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# ECONOMETRIC ANALYSIS OF LONG-TERM LOANS OF COMMERCIAL BANKS

**Usmonov Bahodir Suvonkul oqli**

Senior Lecturer,  
Tashkent Institute of finance,  
Tashkent, Uzbekistan.  
ORCID: 0000000327822496

## ABSTRACT

*Today, long-term loans provided by commercial banks make a significant contribution to the stability of the economy. Long-term loans are also a point of economic growth in the country. Scientific research shows that strategies aimed at increasing the competitiveness of the banking system can only be achieved through the development of means of technical re-equipment of the industry through long-term lending and thus the implementation of investment processes. To date, issues such as the justification and effectiveness of long-term loans and the development of optimal decision-making mechanisms in the field of long-term lending remain unresolved, indicating that there are many tasks to be performed by commercial banks in the future. The complexity and urgency of solving these problems stems from the fact that each long-term credit transaction has its own characteristics, so an individual approach is required to justify its effectiveness, taking into account the solvency of the borrower and the changing conditions of the credit market. In this paper, the effectiveness of long-term loans has been studied in detail through econometric analysis and conclusions have been drawn. The relationship of scientists and experts to this issue is studied and an author's approach is given. Based on the research, scientific conclusions have been made.*

**KEYWORDS:** *long-term loans, interest, margin, income, resource, deposit, leasing services.*

## INTRODUCTION

Credit plays an important role as a means of regulating the economy. First of all, it should be noted that it is known from the practice of human society development that it is impossible to achieve economic and social stability in a society without the establishment of credit relations.

Growth trends in economic activity in the country are also reflected in banking. In particular, loans from commercial banks play a significant role in the GDP growth of the Republic of Uzbekistan. As of January 1, 2020, the ratio of credit investments to GDP was 41.3 percent [10].

There are still a number of disadvantages associated with the development of long-term lending by commercial banks in developing countries, which are reflected in: high credit risks, relatively low profitability of enterprises, lack of necessary financial resources, lack of long-term resources, flexibility in debt repayment the absence of which does not allow borrowers to adapt to changes in their financial capabilities, which leads to a deterioration in customer performance.

Where there is money, there is borrowing and lending, which is usually done by banks. The textbook "Banking", edited by well-known economists of our country Yo. Abdullaev, describe a loan as follows: "A loan is a loan to borrow and return temporarily vacant funds of their owners on the condition of payment by others for a certain period. the resulting relationship is understood" [1].

Theoretical and practical aspects of ways to increase the efficiency of long-term loans of commercial banks have been studied by foreign economists. In particular, Romanian economists Gheorghe Zamana and George Georgescua discussed the Challenges of bank lending in Romania on short, medium and long term. scientific research has been conducted on The scholars' research in this area is devoted to the analysis of some problems in short, medium and long-term bank loans in Romania, a number of economic and social criteria, as well as various types of loans are considered and analyzed. However, one of the aspects that the study focused on was the extent to which the financial and economic impact of the international crisis after its accession to



the European Union and long-term loans was considered [2].

In a study by Fouopi Djiogap and Augustin Ngomsi, the factors that determine a bank's long-term lending are considered in the example of the Central African Economic and Monetary Community (CAEMC). The study examines the factors influencing the allocation of long-term loans by banks in Central Africa. The main aspects of banks' attention to the overall banking level and macroeconomic determinants of long-term lending behavior are analyzed. In this regard, a number of panel models in long-term lending practices by banks have been considered. The results of the study are based on a large database of about 100 commercial banks in 35 Central African countries [3].

Howard Bodendorfer conducted research on "Short-Term Loans And Long-Term Relationships: Relationship Lending In Early America". According to the researcher, using credit records on loan agreements of commercial banks in the United States, this article shows that firms that establish extended relationships with banks receive three main benefits. First, firms with expanded relationships face lower credit costs. With the end of the bank-borrower relationship, credit costs decrease. Second, long-term customers are asked to provide less personal guarantees. Third-party warranties are an effective alternative to collateral under certain circumstances, requiring less guarantees from long-term customers. Long-term bank customers are more likely to reconsider loan terms during a credit crisis. Firms that do not have access to public debt markets rely on bank credit, and access to permanent access during a credit crisis is important for small, non-transparent firms [4].

Hüther Michael, Voigtländer Michael, Haas Heide, Deschermeier Philipp conducted a research paper on "The importance of long-term financing by banks: Advantages and future challenges". expressed their views on the rules of long-term lending in the economy. In their view, in the face of long-term lending, commercial banks can reduce inflation risk by setting large interest rates. Otherwise, the material interests of the bank, which is a commercial organization, may be seriously damaged [5].

According to the well-known Russian economist II Nekrasov, "long-term loans of commercial banks are an independent economic category, which has a direct impact on economic processes and is a key factor in development. In order to implement the investment process, increase the fixed capital of the organization, to assess its effectiveness, it is necessary to have a period of time corresponding to the long-term lending period [6]. According to the author, long-term lending is a substitute for investment for businesses. The opinion of the scientist is reasonable, that in economic development, long-term loans are a very necessary

component in the replenishment of fixed capital and technical modernization of economic entities.

## MATERIALS AND METHODS

There are specific rules for credit and lending, which are expressed in special principles. These are:

- loan repayment;
- loan maturity;
- loan security;
- purpose of the loan;
- loan repayment;
- differential approach.

The principle of credit efficiency means that not only the loan amount and interest are repaid to the bank, but also the efficiency of the sector, industry, enterprise, which is lent or financed from it. Therefore, before allocating or issuing a loan, it is necessary to calculate the probability that the loan will be effective. For example, if the investment in the project is effective, then it is necessary to allocate funds for this project.

Credit efficiency ( $K_s$ ) is directly related to production and its sales volume ( $R_h$ ) and can be defined as follows:

$$K_s = \frac{R_h}{K_h} \quad (1)$$

Here:

$K_h$  - is the average size of the loan.

If an enterprise attracts less credit resources and sells more products for one sum, then the efficiency of the loan will be so high.

In order to ensure the effectiveness of credit, in the practice of Western countries, a new rule of lending for us, that is, the rule "5-C" is applied. Based on this, the activity of the enterprise for each "C" is analyzed and the enterprise is given a loan only if the activity meets the requirements. As a rule, the letters "C" represent the following aspects:

- C1 (Character) - the reputation of the borrower in the market, to determine its status;
- C2 (capacity) - the ability of the borrower to complete the work started, earn the appropriate income and repay bank loans;
- C3 (capital) - sufficient capital of the borrower;
- C4 (conditions) - conditions for the development of this business;
- C5 (collateral) - collateral (guarantee, surety, insurance policy, inventory, etc.).

U.S. economists have also suggested the introduction of "2 C's."

- C (country) - state faculty;
- C (currency) - the currency of the country and its exchange rate.



For commercial banks, these 5 elements will help them overcome the risk threshold when they assume a credible responsibility for assessing the amount of risk accepted by shareholders. If they cross this line, their regulators, board of directors and shareholders will try to regulate them. Thus, the loss of regulated banks usually does not exceed half a percent.

However, there is an observation that the entrepreneurial potential of a society is not limited to those who have the opportunity. Perhaps the entrepreneurial nature of a society depends on who participates in it and how it values those who are relevant and successful as lenders. This means that the development of society requires the financial institution to adhere to the science of underwriting, and lenders must be familiar with the “art” of the business.

Leading banking scholars and bankers abroad offer the following PARSER and CAMPARI elements to ensure credit efficiency:

PARSER:

P (person) - information about the borrower and his reputation;

A (amount) - justification of the requested loan amount;

R (repayment) - the ability to repay the loan;

C (security) - assessment of credit collateral;  
 E (expediency) - the purpose of the loan;  
 R (remuneration) - bank profit (interest rate).

CAMPARI:

C (character) - the reputation of the borrower and information about him;

A (ability) - the ability to repay the loan;

M (means) - the need for credit and the amount of profit;

P (purpose) - the purpose of the loan;

A (amount) - the amount of credit;

R (repayment terms) - loan repayment period;

I (insurance) - insurance of loans[7].

## RESULTS

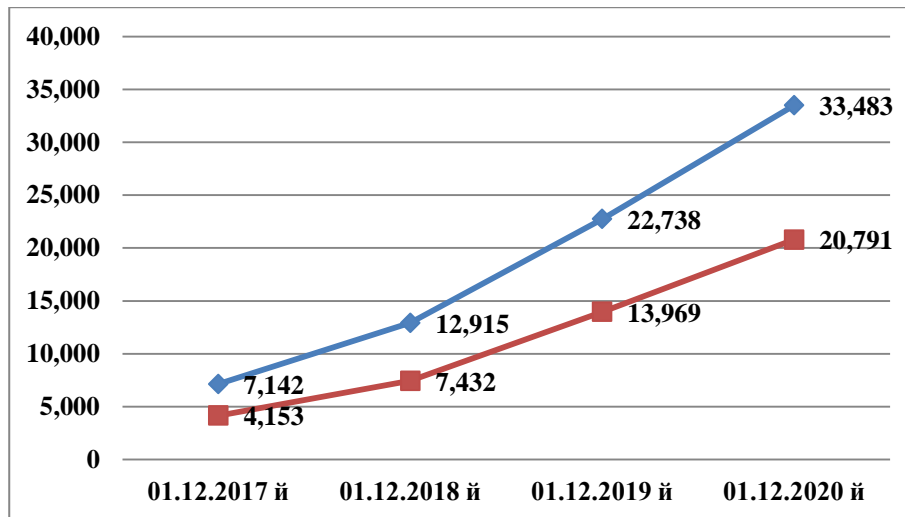
The banking system plays an important role in the economy. This role is performed by performing various tasks legally assigned to the banking system. Among them, the lending function, which includes short-term and long-term lending, plays an important role. At the same time as performing these functions, commercial banks will also have their own revenues. The main purpose of commercial banks is to make a profit.

**1- Table**  
**Analysis of profitability indicators of commercial banks of the republic[10]**  
**(billion sum)**

Income and expenses of the banking system	2017 y	2018 y	2019 y	2020 y	2020/2017
Interest income	7 142	12 915	22 738	33 483	26 341
Interest expense	4 153	7 432	13 969	20 791	16 638
Interest margin	2 989	5 483	8 770	12 692	9 703
Interest-free income	6 253	5 294	8 402	10 526	4 273
Interest-free expenses	1 783	1 199	2 465	3 029	1 246
Operating expenses	3 557	4 846	5 734	6 924	3 367
Interest-free income (loss)	914	-752	203	573	-341
Estimation of possible losses on credit and leasing	1 227	1 753	3 672	6 391	5 164
Estimation of possible losses on other assets	109	155	443	362	253
Net profit (loss) before tax	2 566	2 823	4 856	6 511	3 945
Income tax expense	384	599	1 014	1 344	960
Adjustments on benefits	-4	0	0	0	
Net profit (loss)	2 178	2 223	3 842	5 168	2 990
<b>Profitability indicators of the banking system</b>					
Ratio of net profit to total assets before tax (ROA)	2,5	1,7	2,0	2,3	-0,2
Ratio of net profit to total capital before tax (ROE)	23,3	13,0	16,9	10,3	-13,0
The ratio of net interest income to total assets	2,0	2,9	2,9	4,0	2,0
The ratio of net interest income on loans to total loans	3,0	3,7	5,3	5,1	2,1
The ratio of net interest income to total liabilities	2,3	3,3	3,4	4,7	2,4
The ratio of net interest margin to total assets	2,9	3,2	2,9	4,5	1,6

An analysis of the data in the table above shows that the interest income of commercial banks has increased significantly in recent years. In particular, as of December 1, 20217 it amounted to 7142 billion soums, as of December 1, 2020 this

figure amounted to 33483 billion soums, an increase of 4.6 times or 26341 billion soums. We can also see that the ratio of net interest income on loans to total loans increased from 2% in 2017 to 5.1% in 2020 and increased by 2.1 units.



**1-picture. Information on income and expenses of the banking system [10] (billion sum)**

An analysis of the picture data above shows that in recent years, the income of commercial banks has increased somewhat relative to their expenses. In particular, in 2017, interest expenses amounted to 4153 billion soums, while in 2020 they amounted to 20791 billion soums. But this figure has shown an upward trend over the years.

One of the important tasks facing the banking system and statisticians is to determine the volume of long-term loans that have a positive impact on bank income, and at the same time to determine the extent to which the allocated loans affect the growth of bank income.

Depending on the allocation of long-term loans from commercial banks, it is important to study their effectiveness in two main groups and draw conclusions on this basis.

To carry out this analysis, we consider long-term loans as a factor indicator, and the bank's interest income as a result indicator.

**2- table  
 Dynamics of changes in long-term loans and interest income provided by JSC "Sanoatqurilishbank" (billion sum) [11]**

Years	Long-term loan balance (billion soums)	Total interest income (billion soums)
2011	1 498,4	155,2
2012	2 161,9	238,1
2013	3 040,4	346,7
2014	3 944,1	379,6
2015	4 738,0	415,8
2016	7 347,2	480,9
2017	13 075,1	751,0
2018	20 267,2	1 506,4
2019	21 085,9	2 516,1
2020	27 397,3	3 646,2
<b>Total</b>	<b>106 622,7</b>	<b>10 775,9</b>





The above tables reflect the dynamics of long-term loans and interest income provided by JSC "Sanoatqurilishbank". The table shows that in the analyzed period, bank loans and bank interest income have been growing steadily. This confirms that our economy is growing. Based on the above data, we

calculated the effect of loans on interest income in a correlation manner.

Considering long-term loans as an important factor in the growth of bank interest income, we have compiled the following calculation table.

It is known that the correlation coefficient:

$$\rho = \frac{\overline{xy} - \bar{x} * \bar{y}}{\sigma_x * \sigma_y}$$

is calculated by the formula [8]

$$\text{Here, } \sigma_x = \sqrt{\sum(x^2) - \sum(\bar{x})^2} ; \sigma_y = \sqrt{\sum(y^2) - \sum(\bar{y})^2}$$

We have compiled the following calculation table as an important factor in the growth of bank interest income on long-term loans.

3- Table

Calculation of long-term loans is an important factor in the growth of bank income

Years	X	Y	XY	x <sup>2</sup>	y <sup>2</sup>
2011	1 498,4	155,2	232587	2245253	24094
2012	2 161,9	238,1	514703	4673689	56683
2013	3 040,4	346,7	1054024	9244084	120181
2014	3 944,1	379,6	1497265	15555677	144115
2015	4 738,0	415,8	1970264	22448679	172925
2016	7 347,2	480,9	3533601	53980873	231310
2017	13 075,1	751,0	9819599	170957252	564027
2018	20 267,2	1 506,4	30531226	410759720	2269346
2019	21 085,9	2 516,1	53054226	444613576	6330780
2020	27 397,3	3 646,2	99895826	750609910	13294757
<b>Total</b>	<b>104555,3</b>	<b>10436,1</b>	<b>202103320,3</b>	<b>1885088713,7</b>	<b>23208218,0</b>

Based on the table data, we performed the following calculations:

$$\rho = \frac{\frac{202103320,3}{10} - \frac{104555,3}{10} \times \frac{10436,1}{10}}{\sqrt{\frac{1885088713,7}{10} - \left(\frac{104555,3}{10}\right)^2} \times \sqrt{\frac{23208218,0}{10} - \left(\frac{10436,1}{10}\right)^2}} = 0,942$$

From this analysis, it can be concluded that the growth of the bank's interest income has a very strong correlation with the volume of long-term loans issued by banks. The correlation between the growth of long-term loans and the growth of the bank's interest income is 0,942 which means that each change in the volume of loans is reflected in the interest income of the bank.

The purpose of the analysis of the correlation regression between long-term loans provided by the bank and the growth of the bank's interest income is to determine the amount of credit required for the development of the bank's

sustainable income. Determining the amount of credit required will guide banks to properly and optimally shape their lending capacity. In order to provide the economy with the required amount of credit, banks are required to increase their lending capacity. We developed a reciprocal regression equation to analyze the growth of the bank's interest income, the bank's long-term lending.

It is known from the literature on economic statistics that the regression equation is a linear equation, the general equation of which is  $y = a_1x + b_1$ ; [9]



Here:

$$a_1 = \frac{n \sum x_i y_i - \sum x_i \sum y_i}{n \sum x_i^2 - (\sum x_i)^2}$$

$$b = \frac{\sum x_i^2 \sum y_i - \sum x_i \sum x_i y_i}{n \sum x_i^2 - (\sum x_i)^2}$$

From the data in the calculation table above, we calculate the following.

$$a_1 = \frac{10 \times 202103320,3 - 104555,3 \times 10436,1}{10 \times 202103320,3 - 104555,3^2} = 0,055$$

$$b = \frac{1885088713,7 \times 10436,1 - 104555,3 \times 202103320,3}{10 \times 1885088713,7 - 104555,3^2} = -85,93$$

Analyzing the relationship between long-term loans and the bank's interest income in a regression method, we found that the relationship between them could be governed by the regression equation  $u = 0,055x - 85,93$ .

