{\sigma_L g_C}{\rho_G v_{SG}^2 D} \quad (53)$$

$$\text{If } We > 0.005: \quad \frac{\varepsilon}{D} = 174.8 \frac{\sigma_L g_C We^{0.302}}{\rho_G v_{SG}^2 D} \quad (54)$$

$$\text{For this flow :} \quad 10^{-3} \leq \frac{\varepsilon}{D} \leq 0.5$$

**Orkiszewski method:**

1. - Determine the flow pattern present in the pipe, calculating the dimensional parameters with equations 18 to 21 and using definitions 23 to 26.

2. - Calculate the friction pressure drop using the equations corresponding to the flow pattern determined in step 1. In the case of bullet flow, to calculate the  $V_r$  velocity follow these steps:

2.1. - Calculate the Reynolds number with equation 32.

2.2. - Calculate parameters  $N_1$  and  $N_2$  with equations 33 and 34.

2.3. - Calculate  $V_r$  with equations 35 to 38.

3. - Get the pressure drop by acceleration with equation 16.

4. - Calculate the total pressure drop with equation 15.

**Example 3**

By a vertical steel pipe of 6 inches 40 ascends a mixture of hydrocarbons at 42 atm and 13°C. The mixture consists of 63 kg/s of liquid and 107 kg/s of steam. The density of the liquid is 806 kg/m<sup>3</sup> and the vapour density of 36 kg/m<sup>3</sup>. The viscosity of the liquid is 0.8148 cp, and the vapour viscosity is 0.0115 cp; the surface tension of the liquid is 18 dinas/cm. Find the pressure drop per meter of pipe.

1. Translation.



$W_L = 63 \text{ kg/s}$

GAS-  
LÍQUIDO

6" Ced. 40

2.- Planning.

2.1.-Discussion .

The problem will be solved by the Orkiszewski method.

3.-CALCULATIONS

3.1.-Flow pattern

$$D = 6.065 \text{ in} = 0.1541 \text{ m} = 0.5054 \text{ ft}$$

$$A = 0.01864 \text{ m}^2$$

$$\sigma_L = 18 \text{ dina/cm} = 1.84 \times 10^{-3} \text{ kgf/m}$$

$$Q_G = 2.97 \text{ m}^3/\text{s}$$

$$Q_L = 0.0782 \text{ m}^3/\text{s}$$



$$v_{SL} = 4.19 \text{ m/s}$$

$$v_{SG} = 159.33 \text{ m/s}$$

$$v_{NS} = 163.52 \text{ m/s} = 536.48 \text{ ft/s}$$

$$Gv = \frac{2.97 \frac{\text{m}^3}{\text{s}}}{0.01864 \text{ m}^2} \left( \frac{806 \frac{\text{kg}}{\text{m}^3}}{9.81 \frac{\text{m}}{\text{s}} \left( 1.84 \times 10^{-3} \frac{\text{kgf}}{\text{m}} \right) \left( 9.81 \frac{\text{mkg}}{\text{s}^2 \text{kgf}} \right)} \right)^{1/4} = 1308.75$$

$$Lb = 1.071 - 0.2218 \frac{\left( 536.48 \frac{\text{ft}}{\text{s}} \right)^2}{0.5054 \text{ ft}} = -126307.7 \not\geq 0.13$$

$$Lb = 0.13$$

$$Ls = 50 + 36(1308.75) \frac{0.0782 \frac{\text{m}^3}{\text{s}}}{2.97 \frac{\text{m}^3}{\text{s}}} = 1290.54$$

$$Lm = 75 + 84 \left( 1308.75 \frac{0.0782 \frac{\text{m}^3}{\text{s}}}{2.97 \frac{\text{m}^3}{\text{s}}} \right)^{0.75} = 1269.70$$

Flow pattern:

$$\frac{159.33 \frac{\text{m}}{\text{s}}}{163.52 \frac{\text{m}}{\text{s}}} = 0.974 \not\leq 0.13$$

$$1308.75 \not\leq 1290.54$$

$$1269.70 \not\geq 1308.75 > 1290.54$$

$$1308.75 > 1269.70$$

The flow pattern obtained is mist. Using the Oshinowo-Charles map to compare:

$$Ox = 12332.48$$

$$Oy = 6.167$$

The pattern is the limit case of annular flow when the gas flows at high speed, that is, the flow is mist.



3.2.-Friction pressure drop.

For mist flow:

$$R_L = \frac{0.0782 \frac{\text{m}^3}{\text{s}}}{0.0782 \frac{\text{m}^3}{\text{s}} + 2.97 \frac{\text{m}^3}{\text{s}}} = 0.0257$$

$$\rho_{2F} = 0.0257 \left( 806 \frac{\text{kg}}{\text{m}^3} \right) + (1 - 0.0257) \left( 36 \frac{\text{kg}}{\text{m}^3} \right) = 55.75 \frac{\text{kg}}{\text{m}^3}$$

$$Re_M = \frac{0.1541 \text{m} \left( 159.33 \frac{\text{m}}{\text{s}} \right) \left( 36 \frac{\text{kg}}{\text{m}^3} \right)}{0.0115 \text{cp} \left( 0.001 \frac{\text{kg}/\text{ms}}{\text{cp}} \right)} = 76860792$$

$$We = \left( \frac{159.33 \frac{\text{m}}{\text{s}} (0.8148 \text{cp}) \left( 0.001 \frac{\text{kg}/\text{ms}}{\text{cp}} \right)}{1.84 \times 10^{-3} \frac{\text{kgf}}{\text{m}} \left( 9.81 \frac{\text{mkg}}{\text{s}^2 \text{kgf}} \right)} \right)^2 \frac{36 \frac{\text{kg}}{\text{m}^3}}{806 \frac{\text{kg}}{\text{m}^3}} = 2.31 > 0.005$$

$$\frac{\varepsilon}{D} = 174.8 \frac{1.84 \times 10^{-3} \frac{\text{kgf}}{\text{m}} \left( 9.81 \frac{\text{mkg}}{\text{s}^2 \text{kgf}} \right) (2.31)^{0.302}}{36 \frac{\text{kg}}{\text{m}^3} \left( 159.33 \frac{\text{m}}{\text{s}} \right)^2 (0.1541 \text{m})} = 2.885 \times 10^{-5} \neq 10^{-3}$$

$$\frac{\varepsilon}{D} = 10^{-3}$$

$$f_{2F} = 0.0195$$

$$\tau_f = \frac{0.0195 \left( 36 \frac{\text{kg}}{\text{m}^3} \right) \left( \frac{159.33 \frac{\text{m}}{\text{s}}}{1 - 0.0257} \right)^2}{2 \left( 9.81 \frac{\text{mkg}}{\text{s}^2 \text{kgf}} \right) (0.1541 \text{m})} = 6209.34 \frac{\text{kgf}}{\text{m}^2}$$

3.3.- Total pressure drop.





$$G_T = 9120.17 \text{ kg}/(\text{m}^2 \text{ s})$$

$$P_{av} = 42 \text{ atm} = 433974 \text{ kgf}/\text{m}^2$$

$$AC = \frac{9120.17 \frac{\text{kg}}{\text{m}^2 \text{ s}} \left( 159.33 \frac{\text{m}}{\text{s}} \right)}{9.81 \frac{\text{mkg}}{\text{s}^2 \text{ kgf}} \left( 433974 \frac{\text{kgf}}{\text{m}^2} \right)} = 0.341$$

$$\left[ \frac{\Delta P_{2F}}{L} \right] = \frac{6209.34 \frac{\text{kgf}}{\text{m}^3} + 55.75 \frac{\text{kg}}{\text{m}^3} \text{sen}(90^\circ) \left( 1 \frac{\text{kgf}}{\text{kg}} \right)}{1 - 0.341} = 9506.97 \frac{\text{kgf}}{\text{m}^2 \text{ m}}$$

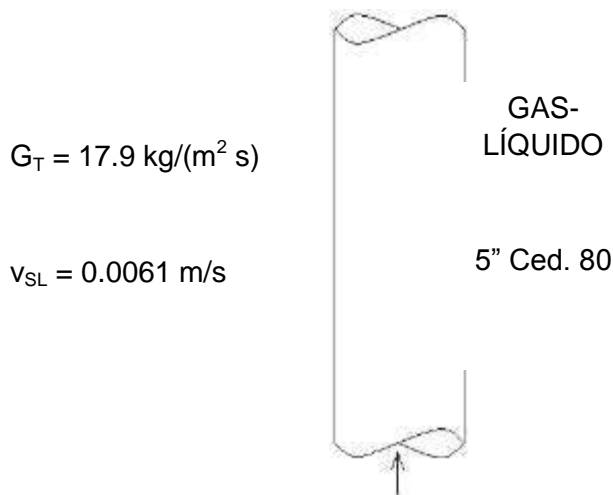
#### 4.-RESULT

The total pressure drop is 9506.97 kgf/m<sup>2</sup> per meter of pipe length, equivalent to a drop of 0.92 atm per meter of tube.

#### Example 4

A mixture of hydrocarbons ascends through a 5-inch 80-inch steel pipe. The pressure is 40 atm and the temperature is 13°C. The total mass velocity of the mixture is 17.9 kg/m<sup>2</sup>s. The surface speed of the liquid is 0.0061 m/s and the gas speed is 0.338 m/s, being the liquid density of 810 kg/m<sup>3</sup>, and its viscosity of 0.8086 cp. The surface tension of the liquid phase is 18 dina/cm. The vapour density is 36 kg/m<sup>3</sup> and its viscosity is 0.0115 cp. Non-slip or non-slip speed is 0.344 m/s. Find the expected pressure drop per meter in tube length.

1. Translation.



#### 2.-Planning

##### 2.1.- Discussion .

The calculation of the pressure drop will be done using the Orkiszewski method.

#### 3.-CALCULATIONS.

##### 3.1. - Flow Pattern.

$$D = 4.813 \text{ in} = 0.1223 \text{ m} = 0.4011 \text{ ft}$$



$$A = 0.011738 \text{ m}^2$$

$$\sigma_L = 18 \text{ dina/cm} = 1.84 \times 10^{-3} \text{ kgf/m}$$

$$v_{NS} = 0.344 \text{ m/s} = 1.13 \text{ ft/s}$$

$$Gv = 0.338 \frac{\text{m}}{\text{s}} \left( \frac{810 \frac{\text{kg}}{\text{m}^3}}{9.81 \frac{\text{m}}{\text{s}} \left( 1.84 \times 10^{-3} \frac{\text{kgf}}{\text{m}} \right) \left( 9.81 \frac{\text{mkg}}{\text{s}^2 \text{kgf}} \right)} \right)^{1/4} = 2.78$$

$$Lb = 1.071 - 0.2218 \frac{\left( 1.13 \frac{\text{ft}}{\text{s}} \right)^2}{0.4011 \text{ft}} = 0.365 \geq 0.13$$

$$Ls = 50 + 36(2.78) \frac{0.0061 \frac{\text{m}}{\text{s}}}{0.338 \frac{\text{m}}{\text{s}}} = 51.8$$

$$Lm = 75 + 84 \left( 2.78 \frac{0.0061 \frac{\text{m}}{\text{s}}}{0.338 \frac{\text{m}}{\text{s}}} \right)^{0.75} = 83.9$$