In conclusion, there is a strong correlation between the dynamics of changes in the volume of long-term loans of JSC "Sanoatqirulishbank" in 2011-2020 and the amount of interest income of the bank, in which we can see a large share of long-term loans;

Long-term loans have a direct proportion to the interest income of the bank being created and can be used as an important tool in changing the amount of interest income of the bank;

There is a relationship between long-term loans and interest income of the bank, subject to the regression equation  $y = 0,055x - 85,93$  through which it is possible to predict the amount of interest income of the bank by changing the amount of long-term lending by the bank;

There is a strong correlation between the banking system and economic growth rates, as evidenced by the experience of many countries in the development of the national economy in the post-global financial crisis. Economic growth leads to an increase in the income of entities, which in turn stimulates the growth of demand for financial services and the development of the banking system. It also effectively allocates resources through the acceleration of resource capitalization in the banking system and creates the basis for sustainable development of sectors of the economy.

## DISCUSSION

Banks must have a long-term stable source of resources to carry out long-term lending

operations. Banks use a variety of methods to solve this problem. In particular, long-term lending for the purpose of accepting time deposits from the population, placing its bonds on the securities market, attracting long-term resources through international credit lines and implementing government programs at the expense of the state budget. In terms of both financing and revenue, state-owned corporate enterprises, which are the bank and its main customers, are highly dependent on various government agencies.

A number of theoretical issues related to long-term lending are underdeveloped, as well as the shortcomings and problems of banking practice in this area. Among the theoretical problems, it is a fact that there is a lack of specific scientific research on the nature of long-term credit, which is important for the formation of an appropriate resource base. In addition to scientific research, there were issues of determining the objects of long-term loans of the bank, as well as the criteria for their selection. Additional theoretical research is required on the long-term lending system of banks and the characteristics of its long-term lending to existing enterprises. Further research is needed on issues related to the prospects for the development of long-term bank loans. In the process of writing the article, we can see that the issue of long-term lending has been scientifically studied by leading foreign and Uzbek economists and relevant conclusions have been drawn.

## CONCLUSION

Today, the world is developing rapidly, new techniques and innovative technologies are being created. In turn, in order to implement these innovations and to produce competitive products or



services in accordance with modern requirements and to further expand the scope of activities, businesses naturally need high bank loans and choose the financial institution that is most able to meet these needs.

Long-term loans provided by commercial banks make a significant contribution to market stabilization and, at the same time, to the stability of the economy. Also, long-term loans from commercial banks are a point of economic growth in the country. However, as a result of new financial market rules such as Basel III and Solvency II, the long-term financing market is relatively shrinking, which can be explained by the fact that banks are being given incentives to provide more short-term loans. Other financial intermediaries, such as non-bank credit institutions or various funds, can hardly cover this difference. Although alternative financial intermediaries increase their lending due to regulatory advantages, they are unable to overcome the long-term financing shortage due to lack of experience and incentives. Therefore, the rules need to be adjusted and adapted to make the banking sector more stable.

As a result of our research, it became clear that in our national banking system it is necessary to try to organize the level of customer service within the framework of internationally recognized banking services. Also, the following proposals have been developed by commercial banks for long-term lending to customers:

1. In order to optimize the interest rates of commercial banks, it is necessary to reduce the refinancing rate of the Central Bank;

2. Regular analysis of the effectiveness of long-term loans to increase the profitability of banks' loan portfolios;

3. Effective credit, investment and deposit policies should be pursued in order to increase the profits of commercial banks and achieve optimal use of assets and liabilities;

4. Optimization of interest rates on mortgage loans is a low interest rate. The low interest rate is mainly used on the condition of paying off debts faster and gives good results.

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## INDIAN THEMES IN THE WORKS OF K. D. BALMONT

**Abdullaev Nuriddin Bahriddinovich**

Teacher of the Department of "Uzbek language and Literature" of  
the Tashkent Chemical Institute of Technology,  
Uzbekistan.

### ANNOTATION

*This article deals with the works of the Russian writer K. Balmont, who not only showed the reader the image of India as a "wonderland", but also introduced him to the basics of Indian philosophy, religion, literature and culture.*

**KEYWORDS:** *Indian themes, in particular: Indian philosophy, religion, reevaluation of values, view, literature.*

## ИНДИЙСКАЯ ТЕМАТИКА В ТВОРЧЕСТВЕ К. Д. БАЛЬМОНТА

**Абдуллаев Нуриддин Бахриддинович**

*Преподаватель кафедры "Узбекского языка  
и литературы» Ташкентского химико  
технологического института. Узбекистан.*

### Аннотация

*В данной статье идёт речь о произведениях русского писателя К.Бальмонта, которые не просто являли читателю образ Индии как "страны чудес», но и знакомили его с азами индийской философии, религии, литературы и культуры.*

**Ключевые слова:** *индийская тематика, в частности: индийская философия, религия, переоценка ценностей, взгляд, литература.*

Another author, for whose work it is quite important had Indian themes, in particular: Indian philosophy, religion, customs, traditions of the local population of this country, - the author who, certainly worth noting in the context of the topic under discussion – Konstantin Balmont.

This poet and writer's appeal to the image of India is not written so a lot of work. The main researcher of India in the work of Balmont is G.M.Bongard-Levin, who, for example, in his commentary on Balmont's translation of the Life of the Buddha by Ashvaghosha notes how great.

K. Balmont contributed to the introduction of Russia to Indian culture. But I would like to note the main aspects that interested the poet, which attracted his attention to India as to a different country - to a country completely different in lifestyle, in the way

of thinking - in an era of turbulent transformations and renewal of his native country. I would like to determine what could serve as a "catalyst for enthusiasm" for the other world, an impetus for turning to something new in general under the conditions of such a crisis, such an eventful era as the Silver Age.

It is fair to assume that it is during such periods that a certain breakdown of views, changes in views and on their future occurs, and for the future of their country, a reassessment of values, a search for oneself, for one's place in this world, which is all the more clearly reflected in the works of creative people, in the works of writers and poets, artists and musicians.

The fact that during this period the crisis of official spirituality was more and more noticeable, the crisis



of the previous system of government, new trends in creativity appear, attempts to influence the current course events, attempts to look at everything from a different point of view. Including not allowed lose sight of the enthusiasm for the East in this period. It was an era when "... the West remembered the East, and the East reached out to the West ..." [1: 333].

In this era, it was India for many that became an outlet, a stronghold, an oasis of thought; she was able to give the images, ideas that were missing for that era, which were lacking in such outstanding representatives of the Silver century, as, for example, the Symbolists. The creativity of Konstantin Balmont is bright an example of this. As Fiskovets E.V. notes in his article "India in the lyrics

Balmont (based on the poem "Maya") ", " ... He, like no one another of the Symbolist poets, managed to understand and feel the Indian color and embody it in your creativity ... "[2: 116].

Unlike many Symbolists who turned to the East in their creativity, Balmont really had a wealth of knowledge about this country, knowledge "firsthand". This is evidenced by: firstly, the very fact of studying Sanskrit: Balmont relied on the works of many orientalist, including the outstanding Sanskrit and Indologist Max Müller, whose works had a considerable influence on the poet.

Secondly, the poet undertook translations of the Upanishads, the dramas of Kalidasa, Ashvaghosha's poem The Life of the Buddha and many Rigveda hymns dedicated to various gods, in particular Agni, Vayu, Saraswati and Marut. In addition, having become interested in Theosophy, the poet enthusiastically read the book by E. Blavatsky "The Voice of Silence", and in 1899 he wrote the poem "Maya", which is the first in the collection "Burning Buildings" in the section "Indian herbs". G.M. Bongard-Levin in the introductory article "Indian culture in the works of K. Balmont" to K. Balmont's translation of the text "The Life of Buddha" by Ashvaghosha and the dramas of Kalidasa notes the strong influence that E. Blavatsky had with the book "Voice of Silence" on Balmont at the initial stage of his acquaintance with India. The poet was literally "absorbed in her ideas, although she did not rely on primary sources", "this" morning dawn of inner flowering "did not leave him, but he strove to independently understand and appreciate the concepts of Indian religious and religious-philosophical schools"[3: 9].

In the article "Buddhist motives in the lyrics of K. Balmont" T.V. Bernyukevich notes the relevance of Balmont's appeal to India, to Indian images

precisely in the era we are considering - the Silver Age: "... Balmont with ecstatic writes about how joyfully carried away memories from the "dull

fragmented and ugly Modernity "to other countries and other times ... "[4: 165].

Balmont, like many of his contemporaries (as, for example, above considered by Gumilev), as well as representatives of later eras, sees India as the Land of Dreams, the most wonderful and best country: "very for a long time I have already been many times in the Land of Dreams, and in the Land of Thought, and that I only by virtue of the law of cohesion of causes and effects, by the will of the harsh law of karma, fell into the cold twilight of the North, and fiery lines sing in me ... when I think of India, in its past, it seems to me that I feel countless wings in the Air"[5: 20].

Summing up the consideration of Balmont's work in the context of his appeal to Indian images, I would like to note how strong it was the influence of India, the customs and mores of the Indian people, the colorful landscapes on this poet. Having written many works on Indian topics, but also having visited India many times, having studied Sanskrit and translated various Indian works, Balmont made a significant contribution to Russia to the culture of this country.

Надо отметить, что русские и индийские писатели и поэты всегда читали произведения друг друга. Р.Тагор был ознакомлен с творчеством Льва Толстого, читал его роман «Война и мир».Л.Толстой восхищался произведениями Р.Тагора. [6].

Indian literature has always been of interest to the Russian reader. Therefore, many of R. Tagorva's poems have been translated into Russian.

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## ROLE OF CHILDREN'S FOLKLORE ENSEMBLES IN THE DEVELOPMENT OF ART, CULTURE AND SPIRITUALITY OF THE COUNTRY

**Akhmedov Alisher Nosir ugli<sup>1</sup>**

<sup>1</sup>Teacher of the Department Preparation Vocal  
and Performing Teachers  
State Conservatory of Uzbekistan

**Akhmedova Nargiza Alimdzhonovna<sup>2</sup>**

<sup>2</sup>Master's Student - Course of the State  
Conservatory of Uzbekistan.

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### ANNOTATION

*Work to create the folk ensemble of children's music school in the midst of the countryside must be properly planned. In rural areas, there is usually no competition at the Department of folklore, come the children of different ages and with different vocal skills. In the course of work the teacher must identify the best natural hand of the child, to develop them and uncover. What interesting and singular will each Member of the team, the brighter the creative person Ensemble as a whole.*

**KEYWORDS:** *folklore, education, creativity, music and traditions.*

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## РОЛЬ ДЕТСКИХ ФОЛЬКЛОРНЫХ АНСАМБЛЕЙ В РАЗВИТИИ ИСКУССТВА, КУЛЬТУРЫ И ДУХОВНОСТИ СТРАНЫ

**Ахмедов Алишер Носир угли<sup>1</sup>,**

**Ахмедова Наргиза Алимджановна<sup>2</sup>-**

<sup>1</sup>Преподаватель кафедры Подготовка  
вокальных и исполнительных педагогов  
Государственной консерватории Узбекистана

<sup>2</sup>Магистрантка 2 – курса Государственной  
консерватории Узбекистана.

### Аннотация

*Работа по созданию фольклорного ансамбля детской музыкальной школы в условиях сельской местности должна быть правильно спланирована. В сельской местности, как правило, нет конкурсного отбора на отделение фольклора, приходят дети разных возрастов и с разными вокальными навыками. В процессе работы преподавателю необходимо выявить лучшие природные стороны ребенка, развить их и раскрыть. Чем интереснее и своеобразнее будет каждый участник коллектива, тем ярче творческое лицо ансамбля в целом.*

**Ключевые слова:** *фольклор, воспитание, творчество, музыка, традиции.*

В Узбекистане функционируют очень много детских ансамблей. Они вносят большую роль в развитии культуры и искусства Родины. Но найти талантов и организовать их в одну большую группу – это трудоёмкая работа.

Состав ансамбля в сельской детской музыкальной школе (школе искусств) во многом зависит от состава тех групп, которые организованы в процессе предварительного набора детей на фольклорном отделении. В идеальном варианте, предполагаются занятия с младшей, средней и старшей группами, в независимости от способностей детей.



Здесь преподаватель выступает в качестве руководителя фольклорного коллектива, даёт первоначальные профессиональные навыки, формирует основные представления о сценической культуре поведения, певческой воле, самоконтроле, творческих способностях и т.д. Все это достигается путем систематических репетиций, но, кроме процесса репетиций важен результат, который оценивается и контролируется в четвертных и годовых оценках, а так же в выступлениях ансамблей на концертах в музыкальной школе (ДШИ), контрольных уроках.

Фольклорный ансамбль не может существовать как отдельно взятая дисциплина, параллельно должны преподаваться смежные дисциплины, такие как: постановка голоса, бытовая хореография, фольклорные инструменты, народное музыкальное творчество. Только в этом случае

можно добиться должного результата, в противном случае, обучение будет односторонним. Возможно, коллектив будет выглядеть привлекательно, но при более подробном рассмотрении и анализе наглядно вырисуются пробелы как в постановке голоса, так в хореографии и в региональных принадлежностях того или иного произведения. Работа должна быть систематично и правильно спланирована.

В условиях сельской местности создать фольклорный коллектив не легко. Во-первых, не всегда фольклорное отделение привлекает достаточный контингент учащихся, так как оно не всем доступно по восприятию, дети и родители зачастую не понимают значимости фольклористики в жизни, а раз это не понятно – значит это не нужно. Поэтому преподавателю приходится наглядно показывать и доказывать место фольклора в жизни людей; приобщать детей, да и родителей, к традициям и обрядам старины, к бытности песенной поэзии и танцам.

Во-вторых, как таковой, отбор учащихся не может проводиться из-за недостаточного количества детей. В сельской местности, к сожалению, не идет разговора о конкурсной основе на отделение фольклора, сюда приходят дети разных возрастов и с разными вокальными навыками. Интонация, тембр, ритм – выясняется по ходу занятий.

Набор удобнее проводить на уроках музыки в общеобразовательной школе, конечно с разрешения учителя. Предварительно следует договориться с учителем о предоставлении определенного количества времени на уроке для того, чтобы дать информацию о фольклорном отделении, о творческих перспективах.





Первую репетицию фольклорного ансамбля желательно провести, по возможности, в самом скором будущем, не откладывая надолго. На эту репетицию приходят все желающие. У преподавателя должен быть весь список пришедших, желательно с двумя или более графами, куда включаются интонация, тембр, ритм. Прослушивание детей проводится по одному человеку, при помощи знакомой песенки или какой-либо легкой попевки, желательно под аккомпанемент самого учителя. Проводимая репетиция должна быть яркой и запоминающейся. В репетиционный процесс можно включить игру с несложной попевкой, разучивание простейшего бытового танца и даже игру на шумовых инструментах.

В конце репетиции обязательно указать на основные законы дисциплины:

1. Репетиция проводится при любом количестве учащихся;



2. Репетиция всегда начинается вовремя.

Это мобилизует детей, прививает чувство ответственности друг перед другом. Обязательно определяется расписание дисциплины, записывается в дневник и журнал учета посещаемости участников.

Рассмотрим две основные формы занятий, которые используются в репетиционном и учебном процессе фольклорного коллектива: игра и импровизация [1].

Игра – это форма досуга и отдыха, а так же средство воспитания детей, передача им необходимого жизненного опыта. Это неотъемлемая

часть культуры народа, в которой прослеживаются традиции прошлого и настоящего. В своей совокупности традиционные народные игры и забавы представляют собой исключительное богатство содержания и разнообразия форм. Эта форма очень интересна для детского восприятия. Дети незаметно для себя входят в мир метроритма, мелодики, движений.

Импровизация – эта форма применяется во взрослых коллективах, имеющих определенный опыт, но на первоначальном этапе в фольклоре импровизация может быть в игровых песнях, колядках, шедровках, посевальных, закличках, в простейших хороводных, обрядовых песнях. Не обязательно добиваться сразу чистоты интонирования. Дети интуитивно находят свою партию, вырабатывая свою индивидуальность. Кроме того, именно детская психология, их открытость, восприимчивость позволяет импровизировать во время игры и наоборот, играть во время импровизации.

Фольклорный ансамбль является коллективом творческих индивидуальностей, поэтому руководителю крайне важно индивидуально подходить к каждому участнику. В процессе работы необходимо выявить природные данные ребенка, развить их и раскрыть. Чем интереснее и самобытнее будет каждый участник коллектива, тем ярче творческое лицо ансамбля в целом.





При индивидуальном подходе необходимо сохранить естественность каждого участника, начиная от голоса и заканчивая пластикой. Природа народного пения такова, что в основе лежит разговорная интонация, поэтому при первоначальной постановке голоса лучше начинать с разговорного интонирования. Необходимо проговаривать текст произведения в правильном ритме, со свободными связками. Не крича, спокойно, напевно. Только после этого можно пробовать напевать мелодию, но опять же спокойно и не громко[2].

Испокон веков в быту народное пение передавалось по принципу от старшего к младшему и если у детей младшего возраста игровые припевки, заклички и т.д. интонационно мало отличались, то по мере взросления диапазон расширялся естественным путем, репертуар постепенно усложнялся, развивался голос и слух. К сожалению, подобная преемственность частично

утрачена и преподавателю необходимо учить детей на собственном примере, прививая основы народного пения.

Занятия, желательно, начинать в возрасте 5-6 лет. Именно в это время различие между разговорной речью ребенка и пением незначительны. В этот период звучание детского голоса соответствует некой форме народного звукоизвлечения. Однако практика показывает, что проблема правильного звукоизвлечения не может решиться сама собой, особенно тогда, когда принимаются все дети без отбора.

Часты случаи, когда у детей плохо налажена координация слуха и голоса. Это проявляется в разной степени, одни из них не могут повторить ни единого звука, другие поют 2-3 звука, но диапазон очень ограничен, третьи могут петь свою партию сольно, но теряются при пении ансамблем. В этом случае у руководителя должно быть огромное терпение, трудоспособность, доверие и старание детей. Только в этом случае обязательно будет результат.

Неправильное звукоизвлечение может проявиться за счет неверного резонирования – например, глоткой. За счет неправильного положения языка, за счет внутренней зажатости. Для того чтобы снять общее напряжение необходимо уяснить основополагающие моменты певческой работы с детьми:

- прежде чем начать занятие необходимо снять внутреннее напряжение, ощутить психологическую и физическую раскованность;
- петь только «своим» голосом, сохраняя естественную окраску, свой тембр. Поэтому необходимо начинать пение в зоне примерных звуков, спокойно, избегая крайних звуков диапазона;
- петь на дыхании с опорой на диафрагму, уметь ощущать взаимосвязь дыхания и звуковой волны;
- петь открытым грудным резонатором. При этом следует сразу же пресекать резонирование горлом или глоткой. Такой звук динамически сильный, но тембр получается не естественный, часто совсем не красивый;
- петь в высокой певческой позиции, которая достигается за счет купола (зевка). Эта позиция достигается за счет поднятия неба и язычка;
- петь, как говорить, т.е. артикуляция должна быть четкой и мягкой как при разговорной речи [3].

Овладение техническими приемами должно перейти в автоматический режим и отойти на второй план. В конечном результате, все внимание исполнителей концентрируется на образном понимании фольклорного произведения, его сценическом варианте. В процессе работы с участниками фольклорного ансамбля преподавателю необходимо выявить лучшие природные данные ребенка, развить их и раскрыть. Чем интереснее и своеобразнее будет каждый участник коллектива, тем ярче творческое лицо ансамбля в целом.

Сегодня мы поделимся с вами об одном из детском творческом коллективе «Томоша», который имеет большую разнообразную программу.



Премьера детской театральной студии «Томоша» состоялась 12 апреля 1988 года. Это был спектакль под названием «Восточный базар», соответствующий традициям узбекской народной музыки. Здесь ярко отражен неповторимый стиль театральной студии «Томоша», он основан на нашем узбекском фольклоре. В основе этого, я думаю, лежит очень глубокая идея, потому что она позволяет нашим детям с малых лет познавать историю узбекского искусства и воспитываться в национальном духе. Театральная студия «Томоша» работает не только в области фольклора, но и в различных других жанрах. Будь то джаз, европейская классика или даже рок в современных афроамериканских жанрах, театральная студия «Томоша» выступает в своей интерпретации. Примечательно, что театральная студия «Томоша» исполняет песни на многих языках с учетом разных языков разных жанров. Это единственная детская театральная студия в Центральной Азии, которая доказала, что может продемонстрировать это на продвинутом уровне, даже в детской интерпретации, безупречно выводя на сцену классические произведения, наряду с исследованиями и инновациями.

К педагогам предъявляется строгое требование, чтобы методика преподавания в театральной студии «Томоша» была очень интенсивной и сложной. Здесь дети осваивают вокал, актерское мастерство, хореографию и сценическую речь. Также одним из наиболее важных аспектов является то, что психолог-специалист в театре проводит занятия с детьми посредством различных тренингов, игр. Эти уроки затем обеспечат духовную и психологическую зрелость наших актеров на сцене. Каждый урок представляет собой комбинацию уроков, перечисленных выше, потому что это театр. Театр - это сочетание речи, музыки, песни и танца.

Детский театр-студия «Томоша» работает уже 30 лет, показывая часы Узбекистана во многих странах мира и побеждая на многих международных фестивалях.

За 30 лет творческой деятельности Томоша вырастила несколько поколений молодых талантов. В этот период о театральной студии «Томоша» писали горячо обсуждаемые статьи в газетах и журналах, а также о ярких и запоминающихся выступлениях на республиканских мероприятиях: Дне Независимости, Наврузе и других праздничных программах.

Стоит отметить, что театральная студия «Томоша» организовала собственные благотворительные концерты в детских домах, детских учреждениях для людей с ограниченными возможностями.

Поэтому без преувеличения можно сказать, что молодые актеры театра-студии «Томоша» обладают не только знаниями в искусстве, но и в формировании гуманизма, любви и подготовки кадров, что обеспечит дальнейшее процветание нашей страны в мире. будущее. В качестве доказательства можно сказать, что многие таланты, выросшие в «Томоше», сегодня работают в театрах, на телевидении, в художественных институтах, во многих престижных школах духовности и просвещения. Среди них - обладатели высоких наград, «это самое главное содержание деятельности», - сказала директор театра Нодира Курбанова.

Самая большая гордость театральной студии «Томоша» - Президентская арка, благодаря которой можно не только подарить детям нашей страны интересное праздничное шоу, но и с помощью этого спектакля повысить эстетическое воспитание детей. Ведь не зря театр - врач человеческого сердца.

В то же время у юных актеров театра-студии «Томоша» есть поклонники не только в Узбекистане, но и во многих зарубежных странах. Театр - лауреат международных фестивалей в Китае, Франции, России, Германии, Индии, Нидерландах и Корее. Томоша также выиграл престижный Гран-при фестиваля «Открытая Европа».

Об этом свидетельствует правильность и важность методики школы «Томоша», то, что театр на протяжении многих лет поднимает свою репутацию и добивается успехов.

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## FEATURES OF LEARNING FOR ADULTS FOREIGN LANGUAGE

**Davlatov Keldiyor Davlatovich**

Teacher at the Department of  
the Uzbek Language and literature of the Tashkent chemical Institute of Technology,  
Uzbekistan

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### ANNOTATION

*This article examines the features of teaching a foreign language to adult learners. The necessary pedagogical conditions for the productive study of a foreign language by adults, the aspects of solving this issue are determined.*

**KEY WORDS:** *foreign language, adult learners, linguistic experience, motivation, pedagogical conditions, "competence-based" approach.*

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## EIGENSCHAFTEN DES LERNENS FÜR ERWACHSENE FREMDSPRACHE

**Davlatov Keldiyor Davlatovich**

Dozent an der Abteilung für usbekische  
Sprache und Literatur der Taschkent-Chemikalie  
Institut für Technologie, Usbekistan.

### Anmerkung

*In diesem Artikel werden die Merkmale des Unterrichts einer Fremdsprache für erwachsene Lernende untersucht. Die notwendigen pädagogischen Bedingungen für das produktive Erlernen einer Fremdsprache (Deutsch) durch Erwachsene werden ermittelt und Aspekte zur Lösung dieses Problems festgelegt.*

**Schlüsselwörter:** *Fremdsprache, erwachsene Lernende, sprachliche Erfahrung, Motivation, pädagogische Bedingungen, „kompetenzbasierter“ Ansatz.*

In unserer Zeit der Globalisierung der Gesellschaft, des Ausbaus der internationalen Beziehungen und der Zusammenarbeit mit anderen Ländern in den Bereichen Politik, Wirtschaft und Kultur haben viele Erwachsene das Bedürfnis, eine Fremdsprache zu lernen, um an internationalen Aktivitäten teilnehmen zu können Kommunikation.

Trotzdem haben viele Erwachsene Schwierigkeiten, eine Fremdsprache zu lernen. Die Kenntnis und Berücksichtigung einiger Merkmale des Fremdsprachenunterrichts für erwachsene Lernende wird dazu beitragen, den Bildungsprozess zu optimieren und methodische Techniken am effektivsten einzusetzen.



Laut Psychologen verbessert sich das logische Gedächtnis mit dem Alter, aber das Kurzzeitgedächtnis verschlechtert sich. Ein günstiger Faktor ist die Vernetzung und Koordination von Funktionen, die individuelle Mängel ausgleichen [1]. Zum Beispiel helfen gesammelte Erfahrungen und gut entwickeltes logisches Denken dabei, das Volumen des Kurzzeitgedächtnisses wieder aufzufüllen. Sprachliche Erfahrungen können sowohl negative als auch positive Auswirkungen auf die Lerneffizienz haben. Mangelnde Kenntnisse in der Muttersprache können es schwierig machen, grammatikalische und lexikalische Strukturen zu verstehen und zu beherrschen.

Im Gegensatz dazu kann ein sehr hohes Maß an Muttersprachenkenntnissen das Erlernen einer Fremdsprache behindern, da die Notwendigkeit eines erwachsenen Lernenden, seine eigenen Gedanken auszudrücken, eine reiche Lebenserfahrung den Möglichkeiten in einer Fremdsprache widerspricht, was zu zahlreichen Fehlern führt. Trotzdem zeigt die Praxis, dass sprachliche Erfahrungen beim Erlernen einer Fremdsprache zum erfolgreichen Erlernen anderer Fremdsprachen beitragen. Motivation spielt auch eine wichtige Rolle in der Erwachsenenbildung, die einen Menschen zum Handeln ermutigt, seine innere Energie mobilisiert und seine Handlungen und Handlungen steuert.

Bei der Arbeit mit einem erwachsenen Publikum muss die Persönlichkeit jedes Schülers unter Berücksichtigung seiner sozialen Rolle berücksichtigt werden. Um geeignete komfortable Bedingungen für die Steigerung der Sprachaktivität der Schüler zu schaffen, muss eine natürliche und informelle Kommunikation angestrebt werden, die sich durch Reaktionsfähigkeit, Beteiligung und direkte Aufmerksamkeit für den Gesprächspartner auszeichnet. Der Ton sollte interessiert und vertrauensvoll sein.

Um emotionalen Komfort für Schüler in zwischenmenschlichen Beziehungen zu schaffen, sollte nicht nur das Niveau der Sprachkenntnisse, sondern auch das Alter der Gruppenmitglieder berücksichtigt werden. Die Schüler sollten für ihren Erfolg und ihre Bemühungen bewertet, korrigiert und belohnt werden.

Nach A.V. Ballast [2] ist es möglich, mehrere pädagogische Bedingungen für den effektiven Unterricht einer Fremdsprache für Erwachsene zu identifizieren. Nach Ansicht vieler Wissenschaftler sind die Hauptunterschiede zwischen einem erwachsenen Lernenden folgende:

1. Ein erwachsener Student ist eine unabhängige und selbstverwaltete Person mit Lebenserfahrung, einschließlich Lernen.

2. Jeder erwachsene Schüler hat seine eigene spezifische Motivation zum Erlernen einer

Fremdsprache, die meistens mit seiner beruflichen Tätigkeit verbunden ist.

3. Der erwachsene Lernende versucht, theoretisches Wissen im täglichen und beruflichen Leben sofort in die Praxis umzusetzen.

4. Ein erwachsener Lernender hat ziemlich hohe Anforderungen an die Qualität der Ausbildung und ihre Ergebnisse.

Basierend auf all dem sind die wichtigsten pädagogischen Prinzipien beim Unterrichten der erwachsenen Gruppe von Schülern: Individualisierung, Abhängigkeit von Erfahrung, Prinzip gemeinsamer Aktivitäten, praktische Ausrichtung der Ausbildung, Rolle des Lehrers bei der Organisation der Ausbildung, Beratung und Beratung das notwendige Qualitätswissen. Viele Psychologen identifizieren acht wichtige Merkmale im Unterricht. Erwachsene.

1. Erwachsene Lernende sollten zum Training motiviert werden. Ihr Lernen wird nur dann effektiv sein, wenn sie den starken Wunsch haben, neue Fähigkeiten und Fertigkeiten zu beherrschen. Motivation kann nicht auferlegt werden, aber sie kann von außen angeregt werden.

2. Ein erwachsener Lernender lernt nur, was er für seine praktische Anwendung für wichtig und notwendig hält.

3. Erwachsene Lernende lernen dabei. Wenn sie die Möglichkeit haben, das erworbene Wissen in der Praxis anzuwenden, zu konsolidieren, regelmäßig zu wiederholen, bleibt neues Wissen länger erhalten als beim "passiven" Lernen.

4. Beim Unterrichten von Erwachsenen ist es notwendig, realistische Probleme aus dem praktischen Leben zu nutzen und nach konkreten Entscheidungen zu suchen.

5. Frühere Lebenserfahrungen haben große Auswirkungen auf den erwachsenen Lernenden. Wie der Schüler neues Wissen direkt wahrnimmt, hängt von seiner bisherigen Lebenserfahrung ab.

6. Erwachsene Lernende brauchen ein informelles Umfeld, da viele unangenehme Erinnerungen an die Schule haben.

7. Denken Sie beim Unterrichten einer erwachsenen Gruppe von Schülern daran, verschiedene Unterrichtsmethoden anzuwenden. Lernen wird effektiver, wenn neues Wissen von mehreren Sinnen wahrgenommen wird, zum Beispiel vom Sehen und Hören. Audioaufnahmen, visuelle Hilfsmittel und Videos tragen zu einer besseren Wissensassimilation bei. Die Diskussionsmethode des Unterrichts hilft auch dabei, das gewonnene Wissen besser zu festigen, anzuwenden und die Aufmerksamkeit des Schülers auf sich zu ziehen.

8. Erwachsene Lernende sollten angeleitet und nicht "bewertet" werden. Viele von th.

Die zwischenmenschliche Interaktion ist eine der wichtigsten Voraussetzungen für einen effektiven



und erfolgreichen Fremdsprachenunterricht für Erwachsene. Die Berücksichtigung der psychologischen Merkmale der zwischenmenschlichen Interaktion verbessert den Lernprozess und führt zu einer effektivsten Erwachsenenbildung.

Ich glaube, dass für den erfolgreichen Unterricht einer Fremdsprache für Erwachsene eine ständige Interaktion zwischen dem Schüler und dem Lehrer in allen Phasen des Bildungsprozesses von der Planung bis zu den Ergebnissen erforderlich ist.

G.A. Kitaigorodskaya weist auf die Notwendigkeit hin, „jene situativen Wendungen zu schaffen, in denen der Lernende selbst gezwungen ist, seine kreativen Fähigkeiten zu aktivieren, seine Aufmerksamkeit zu mobilisieren und sein Gedächtnis unter dem Einfluss emotionaler Erfahrungen von Ereignissen zu wecken“ [4]. Für erwachsene Schüler ist es wichtig, sofort neue Kenntnisse, Fähigkeiten und Fertigkeiten anzuwenden. Daher verwende ich im Unterricht normalerweise Rollenspiele, um reale Situationen aus dem Leben zu modellieren.

Darüber hinaus haben Erwachsene, wie bereits erwähnt, mehr Lernmotivation als Kinder und Jugendliche. Daher muss der Lehrer diese beibehalten und verwalten, um das geplante Ergebnis zu erzielen. Um neue Wörter besser auswendig zu lernen, verwende ich visuelle Bilder und Assoziationen. Anstatt das Wissen der Schüler durch den Lehrer zu bewerten, ist es am effektivsten, die Ergebnisse zuerst vom Schüler selbst zu bewerten und sie dann mit dem Lehrer zu besprechen.

Es handelt sich also um einen "kompetenzbasierten" Ansatz, der die Bildung und Entwicklung unterschiedlicher Kompetenzen, die Schaffung von Meinungen, Einstellungen und den Wunsch nach Entwicklung impliziert. Alle diese Ziele entsprechen den Erwartungen des erwachsenen Lernenden.

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# A RESEARCH PAPER ON PARTIAL REPLACEMENT OF COARSE AGGREGATE BY WASTE TIRES IN CEMENT CONCRETE

**Devendra Kumar Sharma**

Assistant Professor,  
Aryabhata College of Engineering and  
Research Center,  
Ajmer.

**Niraj Kumar**

Assistant Professor,  
Aryabhata College of Engineering and Research  
Center,  
Ajmer.

**Ritesh Kumar**

Assistant Professor,  
Aryabhata College of Engineering and Research Center,  
Ajmer.

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## ABSTRACT

*Solid waste management has gained a lot of attention to the research community now-a-days. Out of the various solid waste, accumulated waste tyres, has become a problem of interest because of its non-biodegradable nature. Most of the waste tyre rubbers are used as a fuel in many of the industries such as thermal power plant, cement kilns and brick kilns etc. Unfortunately, this kind of usage is not environment friendly and requires high cost. Thus, the use of scrap tyre rubber in the preparation of concrete has been thought as an alternative disposal of such waste to protect the environment. In this study an attempt has been made to identify the various properties necessary for the design of concrete mix with the coarse tyre rubber chips as aggregate in a systematic manner. In the present experimental investigation, the M20 grade concrete has been chosen as the reference concrete specimen. Scrap tyre rubber chips, has been used as coarse aggregate with the replacement of conventional coarse aggregate.*

**KEYWORDS:** Rubberised Concrete (Rc); Scrap-Tyre-Rubber; Coarse Aggregate; Concrete Mix

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## 1. INTRODUCTION

Concrete is a composite material composed of coarse granular material (the aggregate or filler) embedded in a hard matrix of material (the cement or binder) that fills the space between the aggregate particles and glues them together(14). In its simplest form, concrete is a mixture of paste and aggregates. The paste, composed of Portland cement and water, coats the surface of the fine and coarse aggregates. Through a chemical reaction called hydration, the paste hardens and gains strength to form the rock-like mass known as concrete.