Flow pattern:

$$\frac{0.338 \frac{\text{m}}{\text{s}}}{0.344 \frac{\text{m}}{\text{s}}} = 0.983 < 0.365$$

$$2.78 < 51.8$$

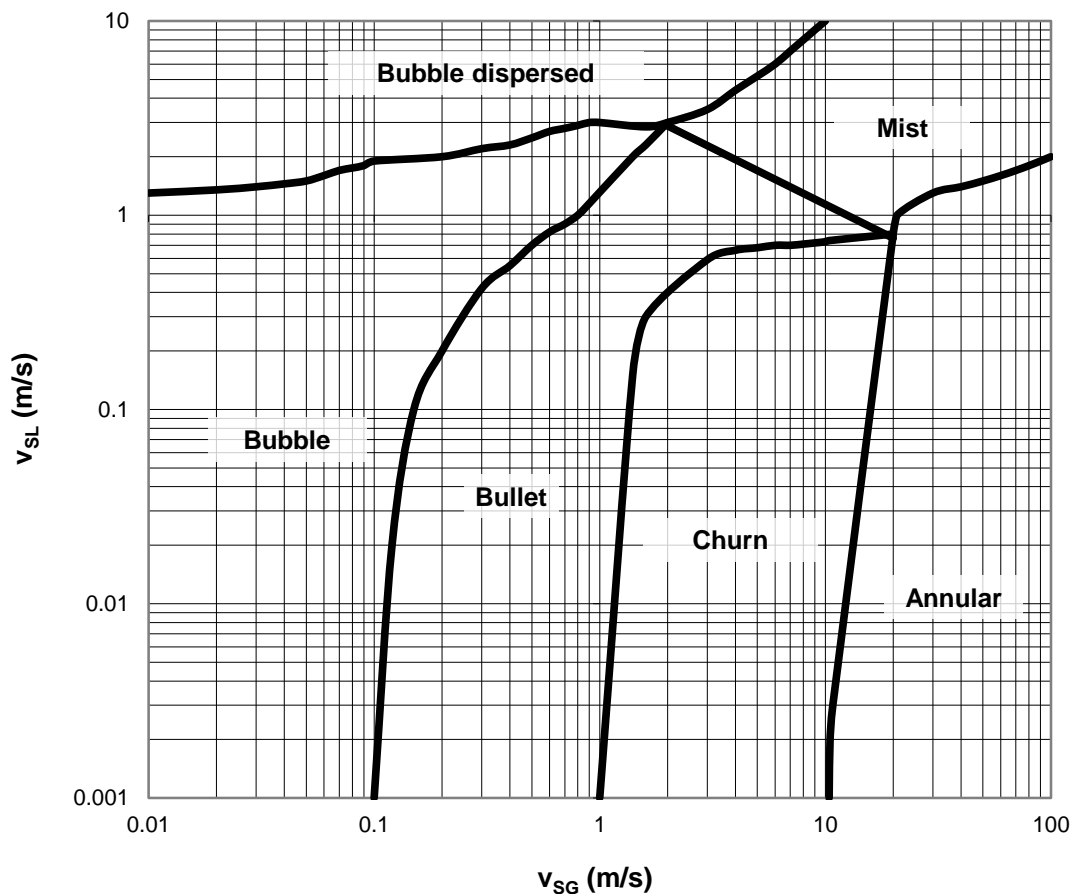
The flow pattern obtained is bullet.

Using Oshinowo-Charles parameters and map:

$$Ox = 0.0633$$

$$Oy = 7.44$$

The given flow pattern is bullet dispersed. Using Gonzalez Ortiz's map, bullet flow is determined, which matches Oshinowo-Charles's map and Orkiszewski's definitions.



Map of González Ortiz.<sup>[11]</sup>

3.2.-Friction pressure drop .  
Taylor's bubble ascent rate:

$$Re_s = \frac{0.1223 \text{ m} \left( 0.344 \frac{\text{m}}{\text{s}} \right) \left( 810 \frac{\text{kg}}{\text{m}^3} \right)}{0.8086 \text{ cp} \left( 0.001 \frac{\text{kg}}{\text{cp}} \frac{\text{ms}}{\text{cp}} \right)} = 42144$$

$$N_1 = 0.572 \times 10^5 \left[ -0.35 + \left( 0.1225 + \frac{0.04931 \left( 1.13 \frac{\text{ft}}{\text{s}} \right)^{1/2}}{(0.4011 \text{ ft})^{0.5}} \right) \right] = 6222.31$$



$$N_2 = 0.5721 \times 10^5 \left[ -0.546 + \left( 0.2981 + \frac{0.01849 \left( 1.13 \frac{\text{ft}}{\text{s}} \right)^{1/2}}{(0.4011 \text{ft})^{0.5}} \right) \right] = 1682.24$$

$$Re_s = 42144 > N_1 = 6222.31$$

$$v_r = \left[ 1.985 + 4.958 \times 10^{-5} (42144) \right] (0.4011 \text{ft})^{0.5} = 2.58 \frac{\text{ft}}{\text{s}} = 0.787 \frac{\text{m}}{\text{s}}$$

Parameter  $\square$ :

$$v_{NS} = 0.344 \text{ m/s} < 3 \text{ m/s}$$

Equation 41 for petroleum corresponds to the hydrocarbon mixture:

$$\Gamma = \frac{0.0127 [\log(0.8086 \text{ cp} + 1)]}{(0.1223 \text{ m})^{1.415}} - 0.284 + 0.167 \left[ \log \left( 0.344 \frac{\text{m}}{\text{s}} \right) \right] + 0.113 [\log(0.1223 \text{ m})]$$

$$\Gamma = -0.4006 \geq -0.065 \left( 0.344 \frac{\text{m}}{\text{s}} \right) = -0.0224$$

$$\Gamma = -0.0224$$

Friction drop:

From Moody<sup>[10]</sup>

$$\square/D = 0.00035$$

$$f_{2F} = 0.023$$

$$\tau_f = \frac{0.023 \left( 810 \frac{\text{kg}}{\text{m}^3} \right) \left( 0.344 \frac{\text{m}}{\text{s}} \right)^2}{2 \left( 9.81 \frac{\text{mkg}}{\text{s}^2 \text{kgf}} \right) (0.1223 \text{ m})} \left( \frac{0.0061 \frac{\text{m}}{\text{s}} + 0.787 \frac{\text{m}}{\text{s}}}{0.344 \frac{\text{m}}{\text{s}} + 0.787 \frac{\text{m}}{\text{s}}} + (-0.0224) \right) = 0.624 \frac{\text{kgf}}{\text{m}^2}$$

3.3.- Total pressure drop.

$$\rho_{2F} = \frac{17.9 \frac{\text{kg}}{\text{m}^2 \text{ s}} + 810 \frac{\text{kg}}{\text{m}^3} \left( 0.787 \frac{\text{m}}{\text{s}} \right)}{0.344 \frac{\text{m}}{\text{s}} + 0.787 \frac{\text{m}}{\text{s}}} + (-0.0224) \left( 810 \frac{\text{kg}}{\text{m}^3} \right) = 561.3 \frac{\text{kg}}{\text{m}^3}$$

$$P_{av} = 40 \text{ atm} = 413309 \text{ kgf/m}^2$$



$$AC = \frac{17.9 \frac{\text{kg}}{\text{m}^2 \text{s}} \left( 0.338 \frac{\text{m}}{\text{s}} \right)}{9.81 \frac{\text{mkg}}{\text{s}^2 \text{kgf}} \left( 413309 \frac{\text{kgf}}{\text{m}^2} \right)} = 1.49 \times 10^{-6}$$

$$\left[ \frac{\Delta P_{2F}}{L} \right] = \frac{0.624 \frac{\text{kgf}}{\text{m}^3} + 561.3 \frac{\text{kg}}{\text{m}^3} \text{sen}(90^\circ) \left( 1 \frac{\text{kgf}}{\text{kg}} \right)}{1 - 1.49 \times 10^{-6}} = 561.94 \frac{\text{kgf}}{\text{m}^2}$$

#### 4.-RESULT

Pressure drop is 561.94 kgf/m<sup>2</sup> per meter of pipe length, equivalent to 0.054 atm per meter of pipe, or 0.799 psi per meter.

The correlation of Orkiszewski is the best for calculating the pressure drops in flow to two vertical upward phases, since its accuracy is in the order of 10%. However, Davis' correlation is most commonly used because of its simplicity and similarity to Lockhart-Martinelli's correlation.

In addition to the correlations presented here, many others can be found in the literature on the subject; for the interested reader is advised to review those of Hagedorn<sup>[12]</sup>, Aziz<sup>[13]</sup>, Beggs<sup>[14]</sup> and Oshinowo-Charles<sup>[15]</sup>.

#### GENERAL CONSIDERATIONS

Depending on the flow pattern, the liquid contained in the tube can be accelerated to the speed of the gas phase. In certain cases, this speed is higher than is desirable in process pipes. High speeds produce a phenomenon known as erosion-corrosion, where the corrosion rate of the tube material is accelerated due to the erosive force of the liquid at high speeds.

An index based on loads or velocity heads indicates whether erosion-corrosion can be significant at a particular rate, and is used to determine the range of density and mixing speed within which erosion-corrosion does not occur. This index is<sup>[15]</sup>:

$$\rho_M v_M^2 \leq 15000 \tag{55}$$

Where the density of the mixture is:  $\rho_M = \frac{W_L + W_G}{\frac{W_L}{\rho_L} + \frac{W_G}{\rho_G}} \left[ \frac{\text{kg}}{\text{m}^3} \right]$  (56)

And the velocity of the mixture is given by equation 46:

$$v_M = v_{SL} + v_{SG} \left[ \frac{\text{m}}{\text{s}} \right] \tag{46}$$

#### CONCLUSIONS

For the general case, the mixing speed should be less than 15 m/s, as experience has shown that erosion occurs when that value is exceeded. In addition to keeping the speed-density product within the acceptable range, the appropriate flow rate should also be maintained on the lines. Above all, the battering flow should be avoided, because it causes serious mechanical and process problems, the latter due to the intermittent inlet of liquid and gas to a team. The dispersed flow or mist<sup>[16]</sup> is an almost homogeneous mixture of liquid phase in the gas phase, and therefore behaves similarly to a compressible fluid. However, despite the goodness of this flow for pipe design, flash tanks and distillation columns cause separation problems, due to liquid drag. Once this flow pattern is acquired in a system, it is virtually impossible to separate the phases, as it requires achieving speeds impossible to obtain in the vast majority of flow systems. Stratified and wave flows are used only for long horizontal pipes. Plug and bullet





flows <sup>[16]</sup> are rare at design time due to their intermittency. The ring or film is undesirable because it causes erosion in the walls of the pipes.

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## ISSUES OF TALENT MANAGEMENT IN EDUCATION SECTOR TO ORGANISATIONAL SUCCESS

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### ABSTRACT

*In the Current Educational Sector, there are a lot many emerging trends which is to attract, develop and retain employees by assured pipeline of knowledge and qualifying people is important for the success of the institution which is known as talent management. The aim of the paper is to throw light as the concept of talent management. The main issues are facing by the educational organizations which is shortage of competent and qualified faculties. It has resulted in educational organizations focusing on how to retain the talent and have to develop them. The important factors which contributes to faculty retention and recruitment are benefits, supportive, environments, spouse employment opportunities, resources and salaries. It is not the responsibility of any one particular department but everyone in the organization to promote talent management. This research paper provides few strategies which institutions can adopt for attracting and retaining talent which is best available for them. The author focuses o talent management and how this contributes to other strategic objectives such as building a high performance learning environment and building leadership in depth in the School.*

**KEYWORDS:** Talent Management, Talent Development, Education Sector, Organizational Success

### INTRODUCTION

Talent is the ability of each individual to perform better than others. This is an inborn quality or ability to perform well which developed over a period of time. For each educational organization sector, the talent management is relatively is relatively untapped and new concept in the field of human resource management despite of proving many times its importance and competitive advantage for the institution. The institutions do not have knowledge of related to the strategies used in talent management which are deployed in higher education system to support them.

According to **Babaji Charan Pradhan, Retired Teacher**, Govt. of Odisha, who emphasis talent management hold in three different conceptions such as (1) Collection of practices of human resource development, (2) Human resources flow within the organization and (3) rewarding, sourcing and developing talent of the employee. He gives valuable opinions from his service period that talent management as career progress and facilitating

development of highly skilled and talent individuals which uses formalized resources, procedures, processes and policies.