Concrete is the world's most important construction material. The quality and performance of concrete plays a key role for most of the infrastructures

including commercial, industrial, residential and military structures, dams, power plants and transportation systems. Concrete is the single largest manufactured material in the world and accounts for more than 6 billion metric tons of materials annually. In the United States, federal, state, and local governments have nearly \$1.5 trillion dollars in investment in the U.S. civil infrastructure. The worldwide use of concrete materials accounts for nearly 780 billion dollars in annual spending.

Yet concrete construction so far is mainly based on the use of virgin natural resources. Meanwhile the conservation concepts of natural resources are worth remembering and it is very essential to have a look at





the different alternatives. Among them lies the recycling mechanism. This is a twofold advantage. One is that it can prevent the depletion of the scarce natural resources and the other will be the prevention of different used materials from their severe threats to the environment. It has been well reported that about 1 billion of used automobile tires are generated each year globally. In addition to that, the traditional ways of recycling tires in our country like as a shoe making material and other tools is decreasing nowadays. This is considered as one of the major environmental challenges facing municipalities around the world because waste rubber is not easily biodegradable even after a long period of landfill treatment. The best management strategy for scrap tires that are worn out beyond hope for reuse is recycling. Utilization of scrap tires should minimize environmental impact and maximize conservation of natural resources. One possible solution for this problem is to incorporate rubber particles into cement-based materials. Scrap tires can be shredded into raw materials for use in hundreds of crumb rubber products.

The other part of the problem is that aggregate production for construction purpose is continuously leading to the depletion of natural resources. Moreover, some countries are depending on imported aggregate and it is definitely very expensive. For example, the Netherlands does not possess its own aggregate and has to import. This concern leads to a highly growing interest for the use of alternative materials that can replace the natural aggregates.

Therefore, the use of recycled waste tires as an aggregate can provide the solution for two major problems: the environmental problem created by waste tires and the depletion of natural resources by aggregate production consequently the shortage of natural aggregates in some countries.

## 2. PROBLEM STATEMENT

Concrete has been a major construction material for centuries. Moreover, it would even be of high application with the increase in industrialization and the development of urbanization. Yet concrete construction so far is mainly based on the use of virgin natural resources. Meanwhile the conservation concepts of natural resources are worth remembering and it is very essential to have a look at the different alternatives. Among them lies the recycling mechanism. This is a twofold advantage. One is that it can prevent the depletion of the scarce natural resources and the other will be the prevention of different used materials from their severe threats to the environment. It has been well reported that about 1 billion of used automobile tires are generated each year globally. In addition to that, the traditional ways of

recycling tires in our country like as a shoe making material and other tools is decreasing nowadays. This is considered as one of the major environmental challenges facing municipalities around the world because waste rubber is not easily biodegradable even after a long period of landfill treatment. The best management strategy for scrap tires that are worn out beyond hope for reuse is recycling. Utilization of scrap tires should minimize environmental impact and maximize conservation of natural resources. One possible solution for this problem is to incorporate rubber particles into cement-based materials. Scrap tires can be shredded into raw materials for use in hundreds of crumb rubber products.

The other part of the problem is that aggregate production for construction purpose is continuously leading to the depletion of natural resources. Moreover, some countries are depending on imported aggregate and it is definitely very expensive. For example, the Netherlands does not possess its own aggregate and has to import. This concern leads to a highly growing interest for the use of alternative materials that can replace the natural aggregates. Therefore, the use of recycled waste tires as an aggregate can provide the solution for two major problems: the environmental problem created by waste tires and the depletion of natural resources by aggregate production consequently the shortage of natural aggregates in some countries

## 3. IMPORTANCE OF THE STUDY

1) This study concentrated on the performance of a single gradation of crumb rubber. The waste tires are collected from local sources and manually cut into pieces to achieve a uniform size of 20 mm, which is the maximum aggregate size in the mix design.

2) The influence of different gradations of the rubber aggregate on concrete properties was not evaluated in this study but it should be considered in future researches.

3) The study was done on three grades of concrete (M15, M20, and M25). The influence of using recycled tires in high strength concrete was not covered in the present study. The percentage replacements were limited to three categories i.e. 10, 25 and 50% replacement of the natural coarse aggregate. The different effects, which can be observed in different percentages of replacements, were not included in the present study.

## 4. MATERIAL SELECTION

### Materials Used

The basic material of concrete e.g. cement, sand, aggregate and scrap tyre rubber are used. Portland-pozzolana cement can be produced either by integrating



the predetermined quantities of Portland cement clinker and pozzolana (15 to 35% by mass of Portland–pozzolana cement) together with small amount of gypsum, or by intimately and uniformly blending Portland cement having predetermined fineness and fine pozzolana. This cement produces less heat of hydration and offers greater resistance to the sulphate attack and chloride-ion penetration due to impurities in water than normal Portland cement. It is particularly useful in marine and hydraulic construction, and other mass concrete structures like dam, bridge piers and thick foundations. The cement used for the present investigation was Portland-Pozzolana Cement. It is conformed to the requirement of Indian Standard specification IS: 455 (1989). The results are given in Table 1. The tests on cement were carried out as per IS: 4031(1988). Blaine’s apparatus and Le-Chaterlier flasks were used to find out fineness and specific gravity of cement respectively. The physical properties of Portland-pozzolana cement were determined according to IS: 455(1989), tested according to IS: 4031(1999) and compared with the requirements of IS: 455(1989). The physical properties of Portland pozzolana cement

### Scrap Tyre Rubber

Tyre may be divided into two types – car and truck tyres. Car tyres are different from truck tyres with regard to constituent materials (e.g. natural and synthetic rubber). Usually three main categories of discarded tyre rubber have been considered such as chipped, crumb and ground rubber. Chipped or shredded rubber is used to replace the gravel. To produce this rubber, in first stage the rubber has length of 300 – 430 mm long and width of 100 -230 mm wide. In the second stage its dimension changes to 100 -150 mm by cutting. If the shredding is further continued particles of about 13 – 76 mm in dimension are produced. Crumb rubber is used to replace the sand. This rubber is manufactured by special mills where big rubbers change into smaller particles. In this procedure particles of about 0.425 - 4.75 mm in dimension are produced.

Ground rubber is used to replace the cement. In this category particles of about 0.075 – 0.475 mm in dimension are used. In the present study the old rubber from heavy vehicles, such as truck tyre was used. The chipped rubber samples were obtained by cutting the tyre manually. The scrap tyre rubber chips passing through the 20 mm sieve size were used in the study. The physical property (specific gravity) of rubber was found to be 1.114 from the tyre company’s website. Rubber samples before cutting.

### Cement

The cement type used in this research Ordinary Portland Cement. The main reason for using Ordinary Portland Cement in this study is that, this is by far the most common cement in use and is highly suitable for use in general concrete construction when there is no exposure to sulphates in the soil or groundwater (Naville A.M,1996).

### Aggregates

The relevant tests to identify the properties of the aggregates that were intended to be used in this research were carried out. After that, corrective measures were taken in advance before proceeding to the mix proportioning. In general, aggregates should be hard and strong, free of undesirable impurities, and chemically stable. Soft, porous rock can limit strength and wear resistance; it may also break down during mixing and adversely affect workability by increasing the amount of fines. Aggregates should also be free from impurities: silt, clay, dirt or organic matter. If these materials coat the surfaces of the aggregate, they will isolate the aggregate particles from the surrounding concrete, causing a reduction in strength. Silt, clay, and other fine materials will also increase the water requirements of the concrete, and organic matter may interfere with cement hydration. To proportion suitable concrete mixes, certain properties of the aggregate must be known. These are; shape and texture, size gradation, moisture content, specific gravity and bulk unit weight (Sidney Mindess and David Darwin,2003).

## 5. PROPERTIES OF THE FINE AGGREGATE

To investigate the properties and suitability of the fine aggregate for the intended application, the following tests were carried out.

- Crushing value test
- Specific gravity and absorption capacity for fine aggregate
- Impact Resistance test
- Unit weight of fine aggregate

### Aggregate crushing test

The strength of coarse aggregate may be assessed by aggregate crushing test. The aggregate crushing value provide a relative measure of resistance of crushing under gradually applied compressive load. To achieve a high quality of construction work, aggregate possessing high resistances to crushing or low value of crushing value are preferred. The apparatus for the standard test consists of a steel cylinder 15.2 cm diameter with a base plate and a



plunger, compression testing machine, cylindrical measure of diameter 11.5 cm and height 18 cm, tamping rod and sieves.

Dry aggregate passing 12.5 mm IS sieve and retained on 10 mm sieve is filled in the cylindrical measure in three equal layer, each layer being rapped 25 times by the tamper. The test sample is weighted (equal to  $W_1$  g) and placed in the test cylinder in three equal layer, tamping each layer 25 times. The plunger is placed on the top of the specimen and a load of 40 tonnes is applied at a rate of 4 tonnes per minute by the compression machine. The crushed aggregate is removed and sieve on 2.36 mm IS sieve. The crushed material which passes this sieve is weighted equal to  $W_2$ g. the aggregate crushing value is the percentage of crushing material passing 2.36 mm sieve in terms of original weight of the specimen.

$$\begin{aligned} &\text{Aggregate crushing value} \\ &= 100 W_2/W_1 \text{ percent} \\ &\text{Weight of cylinder with sample} \\ &= 3.148 \text{ kg} \\ &\text{Weight of empty cylinder} \\ &= 2.657 \text{ kg} \\ &\text{Weight of sample } (W_1) \\ &= 3.148 - 2.657 = 0.491 \text{ kg} \\ &\text{Weight of pan with crushed sample} \\ &= 0.419 \text{ kg} \\ &\text{Weight of empty pan} \\ &= 0.281 \text{ kg} \\ &\text{Weight of crushed sample } (W_2) \\ &= 0.419 - 0.281 = 0.138 \text{ kg} \\ &\text{Aggregate crushing value} \\ &= 100 W_2/W_1 \text{ percent} \\ &= 0.138/0.491 * 100 \\ &= 28.10 \% \end{aligned}$$

### Specific gravity and absorption capacity of fine aggregate

The specific gravity of an aggregate is considered to be a measure of strength or quality of the material. The specific gravity of a substance is the ratio between the weight of the substance and that of the same volume of water. This definition assumes that the substance is solid throughout. Aggregates, however, have pores that are both permeable and impermeable. The structure of the aggregate (size, number, and continuity pattern) affects water absorption, permeability, and specific gravity (Abebe Dinku,2002).

The following results were found for the fine aggregate sample.

Bulk Specific gravity = 2.41

### Impact test

A test designed to evaluate the toughness of stone or the resistance of the aggregates to fracture under repeated impacts is called impact test. The aggregate impact test is commonly carried out to evaluate the resistance to impact of aggregate and has been standardized by ISI. The aggregate impact value indicates a relative measure of resistance of aggregate to the impact, which has a different effect than the resistance to gradually increasing compressive stress. The aggregate impact testing machine consists of a metal base and a cylindrical steel cup of internal diameter 10.2 cm and depth 5 cm in which the aggregate specimen is placed. A metal hammer a weight of 13.5 – 14.0 kg having a free fall from a height 38 cm is arranged to drop through vertical guides.

Aggregate specimen passing 12.5 mm sieve and retained on 10 mm sieve is filled in the cylindrical measure in 3 layers by tamping each layer by 25 blows. The sample is transferred from the measure to the cup of the aggregate impact testing machine and compacted by tamping 25 times. The hammer is raised to a height of 38 cm above the upper surface of the aggregate in the cup and is allowed to fall freely on the specimen. After subjecting the test specimen to 15 blows, the crushed aggregate is sieved on 2.36 mm sieve. The aggregate impact value is expressed as percentage of fine formed in term of total weight of the sample.

The aggregate impact value should not normally exceed 30 percent for aggregate to be used.

$$\begin{aligned} &\text{Weight of cylinder with sample} \\ &= 2.595 \text{ kg} \\ &\text{Weight of empty cylinder} \\ &= 1.967 \text{ kg} \\ &\text{Weight of sample } (W_1) \\ &= 2.595 - 1.967 = 0.628 \text{ kg} \\ &\text{Weight of pan with sample passes through 2.36 mm sieve} \\ &= 0.398 \text{ kg} \\ &\text{Weight of empty pan} \\ &= 0.281 \text{ kg} \\ &\text{Weight of sample passes through 2.36 mm sieve } (W_2) \\ &= 0.398 - 0.281 = 0.117 \text{ kg} \\ &\text{Aggregate impact value} \\ &= 100 W_2/W_1 \text{ percent} \end{aligned}$$

### Unit weight of fine aggregate

Unit weight can be defined as the weight of a given volume of graded aggregate. It is thus a density measurement and is also known as bulk density. But this alternative term is similar to bulk specific gravity, which is quite a different quantity, and perhaps is not a good choice. The unit weight effectively measures the volume that the graded aggregate will occupy in



concrete and includes both the solid aggregate particles and the voids between them. The unit weight is simply measured by filling a container of known volume and weighing it. Clearly, however, the degree of compaction will change the amount of void space, and hence the value of the unit weight. Since the weight of the aggregate is dependent on the moisture content of the aggregate, a constant moisture content is required. Oven dried aggregate sample is used in this test. The unit weight of the fine aggregate sample used was found to be 1480 kg/m<sup>3</sup>.

**Properties of the coarse aggregate**

Coarse aggregate for concrete shall consist of natural gravel or crushed rock or a mixture of natural gravel and crushed rock. In a similar manner like the fine aggregate, laboratory tests were carried out to identify the physical properties of the coarse aggregate and the results are shown in Table 5.1 below.

**Table 1 Physical Properties of the Coarse Aggregate.**

Description	Test Result
Moisture content	1.37 %
Unit weight of coarse aggregate	1503.25 kg/m <sup>3</sup>
Bulk Specific gravity	2.67
Absorption capacity	1.72 %
Crushing value of aggregate	22.83 %
Los Angeles Abrasion Test	18.9 %

**Rubber Aggregate**

The source of the rubber aggregate was recycled tires which were collected from the local market. For uniformity of the concrete production and convenience, all the tires collected were from those which were originally produced and the type was a medium truck tire. The reason for choosing medium truck tires is that they can give the required shape and size which is similar to the common natural gravel.

This study has concentrated on the performance of a single gradation of crumb rubber prepared by manual cutting. The maximum size of the rubber aggregate was 20 mm. The rubber aggregates used in the present investigation were made by manually cutting the tire in to the required sizes. It was very laborious, time consuming and was not easy to handle at the initial stages. However, all this complications can be easily sorted out if a large scale production is devised and proper cutting tools and machineries are made for this particular usage.

To come up with a rough cohesive surface of the rubber aggregate, surface treatment was done using cement paste. Rubber aggregates coated with cement paste were produced as follows:

- After thoroughly washing the sample to remove dusts and impurities from the surface of the particles, the rubber aggregates were then immersed in water for 24 hours until all particles were fully saturated.
- The plain rubber aggregates were then taken to the saturated surface dry (SSD) condition by spreading them in a thin layer on a clean surface free from dust and rolled in a towel until all visible films of water are removed.

In this condition, the rubber aggregate reached the saturated surface dry condition and thus requiring no alteration to the quantity of mixing water.

- The next step was the surface treatment of the rubber aggregates. For this the rubber aggregates were coating with cement paste. The rubber aggregates were thoroughly coated with a thin layer of cement paste, a mixture of cement powder and water. The coated rubber aggregates were then air dried by spreading them on a clean surface for about 24 hours. All the cement paste coating had an effect on the hydrophilicity of the rubber allowing it to adhere better to the cement paste that surrounded it.

**Water**

The quality of the water plays a significant role in concrete production. Impurities in water may interfere with the setting of the cement, may adversely affect the strength of the concrete or cause staining of its surface, and may also lead to corrosion of the reinforcement. For these reasons, the suitability of water for mixing and curing purposes should be considered. In this research pure filtered water is used.

**6. SELECTION OF CONCRETE MIX PROPORTIONS (MIX DESIGN)**

**General**

The selection of mix proportions is a process of choosing suitable ingredients of concrete and determining their relative quantities with the object of producing as economically as possible concrete of certain minimum properties, notably strength, durability and a required consistency. The key to achieving a strong, durable concrete rests in the careful proportioning and mixing of the ingredients. A concrete mixture that has no enough paste to fill all the voids between the aggregates will be difficult to place and will produce rough, honeycombed surfaces and porous concrete. A mixture with an excess of cement paste will





be easy to place and will produce a smooth surface; however, the resulting concrete is likely to shrink more and be uneconomical. A properly designed concrete mix will possess the desired workability for the fresh concrete and the required durability and strength for the hardened concrete. Cement and water form a paste that coats each particle of stone and sand. Through a chemical reaction called hydration, the cement paste hardens and gains strength. The character of the concrete is determined by the quality of the paste. The strength of the paste, in turn, depends on the ratio of water to cement. High-quality concrete is produced by lowering the water-cement ratio as much as possible without sacrificing the workability of fresh concrete (The Portland Cement Association, 2009). Generally, using less water produces a higher quality concrete provided the concrete is properly placed, consolidated, and cured and fulfills any durability requirements requested.