A talent management system must be implemented in daily process. Education Department alone cannot take the change to attract and retain employees, but it is the responsibility of everyone at all level in the educational sector. The system must include responsibilities for the head of the educational institutions to develop the skills of their immediate subordinates. Divisions within the educational organization should promote sharing information among the each member of the department, as a result employees can gain knowledge of the overall system and organizational objectives.

### PROCESS OF TALENT MANAGEMENT

Developing talent is not a new concept or idea. This process as the name itself suggests that the ability of managing, competency and power of working employees with an organization directly or indirectly. This process is a continuous process that meets an



organization's requirements involves sourcing, hiring, developing, retaining and promoting. If an organization wants to hire the best talent of its competitor to work with it, then you need to offer something that person beyond his / her imaginations to come and join your

organization. Therefore talent management process is fully integrated software solution that not only controls the entry of an employee but also his / her exit. Every organization needs best talent management process to achieve its goals and set them higher.

**Attracting and Recruiting Talent** → **Retaining and Developing Talent**

→ **Managing Talent**

**(1) Attracting and Recruiting Talent**

Due to the recent economic downturn jobs cuts globally increased, so those who were important to organizations were retained and others were sacked. In order to attract and recruit talent employees organizations need to look and understand what talent is looking for in a career and how they perceives carry out education with their needs. An organizations approach to each one of the potential recruits needs to be altered to suit who they are and where do they want to take their careers.

**(2) Retaining and Developing Talent**

This is always challenging task for the new and old workers in the education sector. It is related with the workers an ongoing process. This is a more challenging task for talent management process. It focuses on the following points such as:

- \* Work ethics and values
- \* Career planning
- \* Work life balance
- \* Benefits and reward systems

**(3) Managing Talent**

The task of an organization in education sector does not ends with hiring the employees but effective management of the employee is equally important. It focuses on the following points such as :  
 Attitude and principles of the authority.

- \* Systems of management.
- \* Styles of leadership
- \* Time to time mentioning the work
- \* Provided guidance
- \* Positive recommendation towards the employees time to time

**CAUSES FOR EMPLOYEE TURNOVER IN THE INSTITUTIONS**

The following courses for employee turnover in the institutions such as :

- \* Over workload
- \* Insufficient salary
- \* Insecurity job
- \* Ambiguity role

- \* Insufficient resources
- \* Poor performance management
- \* Inadequate environment

**PERFORMANCE MANAGEMENT MOTIVATES THE EMPLOYEES IN INSTITUTIONS**

- \* Many educational institutes launched development of faculty programs to shape and improve the career of the employees.
- \* It improves employees motivation and dedication towards work
- \* Policies and procedures should be well informed in beginning to the respective faculties of the institution.
- \* They should give rewards and motivate the employees according to their performance,
- \* The equal opportunities should be given to both senior and junior employees.
- \* Leads to high confidence in bonus payment process.
- \* Leaves like maternity or paternity leaves should be provided for different time period for the birth of the child.
- \* Professional development programs are aligned directly towards the achievement of institution level goals.
- \* Assistance for external grants provision for researches and other purpose should be given

**STRATEGIES OF EMPLOYEE RETENTION**

The following strategies of employee retention are given in below:

- \* Communication should be done properly in organization
- \* Efficient employees should be engaged for the right job
- \* Provide opportunities development and growth of the employees



- \* The efficient employees must get more remuneration on their performance
- \* Equitable and fair treatment for every employee
- \* There should be accountability helps employees

## CONCLUSION

From the above study of this paper we can find that talent management can help in identification of the right talent, development talent and retaining talent in the education sector for its success. Another angle of point, we can say that talent management is a conscious, deliberate approach undertaken to attract, develop and retain people with the aptitude and abilities to meet current and future organizational needs. It is the saying that the recruiting effective person is the first step towards effective retention. Youth is in generation is the future of the country. Some vital talent management practices that can be very fruitful to an organization includes performance management, career planning, succession planning and quality of work life.

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## OPTIMIZATION OF THE GLOBAL OBJECTIVES OF THE SYSTEM

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### ABSTRACT

*Issues of optimizing the technological modes of operation of multi-stage processes are considered. It is noted that decomposition and the creation of local control subsystems according to the stages of processes is one of the possible ways to solve the global optimization problem. The sequence of optimization procedures is determined that allow to achieve such controlled values at each stage technological parameters at which the state of the process will be capable of completing production tasks.*

**KEYWORDS:** *Multi-stage processes, optimization, decomposition, control loop, optimization procedure.*

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### INTRODUCTION

The optimization of technological modes of operation of multi-stage systems is an important part of modern control theory. Research and development of effective methods for its implementation is of great importance for economic, organizational and other tasks. The main mathematical apparatus for solving the optimization problem is mathematical programming.

Optimization of multi-stage processes requires solving complex linear or non-linear programming problems with mathematical models of a special structure. A modern multi-stage system with continuous and continuously-discrete technology is a multidimensional branched complex and consists of several relatively independent industries, in each of which the raw materials go through the sequential stages of processing in technological processes carried out in single or parallel plants [1-2].

Taking into account the specifics of the optimization process allows, instead of solving the global problem, to move to a series of significantly smaller local subtasks and corresponding coordination of their goals. Obviously, the decomposition and the creation of local control subsystems according to the stages of the processes is one of the possible ways to solve this problem.

### MATERIAL AND METHODS

The meaning of decomposition in this case is to use the a priori information about the structure of the object to simplify the task of synthesizing the model. However, the task of identifying and synthesizing a control system for multi-stage processes (CS MSPs), which especially works in structure and in the mode of complex



use of multicomponent raw materials, remains far from solved today. Here typical difficulties arise associated with the optimization of a hierarchical multilevel structure, each subsystem of which has not only specific parameters, local simplified models and limitations, but also its own optimization criteria. Moreover, in many cases, the optimality of the operation of subsystems and local control systems (CS) or is in an implicit and complex relationship with the optimal control of multi-stage processes (MSPs) in general.

Consider the approach of multi-level decomposition of the structure of multi-stage processes (MSPs), based on the specific features of MSPs and optimization problems. At the same time, significant relationships remain between the models of production and its individual parts.

A multi-stage system consists of a global control subsystem defined by a vector objective function.

$$Y(x) = \{f_k(x), x \geq 0, k = \overline{1, K}\}, \quad (1)$$

where -  $x = \{x_j, j = \overline{1, N}, x_j \geq 0\}$  vector of unknowns  $i$  -  $k$ - the number of downstream local control subsystems  $f_k(x), k = \overline{1, K}$ , which can be both directly controlled and regulated by the process, as well as the controlling subsystem for subordinate subsystems, where  $K$  - is the set of indices of local subsystems.

Let  $X = \{x_j, j = \overline{1, N}\}$  - be a vector of unknowns expressing performance indicators, for example: volume, cost, quality, costs, etc.  $j$ - th type of products manufactured by the entire system, where  $N$  - many indices of types of products where  $k$  is the set of product indices;  $X_k \in x, k = \overline{1, K}$  - vector of unknowns expressing product performance, produced by  $k \in K$  local subsystem produced,  $X_k = \{x_j, j = \overline{1, N_k}\}$ , where  $N_k$  - is the set of indices of types of products, released by  $k \in K$  local subsystem,  $N_k \in N$ .

The main goal of the global control subsystem is to optimize all the criteria of the local subsystems,

$$extr Y(x) = \{f_k(x), x \geq 0, l = \overline{1, K}\}, \quad (2)$$

which are equally important and equivalent for the upper control subsystem, i.e. preference is not given to any local subsystem. In this case, it is necessary to find such a vector  $X^0$  and accordingly  $X_k^0 \in X^0$ , in which all local subsystems would reach their optimum under the conditions of fulfilling resource limits

$$R(x) \leq C, \quad r_i(x) \leq c_i, \quad x \geq 0, \quad i = \overline{1, M}, \quad (3)$$

where  $i$  - is the type of resources, which are required upon release,  $M$  - many indices of types of resources;  $c_i$  -restrictions on the  $i$ - th type of resources.

As a rule, in MSPs, each  $k$ -th local subsystem has its own objective functions

$$f_k(x), \quad x \geq 0, \quad k = \overline{1, K}, \quad (4)$$

and limitations

$$R^k(x_k) \leq C^k, \quad r_i^k(x_k) \leq c_i^k, \quad x_k \geq 0, \quad i \in M, \quad k = \overline{1, K}. \quad (5)$$

The goal of each local MSP subsystem is to extremize its criterion, which may be profit, quality, management cost, production costs, etc. Here it should be emphasized that the criteria of local MSP subsystems do not necessarily correspond to the global system criterion, t.e. local and global criteria may be different, but local criteria should help achieve a global goal.

In relation to specific MSPs, in particular, Portland cement processing, in [3-5] the issues of constructing inter-circuit optimization procedures are considered. The idea of this approach is to decompose MSPs into control loops interconnected by internal material flows. In this case, the decomposition is carried out by minimizing the number of allocated control loops, with an unambiguous determination of the goal function of the entire system through intermediate input and output parameters of the control loops.

## DISCUSSION RESULTS

As a result, the global optimization problem can be reduced to solving several local problems of substantially lower dimension: inter-circuit and a number of similar problems of contour optimization. This leads to a two-level optimization algorithm for MSPs based on the above-formulated procedures [6-7].

The top-level optimization problem is formulated as follows:

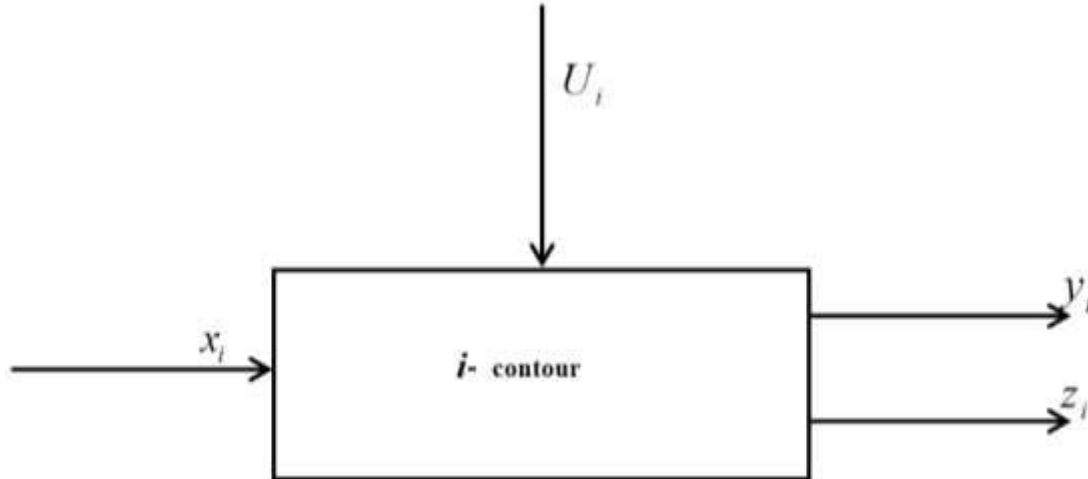
$$\theta_{omb}(\alpha_i, \gamma_{\alpha_i}, \beta_i, \gamma_{\beta_i}, \theta_i, \gamma_{\theta_i}) \rightarrow \min$$

subject to the conditions

$$\begin{aligned} \theta_j &\geq f_j(\alpha_i, \gamma_{\alpha_i}, \beta_i, \gamma_{\beta_i}, \theta_i, \gamma_{\theta_i}), \\ \gamma_{\beta_i}^- &\leq \gamma_{\beta_i} \leq \gamma_{\beta_i}^+, \quad \beta_{\beta_i}^- \leq \beta_i \leq \beta_{\beta_i}^+, \\ \beta_n &= \beta_{3ag}, \alpha_i > 0, \theta > 0, \quad i, j = 1, 2, \dots, n. \end{aligned} \tag{6}$$

The technological parameters of  $\gamma_{\alpha_i}, \gamma_{\beta_i}$  and  $\gamma_{\theta_i}$  are used in the formation of the objective function and the constraints of the optimization problem, therefore, when calculating the rational technological mode of operation of MSPs, it is necessary to specify the matrix of connections and  $\|K_{i,j}\|$  i  $\|X_{i,j}\|$ .

At the upper level, on the basis of information about the raw materials arriving for processing and the accepted criterion, the problem of inter-circuit optimization in the space of parameters characterizing the internal flows connecting the control loops is solved. In this case, the control parameters of each circuit remain unchanged. Solving the problem of inter-circuit optimization, we find such values of the output parameters of each circuit for which the selected function of the goal of the entire system reaches its extremum. Thus, at the first stage, the optimal connections between the circuits are determined and, for each of them, the optimal values of the output variables that provide the extremum of the selected target control function for the entire system. The process of optimizing and making optimal decisions in the conditions of MSPs is implemented, as a rule, because of the principles of decomposition of the global original problem into a set of local sub-tasks of lower dimension and the construction of a decentralized control system. Therefore, each subsystem-control contour of MSPs is endowed with a certain degree of freedom of choice of local solutions and is characterized by a local quality indicator. The contours of multi-stage systems are elements of a system that are allocated according to a specific functional feature that meets specific management goals and objectives. In the framework of solving tasks of one functional purpose, the MSP subsystem can be considered as an independent system. If MSPs are divided into separate, sequentially interconnected material, energy and information flows circuits, then each of them corresponds to the contour shown in Fig. 1,



**Fig. 1. Scheme of the  $i$ -th contour of the MSPs.**

where  $x_i$  – is the vector of input parameters, containing both controlled and uncontrolled (controlled disturbing) parameters supplied to the  $i$ -th contour;  $u_i$  – - vector of control parameters for the  $i$ -th contour;  $y_i, z_i$  – vectors of output parameters, which mean, respectively, finished production and dump products of the  $i$ -th contour.

If there is information about the values of the vector of input, output and control parameters, the behavior of the  $i$ -th contour of the MSP is determined by the mathematical model

$$y_i = f_i(x_i, u_i, z_i, \alpha_i), \tag{7}$$

where  $\alpha_i$  – are the coefficients of the mathematical model of the  $i$ -th contour.

For a certain type of raw material, an appropriate model is built.

The problem of contour optimization of MSPs can be formulated as follows. It is assumed that there is a mathematical model of the form (1) for the  $i$ -th contour of the MSP. The selection of the contour optimization criterion is carried out according to the results of the upper level of optimization (inter-contour). At the same time, the results of inter-circuit optimization are used as specified and it is required to maintain the output indices of the control loops within the specified, lowered from the upper level of optimization. This is achieved by varying the control parameters of the contour in the allowable area with stable values of the input parameters of the contour. To solve the problem of contour optimization in the quality of the criterion - the function of the goal) a minimum of material costs for management can serve.

$$\sum_{k=1}^{n_i} C_k U_{ik} \rightarrow \min_{u_i \in U},$$

upon fulfillment of the conditions

$$\begin{aligned} |y_{i3ag} - f_i(x_{ij}, u_{ik}, z_{il})| &\leq \rho \\ x_{ij} &\geq 0, \quad u_{ik} \geq 0, \quad z_{il} \geq 0 \end{aligned} \tag{8}$$

and fulfillment of bilateral restrictions on intermediate and dump products (parameters) of the  $i$ -th contour  $z_{il}^- \leq z_{il} \leq z_{il}^+$ , where  $Y_{i3ag}$  – is the set value of the output indicator of the  $i$ -th contour, determined as a result of solving the problem of inter- contour optimization;  $C_k$  - the cost of the  $k$ -th management;  $i$  - contour number;  $j, k$  – numbers of input and control parameters;  $z_{il}^-, z_{il}^+$  - the number of control parameters in the  $i$ -th contour;  $l$  – intermediate product number, for example dumps,  $z_{il}^-, z_{il}^+$  - respectively, the lower and upper boundaries of the change of the  $l$ -th intermediate parameter of the  $i$ -th contour.

In addition, when solving the problem of contour optimization, it is necessary to take into account the restrictions on the control parameters arising from the features of the control loop. The circuits of the MSP are designed for a certain performance; therefore, it can be written that the vector of control parameters of the  $U_i$  at any time  $t_\alpha$  must belong to the set.

$$U = \{U_i \in R^n : U_{ik}^- \leq U_{ik} \leq U_{ik}^+, k = \overline{1, N}\}, \tag{9}$$

where  $U_{ik}^-, U_{ik}^+$  are the lower and upper bounds of the change in the  $k$ -th control parameter of the  $i$ -th loop.

In most cases, determining the exact optimal value of the vector of control parameters satisfying condition (1), (3) is a very time-consuming procedure. Therefore, the optimal values are found by approximate methods [8]: studies of classical analysis functions based on the use of indefinite Lagrange multipliers; calculus of variations; dynamic, linear, nonlinear programming, maximum principle. All these methods have varying degrees of accuracy and computational complexity. The formulated problem of contour optimization in the conditions of MSPs is solved taking into account the topology of the schemes (structure) of the system and the characteristics of the feedstock. For each type of raw material, a scheme (routes) for processing raw materials is determined, control loops are allocated, an appropriate model is built for each loop, and the problem of loop optimization is solved taking into account the sequence of arrangement of loops in space and time delays.

Summarizing the material costs spent on managing each circuit of MSPs, we define the total cost spent on ensuring the effective functioning of MSPs as a whole.

$$\sum_{i=1}^m \sum_{k=1}^{n_i} C_k U_{ik} = U, \tag{10}$$

where  $U$  – is the total cost of managing MSPs in general.

In most cases, one-time optimization of all parameters that determine the course and results of the process in multi-parameter MSPs is not possible. In this regard, first of all, it is necessary to determine the sequence of procedures for optimizing the work, allowing at each stage to achieve such values of controlled



technological parameters at which the state of the process will be able to fulfill production tasks.

Thus, the implementation of the contour optimization algorithm determines the implementation of the following steps [1-4]:

- recognition of the type of feedstock and materials; the choice of a set of reference models of the model of the corresponding technological situation;
- checking the model for adequacy; adjustment of model parameters;
- selection of contour optimization criterion; analysis of the task of the upper level of optimization;
- determination of the permissible restriction area for the parameters of the control loop;
- coordination of the criteria for contour and inter- contour optimization; determination of the optimal values of the control parameters of the control loop, providing an extremum for the selected function of the target;
- analysis of the results of contour optimization and decision making.

The search for optimal solutions is a difficult task, which is even more complicated by the side factors that complicate its formulation and solution.

## CONCLUSION

In order to build an optimal system for automated control of the circuits of MSPs, it is necessary to synthesize the optimal control, which can be implemented as a rational technological mode, using the information on the control circuit and the optimality criterion. However, the optimal mode synthesized based on the available a priori information about the control loop will not remain optimal for long. During the operation of the technological control loop, its parameters change (aging, wear, changes in the characteristics of raw materials, etc.) and the established mode ceases to be optimal. In this regard, it becomes necessary to determine new parameters of the control object in order to restore the optimal mode of operation of the technological process.

Such a system as a whole is an optimal automatic control system with adaptation.

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# AMNESTY AND PARDON: SCIENTIFIC EXPLANATIONS, FUNCTIONAL MARKS, NORMATIVE-LEGAL BASICS

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## ABSTRACT

*In this article, the interrelated qualities of amnesty and pardon institutions, functional characteristics, originality, regulatory frameworks, the improvement of amnesty and pardon institutions, which are an act of humanity and compassion, in the process of liberalization of the judicial system are revealed from a scientific and philosophical legal point of view.*

**KEY WORDS:** *amnesty, pardon, act of grace, absolve from blame, humanism, punishment, free from punishment, sharia, convict, crime, law, outlawed organizations.*

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## INTRODUCTION

There are different religious, moral, scientific, philosophical and legal interpretations of amnesty. Religious interpretations are mainly considered in conjunction with moral and philosophical interpretations [1]. Although in all of them amnesty is seen as the forgiveness of sin, there is a difference in scientific, philosophical and legal approaches. Amnesty and pardon in the scientific literature are considered to be distinct moral and legal phenomena. In practice, there are views that consider them as categories and events.

Amnesty has long been known as an act of humanity and a moral event. In ancient Rome, people sitting in auditoriums and in the stands decided to forgive or not to forgive gladiators who lost in battle. The gladiator who won the battle asked them what to do, if the tribune and the audience showed a thumb, then this was a sign of forgiveness, pardon, and the losing gladiator was left alive. The word amnesty comes from the Greek word «amnestia» and means «forget», «forgive» This interpretation meant the release of the person who was sentenced from punishment by the ruler and the highest institution.

In the science of Sharia, much has been examined about the punishment and its pardon. In the books of our great compatriot Burkhonuddin al-Marginoniy, «The Book of Crimes», «The Book of

Paying for Blood», and «The Book of Paying for Murder», dealt with «questions of the commandment or non-commandment of a sentence of revenge» and various issues related to criminal actions. They disclosed how one could free oneself by recovering losses and other payments according to Islamic dogma [2]. Marginoniy considered issues related to exemption from duty in his work «Hidoya». Along with this, explains the use of the concept of «pardon». According to this, «pardon is the amount between a certain numbers of mandatory taxes» [3]. Duty is made by giving, charity, refusal of this amount. It is not known the etymological change, contamination, the transition to co-use in the sense of forgiveness and pardon of the word «pardon» used in Sharia law.

Researcher Sh. Eshanova, who studied the Caziys' courts that operated in Central Asia, said: «Appointed according to Sharia, each new caziy should have read the book of the cases of the previous caziy, compare the questions and sentences given there with the documents, carefully to study all the work performed, as well as a new caziy, could cancel the sentence or, on the contrary, extend the term of imprisonment» [4]. The Caziys were appointed by Padishah or Amir. The Caziys single-handedly examined criminal cases, «there were no legal appeals or cassations. According to Sharia law,





persons who did not agree with the sentence of Caziy had the right to complain of him to Beck, Khan or Amir, and they, in turn, transferred the case to Chief Caziy or convened a council of Cazivs to review the case» [4]. The Council of Caziys had the right to overturn the sentence, pardon or change the sentence. Such a right also belonged to Khan, Amir, that is, the supreme ruler. This means that in Muslim law, the Caziys' court protecting human rights could not only punish, but also reconsider punishments, change its forms, release a person by canceling the wrong punishment, have mercy. It is true that the word amnesty does not occur in Sharia law, but this does not mean that Muslim law did not apply pardon. The call for forgiveness is an important humanistic quality of Karan and Hadith. The Hadith says: «Whoever repents, Allah will forgive him» [5]. And it is also said: «As soon as the servant of God regrets his sin, not having time to ask for the forgiveness of his sins, Allah will forgive his sins» [5]. But this Islamic interpretation did not mean that the punishment was completely forgiven, the Sharia laws stated that the crime would not go unpunished.