## 7. TESTING ARRANGEMENT

In this study, many mixes consisting of three types of concrete grades (M15, M20 and M25) were produced with partial replacements of the coarse aggregate by 10, 25 and 50 % of the rubber aggregate. Moreover, a control mix with no replacement of the coarse aggregate was produced to make a comparative analysis. The mixture proportions of the basic ingredients i.e. cement, water, and fine aggregate, were the same for the control concrete and rubberized concrete. However, a certain amount of the coarse aggregate was replaced by an equal volume of rubber aggregate to form rubberized concrete. Three control mix designs, M15, M20 and M25 were prepared for this investigation. The main reason for selecting this concrete grades is that these are by far the most commonly used concrete grades for most of the concrete construction works and hence application of the research can be more feasible.

The following tests were performed on the different concrete samples produced in this study.

- 1) Slump test for workability
- 2) Determination of unit weight of hardened concrete
- 3) Compressive strength test
- 4) Flexural strength test, and
- 5) Impact Resistance test

## 8. Batching of Materials

Saturated Surface dry aggregates were used for the concrete mixes under research. Cement and aggregates were batched by weight while water and chemical admixtures were batched by volume. Chemical admixtures in the form of solutions were mixed with water and used in the preparation of

concrete mixes. All the replacement for the coarse aggregate was done on a volume basis.

## 9. Mixing and Test Sample Preparation

It is essential that the mix ingredients are properly mixed so as to produce fresh concrete in which the surface of all aggregate particles is coated with cement paste and which is homogeneous on the macro-scale and therefore possessing uniform properties. Thorough mixing is essential for the complete blending of the materials that are required for the production of homogeneous, uniform concrete (Sidney Mindess and David Darwin, 2003). The type of mixer used in the laboratory for this research is a pan type



**Fig.5.3: Pan Mixer**

Pan mixers offer the possibility of observing the concrete in them, and therefore of adjusting the mix in some cases. They are particularly efficient with stiff and cohesive mixes. They are also suitable for mixing very small quantities of concrete hence they are mostly used in the laboratory (Neville A.M, 1996). All the dry ingredients were blended together prior to adding water. All batches were then wet-mixed by adding the required water.

**Table 2: Composition of Tires**

Material	passenger car	Truck car
Natural rubber	14 %	27 %
Synthetic rubber	27 %	14 %
Carbon black	28 %	28 %
Steel	14-15 %	14-15 %
Fabric, fillers, accelerators, antiozonants, etc.	16-17 %	16-17 %



**Table 3: Slump Test Results**

No.	Specimen	Grade	% rubber	Slump (mm)
1	15M1	M15	0	30
2	15M2	M15	10	35
3	15M3	M15	25	41
4	15M4	M15	50	47
5	20M1	M20	0	10
6	20M2	M20	10	20
7	20M3	M20	25	33
8	20M4	M20	50	47
9	25M1	M25	0	7
10	25M2	M25	10	14
11	25M3	M25	25	23
12	25M4	M25	50	43

**HERE**

**15M1** – stands for the mix of M15 concrete with no rubber aggregate replacement.

**15M2** – stands for the mix of M15 concrete with 10 % volume of the coarse aggregate of the control mix replaced by an equivalent volume of rubber aggregate.

**15M3** – stands for the mix of M15 concrete with 25 % volume of the coarse aggregate of the control mix replaced by an equivalent volume of rubber aggregate.

**15M4** – stands for the mix of M15 concrete with 50 % volume of the coarse aggregate of the control mix replaced by an equivalent volume of rubber aggregate.

**20M1** – stands for the mix of M20 concrete with no rubber aggregate replacement.

**20M2** – stands for the mix of M20 concrete with 10 % volume of the coarse aggregate of the control mix replaced by an equivalent volume of rubber aggregate.

**20M3** – stands for the mix of M20 concrete with 25 % volume of the coarse aggregate of the control mix replaced by an equivalent volume of rubber aggregate.

**20M4** – stands for the mix of M20 concrete with 50 % volume of the coarse aggregate of the control mix replaced by an equivalent volume of rubber aggregate.

**25M1** – stands for the mix of M25 concrete with no rubber aggregate replacement.

**25M2** – stands for the mix of M25 concrete with 10 % volume of the coarse aggregate of the control mix replaced by an equivalent volume of rubber aggregate.

**25M3** – stands for the mix of M25 concrete with 25 % volume of the coarse aggregate of the control mix replaced by an equivalent volume of rubber aggregate.

**25M4** – stands for the mix of M25 concrete with 50 % volume of the coarse aggregate of the control mix replaced by an equivalent volume of rubber aggregate.

The introduction of recycled rubber tires to concrete significantly increased the slump and workability. It was noted that the slump has increased as the percentage of rubber aggregate was increased in all samples. This test shows that the workability decreases as the strength of the concrete increases for a given amount of w/c ratio in rubberized concrete. A different observation which was noticed while casting the rubberized concrete was that the rubber aggregates have a high tendency to come out to the top surface when vibrated by a table vibrator. This is due to the low specific gravity of the rubber aggregate. In general, rubberized concrete mixes did not pose any difficulties in terms of finishing, casting, or placement and can be finished to the same standard as plain concrete.

**Table-4 : Unit Weight Results**

No .	Specimen	Grade	% rubber	Unit wt. (kg/m <sup>3</sup> )	% Reduction
1	15M1	M15	0	2460	0
2	15M2	M15	10	2361.6	4
3	15M3	M15	25	2214	10
4	15M4	M15	50	1918.8	22
5	20M1	M20	0	2515	0
6	20M2	M20	10	2389.25	5
7	20M3	M20	25	2313.8	8
8	20M4	M20	50	2012	20
9	25M1	M25	0	2502	0
10	25M2	M25	10	2401.92	4
11	25M3	M25	25	2351.88	6
12	25M4	M25	50	2101.68	16

**Table-6 : Flexural strength Test Results**

No.	Spec.	Grade	% rubber	Failure Load (KN)	Flexural Strength (MPa)	% Strength Loss
1	15M1	M15	0	9.4	9.40	0
2	15M2	M15	10	9.75	9.75	-3.72
3	15M3	M15	25	6.70	6.70	28.72
4	15M4	M15	50	7.10	7.10	24.47
5	20M1	M20	0	12	12.00	0
6	20M2	M20	10	12.45	12.45	-3.75
7	20M3	M20	25	11.1	11.10	7.5
8	20M4	M20	50	7	7.00	41.67
9	25M1	M25	0	12.70	12.70	0
10	25M2	M25	10	11.75	11.75	7.48
11	25M3	M25	25	9.8	9.80	22.83
12	25M4	M25	50	6.6	6.60	48.03

**Table-5: Compressive Test Result**

No.	Spec.	Grade	% Rubber	Compressive Strength (N/mm <sup>2</sup> )	% Strength loss
				28 Days	28 Days
1	15M1	M15	0	21.25	0
2	15M2	M15	10	19.55	8
3	15M3	M15	25	15.16	28.66
4	15M4	M15	50	9.82	53.79
5	20M1	M20	0	40.60	0
6	20M2	M20	10	35	13.79
7	20M3	M20	25	29.20	28.08
8	20M4	M20	50	15.10	62.81
9	25M1	M25	0	50.15	0
10	25M2	M25	10	40.80	18.64
11	25M3	M25	25	32.57	35.05
12	25M4	M25	50	20.83	58.46

**Table-7: Drop Weight Test Results**

No.	Spec.	Grade	% Rubber	No. of Blows for Ultimate Failure
1	15M1	M15	0	21
2	15M2	M15	10	144
3	15M3	M15	25	201
4	15M4	M15	50	72
5	20M1	M20	0	70.50
6	20M2	M20	10	155
7	20M3	M20	25	200.50
8	20M4	M20	50	50
9	25M1	M25	0	523
10	25M2	M25	10	620.50
11	25M3	M25	25	670.50
12	25M4	M25	50	130

## CONCLUSION

The general objective of this research was to evaluate the fresh and hardened properties of a concrete produced by replacing part of the natural coarse aggregates with an aggregate produced from locally available recycled waste tire and subjected to local conditions. From the test results of the samples, as compared to the respective conventional concrete properties, the following conclusions are drawn out.

1. The introduction of recycled rubber tires into concrete significantly increased the slump and workability. It was noted that the slump has increased as the percentage of rubber was increased in all samples.



2. From the results, it was found out that a reduction of unit weight up to 22 % was observed when 50 % by volume of the coarse aggregate was replaced by rubber aggregate in sample 15M4. Whereas 4 and 10 % reductions were observed for 10 and 25 % rubber aggregate replacement in samples 15M2 and 15M3 respectively. In the second category (M20) a reduction in unit weight of 5 %, 8 and 20 % was noted for 10, 25 and 50 % of the coarse aggregate replacement by rubber aggregate. In samples of third category (M25) the reduction in unit weight was 4, 6 and 16 % for 10, 25 and 50 % of the replacement of coarse aggregate with the rubber aggregate respectively.

So from the results it is found that use of rubber in cement concrete reduces the weight of concrete.

3. For rubberized concrete, the results show that the addition of rubber aggregate resulted in a significant reduction in concrete compressive strength compared with the control concrete. This reduction increased with increasing percentage of rubber aggregate. Losses in compressive strength of 8 % (15M2), 13.79 % (20M2), 18.64 % (25M2) were observed when 10% of the coarse aggregate was replaced by an equivalent volume of rubber aggregate. The observed losses of strength when 25 % of the coarse aggregate was replaced by rubber aggregate were 28.66 % (15M3), 28 % (20M3), 35.05 % (25M3). For rubberized concrete containing 50% by volume of rubber aggregate replacement, losses of 53.79 % (15M4), 62.81 % (20M4), 58.46 % (25M4) were noticed. Although the compressive strength values have considerably decreased with the addition of waste tire pieces, their values are still in the reasonable range for a 10 % and 25 % replacement values because the intended compressive strengths of 15, 25, 30 and 40 MPa were achieved in this categories.

4. The results show that the flexural strength increased compared to the control mix for rubber aggregate content of 10 % and for the low strength concrete classes (i.e. 15M2 and 20M2). In these two categories of concretes, for rubber aggregate content of 25% and 50% a flexural strength reduction was observed as compared to the control mix. This indicates that

improvements in flexural strength are limited to a relatively small rubber aggregate contents. On the other part for mix (M25) a reduction in flexural strength is seen in all concrete samples containing the rubber aggregate. The observed percentage losses in mix M25 are 7.48, 22.83 and 48.03 % for a rubber content of 10, 25 and 50 percents respectively.

From the results obtained, it can be concluded that as the amount of rubber content increases, the reduction in the flexural strength also increases with a concrete of medium and high strength compressive values. Nevertheless, a good advantage of increase in flexural strength can be achieved with a lower strength concretes M15 and M20 and by limiting the replacement value to only 10 % of the coarse aggregate.

5. The test results shows that the addition of rubber aggregate to concrete at a lower percentages of 10 and 25 % enhanced the impact resistance of the concrete greatly and hence the application of rubberized concrete can be of great help in structures which are exposed to vibrations and impact loads.

6. A reduced compressive strength of concrete due to the inclusion of rubber aggregates limits its use in some structural applications. Nevertheless, it has few desirable characteristics such as lower density, higher impact and toughness resistance, enhanced ductility, and a slight increase in flexural strength in the lower strength concretes.

7. The use of rubber aggregates from recycled tires addresses many issues. These include; reduction of the environmental threats caused by waste tires, introduction of an alternative source to aggregates in concrete, enhancing of the weak properties of concrete by the introduction of different ingredients other than the conventionally used natural aggregates and ultimately leading to the conservation of natural resources. In addition to meeting recycling and sustainability objectives, it aims is to produce products with enhanced properties in specific applications.

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# DIALOGUE LEARNING IN THE PROCESS OF PROFESSIONALLY ORIENTED FOREIGN LANGUAGE EDUCATION

**Suleymanova Vazira Talatovna**

Foreign language and literature, Department of English teaching methodology  
Samarkand State Institute of Foreign Languages,  
Samarkand, Uzbekistan

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## ABSTRACT

*The article is devoted to the problem of teaching the skills of oral speech within the framework of the discipline "Foreign language" on the example of technologies used in the University of Language Orientation. Based on theoretical research, the authors describe various forms of dialogue learning (role and business games, discussions, brainstorming, case analysis, solving situational problems, conferences, etc.). Using the data of empirical studies, they prove that the use of these technologies allows you to achieve noticeable results in the process of teaching a foreign language. The research results are being actively introduced into the methodology of teaching English at the Samarkand State Institute of Foreign Languages. As a result of using this form of dialogue learning, teachers can train a modern competitive specialist for the national economy of the country, develop students' experience of cooperation and cooperation, motivate students to study in a foreign language, and develop skills of critical thinking and social behavior.*

**KEY WORDS:** foreign language, technology, dialogue learning, professionally oriented education, communication skills and abilities, speaking, students.

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## DISCUSSION

A huge number of articles published today in Uzbekistan are devoted to the problem of teaching a foreign language, but for the most part the people are still "silent". It is known that the main goal of teaching a foreign language at the present stage is the development of the individual's communication skills, and speaking, as the most popular form of communication, requires special attention. A specialist with a higher education must be able to speak a foreign language, because the state educational standard of higher professional education clearly defines the linguistic skills and abilities that a graduate of a university must master, namely: "proficiency in one of the foreign languages at a level that ensures effective professional activity."

So, on the one hand, specialists who speak at least one foreign language at a good level are in demand in the labor market, on the other hand, the education system supplies a huge percentage of university graduates who are capable of reading simple texts and inscriptions in this language, at least at the very least, translating them. using a dictionary. Often you have to deal with situations that one of the students defined as follows: In English classes we learn the difference between "walking", although the whole group says "I am walking"? What is it:

isolation from reality or methodological failure of teachers?

In order to determine the scope of the indicated problem (on the one hand, a competitive specialist, on the other hand, a low level of proficiency in a foreign language), let's start with the methodological foundations. Modern didactics involves the use of various forms and methods of teaching in the process of preparing students for the "Foreign language" discipline. The term "form of organization of training" designates a specific type of this lesson.

The peculiarities of interactive forms of education include a single semantic space, active inclusion of the student in this space (immersion in the language environment), the unity of means and methods for implementing the solution of the assigned tasks, entering such an emotional state that allows one to approach real situations of verbal communication.

All this is achieved through such forms of interactive learning as role-playing and business games, discussions, brainstorming, case analysis, solving situational problems, presentations, conferences, debates, etc. those forms of work that develop and actively use speaking skills to a greater extent. Let's consider some of them. To teach





students to lead an unprepared argument, a verbal competition in a foreign language, discussion is used. The main feature of the discussion is the interpersonal interaction of students and their communication with the teacher. The peculiarities of this teaching method include the fact that the discussion makes it possible to reveal the diversity of points of view on a particular issue, to compare them in direct communication and, if possible, to analyze each of them, if the situation requires it. A prerequisite for the discussion is the presence of any controversial issue, the final solution of which is developed during the discussion. For its successful conduct, the participants must have knowledge of the subject of discussion, have their own opinion on this issue, master the techniques of influencing partners and managing the conversation. The basis for the compositional deployment of the discussion is assessment and argumentation. Practice shows that there is a lively response from students in cross-discussion. During the organization of the first such discussion, the teacher explains to the group its principles, and then the students themselves actively use this methodological technique during an unprepared dispute. All students are preliminarily divided into 2-3 groups (depending on the number of students). The essence of cross-talk is to clearly follow the rules that the group takes for granted.

One student from the group can participate in the discussion only once. All students of the group are involved in a conversation, an argument; even poorly prepared students begin to work more actively if they feel the support of the group, see a common goal - to convince opponents, to prove their case. In the course of fulfilling this condition, the teacher lays the foundations for team building, which will be in demand in the further professional practice of students.

The ability to change position during the discussion. The axiological meaning of the dispute is achieved in the process of: - a meaningful decision to change the position / point of view of the group, if the arguments of the opponents presented in the dispute turned out to be more convincing; - a tolerant attitude towards the opinions of others.

As part of the discussion, methodologists and practitioners (Benjamin Bloom, for example) advise to actively use 6 types of questions on:

1. checking the knowledge of the material (clarification of the information received);
2. understanding (in the form of retelling);
3. application of the information received (modeling of similar situations, for example, "What would happen if ...");
4. analysis (connection of previous events with subsequent ones)
- 4
5. synthesis (creating your own material (articles, poems, non-verbal messages) based on what you have learned);

6. assessment (search for a solution based on the problem posed, comparison of characters, their actions, etc.) [4, 212-218].

Issues raised for discussion in a foreign language (if the group has already worked with this type of assignment) can be proposed to be combined into groups before the start of the discussion or at the end of the discussion. Depending on the topic under discussion, the groups of questions can be completely different: a philosophical group, an everyday one, a group of a descriptive nature, a group of problematic issues, etc.