## DISCUSSION

As a political-legal concept, the word «amnesty» appeared in the second half of the twentieth century, more precisely in the International Agreement on Human Rights. The World Declaration, adopted in 1948, noted that everyone has the right to live, be free and to be inviolable (article-3), and the International Covenant on Civil and Political Rights stated that «The right to live is an inalienable right of every person. This right is protected by law. No one has the right to deprive a person of his life ... Everyone sentenced to death has the right to ask for pardon or commutation of sentence. Amnesty, pardon or change of death sentence may be provided in all cases» [6]. In this document, amnesty and pardon are not different from each other. But lawyers try to distinguish them. For example, Russian lawyers understand the concept of amnesty as a normative legal act that applies to a group of certain individuals who have committed «similar», «identical» crimes. According to the famous criminologist V.E.Kvashis, amnesty is a normative legal act of a humanistic nature, which applies to prisoners who are close in terms of the type of punishment. In this case, it is observed that not the opinions, petitions, appeals of prisoners are taken into account, but the recommendations of the institutions holding the prisoners, the internal affairs agencies [7]. Doctor of Law, who analyzed the functional qualities and scientific interpretations of amnesty, Professor K. Mirzazhanov writes this: «Amnesty in special literature is called an act of the supreme organ of government, which fully or

partially exempts punishment of certain people without repealing laws, or replaces it with lighter punishment and applies this without pointing to an individual, but to a specific group of people responding to «related» signs». In this case, we see that the approach of K. Mirzazhanov is close to the opinion of the Russian criminologist.

In practical studies of the European Convention on Human Rights, it is noted that appeal to the court, to the highest state bodies is the right of every citizen, including prisoners and persons who are accused of a crime. According to R. Bedord, human rights should act in all social life, even in special institutions for the deprivation of liberty. Following the procedure of «minimum law» is significant in that it affects the decriminalization of actions and activities of people [9]. He believes that amnesty is as much an inalienable right of a person as to live; he may at any time and in any circumstances wish to be exempted from the charges against him.

T. Zvart shows that a person can achieve the adoption of any of his appeals, even his appeal when he is in an institution that limits his activity [10].

If we proceed from the fact that the amnesty was originally related to treatment, the European Convention on Human Rights and the European Charter noted treatment related to amnesty as an «unrestricted right» of prisoners [11]. Some lawyers define that «an act of amnesty is a legal document that applies to persons who have committed an offense, that is, an administrative or criminal act» [12]. According to the authors, «the document is applied to an indefinite type of persons, that is, the number of persons that this document will influence is not limited. But the act of amnesty exempts persons who have committed certain types of crimes from criminal liability (not having great social danger, not very serious or serious crimes), and persons of another type may be exempted from liability before the issue of guilt is resolved or certain persons can be exempted from passing the punishment or imprisonment of some individuals may be reduced» [12]. In general, an amnesty is applied to an indefinite number of persons who have committed crimes of the same type and meet special requirements.

In our Independent Uzbekistan, amnesty was first adopted in honor of the independence of the republic in 1991 [13]. It was an act of our state in unison with the humanistic customs and desires of our people. According to this, more than 9 thousand people were released from punishment, almost half of them were women and people under 18 years of age at the time the crime was committed. Prior to the adoption of a presidential decree abolishing the death penalty in 2005, such acts, i.e. 19 amnesties, were announced until 2008. Today their number has



reached 30. Since the 1996 amnesty [13], a rule has been introduced that reduces the remainder of the unfulfilled punishment for certain types of prisoners. In 2000, the amnesty declared in honor of the ninth anniversary of the declaration of independence adopted the release of foreign citizens from punishment, and in the amnesty in honor of the tenth anniversary of the adoption of the Constitution starting in 2002, persons convicted of participating in extremist organizations, for committing a crime against the Constitutional system of the Republic of Uzbekistan in their composition or other acts against public safety were deprived of their liberty for more than ten years or were convicted for the first time of punishments not related to deprivation of freedom, in a word, those who are brought to punishment for participating in the activities of prohibited organizations, but who have completely switched to the corrective path, are exempted from punishment.

On August 28, 2008, the Senate of the Oliy Majlis established the implementation of amnesty acts by the courts. Later, according to this regulatory document, introducing changes and amendments to the current legislative documents, the Code of Criminal Procedure was supplemented by a separate chapter 63, which relates to the application of the amnesty act in the pre-trial stage and henceforth the amnesty acts will be applied only by the courts. It should be noted that during the 9 months of 2008 and 2009, the criminal courts completed cases against 132,996 people and against 36,639 of them, that is, 27.5% were granted an amnesty act» [15].

The entry into force of the Decree of the President of the Republic of Uzbekistan «On the abolition of the death penalty in the Republic of Uzbekistan» [16] from January 1, 2008 raised to a new level the humanity of the judicial system, the human attitude towards people who are sentenced to punishment. Along with this, the shift of amnesty towards pardon was applied, this became apparent in the Regulation «On the Procedure for Pardoning in the Republic of Uzbekistan» adopted on March 13, 2009. But this institute was not put into practice until 2017.

The time after the end of 2016 can be called a new stage in the field of amnesty and pardon. President of our republic Sh.M. Mirziyoyev took the initiative to accept amnesty and pardon. On August 11, 2017, the President adopted a Decision «On measures for the deep improvement of activities in the sphere of enforcement by the internal affairs authorities of sentences related to deprivation of liberty», decrees were adopted on November 30, 2017 «On additional measures to strengthen the guarantee of the rights and freedoms of citizens in judicial investigation activities», On the pardon of first convicted persons in honor of the adoption of

our Constitution, «September 19, 2018» On improving the procedure for exemption from criminal liability of citizens of the Republic of Uzbekistan who mistakenly have been implicated in terrorist, extremist or other banned organizations and groups». As a result, about 4 thousand prisoners, who sincerely repented of their deeds and went on the righteous path, were released from places of imprisonment» [17]. In 2017, more than 18 thousand repentant people were excluded from the list of persons inclined to participate in terrorist groups. «This year 156 of our compatriots, mostly women and children, were returned from Syria, where hostilities continue, and civil rights were returned to them. Of course, to be gracious and kind means to earn the disposition of both the people and Allah. Our good qualities ennoble our broad-minded people» [17].

On May 5, 2018, the Presidential Decree «On Approving the Regulation on the Procedure for Pardoning in the Republic of Uzbekistan» [18] was adopted. This decree is fundamentally different from the decree adopted on March 13, 2009. Here the list of entities that have the right to petition for clemency has been increased. According to the old Decree, a convicted person could file a petition to the President; the new Decree states that a petition can be submitted by a convicted or serving person, another person (body), which, by law, has the right to file a petition. According to the new Decree, a Commission has been drawn up under the President of the Republic of Uzbekistan to deal with issues related to pardon. The proposals regarding the persons to be pardoned are decided by this commission and they submit them to the President. From the above measures and initiatives of the President, it becomes clear that today the pardon is formed as a kind of institution and has a legal regulatory framework. Of course, his internal system, institutional ties must still be established, improved. Despite this, one cannot fail to notice the more humanization of the judicial system in Uzbekistan, serious changes in the sphere of amnesty and pardon, even our foreign opponents declare this.

According to the deputy director of «Amnesty International», an international organization for Eastern Europe and Central Asia, D. Krivosheev, who expresses his harsh opinions regarding ensuring human rights and freedoms in our country if only five acquittals have been issued in Uzbekistan over the past five years, then for five months of 2018 their number exceeded 200. These figures are especially admirable, in conditions when in many other countries, including other CIS countries, the sentences of pardon are decreasing every day [19].



By functional qualities, amnesty and pardon are:

Full or partial exemption from the main or unfulfilled additional punishment;

Suspended release from punishment;

The sentence of life imprisonment or the unfulfilled punishment of imprisonment shall be changed to an easier punishment;

To cancel a criminal record.

In these functional qualities, punishment and attitude towards it or the execution of punishment is at the center. Burkhonuddin Marginoniy points out that punishment is made to frighten in order not to commit a crime, and an influential punishment is made to correct a person. Western philosophers L. Feuerbach,

I. Bentham, I. Kant, and Hegel put forward the concept that the severity of criminal laws creates conditions for people to restrain themselves from crime. Punishment is necessary not to punish a person, but in order to protect society. The Criminal Procedure Code of the Republic of Uzbekistan (Article 7) says: «the moral education of the prisoner consists of the education of law-abidingness in him, a respectful attitude to people, society, work, the rules and customs of public life». The basis for the execution of a court is a court verdict that has entered into legal force, a court ruling or decision, and an act of amnesty or pardon.

K. Mirzazhanov interprets amnesty and pardon as forgiveness of sin. He writes that amnesty has the following important elements:

1) Amnesty is an emergency right of the highest organs of state government;

2) This right does not change the responsibility and punishment for the crime. Its purpose is to facilitate the fate of a certain category of persons who have committed a crime. In essence, an amnesty does not impede the tasks of the fight against crime and does not impede the adoption of criminal legal measures in this struggle;

3) Amnesty is based on legislative requirements and on the basis of parole. It always has reasonable conditions and limits of application.[8]

According to K. Mirzazhanov, amnesty is a «state of emergency». Here, the word «emergency» means individual events, actions committed under special conditions, and not in the sense of an unexpected, non-occurring event. If we proceed from the work carried out in Uzbekistan regarding amnesty and pardon, we can say that these are not random events, but a political expression that is consciously, stage-by-stage and institutionally carried out in the humanization of the legal sphere from the judicial system of our state. The criminal and his family accept exemption from punishment as an act of humanity; and they express their joy and gratitude in

a cognitive way. Amnesty and pardon are not limited to gratitude with subjective qualities, but wish the liberated persons to confirm their gratitude in the form of real relationships in objective life. Therefore, it implies the liberated people to quickly adapt to social life, actively participate in the ongoing social, economic changes. Crimes, offenses cannot be explained only by objective factors. Objective life can never fully satisfy subjective desires; a person who improves his desires always finds flaws and shortages in objective being. Thus, the subjective cognitive factor of the legal consciousness of the individual is very important, associated with responsibility to society and relatives, with the correct awareness of one's duty.

The forgiveness of sin or pardon is also accepted by the supreme organ of the state. Here they are close to amnesty, but there are still some differences. «Forgiveness of sin is different from amnesty, it is not applied according to the general assessment of the situation related to the crime, but it is applied implying the circumstances of a particular situation, the characteristics of a particular person, the conditions of his living and educational environment, the effective results of educational work in relation to him». [8] So, a pardon implies a specific person, a specific crime and a specific situation; when exempted from passing the punishment «it makes an exception to the established procedure of punishment only once». It «is an emergency act, it is used in very complex and rare specific cases that cannot be put into specific norms and combined. This may be a situation related to the degree of danger of the difference between the crime committed and its causes, or a separate social and domestic situation, in this case, the person appears directly in front of society and cannot independently prevent the situation; and finally, it can be a case related to an emergency in the family, with the acceleration of the process of correctional labor, etc. Therefore, such situations are not judged, it is decided by the body that establishes the meaning and scope of the law». [8]

Amnesty and pardon, in its social essence, are not considered the forgiveness of a crime, but of a person who is the subject of law. «According to the general rule, an amnesty act shall be applied in relation to crimes committed before its release. An amnesty act applies to individuals who have committed long crimes if all continuous acts of the crime were committed before the entry into force of the amnesty act. The release of a person by the state from responsibility or punishment on the basis of an amnesty does not mean forgiveness of his crime, but forgiveness of himself». [21] The expression «forgiveness of the person» is found in legal literature. Thus, a legal philosophical question arises:



can a person be forgiven without forgiving his deed or crime? If the act, the crime is not forgiven, does this mean that the punishment imposed on him has not lost its force? If there is a subject of crime, that is, a criminal, then the crime itself exists, and vice versa, if there is a crime, then there is its subject.

The existence of a crime cannot be the reason for his forgiveness? Is it possible to forgive a criminal without forgiving his crime? Is it possible to separate actions from the person, from the subject who carried it out? There are no such discussions in the scientific and legal literature. If a person, even if he is deprived of his liberty and is in places of execution, has not lost that he is a subject of law, how can one separately consider a crime from a criminal? I. Kant expressed the idea and conclusion that the right is the objective being of a person, «human right is an objective right». [22] So committing a crime is also a human right.