The next non-traditional way of developing foreign language speaking skills for students is brainstorming (brainstorming), which should have a clear goal, include the stages of silently generating ideas, their disordered enumeration, clarifying ideas, voting and ranking ideas to achieve the goal. Types of brainstorming: direct, reverse (starts with criticizing ideas), double (the number of participants exceeds the optimal number by two or three times with a corresponding increase in the duration of the event), conference of ideas (usually for 4-12 people for 2-3 days), individual brainstorming (the student is both a generator of ideas and a critic). The types of education that are in demand among students include a "round table", which is an exchange of views on any issue, a problem of interest to the participants in communication. By participating in the "round table", the student expresses only his own point of view. The problems discussed at the "round table" can be very diverse: regional, moral and ethical, social, cultural, value, economic, etc. Participation in the "round table" requires from the communicants a sufficiently high level of language proficiency and the presence of certain knowledge of the discussed problem. Therefore, as a method of control, the "round table" is advisable to apply at an advanced stage of training and at the end of work on a specific topic or several related topics. The round table can be used to study the topics "Competition and its varieties", "Monopoly and markets", where students exchange the already acquired knowledge on the topics studied in order to prevent or minimize the negative impact of various types of monopolies in their future professional practice. This type of work helps the integration of the educational process and strengthens interdisciplinary connections.

The immersion of students in the integrity and value of cultural interaction in the process of foreign language communication is impossible without a reflexive position. In the methodological guidelines "Strategic planning", the team of authors, after each chapter (section), prepared an Evaluating Sheet in English, which determines, on a five-point scale, the level of not only the material learned, but the value meanings of the acquired skills and knowledge. This sheet includes the determination of readiness for the lesson, personal contribution to the discussion / role



play / case analysis / debate, the effectiveness of participation, the intensity of the statements, the success in the process of using speech technologies (clarity of presentation, persuasiveness, the expression of consent-disagreement, etc. ), flexibility of thinking, tolerance in the process of communication, the level of satisfaction from the work done.

The axiology of foreign language interaction is reflected in the guidelines for the case study "Cultural diversification in the process of interpersonal and business communication" [1]. The topics discussed in this manual relate to differences in approaches to doing business in different countries, eliminating misunderstandings in the process of intercultural communication, developing the value meanings of business communication ("The concept of culture", "Cultural differences in the style of company management", "International business through the prism culture ", " Acceptance of cultural diversification in the process of communication "). At the end of each chapter, the student is offered a questionnaire to fill out in order to develop reflection skills. At the end of the course, a block "Repetition of the passed material" is presented, as well as materials for activating the skills of oral speech.

Tests help to quickly check the quality of the assimilation of the material, but it is important for the teacher to see the integrity of the picture of the educational process, namely: to master technologies that help to comprehensively assess the foreign language knowledge, skills, and abilities of students. For these purposes, the method of expert assessment can be used, which helps to determine (with a small error) the quality of assimilation of the content of theoretical and practical knowledge of students. With the help of this method, students' creative works are checked, the implementation of which involves an independent or in-depth study of a topic or its separate direction. The reliability of expert assessments is achieved due to the consistency of the opinions of experts: if any two experts (who are both teachers and students of the group) equally evaluate the same work or student's answer, then their opinions are considered consistent. Due to the fact that creative works consist of two parts (theoretical and practical), they are evaluated by the sum of points for each of the parts. Since educational institutions today have adopted a five-point assessment system, the methodology for assessing creative work must meet these requirements.

Similar tests and peer review methods can be used at any stage of the training. Some of them are recognized to assess the readiness of students to master a new language material, others help to identify gaps in students' knowledge and plan the necessary purposeful work to correct mistakes, others make it possible to predict the further learning process and its results [2, 170-174].

Making conclusions about the dialogue forms of professionally oriented foreign language education of students, it is important to note that as a result of the use of dialogue learning (discussions, brainstorming, round table, conferences, etc.) in combination with measuring instruments of knowledge, skills and abilities of students (test systems, expert assessment method) you can:

1. to successfully solve the problems of training a modern competitive specialist;
2. to develop students' experience of cooperation and collaboration, the ability to work in a team;
3. to intensify the initiative of students and motivation for learning activities;
4. to form critical thinking, skills of social behavior;
5. to activate the desire of trainees to master general cultural competencies (knowledge of the basic values of world culture, readiness to rely on these values in personal and general cultural development, proficiency in a foreign language at a level that ensures professional activity).

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# A POTENCY OF CHOSEN BOTANICALS ON OVIPOSITION DETERRENCE AND ADULT EMERGENCE OF THE RED FLOUR BEETLE, *TRIBOLIUM CASTANEUM*

**Kaviya.V<sup>1</sup>**

Department of Zoology,  
Nirmala college for women,  
Bharathiyar University,  
Coimbatore 18

**Dr.Sr.Mary Fabiola<sup>2</sup>**

Department of Zoology,  
Nirmala college for women,  
Bharathiyar University,  
Coimbatore 18

**V.Ilakkiya<sup>3</sup>**

Department of Zoology,  
Nirmala college for women,  
Bharathiyar University,  
Coimbatore 18

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## ABSTRACT

*Experiments were conducted to study the bioefficacies of different leaf powders of Withania somnifera, Pongamia pinnata, Calotropis gigantea, and Phyllanthus amarus, against the red flour beetle, Tribolium castaneum (Herbst) that infests stored green gram seeds. Dried leaf powders of Withania Somnifera and Pongamia Pinnata (5mg/seed) were found to be simpler, inflicting 100 percent mortality, than leaf powders of Calotropis gigantea and Phyllanthus amarus (20mg/g seed), revealed 73.1% and 69.2% mortality severally. However, all plant leaf powders showed 100percent ovicidal activity.NoF1 adult emerged at 20mg/g seed treated with all plant powders. It absolutely was terminated that leaf powders of W. somnifera and Pongamia pinnata showed vital mortality, oviposition deterrence, and F1 adult deterrence of T.castaneum at very low concentrations. Hence, these ethnobotanicals powders could also be prompt as admixtures within the integrated management of beetle infestation of Green gram seeds throughout storage.*

**KEYWORDS:** *Tribolium castaneum, Oviposition, mortality, Ethnobotanicals*

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## INTRODUCTION

Pest insects affect food output directly by reducing the standard and amount of the crop produced, or indirectly by serving as vectors of plant diseases. The red flour beetle, *Tribolium castaneum* may be a serious pest of stored grains and products (Zettler, 1991). The red flour beetle, *Tribolium castaneum* Herbst (Coleoptera: Tenebrionidae), is one among the Foremost widespread and harmful stored-product pests throughout the planet. Beetles and larvae feed on a very

wide range of dry vegetable substances, such as milled cereal products (Rees 2004). Common remedial measures include the utilization of synthetic compounds/agents to repel or kill pests. These chemical compounds have their own damaging effects on the crops, stored grains products. Though effective, such synthetic pesticides cause consequently residual pollution of the environment and toxicity to consumers. Their perennial use for many years has disrupted biological management by natural enemies and has led



to the revitalization of stored product insect pests. Several of those stored product insects have developed resistance to the commonly used chemicals (Subramanian and Hag strum, 1995; Srivastava and Singh, 2002). These issues have highlighted the necessity to develop insect management alternative methods.

Biological management strategies have their own edges like lesser losses, minimum unhealthy effects on stored products, and few toxic to health [3, 4]. Likewise, several medicative plants and spices are used as pest management agents (Lale, 1992; Isman, 1995; Yankanchi and Gonugade, 2009). Farmers and researchers usually claim the victorious use of plant materials in insect pest management, together with ash (Ofuya, 1986; Ajayi et al., 1987), vegetable oils (Schoovoven, 1978; Kazi et al., 1999), plant extracts (Chiasson et al., 2004; Devanand and Usha Rani, 2008; Yankanchi, 2009), and biological science powders (Abdullahi and Muhammad, 2004; Patil et al., 2006; Shukla et al., 2007; Gupta and Srivastav, 2008). It's been reported that some plant preparations and ancient strategies area unit a lot of safer than chemical pesticides (Verma and Dubey, 1999; Weaver and Subramanian, 2000; Yankanchi and Patil, 2009).

Therefore, plant materials ought to be explored to protect stored products against pest infestation. This study aimed to protect stored green gram seeds from *T.castaneum* infestation under laboratory conditions using leaf powders of *W. somnifera*, *P. pinnata*, *Calotropis gigantea*, and *Phyllanthus amarus* likewise as their impact on oviposition and F1 adult deterrence of pulse beetle. And to identify the foremost potent botanical which will be terribly effective.

## MATERIALS AND METHODS

### Collection of plant materials

The different plant powders used in this investigation was taken from the leaves of *Withania somnifera* (L), *Pongamia pinnata* (L), *Phyllanthus amarus* (L) and, *C. gigantea* (L). The leaves of different plants were washed with distilled water to remove dust particles and shade dried. The leaves were then pulverized with the help of an electric grinder to obtain fine powder

### Insect culture

The red flour beetle, *Tribolium castaneum* (Herbst) adults were obtained from naturally infested green gram seeds from the grocery shop and brought to the laboratory. The beetles were reared on the clean and un-infested green gram (*Vigna radiata*). A hundred adult insects were released in a plastic container capped with a muslin cloth to provide ventilation, containing

500 g green gram seeds. The plastic container was kept under controlled temperature ( $28 \pm 2^\circ\text{C}$ ) and, relative humidity ( $70 \pm 5\%$ ). After 48 h, the adults were removed and the container was left for 25 days to obtain adult beetles for the experiment.

### Effect of powder on mortality, oviposition and F1 emergence

In various clear plastic containers, fine leaf powders were tested at doses of 0 (control), 5, 10, and 20 mg/g green gram seeds (0-2 percent w/w) (200 ml). The required amount of powder was mixed thoroughly with 20 g green gram seeds. Ten pairs of 0-48 hold adults were released into each container and the containers were capped. The number of dead beetles was recorded after 48 h of treatment. When the beetle didn't respond to mild pressure with a fingertip, mortality was considered. To avoid the possibility of death mimicry, the beetles were watched for 30 min and again subjected to gentle pressure. Percentage insect mortality was calculated using the corrected formula of Abbott (1925). The total number of eggs are laid on the seed surface was recorded after 4 days of treatment. Percent deterrence of oviposition was calculated following Elhag (2000). To determine the F1 progeny deterrence efficacy of plant powders, 20 g green gram seeds (each seed with two eggs) were placed in a separate plastic container (200 ml) and treated with the above doses of leaf powders. The number of emerged F1 adults was counted after 25 days, and the percentage deterrent was determined using Aldryhim (1995) formula (number of progeny in care – number of progeny in recovery/number of progeny in control X 100). Both tests have been conducted three times and data is the mean  $\pm$  SD. Data were subjected to one-way ANOVA. Means were separated by Duncan's multiple range test (DMRT) when ANOVA was significant ( $p < 0.05$ ) (SPSS 10, version).

## RESULTS

The results presented in Table-1 indicate that leaf powders of *Withania somnifera*, *Pongamia pinnata*, *Phyllanthus amarus* and, *Calotropis gigantea* were significantly effective for mortality, reduction in oviposition, and F1 progeny production of *Tribolium castaneum*. Leaf powders of *W. somnifera* and *P.pinnata* were found to be more effective than leaf powder of *P. amarus* and *C.gigantea* because 20 mg/g dose caused 100% mortality of the beetles. A significantly higher number of eggs are laid on untreated control seeds than on powder treated seed ( $p < 0.05$ ). Oviposition deterrence was recorded as 96.8% and 92.6% in seed treated with 20 mg/g *W. somnifera* and *P.Pinnata* powder respectively. The



Ovicidal activity was recorded as 100% at 5 mg/g *W. somnifera* and *P. pinnata*, 20mg/g *P.amarus* and *C.gigantea* leaf powder, which caused none of the F1 adults to emerge.

**Table: 1. Effect of different plant powders on mortality of *Tribolium castaneum***

Plant powders	Treatment (mg/g)	% Mortality
<i>Withania somnifera</i>	5 mg/g	67.8 ± 2.4b
	10 mg/g	78.4 ± 2.7b
	20 mg/g	100 ± 0.0a
<i>Pongamia pinnata</i>	5 mg/g	73.1 ± 3.1b
	10 mg/g	87.5 ± 2.8a
	20 mg/g	100 ± 0.0a
<i>Calotropis gigantea</i>	5 mg/g	24.9 ± 2.3c
	10 mg/g	42.2 ± 2.7c
	20 mg/g	73.1 ± 3.9b
<i>Phyllanthus amarus</i>	5 mg/g	28.8 ± 1.6c
	10 mg/g	32.7 ± 2.1c
	20 mg/g	69.2 ± 3.6b
Control(0)		02.6 ± 0.3d

**Table: 2. Effect of different plant powders on oviposition of *Tribolium castaneum***

Plant powders	Treatment (mg/g)	% Oviposition
<i>Withania somnifera</i>	5 mg/g	55.1 ± 2.8c
	10 mg/g	81.2 ± 4.2a
	20 mg/g	92.6 ± 4.8a
<i>Pongamia pinnata</i>	5 mg/g	73.3 ± 3.7b
	10 mg/g	86.4 ± 4.2a
	20 mg/g	96.8 ± 4.1a
<i>Calotropis gigantea</i>	5 mg/g	44.1 ± 2.7c
	10 mg/g	57.3 ± 3.6c
	20 mg/g	68.0 ± 3.8b
<i>Phyllanthus amarus</i>	5 mg/g	23.0 ± 2.6d
	10 mg/g	36.3 ± 2.9d
	20 mg/g	67.8 ± 3.7b
Control(0)		8.6 ± 2.6d

**Table: 3. Effect of different plant powders on F1 adult deterrence of *Tribolium castaneum***

Plant powders	Treatment (mg/g)	% F1 adult deterrence
<i>Withania somnifera</i>	5 mg/g	100 ± 0.0a
	10 mg/g	100 ± 0.0a
	20 mg/g	100 ± 0.0a
<i>Pongamia pinnata</i>	5 mg/g	100 ± 0.0a
	10 mg/g	100 ± 0.0a
	20 mg/g	100 ± 0.0a
	5 mg/g	48.7 ± 2.1c





<i>Calotropis gigantea</i>	10 mg/g	74.7 ± 4.2b
	20 mg/g	100 ± 0.0a
<i>Phyllanthus amarus</i>	5 mg/g	56.7 ± 3.4c
	10 mg/g	68.0 ± 3.9b
	20 mg/g	100 ± 0.0a
Control(0)		02.6 ± 0.3d

Values are mean ± standard deviation of three replicates. Means followed by same letters within each column do not differ significantly by DMRT test ( $p < 0.05$ )

## DISCUSSION

The findings clearly show the effectiveness, by decreasing lifespan and deterring oviposition of *Tribolium castaneum*, of the *W. somnifera*, *P. pinnata*, *Calotropis gigantea* and *Phyllanthus amarus* leaves. Plant powder ovicidal behavior was found to reduce *T. castaneum* progeny generation in stored green gram seeds. In *W. somnifera* and *Pongamia pinnata* powder, a dosage of 20 mg/g (2 percent w/w) was determined to be lethal that caused 100 percent mortality and inhibition of F1 by ovicidal action. Essential oils derived from *L. sempervirens* and *D. winteri's* leaves and bark have shown to have interaction and toxicity to *T. castaneum* as well as repellent action. A large number of plant products have been tested for their repellents against stored grain pests, such as essential oils (RegnaultRoger, 1997; Cosimi et al., 2009; Nerio et al., 2009). Another study has shown that the essential oils from *Evodia rutaecarpa* Hook F and Thomas (Liu and Ho, 1999), *Ocimum gratissimum* L. (Ogendo et al., 2008), and *Artemisia vulgaris* L can also be repelled from *T. castaneum* (Wang et al., 2006).

At 4% (Koon and Koon, 2006), *Tithonia diversifolia* leaf powder was less than 4% in powdered materials (Adedire and Akinneye, 2004), and clove, red, and black pepper powders, with 2.5% w/w were comparatively less in bruising compared to *Erigeron floribundus* powdered materials (Aslam et al, 2002). The aromatic quality of the leaf powders shows that they contain highly effective volatile constituents against insects. *Somnifera* and *Pongamia pinnata* insecticide activity is well known to various insect pests (Kazi et al., 1999; Kim et al., 2003; Shaktivadivel and Daniel, 2008; Gupta and Srivastava, 2009). But previous researchers have focused solely on plant extracts and essential oils, and there is a shortage of documents on the use of *W. somnifera*, *P. pinnata*, *Calotropis gigantea*, and *Phyllanthus amarus* leaf powders. Primary oils cannot be used in the management of food commodity infestations processed in jute bags due to increment volatility loss (Risha et al., 1999). The present research suggests the use of *Pongamia pinnata* and *W. somnifera* as more feasible.

The results of this study based on laboratory testings, therefore, suggest the possible use by small-scale farmers who store small quantities of pulsing pulses for consumption and planting, *P. Pinnata* and *W. Somnifera*, as an admixture in pest control strategies. Both *P. Pinnata* and *Withania somnifera* plants can scrutinize further to establish the precise mode of action and effect of the active ingredients on non-target species.

## CONCLUSION

It was observed and concluded that all of these plants have strong repellent activities against red flour beetle which is an important pest of stored products. *P. Pinnata* and *W. Somnifera* had shown powerful repellent activity among all four extracts while *Phyllanthus amarus* proved to be the least effective. Overall, these plant extracts show majestic repellent activity and, these are a potential source of safe biological insect repellents in the future. Because Plant extracts are an alternative tool for controlling pesticides to minimize the adverse impacts on the atmosphere of certain pesticides. In the quest for newer, more selective, and biodegradable insecticidal compounds, these findings may be helpful.

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# INFLUENCES ON REACTION TIME AND AGILITY RESPONSE TO SHADOW TRAINING AMONG TENNIS PLAYERS

**P. Jenith<sup>1</sup>**

<sup>1</sup> PhD, Research Scholar,  
Department of Physical Education,  
Bharathiar University,  
Coimbatore,  
Tamilnadu.

**S. Senthil Kumaran<sup>2</sup>**

<sup>2</sup> Managing Director,  
Unicorn Fitness,  
Madurai,  
Tamilnadu.

**N. Kodeeswaran<sup>3</sup>**

<sup>3</sup> PhD, Research Scholar,  
Department of Physical Education,  
Bharathiar University,  
Coimbatore, Tamilnadu.

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## ABSTRACT

*This study aimed to find out the influences on reaction time and agility response to shadow training among tennis players. To achieve the purpose of the study thirty school level tennis players were selected from The Tenniglo Academy at Coimbatore. Their age ranged between 12-16 years. They were divided into two equal groups consists of fifteen each. No attempt was made to equate the groups. Group I acted as Experimental Group underwent Shadow training (ST) for the period of 6 weeks and Group II acted as control group (CG), the subjects in control group was not engage in any training programme other than their regular activity. The agility was assessed by 4x10mts shuttle run test and Reaction Time was assessed by Penney Cup Test. The data collected from the subjects was statistically analyzed with 't' ratio to find out significant improvement if any at 0.05 level of confidence. The result of the agility and reaction time improved significantly due to effect shadow training with the limitations of (diet, climate, life style ) status and previous training the results of the current study coincide findings of the investigation done by completely different specialists within the field of sports sciences. Shadow training significantly improved agility and reaction time of school level tennis players.*

**KEYWORDS:** Tennis, Agility and Reaction Time.

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## INTRODUCTION

Tennis is a racket sport. It can be played by individually against a single opponent or between two teams (doubles). Players use a racket that strung with cord to strike the ball around a net and into opponent's court. It is characterized by quick start and stops, changes of direction, multi-directional movements and stamina. It requires short explosive burst of energy with repeatedly during the match. Unlike many other sports, it does not have time limits on matches. It lasts one hour to five hours. In this context, it requires tennis athletes to be highly trained on reaction time and agility aspects. Shadow training is one of the most

effective tennis exercises that most players seem to have overlooked. It is very beneficial in a lot of aspects of the game if it's done properly. It will improve your court endurance, speed, anticipation, timing, and physical condition is an exercise performed without a ball, where the player runs through positions and actions on the court. It enables the player to concentrate fully on the running and forehand, backhand, volley, half-volley, overhead and drop shot techniques.

## METHODS

### Experimental Approach to the Problem

To address the hypothesis presented herein, we selected thirty school level tennis players. Their age ranged between 12 and 16 years. The selected subjects were divided into two equal groups consisting of 15 each. No attempt was made to equate the groups. Experimental group I (n = 15) underwent shadow training for 6 weeks and group II (n = 15) acted as a control group (CG), the subjects in the control group were not engaged in any training programme other than their regular work.

### Design

The evaluated parameters were agility (4x10m shuttle run) and reaction time (Penney Cup Test). The parameters were measured at baseline

after 6 weeks of ST and the effects of the training were examined.

### Training Protocol

In each training session the training was imparted for a period 45 minutes. The Shadow practices, which included warming up and relaxation procedure after training programme for three days per week for a period of 6 weeks.

### Statistical Analysis

The collected data were analyzed with application of 't' test to find out the individual effect from base line to post-test if any. 0.05 level of confidence was fixed to test the level of significance.

## RESULTS

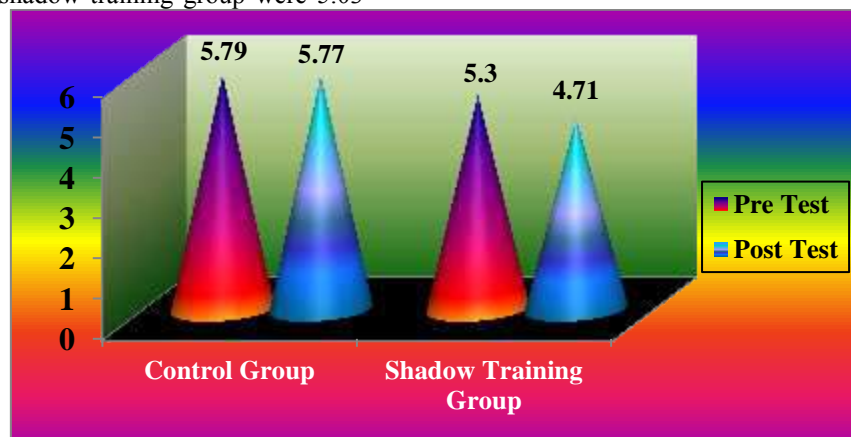
**Table-I**  
**Relatithe Reaction Time between Pre & Post Test of the Shadow Training and Control Groups of Tennis Players**

Reaction Time	Groups	Test	Mean	S.D	't' Values
	Control Group	Pre Test	5.79	1.17	1.52
		Post Test	5.77	1.20	
	Shadow Training Group	Pre Test	5.03	0.75	8.30*
Post Test		4.71	0.75		

\*Significant at 0.05 level of confidence

Table-I reveals that the mean values of pre test and post test of control group for reaction time were 5.79 and 5.77 respectively; the obtained t ratio was 1.52 respectively. The tabulated t value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The calculated t ratio was lesser than the table value. It is found to be insignificant change in reaction time of the tennis players. The obtained mean and standard deviation values of pre test and post test scores of shadow training group were 5.03

and 4.71 respectively; the obtained t ratio was 8.30. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The obtained t ratio was greater than the table value. It is found to be significant changes in reaction time of the tennis players. The mean values on shadow training group and control group are graphically represented in figure-1.



**FIGURE-1: BAR DIAGRAM SHOWING THE PRE TEST & POST TEST ON REACTION TIME OF CONTROL AND SHADOW TRAINING GROUPS**



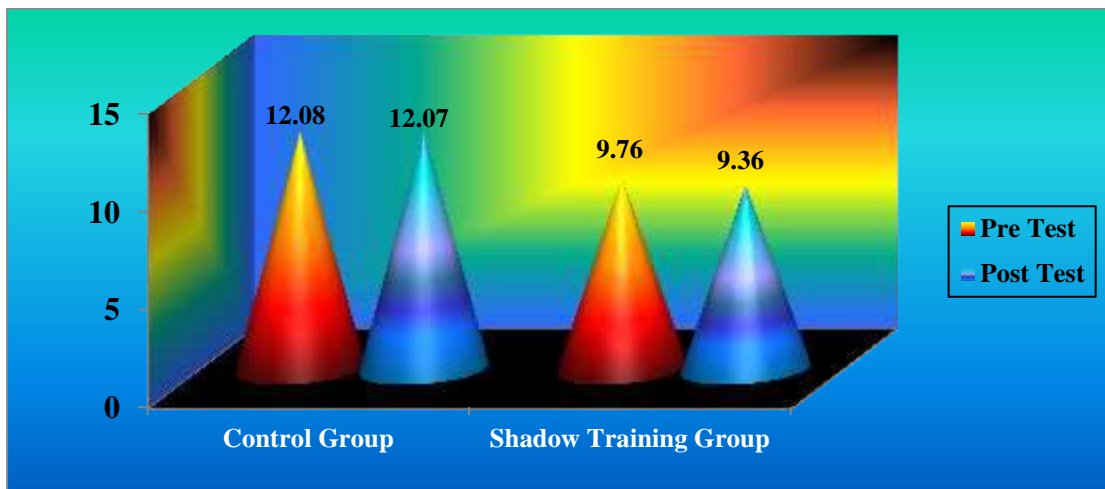
**Table-II**  
**Relationship of Mean, SD and 't'-Values of the Agility between Pre & Post Test of the Shadow Training and Control Groups of Tennis Players**

Agility	Groups	Test	Mean	S.D	't' Values
	Control Group	Pre Test	12.08	1.14	0.11
		Post Test	12.07	1.08	
	Shadow Training Group	Pre Test	9.76	0.71	8.33*
Post Test		9.36	0.67		

\*Significant at 0.05 level of confidence

Table-II reveals that the mean values of pre test and post test of control group for agility were 12.08 and 12.07 respectively; the obtained t ratio was 0.11 respectively. The tabulated t value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The calculated t ratio was lesser than the table value. It is found to be insignificant change in agility of the tennis players. The obtained mean and standard deviation values of pre test and post test

scores of shadow training group were 9.76 and 9.36 respectively; the obtained t ratio was 8.33. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The obtained t ratio was greater than the table value. It is found to be significant changes in agility of the tennis players. The mean values on shadow training group and control group are graphically represented in figure-2.



**FIGURE-2: BAR DIAGRAM SHOWING THE PRE TEST & POST TEST ON AGILITY OF CONTROL AND SHADOW TRAINING GROUPS**

### DISCUSSION ON FINDING

The shadow training is an incredible training which has been found to be beneficial for tennis players. To study the shadow training on reaction time and agility of school level boys tennis players, it was tested under to difference between shadow training group and control group. The shadow training includes on reaction time and agility. The shadow training is namely front run, backward run, side to side, cross run. It also improves the reaction time, agility and other than some physical fitness components are namely speed, speed endurance. The obtained result proved positively the shadow training group significantly improved. The result of the

present study showed that the shadow training has significant improvement on reaction time and agility of tennis players. The results of the study are in line with the studies of J Nirendan et al., (2019), S Senthil Kumaran (2018) & Mehmet Fatih Yuksel, latif Aydos, (2017) the result of the study showed that the control group was not significantly improved on reaction time and agility of school level boys tennis players.

### CONCLUSION

Based on the findings and within the limitation of the study it is noticed that practice of shadow training helped to improve reaction time and



agility of tennis players at school level. It was also seen that there is progressive improvement in the selected criterion variables of shadow training group of tennis players after six weeks of shadow training programme. Further, it also helps to improve reaction and agility.

1. It was concluded that individualized impacts of shadow training group showed a statistically significant positive sign over the course of the treatment period on reaction time and agility of tennis players at school level boys tennis players.
2. It was concluded that individualized impacts of control group showed a statistically insignificant positive sign over the course of the period on reaction time and agility of tennis players at school level boys tennis players.
3. The results of comparative effects lead to conclude that shadow training group had better significant improvement on reaction time and agility of tennis players at school level boys tennis players as compared to their performance with control group.

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# AN EXPERIMENTAL STUDY ON THE USE OF PLASTIC BOTTLE CAPS AS A REPLACEMENT MATERIAL IN FIBRE CONCRETE

**Ms. P.Ranjitha** <sup>\*1</sup>

<sup>\*1</sup>Assistant Professor,

Department of Civil Engineering,  
P.A. College of Engineering and Technology,  
Pollachi,  
Tamilnadu, India.

**Mrs.J.Kalaiselvi Nivedha** <sup>\*2</sup>

<sup>\*2</sup>Assistant Professor,

Department of Civil Engineering,  
P.A. College of Engineering and Technology,  
Pollachi, Tamilnadu, India.

**Mr. K.Jeyavelu** <sup>\*3</sup>

<sup>\*3</sup>Assistant Professor,

Department of Civil Engineering,  
P.A. College of Engineering and Technology,  
Pollachi,  
Tamilnadu, India.

## ABSTRACT

*The aim of this study is to Using waste product like bottle caps and coir fibre to make ecofriendly concrete. Large quantities of waste can be generated from empty cans and bottle caps of juices and soft drinks. This study is aimed at addressing such issues by investigating the possibility of using waste bottle caps to partially substitute for coarse aggregate in concrete production. Hence an attempt has been made in present investigations to study the influence of addition of waste materials bottle caps dosage of 0%, 1%, 2%,3% , 4% & 5% of total weight of coarse aggregate .M20 grade of concrete was produced by replacing coarse aggregate by plastic bottle caps .Coir fibre is a natural fibre is a natural consist of cellulose , lignin ,pentosans and ash in varying percentage when dried . Also coir fibre is locally and economically available. Hence an attempt has been made in present investigations to study the influence of addition of coir fibre dosage of 2% of total weight of cement. Addition of coir fibre increases the crack resistance of concrete, produces the structural light weight material. Hence coir fibre can be used in construction and can reduce environmental waste by proper utilization. Also the use of coir fibre is cost effective and ecofriendly.*

**KEYWORDS:** *Bottle caps, compressive strength, split tensile and flexural strength test.*

## 1. INTRODUCTION

Concrete, it is the most widely used material for the construction. Concrete is weak in tension and strong in compression. Due to rapid industrialization & urbanization in the Country, lots of infrastructure developments are taking place. This process has in turn led questions to mankind to solve the problems generated by this growth. The problems decorated are acute shortage of constructional materials increased dumping of waste products. Hence in order to overcome the above said problems waste products should be employed as construction material. Looking forward the scenario of present life style a

complete ban on the use of plastic cannot be put, although the waste plastic taking the face of devil for the present and future generation. We cannot ban use of plastic but we can reuse the plastic waste. Quantities of plastic wastes have increased rapidly throughout this decade due to its beneficial properties of low density, light weight and strength. Other important factors such as low cost and friendly design were the reason polymer product becomes an inseparable part of our lives.

## 2. OBJECTIVE

- To manage industrial waste.
- To find the alternative of basic materials which are used in construction from past many years?
- To compare the mechanical properties of polypropylene cap in concrete with control concrete.
- To design the mix ratio for M20 grade of concrete
- To test the specimens
- To determine the compressive, flexural and split tensile strength of concrete by adding waste bottle caps and coir fibres by varying percentages.
- To compare the strength behaviour with normal concrete.

## 3. MATERIALS USED

### Cement:

43 Grade Ordinary Portland Cement (OPC) conforming to IS 8112-1989 is used in this project.

### Fine aggregate:

Fine aggregate used in this project was locally available and conforming to zone II with specific gravity 2.62.

The testing of Fine aggregate was done as per Indian Standard Specification IS: 383-1970.

### Coarse aggregate:

20 mm and down size and specific gravity 2.93 was used. Testing of coarse aggregate was done as per Indian Standard Specification IS: 383-

1970.

### Plastic bottle caps:

Plastics collected from the disposal area were sorted to get the superior one. Plastic is a non-biodegradable material and researchers found that the material can remain on earth for 4500 years without degradation. Several studies have proven the health hazard caused by improper disposal of plastic waste.

### Coir fibre:

Coir fibre is a natural fibre is a natural consist of cellulose, lignin, pentosans and ash in varying percentage when dried. Also coir fibre is locally and economically available. Addition of coir fibre increases the crack resistance of concrete, produces the structural light weight material and the suitable alternative partial replacement for natural river sand in order to overcome the lack of that. Hence coir fibre can be used in construction and can reduce environmental waste by proper utilization.

## 4. METHODOLOGY

The methodology followed to carry out the project work. As the result of literature study, the properties of plastic bottle caps and coir fibre are obtained regarding mix design procedures. Using that information, the preliminary tests are done to obtain the data for mix design formulation. After achieving a complete mix design procedure, plastic bottle caps and coir fibre of trial mixes are prepared to check the target Strength. Then possible replacements are studied and finalized.



Fig.4.1 Flow chart for methodology



## 5. MIX PROPORTIONING

Mix	Water (Kg)	Cement (Kg)	Fine aggregate (Kg)	Coarse aggregate (Kg)	Plastic bottle caps	Coir fibre
M1	8.83	17.86	40.46	58.69	0.00	0.00
M2	5.22	9.5	19.6	32.3	0.323	0.095
M3	6.52	11.84	24.44	40.26	0.8052	0.2368
M4	6.52	11.84	24.44	40.26	1.2078	0.3552
M5	5.22	9.5	19.6	32.3	1.292	0.38
M6	5.22	9.5	19.6	32.3	1.292	0.38

Table 5.1 Mix Proportioning

## 6. CASTING OF SPECIMEN

S.No	Mix	No. of Specimen			Total
		Cube	cylinder	prism	
1	M1	6	6	6	18
2	M2	6	6	6	18
3	M3	6	6	6	18
4	M4	6	6	6	18
5	M5	6	6	6	18
6	M6	6	6	6	18

Table 6.1 Casting of Specimen

## 7. TEST RESULTS AND DISCUSSIONS

### 7.1 General

Cubes were casted with W/C ratio of 0.50 by considering the replacement of bottom ash in percentages. The casted cubes are tested for, 14days and 28days to study their strength performance with the conventional concrete.

### 7.1.2 Compressive strength test replacement concrete:

1. The conventional concrete 7&28 day's test was conducted. The average compression value was 535 kN.
2. Then replacement are made in concrete and placed into the compression testing machine, applied the half of the load value of the obtained conventional concrete strength. The crack was induced in the cube and then immersed into the water.