Of course, this is not an event that will be supported by positive law or a positive society. To forgive a person, and from the point of view of humanizing the judicial system, to forgive his crime is certainly correct, but from the point of view of harmony and integrity of a person, this is not right.

If the crime is not forgiven, the danger of its recovery will always remain. Yes, we must not fight against a person; we must fight against flaws, destructive tendencies and deeds that are in him. Therefore, the forgiveness of a person and the forgiveness of sin, the forgiveness of a crime and the forgiveness of a criminal must be considered and interpreted together. Otherwise, there is no sense in the terms «forgiveness of a criminal» or «forgiveness of sin.»

One more step has been taken to form the institution of amnesty and pardon when exempting from criminal liability citizens who mistakenly joined terrorist groups. The Decree adopted by the President on September 19, 2018 «On improving the procedure for exemption from criminal liability citizens of the Republic of Uzbekistan who mistakenly entered terrorist, extremist or other prohibited organizations and groups» became the following regulatory document that is unique in the judicial history of the institution of pardon. According to it, if a citizen of our state wanted in foreign countries from a pure heart repenting him comes with a petition, he will be released from criminal liability.

The legal framework for amnesty and pardon primarily includes the Constitution of the Republic of Uzbekistan, Decisions of the Senate of the Oliy Majlis of the Republic of Uzbekistan on amnesty, the Criminal Code, the Code of Criminal Procedure, special articles in the Criminal Executive Code, Decrees, Decisions of the President of the Republic of Uzbekistan on amnesty and pardon, and

also concerning problems of the decision of the plenum of the Supreme Court of the Republic of Uzbekistan. Regulatory documents adopted and issued by these institutes establish the ways of activity of the courts, performing amnesty and pardon.

Regulatory documents regarding amnesty and pardon consist of these features. One who gives amnesty and pardon decides what crime to forgive, the terms of what types of crimes to reduce, suspended reduce, and what types of crimes cannot be forgiven. At first glance, this looks like a subjective desire of the head of state, in fact, it comes from the paradigmatic qualifications of the judicial system, a rational and fair solution to the problems that arise in society, and the requirements of social development. This objective situation puts on the agenda the formation of amnesty and pardon as a social right institution. The head of the country, which can definitely see the paths of national development, wants the people to strive to live building, will form it confidently, and will improve its regulatory framework.

## CONCLUSION

Drawing conclusions, it can be said that amnesty and the forgiveness of sin or pardon are the supreme body of the government of the state and one of the functions of the powers of the head of state, including as an act of generosity, are considered a complex legal and socio-humanistic institution, effectively applied in a number of foreign countries. The reform of its socio-legal basis and improvement, to outline the ways for its further development is important in the implementation of human rights and freedoms in the country, in the full implementation of foreign and domestic policies in the formation of a new, democratic look based on the rule of law today.

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## SELECTION OF RED MOTLEY HOLSTEIN BULLS BY GENOTYPE AND THEIR EXTENSIVE USE IN BREEDING

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### ABSTRACT

*The article describes the selection of red motley Holstein bulls by genotype imported from Germany to the state enterprise "Uznaschilik" and their use in breeding practices, which are also characterized by breeding and productivity qualities typical of black motley types. In the study of world breeding practices, new high-yielding herds are being formed by crossing dairy red breeds with red motley Holstein breed bull-improvers. The red motley Holstein breed is also recognized in our country as an improver and is being used in artificial insemination.*

**KEYWORDS:** *Red motley Holstein breed, breeding and productivity, artificial insemination, crossbreeding, selection and pairing, fertile, individual, genotype, breeding, total merit index, farm useful traits.*

### INTRODUCTION

New stage of intensive development of animal husbandry and mainly, cattle breeding has begun in Uzbekistan. An example of this is the establishment of the agency "Uzbekchorvanasl" by the decree of the President of the Republic of Uzbekistan Shavkat Mirziyoyev, from March 28, 2019 numbered PD-4654, and this kind of measures on the rapid development of animal husbandry is expected to be effective within a short time. In particular, huge changes are expected to happen in cattle breeding. In cattle breeding the breeds and herds get improved over the time and their breeding base is also formed and improved respectively. In this regard, the improvement of red colour herds is of particular importance. Because, a number of red dairy breeds ranks the second after black motley Holstein breeds in the farms of the republic. They have been regionized for crossing in the farms of southern regions of the republic and the Republic of Karakalpakstan. The use of modern methods of selection and application of breeding work is relevant in improving herds and strengthening their breeding base. First of all, it is important to choose improving breeds and bull-

improvers. It is known from the experience of the world breeding that at present all red dairy breeds are being improved by crossing with red motley Holstein breeds, and new productive herds and breeds are being formed. In Uzbekistan, a red motley Holstein breed is recognized as an improver breed, and is used extensively [1; 2].

In this regard, the selection of red motley Holstein bull-improvers and the extensive use of their sperm in the breeding work and artificial insemination methods show their breeding effectiveness.

Red motley Holstein breed cattle have breeding and productivity qualities typical of black motley types. On the basis of breeding work on bulls and cows, their individual selection and pairing, the generation of genetic breeding and productivity potential is being obtained. As a result, the milk yield of cows in breeding herds has increased by 9-10 thousand kilograms, and their mothers' by 25-30 thousand kilograms [3; 4].

In the USA, Canada, Germany and Holland, the breeding bases of red motley Holstein breed cattle are getting improved. Besides, bulls and heifers are being exported to other countries. Since 2000, red motley bulls of Holstein breed have been imported to



Uzbekistan, and are used in artificial insemination widely. In farms of Khorezm region, the generations from red motley Holstein and red steppe breed cattle has been achieved. At the present time, these practices are performed widely. Crossing of red steppe breed cows of Angler genotype with red motley bull-improvers of Holstein breed is showing its effectiveness in practice. New generations gained are characterized with their breeding and productivity traits [5, 6, 7].

## MATERIALS AND METHODS

Genotype evaluation and selection of red motley bull-improvers of Holstein breed imported from abroad is being paid attention to widely. On the base of modern selection, breeding methods have been used properly. Experiments were carried out in “Uznaschilik” state enterprise in Kibray district of Tashkent region during the years 2018-2020.

A total merit index of bull genotype (RZG) and

official index for production (RZM), conformation traits (RZE), somatic cell score (RZS), fertility (RZN) and farm use (RZR) indexes were estimated based on the analysis of each bull’s passport.

## RESULTS AND DISCUSSION

It should be noted that the red motley Holstein breed cattle has better adaptation to hot climates and dry weather than the black motley type cattle.

Therefore, we selected red motley bull-improvers of Holstein breed from Germany by their genotype. In Germany, selection work has been organized on the genotype of red motley Holstein pedigree cattle, i.e on the ancestral genus and quality of generation, and also high-genotype and productive generations have been gained in improving its priority, the breeding base is being strengthened respectively.

Table

Formation of sire breeding index of imported pedigree bulls and farm useful indexes of their generation

№	Breeding bulls		Total merit index of genotype (RZG)	Formation of farm useful indexes of sire generation				
	Name	Number		Official index for production (RZM)	Conformation traits index (RZE)	Somatic cell score (RZS)	Fertility index (RZN)	Farm use index (RZR)
<b>Bull-improvers</b>								
1	Wola	22398778	127	118	120	101	117	108
2	Pepe	22446925	131	121	136	101	109	107
3	Uptonu	22446938	130	118	129	107	116	105
4	Unno	22379529	136	131	122	104	113	104
5	Usamo	22446938	137	136	116	110	113	93
<b>Mean:</b>			<b>132,2</b>	<b>124,8</b>	<b>124,6</b>	<b>104,6</b>	<b>113,6</b>	<b>103,4</b>
<b>Leading bull-improvers</b>								
1	Unven	22379537	139	130	130	108	116	108
2	Untamo	22379532	143	144	116	114	113	90
3	Upke	22446906	143	144	116	114	113	90
4	Unni	22379520	147	135	132	119	116	112
5	Upendu	22398786	147	135	132	119	116	112
6	Upenda	22398783	147	135	132	119	116	112
<b>Mean:</b>			<b>144,3</b>	<b>137,2</b>	<b>126,3</b>	<b>115,5</b>	<b>115,0</b>	<b>104,0</b>

Imported breeding bulls with these indexes are being bred in “Uznaschilik” state enterprise and their sperm bank has been prepared. According to the plan of breed regionizing, selection methods are applied. Individual breeding and productivity traits of bulls selected genetically and typical of high breeding genotype are presented in the following table by their genotype.

The table data shows that the red motley bull-improvers of Holstein breed were obtained from bulls of high-breeding genotype. Their parental ancestors were selected on the basis of individual ordered selection, and quality indicators of their generation. Their total merit (sire) index made average 132.2 and 144.3, respectively

for the selected bull groups. They own very high breeding tendency.

Their total merit (sire) index ranged from 127 to 147. For the rise of total merit index, it was observed that the farm useful indexes of sire generation were formed at different levels. While the milk productivity of generation has risen sharply, the various conformation traits index and fertility indexes also have a rising character. The indexes of farm use time of breeding and productive cattle made 103-104% remaining without changes. That is, the parameters of this index are much higher than the standards of red motley cattle of Holstein breed. In this case, the herds will improve over time.



It is known that the red steppe cows bred in the Republic are smaller and have less milk capacity than the black motley breeds, while the generation obtained from crossbreeding with the red motley Holstein breed is not inferior to them. That is, selection for crossbreeding manifested a high level efficacy. High-yielding herds and breeding bases of red motley new generations of Holstein genotype of the red steppe breed are formed. In this regard, the hereditary influence of the leader bull-improvers gives its positive result. It is obvious from the practice of republican farms that in 95% crossbreeding of cattle at public and peasant farms and only 5% at farms the sperm of bulls with high genetic breeding qualities is used widely in artificial insemination and therefore the herds are improved rapidly. Selected red motley Holstein bulls not only serve to improve the breeding base of the Republic, but also they are characterized by expert qualities. These include the bulls with a total merit index of 140-147%. If milk productivity index of generation rises to 135-147 %, body structure conformation index gets improved by 130-132 % than standard breed. Fertility of cows and bacterial storage properties increase to 115-119%. Fertility and farm use time index is kept at high level. Currently, there is a plan to combine red motley Holstein breed bull-improvers with red steppe cattle for artificial insemination, and their sperm is being sent to farms in the southern regions. In Khorezm and Bukhara regions, measures are being taken to select control farms and to use them for breeding and evaluating new generations. In the future, these control farms will be used to evaluate and select bulls on generation quality. Strategies for the rapid development of cattle, improving their breeding and productivity qualities are expected to give yielding positive results in a short time.

## CONCLUSION

1. In the improvement of red steppe cattle bred in the southern regions of the country and the Republic of Karakalpakstan, the red motley Holstein breed is regarded as a breed-improver and is used by farms.

2. Red motley Holstein bull-improvers have been selected for extensive use in crossbreeding and artificial insemination, and their sperm bank reserves have been created.

3. High-yielding generations are obtained from red motley bull-improvers of Holstein breed, and their herds are formed. The breeding base will be strengthened accordingly.

4. Bull-improvers and especially, leading bull-improvers are characterized by high genetic breeding and productivity indicators. Their use leads to effective breeding work and economical effectiveness.

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# THE IMPACT OF COMMUNICATION ON WORKERS' PERFORMANCE IN LAGOS STATE NIGERIA

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## ABSTRACT

*In today's world, communication is an important component of organisation activity. Because the global world has become widespread, most organisations need to meet their needs with a lower resource moral through communication. This study examines the significant relationship between communication and workers' performance in some selected organisations in Lagos State, Nigeria. Data for the study were collected through questionnaire with sample population of 120 respondents. The result of this study reveals that a relationship exists between effective communication and workers' performance, productivity and commitment. The study recommended that managers will need to communicate with employees regularly to improve workers commitment and performance. Keywords: Effective Communication; Workers' Performance; Organisational Productivity; Workers' Commitment; Communication System.*

**KEYWORDS:** *Communication, performance, motivation, workers, organisations, employees.*

## 1.0 INTRODUCTION

The rise of globalization developments in political, social, economic, technological areas crucially affects communal and organizational lives of individuals in the society. In parallel with these developments organization management are obliged to develop new management techniques to struggle even harder competition conditions. These modern management techniques to a large extent aim to raise employees' performance by using the power of communication (Erogluer, 2011). The beginning of the universe was the beginning of communications. There was no beginning which was devoid of communication. Thus, communication facilitates transformation of the human society. Communication is a many-sided phenomenon that means different things to different people. It is a process of a means of access to the mind or thought of another. According to Wilson (1997), communication can also be seen as a reduction of uncertainty, thus, communication is an exchange of meanings. Accordingly, for organization and human as a social being, communication has a vital importance, whether pros or cons are an inseparable piece of life and also it has an important role on all activities aimed at gaining organizational objectives (Ada et al., 2008). Attention has been given to the study of organizational communication in organizational behaviour research as a result of the significance of this variable to organizational effectiveness. For

instance, it has been found that effective communication improves job satisfaction (Holtzhausen, 2002) and which in turn improves productivity (Litterst & Eyo, 1982). Research has also shown that communication improves employee job performance (Goris, 2007), while poor communication results to low employee commitment to the organization (Kramer, 1999).

Chen et al. (2006) pointed out that research is lacking in examining employee satisfaction with communication process. There is therefore the need to explore the relationship between organizational communication and workers performance since communication integrates different units and functions in the organization. Communication is the human activity that links people together and create relationship (Duncan & Moriaty, 1998). This means that individuals relate with each other by means of communication. It is the glue that binds people together in an organization. Managers have traditionally spent the majority of their time communicating in one form or another (face-to-face discussion, memos, notice boards, mass meeting, employees hand book, public lectures, etc.). Today, however, more and more workers find out that an important aspect of their work is communication which is the mutual exchange of understanding, originating with the receiver that leads to effective and efficient work performance in an organization because it's the essence of management. The basic functions of management (Planning, Organizing,





Staffing, Directing and Controlling) cannot be performed well without effective communication. Different units exist in an organization and it is through communication that interaction takes place for the attainment of organizational goals.

On the other hand, Workers Performance is regarded as how well an employee is able to dispatch his/her duties to the specified organization. Setting and clearly communicating performance standards and expectations, observing and providing feedback, and conducting appraisals enable you to achieve the best results through managing employee performance. According to Bass (1985), employees choose to perform tasks out of identification with the managers or with the organization roles and objectives. This relationship results in the employees' basic agreement with the norms to which they are required to perform. Thus, the flow of communication can create identification with workers internalizing desirable values, as regarding an organizations goals and objective. However, better performance can be achieved only when there is a reasonable level of expectation-fit and when the social exchange between managers and employees is fair and equal Wang (2005). Within the perspective of human resource management, it has often been theorized that employees' knowledge, abilities and skills will enable them to be good performers when they are hired. Thus, the management must gear its policies and objectives in such a manner that employees perform their work and do their assigned task. We are living in a time when communication systems are evolving rapidly which is essential for success and growth of an organization and is being perennially called upon to play a greater role in the quest for economic and political stability. Effective workplace performance is the key element in the success of an organization and the effectiveness of the workers employed will determine just how successful the organization will be. Effective communication between employees" and managers is crucial in that employees will need to know what is expected of them, managers will need to provide a clear job description for every employee which would make employees have immediate access to the necessary tools to complete each assignment given to them.

Communication covers all activities that the management does to enhance workers performance. Despite the above numerous advantage of effective communication business all over the world today is very challenging. To stay profitable in the highly challenging and competitive global market economy, all factors of production, i.e. men, machine, method, market, money and materials, should be wisely managed. Among the factors of production, the human resource constitutes the biggest challenge because unlike other inputs, employee management demands skillful handling of thoughts, feelings and

emotions to secure highest productivity. Organisational communication plays an important role in this challenge. Inability of a heads or Managers of any organization to coordinate a perfect and smooth flow of communication interaction among employee and outside business environment may likely create and facilitate low productivity with high degree of workers boring and disarray. However, people understand and interpret messages differently. In communication, there are many unwanted interference that can distort a message and remain always a potential threat to effective communication, because it can interfere with the accuracy of a message being communicated (Koontz 2001). Similarly, organizations in Nigeria have been faced with an array of problems that seem to be an impediment to the growth of any organization such as, mismanagement of funds and resources, poor leadership skills, low level of real income, and poor infrastructural facilities to mention but a few. It is in this context that this study examines the impact of communication on worker performance, their productivity and their general commitment to work, using selected organization in Lagos state as an empirical study. Research Objectives the broad objective of this study is to determine the impact of organizational communication on workers" performance.

All human interactions are form of communication. In this business world, nothing can be achieved without effectively communicating with employers, employees, clients, suppliers, and customers. If you look at the most successful business people in the world, you will see people who have mastered the art of communication. Business all over the world today is very challenging. To stay profitable in the highly challenging and competitive global market economy all factors at production (i.e. men, machine and materials), should be wisely managed. Among the factors of production, human resource constitutes the biggest challenge because unlike inputs, employee management demands skillful handling of thoughts, feelings and emotions to secure highest productivity. Effective organizational communication plays an important role in this challenge.

Communication has crucial impacts or among work groups in that organizational communication is a channel to flow information, resources, and even policies. "Organizational communication can be broadly defined as communication with one another in the context of an organization (Eisenberg & Good all, 1997; Shockley-Zalabak, 2006)" as cited in Eunu Phd (2009). This type of communication, in turn, includes activities of sending and receiving message through various layers of authority, using various message systems, and discussing various topics of interest to the group we belong to or the company we work for. Organizational communication research has





mainly been conducted both in the business management field and in the communication field; however, researchers in the public administration field have provided little knowledge about organizational communication and its roles and effects. (Eunju Phd, 2009).

Several studies emphasize that effective communication can enhance organizational outcomes (Garnelt, Marlowe, & Pandey, 2008; Pandey & Garnelt, 2006). Communication influence on the perception and opinions about persons, communities, organizations, governments, and even society. As a managerial tool, communication is frequently expected to share information with members, to coordinate activities, to reduce unnecessary managerial burdens and, rules and ultimately to improve organizational performance. (Eunju Phd, 2009).

### 1.1 OBJECTIVES OF THE STUDY

- i. To determine the level of communication within an organisation.
- ii. To determine the impact of organizational communication on workers performance.
- iii. To examine how communication influences workers' productivity.
- iv. To determine the extent to which communication affect the level of workers commitment.

### 1.2 HYPOTHESIS OF STUDY

- H1. There is a relationship between effective communication and workers" performance.
- H2. There is a relationship between communication and organizational productivity.
- H3. There is a relationship between effective communication and the level of workers" commitment.

## 2.0 LITERATURE REVIEW

Communication covers all activities that an individual does when he wants to make a transformation in someone else's mind. This is a meaning bridge between an individual or individuals and organization. Communication is a process that contains expressing, listening and understanding (Banerji and Dayal, 2005). Similarly, emphasizing social aspect of communication, communication that takes part on the base of social life and forms the content of organizational structure is a process which aims at conducting good relationships between groups and organizations (Dogan, 2005). Price (1997) defined organizational communication as the degree to which information about the job is transmitted by an organization to its members and among members of the organization. Ayatse (2005) observed that communication is needed to establish and disseminate the goals of the enterprise. This is because the competencies and skills they possess will

enable them to exhibit work behaviors appropriate and relevant to the performance of the job. It is further theorized that employees are likely to be more productive if their performance is rewarded assuming that the reward received has value to them, as argued by the expectancy theory (Victor Vroom, 1964). Communication is vital in organizations such the Impact of Communication on Workers' Performance in Selected Organisations in Lagos that Orpen (1997) argued that communication has a vital role in the failure or accomplishment of any organization, it is used for the purpose of resolving the contradictions in work organization in other that such organization may progress. People must come together, think together, work together, learn together and advance together. Human interaction allows man to forge new horizons and explore new possibilities. Thus, by meeting people, they can communicate in the language of themselves. The variety of communication aids/ techniques used in an organization depends on the nature of the organization, its kind and range of personnel that best suits the management and also the location of the workplace. According to Ince and Gül (2001) communication is the exchange of ideas, emotions and opinions through words, letters and symbols among two or more people. He states that this may be defined as a technical fact. Yet it is uncertain whether symbols are transfer truly or not, to what extent symbols meet the transmitted message and how effective transmitted fact on the receiver (Kalla, 2005; Baltas and Baltas, 2002). Without communication, through readings, listening (the receptive skills), speaking and writing (the productive skills) mankind would find it difficult to unravel some of the mysteries of life. Those things that we are ignorant of or have knowledge of, or that we have doubts about can be explained to us better through communication. Altinöz (2008) defines communication as a means through which the task and the resources needed to carry out an assignment, the roles and duties and the expected results are made known to the subordinates. This means that communication is the transfer of information (a message) from one person to another. Thus effective communication is therefore the transfer of message, followed by feedback, from the receiver to the sender, indicating an understanding of the message. Multidimensional aspect of the notion of communication along with its analyses from different viewpoints affects its definition, communication is needed to review, conceptualize and direct interaction in an organization. Employee communication is the dissemination of information which is related to the daily performance of an employer's job and also important if the worker is expected to be an effective member of staff. It connotes a consideration of human beings as a vital resource (Buchanan and Doyle 1999).



Communication is the transfer of information from a sender to a receiver, with the message being understood by the receiver. Myers and Myers (1982) defined organizational communication as “the central binding force that permits coordination among people and thus allows for organized behavior,” and Rogers and Rogers (1976) who argue that “the behavior of individuals in organizations is best understood from a communication point of view.” In many ways, organizations have evolved in directions that make the latter view more appropriate. Changes confronting organizations and the associated changes in organizational forms have made organizational communication increasingly important to overall organizational functioning. Communication is said to be the foundation for sound management, communication helps greater coordination and interaction among workers, good communication helps in motivating the workers, and communication helps in establishing links between different hierarchies and functions of management, communication clears confusion, misunderstanding and delays in administration, it helps in achieving maximum productivity with minimum cost, it helps in building genuine human relation. Communication is not only an essential aspect of these recent organizational changes, but effective communication can be seen as the foundation of modern organizations (Grenier and Metes 1992; D’Aprix 1996; Witherspoon 1997; von Krogh et al. 2000). Effective communication is needed for management to develop and sustain a competitive advantage for organizational performance and improvement (Avioli, Lado, Boyd & Wright, 1992; Rowe, 2001). Effective communication between leaders and employees is critically important for the potential success of a company. Leaders need to enact strategies to improve communication that could lead to positive work consequences (Gray and Laidlaw, 2002). Improvements in supervisor-subordinate communication will assist organizations toward the goal of managing diversity by promoting equality and integration in the workplace.

Effective communication succeeds when employees support the leader and the organization if there is a belief that employees' efforts will be rewarded. Leadership succeeds when initiating response or responding to change and leadership is inextricably linked to the credibility of those leading. Constituents will become willingly involved to the extent that they believe in those sponsoring the change (Desanctis & Janet, 1999). The association between employee satisfaction and job performance suggests that an important contributor to the employee's engagement within the organization is the leader employee relationship. Foong (2001) concludes that managers use leadership behaviours to influence employees. Lee and Chuang (2009) explain that an excellent leader not only inspires

subordinates, giving them the potential to enhance efficiency, but also meets their requirements in the process of achieving organizational goals. How a leader communicates is as important as to how he leads. The leader is the guiding force within a group and organization. A leadership style that resonates with followers will allow the leader to achieve greater employee productivity.

Conversely, poor leadership styles lead to poor communication and can have negative effects on workers performance and in turn productivity. The process by which employees are made aware of organizational goals and their involvement in the achievement of them is recognized to play an important role in fostering job commitment (Anderson and Martin, 1995; Haskins, 1996). Goris et al. (2000) and Ooi et al. (2006) find organizational communication to The Impact of Communication on Workers' Performance in Selected Organisations in Lagos has an important positive association with affective commitment, whilst (Brunetto and Farr-Whartons" 2004) findings “suggest a strong relationship between communication processes and job satisfaction and affective job commitment”. The importance of communication may appear intuitively obvious, but does research support this assumed importance; the short answer is yes. Research has shown that “when employee needs are met through satisfying communication, employees are more likely to build effective work relationships.” (Gray & Laidlaw 2004, quoted in Tsai and Chuang 2009). This “research satisfaction” – “the sum total of an individual's satisfaction with information flow and relationship variables” (Downs & Hazen, 1977, in Tsai and Chuang 2009) has been correlated with key variables such as job performance and turnover rates. Further, “certain facets of employees” communication satisfaction that exhibit both information and relationship features supervisory communication, personal feedback, and communication climate were found to be the major dimensions of communication-job performance relationships” (Tsai and Chuang 2009). In other words, the ways in which information flows in an organization is critical to the way that personnel understand their relationship to and within the organization. In short, as Chen (2008) stated, each passing study seems to reveal “that the relationship between internal/employee communication and corporate effectiveness is more significant than what has previously been assumed”. Communication covers all activities that an individual does when he wants to make a transformation in someone else's mind. This is a meaning bridge between an individual or individuals and organization.

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### 3.0 RESEARCH METHODOLOGY

#### 3.1 Research Design

The research design adopted for this study was descriptive survey method. This is because the method was deemed appropriate, as the study collected information on impact of communication on workers' performance in an organization. Oniye (1997), states that the descriptive survey deals with systematic description of an event in a very factual and accurate manner.

#### 3.2 The Study Area

The study area is in Lagos state, Nigeria. It is an administrative division of Nigeria, located in the south western part of the country. Lagos State is arguably the most economically important state of the country; it is the nation's largest urban area with vast number of organizations, which makes it a relevant study area for this research work. The study was conducted at Andos Water; Hans Finest Solution, Mickelyn Petroleum, Soyebode Engineering Resource Limited.

#### 3.3 Sampling Techniques and Sample Size

The purpose of a sample is to get a scaled down model of the total population because the sociologist wants to generalize from the attributes, their distribution and their inter relationships observed in his sample to the attributes of the population. Hence because the total population might be too large to study, the researcher therefore, restricts himself to a part of the population that represents the whole. In selecting a fair sample upon which valid conclusions could be drawn; stratified sampling technique and random sampling technique were used respectively. Some private organizations in Lagos State were selected, and a sample size of 120 staff was used for this study.

Name of Organisations	Total Population	Sample population
Best Water	25	20
Hams Finest Solution	40	30
Mickelyn Petroleum	35	30
Soyebode Engineering	50	40
Total:	150	120

Source: Researcher's Field Survey, 2013





### 3.4 Research Instrument

The research instrument used for collection of data is the administering of well-structured questionnaire. The questionnaire consists of two sections. Section A consists of information relating to the socio-demographic characteristics of the respondent: name of organisation, sex, age, marital status etc. while section B contains questions on the respondent interpretation and perception of the impact of communication on workers performance. Thus, questions in section will be used to test the different proposed hypothesis in chapter one.

### 3.5 Method of Data Analysis

The data were analyzed using statistical techniques which included both descriptive and inferential statistics. The frequency and percentage table were used for the descriptive statistics while the use of non-parametric test of chi-square also known

as the goodness of fit test was employed for the inferential statistical analyses in other to confirm the hypotheses formulated for the course of the study and it measures the reliability and significance of data to see whether or not deviation of the actual observer leads to the acceptance or rejection of the null hypothesis.

## 4.0 Data Presentation And Interpretation

This section reports and analyses major data collected from subject relating to communication and worker performance in selected organisation in Lagos State. Socio-economic characteristic of the respondent were first presented. Also, the calculated chi-square of the hypotheses earlier formulated in this study was presented.

**Table 1: Social Characteristics of Respondents**

Age	Frequency	Percentage
21 - 29	47	39.2
30 - 39	33	27.5
40 - 49	30	25.0
50 - 59	10	8.3
<b>Total:</b>	<b>120</b>	<b>100.00%</b>
<b>Sex</b>		
Male	84	70
Female	36	30
<b>Total:</b>	<b>120</b>	<b>100.0%</b>
<b>Marital Status</b>		
Single	52	43.3
Married	57	47.3
Divorced	9	7.5
Separated	2	1.7
<b>Total</b>	<b>120</b>	<b>100.0%</b>
<b>Staff Category</b>		
SSCE	20	16.7
OND/NCE	32	26.7
HND/Bachelors Degree	44	36.7
Master's Degree	19	15.8
PHD	5	4.2
<b>No. of Work Years</b>		
Less than 6 months	10	8.3
6 months - 1 years	16	13.3
1years - 2years	29	24.2
3-5 years	32	26.7
More than 5years	33	27.5
<b>Total</b>	<b>120</b>	<b>100%</b>



**Table 2: The Relationship Between Communication and Workers Performance**

Level of effective communication	Worker's Performance				
	Very high	high	Average	low	Total
High	33	25	4	0	62
Average	18	22	14	0	54
Low	1	1	1	4	7
Total	52	48	19	1	120

$$X^2_c = 39.323 > X^2_t (0.05) = 12.592, d.f = 6, n = 120$$

**Table 3: The Relationship between Effective Communication and Organisations Productivity**

Effective communication	Organisation's Productivity			
	high	average	low	Total
Very effective	61	12	3	76
Effective	17	27	0	44
Total	78	39	3	120

$$X^2_c = 26.975 > X^2_t (0.05) = 5.991, d.f = 2, n = 120$$

**Table 4: The Relationship between Effective Communication and Workers Commitment**

Effective Communication	High	Workers Commitment		
		Moderate	Low	Total
Very effective	63	12	1	76
Effective	20	24	0	44
Total	83	36	1	120

$$X^2_c = 20.179 > X^2_t (0.05) = 5.991, d.f = 2, n = 120$$

## 4.1 RESULTS AND DISCUSSION

### 4.1.1 Social Characteristics of Respondents

#### 4.1.1.1 The age category of respondents in Table 1

The age category of respondents in Table 1 indicates that 47 (39.2%) of the respondents were between the ages of 21-29 years, 33 (27.5%) were between the ages of 30-39 years, 30 (25.0%) were between the ages of 40-49 years and 10 (8.3%) were between the ages of 50-59 years. Thus, the result indicates that the active age range of workers is the ages between 21-29 years.

#### 4.1.1.2 The distribution of respondents by sex

The distribution of respondents by sex reveals that 84 (70.0%) were males and 36 (30.0%) were females. This indicates that a large proportion of those in the work force are males. The data in Table 1 also shows that 52 (43.3%) were single, 57 (47.5%) were married, 9 (7.5%) were divorced and 2

(1.7%) were separated. Thus, the result shows that majority of the respondents are married.

#### 4.1.1.3 Distribution of respondents by their educational qualification

In another development, distribution of respondents by their educational qualification reveals that 20 (16.7%) have SSCE, 32 (26.7%) have OND/NCE, 34 (36.7%) have HND/Bachelors Degree 19 (15.8%) have Masters Degree and 5 (4.2%) have P.H.D. Thus, the result shows that majority of the respondents had HND/Bachelors Degree holders. And also, the data in table 1 reveals that 10 (8.3%) have worked with the organization for Less than 6months, 16 (13.3%) have worked with the organization for 6months-1year, 29 (24.2%) have worked with the organization for 1-2years, 32 (26.7%) have worked with the organization for 3-5years and 33 (27.5%) have worked with the organization for more than 5years. Thus, the result shows that majority of the respondents have worked with the organization for more than 5years. Finally, it is noteworthy that out of a total number of three



hypotheses tested, the null hypothesis statement of the three hypotheses was rejected.

#### **4.1.1.4 The Relationship Between Communication and Workers Performance**

Thus, in Table 2, we found that effective communication has impact on workers performance. This assertive can be linked to Ayatse (2005) in his study “observed that communication is needed to establish and disseminate the goals of the enterprise. This is because the competencies and skills they possess will enable them to exhibit work behaviours appropriate and relevant to the performance of the job”. Also, the contextual theory affirms the above result through the contention of (Pearce 1994, 1995; and Cronen 1991, 1995) that for communication to effectively have impact in workers performance there is need for the message passed across to be properly understood by workers in a particular organisation It seeks to explicate how the creation and maintenance of social relations materialize in talk.

#### **4.1.1.5 The Relationship between Effective Communication and Organisations Productivity**

The second hypothesis tested on Table three showed that effective communication system helps in achieving maximum productivity within an organization. In line with the above result, Tsai and Chuang, (2009) observed “the sum total of an individual’s satisfaction with information flow and relationship variables” has correlation with key variables such as job performance and turnover rates which suggests a link between communication and productivity as more complex than previously assumed. It is also believed that the mechanistic perspective is viewed as a technical system that allows information flow from one direction to another through the informative function of communication which is enacted to provide needed information to personnel so they can do their jobs in an effective and efficient manner.

#### **4.1.1.6 The Relationship between Effective Communication and Workers Commitment**

Also, from the Table 4, it can be seen that effective communication affects the level of workers commitment within an organization. Corroborating based on the above result to Arnold, (2011) observed that “the perception of people in the communication process must be considered, for what they think or feel affects considerably how they interact with the organizational environment” whilst (Brunetto and Farr-Whartons” 2004) findings “suggest a strong relationship between communication processes and job satisfaction and affective job commitment”. The Contextual view of communication and meaning, rather than examining how discourse helps create, maintain, and give meaning to social relations, he

examines how the communication context itself is negotiated. Feedback exchanges can be viewed as a process of interpersonal negotiation whereby through effective communication, workers are committed to work.

## **5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATION**

### **Conclusion And Recommendation**

#### **5.1 Conclusion**

Based on the findings of this research, the study has been able to reveal that effective communication creates mutual understanding between management and workers which helps in building genuine relationship among both parties in the organizations. Also, this study reveals that poor communication can affect workers performance. Therefore, organizations should regularly articulate it policies, goals and objectives to it workers in other to improve work performance. That is, communication is a means through which the task and the resources needed to carry out an assignment, the roles and duties and the expected results are made known to the subordinates which makes work easier for better performance. Also, managers need to communicate with employees regularly to get feedback and offer suggestions in other to prevent confusion about future job assignments; this will help improve workers performance and organizational productivity. In addition, top managers should communicate directly with their subordinates on issues of importance. Organizations should eliminate the barriers on communication and create efficient, participative, and transparent communication medium to improve workers commitment.

#### **5.2 Recommendation**

The study hereby recommends that for an effective and efficient organizational performance, management must embrace; more clarity of ideas before communicating; better understanding of the physical and human environment when communicating; purpose of communication must be thoroughly analyzed; when planning communication, consultation should both be top down and bottom up, and all facts must be implicit and explicit; consideration should be given to the content and tone of the messages; the languages must be messages the receiver would find valuable; communication with precise messages and are short run often possess long run importance; all interested parties in communication should be encouraged to be good listeners; immediate actions must be accompanied and accomplished with communication; and lastly effective feedback and follow up mechanism process must succeed effective communication.



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