TABLE 1  
 COMPRESSIVE STRENGTH LOAD RESULTS

%	BOTTLE CAPS WITHOUT COIR FIBRE					
	FOR 7DAYS(KN)			FOR 28DAYS(KN)		
0	305	308	314	497	501	503
1	304	306	310	487	491	493
2	294	297	299	484	486	487
3	281	282	284	462	464	465
4	280	281	283	431	433	435
5	251	252	254	388	389	391
%	BOTTLE CAPS WITH 2% COIR FIBRE					
	FOR 7 DAYS(KN)			FOR 28 DAYS(KN)		
0	318	319	321	525	520	528
1	320	321	323	529	531	532
2	325	326	328	533	534	536
3	305	306	308	487	488	490
4	302	304	306	464	465	467
5	267	268	269	416	419	420



**TABLE 2**  
**COMPRESSIVE STRENGTH TEST RESULTS**

%	WITHOUT COIR FIBRE		2% WITH COIR FIBRE	
	DAY 7 (N/mm <sup>2</sup> )	DAY 28 (N/mm <sup>2</sup> )	DAY 7 (N/mm <sup>2</sup> )	DAY 28 (N/mm <sup>2</sup> )
0	13.68	22.29	14.2	23.4
1	13.61	21.84	14.3	23.6
2	13.21	21.6	14.5	23.76
3	12.56	20.66	13.6	21.7
4	12.5	19.25	13.5	20.7
5	11.2	17.3	11.89	18.6

**TABLE 3**  
**SPLIT TENSILE STRENGTH TEST RESULTS**

%	WITHOUT COIR FIBRE	2% WITH COIR FIBRE
	DAY 28 (N/mm <sup>2</sup> )	DAY 28 (N/mm <sup>2</sup> )
0	7	7.30
1	6.97	7.31
2	6.45	6.84
3	6.15	6.50
4	5.80	6.06
5	5.5	5.78

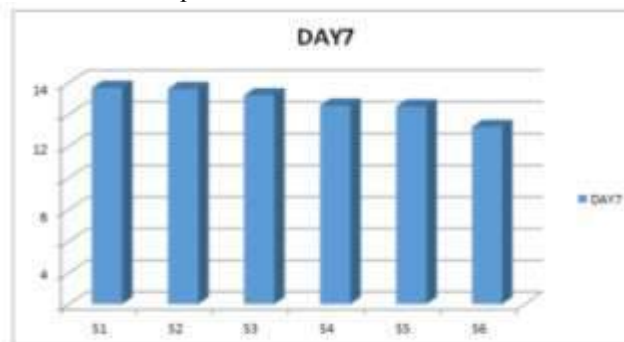
**TABLE 4**  
**FLEXURAL STRENGTH TEST RESULTS**

%	WITHOUT COIR FIBRE	2% WITH COIR FIBRE
	DAY 28 (N/mm <sup>2</sup> )	DAY 28 (N/mm <sup>2</sup> )
0	2.61	2.67
1	2.51	2.71
2	2.46	2.63
3	2.06	2.4
4	2.0	2.3
5	1.78	2.0

**7.1.3 Compressive Strength of Concrete In 7 Days Bottle Caps Without Coir Fibres**

The compressive strength test was conducted by as per IS 516 (1959). As per IS code, 7th day test result was attained 90 % of the targeted compressive strength. Test results given below are compared with

conventional concrete with and without coir fibre and waste plastic caps. From this comparison the conventional concrete strength was better than the conventional concrete with coir fibre and waste plastic caps replaced.

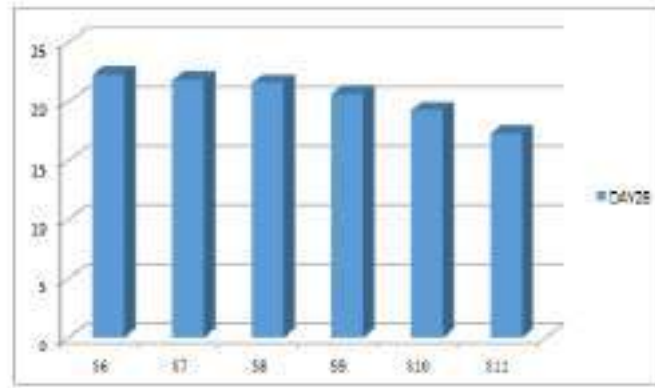


**Figure 7.1.3 Compressive strength of concrete in 7 days without coir fiber**

#### 7.1.4 Compressive Strength Of Concrete In 28 Days Bottle Caps Without Coir Fibre

The compressive strength test was conducted by as per IS 516 (1959). As per IS code, 28th day test result was attained 99 % of the targeted compressive

strength. Test results given below are compared with conventional concrete with and without coir fibre and waste plastic caps. From this comparison the coir fibre and waste plastic caps replaced is better than conventional concrete strength.



#### 7.1.5 Compressive Strength Of Concrete In 7 Days Bottle Caps With 2% Coir Fibre

The compressive strength test was conducted by as per IS 516 (1959). As per IS code, 28th day test result was attained 99 % of the targeted compressive

strength. Test results given below are compared with conventional concrete with and without coir fibre and waste plastic caps. From this comparison the coir fibre and waste plastic caps replaced is better than conventional concrete strength.



Figure 7.1.5 Compressive Strength of Concrete in 7 Days With 2% Coir Fibre

7

#### 7.1.6 Compressive Strength Of Concrete In 28 Days Bottle Caps With 2% Coir Fibre:

The compressive strength test was conducted by as per IS 516 (1959). As per IS code, 28th day test result was attained 99 % of the targeted compressive

strength. Test results given below are compared with conventional concrete with and without coir fibre and waste plastic caps. From this comparison the coir fibre and waste plastic caps replaced is better than conventional concrete strength.

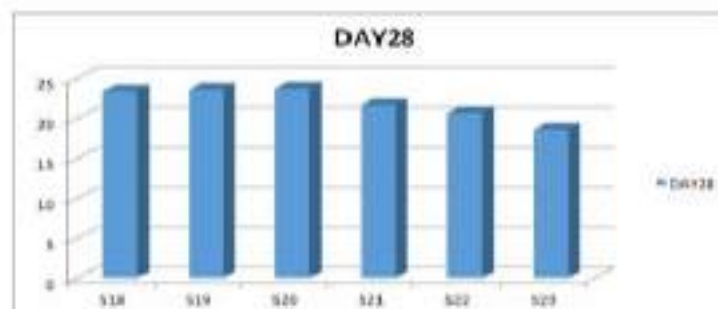


Figure 7.1.6 Compressive Strength Of Concrete In 28 Days With 2% Coir Fibre

### 7.1.7 Split Tensile Strength Of Concrete In 28dayBottle Caps Without Coir Fibre:

The split tensile strength test was conducted As per IS code, 28th day test result was attained 99 % of the targeted compressive strength. Test results given

below are compared with conventional concrete with and without coir fibre and waste plastic caps. From this comparison the coir fibre and waste plastic caps replaced is better than conventional concrete strength.



Figure 7.1.7 Split Tensile Strength@28day without CoirFibre

### 7.1.8 Split Tensile Strength at 28 Day Bottle Caps With 2% Coir Fibre

The split tensile strength test was conducted As per IS code, 28th day test result was attained 99 % of the targeted compressive strength. Test results given

below are compared with conventional concrete with and without coir fibre and waste plastic caps. From this comparison the coir fibre and waste plastic caps replaced is better than conventional concrete strength.



Figure 7.1.8 Split Tensile Strength@28day With 2% CoirFibre

### 7.1.9 Flexural Strength at 28 Day Bottle Caps Without Coir Fibre

The flexural strength test was conducted As per IS code, 28th day test result was attained 99 % of the targeted compressive strength. Test results given

below are compared with conventional concrete with and without coir fibre and waste plastic caps. From this comparison the coir fibre and waste plastic caps replaced is better than conventional concrete strength.



Figure: 7.1.9 Flexural Strength@28day without Coir Fibre

### 7.2.0 Flexural Strength At 28 Day Bottle Caps With 2% Coir Fibre

The flexural strength test was conducted As per IS code, 28th day test result was attained 99 % of the targeted compressive strength. Test results given

below are compared with conventional concrete with and without coir fibre and waste plastic caps. From this comparison the coir fibre and waste plastic caps replaced is better than conventional concrete strength.



Figure 7.2.0 Flexural Strength@28day With 2% Coir Fibre

## 8. CONCLUSION

Based on the results obtained from this study, the following conclusions can be drawn:

1. Based on the results obtained from this study, the following conclusions can be drawn:
2. The maximum compressive strength is obtained at 2% replacement of bottle caps at 28 days without adding a coir fibre. While adding coir fibre the maximum compressive strength is obtained at 2%.
3. The maximum Split tensile strength is obtained at 1% replacement of bottle caps at 28 days by without adding the coir fibre. While adding coir fibre at 28days the maximum split tensile strength is obtained at 1%.
4. The maximum Flexural strength is obtained at 1% replacement of bottle caps at 28 days by without adding the coir fibre. While adding coir fibre at 28days the maximum flexural strength is obtained at 1%.
5. The test results of this study indicate that there is great potential for utilization of bottle caps in concrete mixes up to 5%.
6. With the utilization of bottle caps in construction industry the waste disposal problems can be solved.

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# FREQUENCY OF OCCURRENCE AND CLINICAL MANIFESTATIONS OF STOMATITIS IN PATIENTS AFTER ACRYLIC PROSTHETICS

**Ataxanov Azizbek Abdusalomovich**  
Assistant of the Department of Therapeutic,  
Orthopedic and Pediatric Dentistry  
Andijan State Medical Institute,  
Andijan city

## RESUME

*The article discusses the frequency of occurrence and clinical manifestations of stomatitis in patients after prosthetics with acrylic polymers. 48 patients aged from 42 to 88 years were examined. Among the surveyed persons there were 30 women and 18 men. All patients needed partial removable dentures. There were no contraindications to prosthetics. The prostheses were prepared from the acrylic polymer Etacril-02. Due to the urgency, there is a need to solve the medical and social problem and develop new technologies for the effective comprehensive treatment of patients with partial and complete absence of teeth.*

**KEYWORDS** *\_Acrylic polymer, stomatitis, prosthetics, questionnaires.*

## RELEVANCE OF THE TOPIC

An urgent problem in modern dentistry is the orthopedic treatment of patients with partial and complete absence of teeth. According to a number of data [2,5], orthopedic structures need to be improved at certain clinical and laboratory stages of manufacturing. In traditional orthopedic treatment, patients refuse to use removable dentures in 47% for various reasons and in 27-35% due to poor fixation and stabilization on the jaws[1]. Modern removable orthopedic structures in the treatment of patients with partial and complete absence of teeth are subject to such requirements as optimal retention and high efficiency of the masticatory function, corresponding to non-removable orthopedic structures. In the domestic and foreign literature, attention is paid to occlusion, but the issues of complex interaction of occlusion, masticatory muscles and biomechanics of the temporomandibular joint in the process of functioning of orthopedic structures are not sufficiently covered. A significant number of publications note a decrease in favorable conditions for ensuring optimal oral hygiene after orthopedic treatment [6]. Insufficient attention is paid to the preparation of the oral cavity during prosthetics. In modern dentistry, the precision of orthopedic structures is important, which depends on the quality of the impressions [9]. Known methods of obtaining impressions in the partial and complete absence of

teeth have certain disadvantages, especially when prosthetics using dental implants [10]. The construction of the prosthetic plane in modern articulators is difficult due to the insufficient number of reference points. The traditional method does not allow for the parallelism between the pupillary line and the cutting edge of the anterior group of teeth [3]. The traditional surgical technique of preparing and forming an individual prosthetic bed in patients with partial and complete absence of teeth provides for traumatic intervention [7]. There is a need to use other techniques without accompanying surgical corrections. Complications of dental implantation range from 6% to 23% [3]. It was found that patients using prostheses based on dental implants have signs of peri-implant mucositis in 80% and dental peri-implantitis in 28-56% of cases [1]. Diagnosis of peri-implant mucositis, dental peri-implantitis requires the introduction of early signs based on metabolic criteria and can be carried out by evaluating the oral fluid of patients with qualitative and quantitative indicators [5]. The most widely used in the manufacture of removable orthopedic structures are acrylic plastics containing monomer [2]. Along with their advantages, they have a number of disadvantages: prostheses made of these materials can cause toxic and allergic reactions in the oral cavity [1]. The currently used thermoplastic materials for the manufacture of 7 partial and full removable





prostheses have flexibility, elasticity and aesthetics [10].

These prostheses are fixed on the teeth due to dentoalveolar clasps and pellets, which belong to the retaining type of clasps and have certain disadvantages, the lack of functional distribution of the occlusal load on the supporting teeth and stabilization along the plane [3]. When prosthetics of partial defects of the dentition, the most functional and aesthetic is the production of a clasp prosthesis with a lock type of fixation [2]. Patients are treated with the problem of breaking the removable part of the structure, while the non-removable part remains functional in the oral cavity. In long-term follow-up, in some cases, the supporting tooth must be removed as a result of the progression of periodontal disease or complicated forms of caries [4]. Clasp prostheses of this design cannot be used due to the changed clinical situation. Alternative solutions to these technologies are required. The analysis of domestic and foreign literature revealed the need to improve orthopedic training and comprehensive treatment of partial and complete absence of teeth. Due to the urgency, there is a need to solve the medical and social problem and develop new technologies for the effective comprehensive treatment of patients with partial and complete absence of teeth.

The purpose of the study. To study the frequency of occurrence and clinical manifestations of stomatitis in patients after prosthetics with acrylic polymers and to establish clinical and anamnestic predictors of their development.

## MATERIAL AND METHODS

48 patients aged from 42 to 88 years were examined. Among the surveyed persons there were 30 women and 18 men. All patients needed partial removable dentures. There were no contraindications to prosthetics. The prostheses were prepared from the acrylic polymer Etacril-02. The process of manufacturing the prostheses followed the standard procedure. The patients underwent a clinical and anamnestic examination twice (before and 1 month after the prosthesis was installed). In the clinical study, we used a questionnaire developed on the basis of established and assumed risk factors for the development of prosthetic stomatitis, allergic reactions. The presence of occupational hazards, bad habits, allergic diseases, dental disorders, and concomitant pathology was taken into account. We used the Kendall rank correlation ( $\tau$ ) method, the  $\chi^2$  criteria, and the Fisher angular transformation with the Yates correction. Statistically significant differences were considered at  $p < 0.05$ .

## RESULTS

It was found that after 1 month after prosthetics, symptoms of stomatitis developed in

29.6% of cases. Clinical manifestations of stomatitis included discomfort in the oral cavity, burning and tingling of the oral mucosa (100 % of cases), dry mouth (62.5%), impaired sensitivity and changes in taste sensations (56.3%), the presence of hyperemia and edema of the oral mucosa (100.0% of cases), headaches and sleep disorders (25.0%), single point hemorrhages of the mucous membranes (12.5%), exacerbation of atopic dermatitis (6.3%). In the majority of patients (81.3%), the first signs of stomatitis occurred on 7-15 days after prosthetics. The two selected groups of patients (with and without prosthetic stomatitis) did not differ significantly ( $p > 0.05$ ) in clinical and anamnestic characteristics at the time of initial treatment for dental care. However, it was found that the development of prosthetic stomatitis had a positive relationship ( $p < 0.05$ ) with the presence of allergic disease in patients ( $\tau = 0.32$ ), chemical adverse factors at work ( $\tau = 0.20$ ) and thyroid pathology ( $\tau = 0.20$ ).

## CONCLUSION

Information about the patient's allergic history should be used to determine the risk of prosthetic stomatitis in each individual patient and to determine individual schemes of therapeutic and preventive measures.

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## AN INTERACTIVE ANALYSIS OF 3D TECHNOLOGY AND ITS VAST APPLICATION TO HUMAN

**Orelaja Oluseyi A.**<sup>a,c,\*</sup>,

<sup>(a)</sup>Department Mechanical Engineering,  
Moshood Abiola Polytechnic,  
Abeokuta Ogun State, Nigeria.

<sup>(c)</sup>School of Mechanical Engineering,  
Southeast University,  
Nanjing, Jiangsu 211189,  
P. R. China

**Abdulyezir A. Badmos**<sup>b</sup>

<sup>(b)</sup>Department Electrical/Electronic Engineering,  
Moshood Abiola Polytechnic,  
Abeokuta Ogun State,  
Nigeria.

**Ibrahim Sh.Dauda**<sup>c</sup>

<sup>(c)</sup>School of Mechanical Engineering,  
Southeast University, Nanjing,  
Jiangsu 211189, P. R.  
China

**Musa A.I**<sup>a</sup>

<sup>(a)</sup>Department Mechanical Engineering,  
Moshood Abiola Polytechnic,  
Abeokuta Ogun State,  
Nigeria.

**Adeleke M.B**<sup>a</sup>

<sup>(a)</sup>Department Mechanical Engineering,  
Moshood Abiola Polytechnic,  
Abeokuta Ogun State,  
Nigeria.

**Abiodun O.I**<sup>a</sup>

<sup>(a)</sup>Department Mechanical Engineering,  
Moshood Abiola Polytechnic,  
Abeokuta Ogun State,  
Nigeria.

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### ABSTRACT

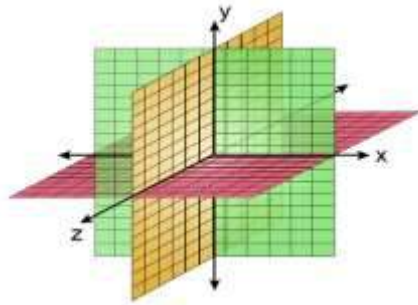
*The word 3D is defined as three dimensional models that display a picture or item in a form that appears to be physically present with a designated structure. Three-dimensional (3D), can also describe any object that occurs on a three-axis Cartesian coordinate system, a Cartesian system is basically a fancy way of describing the X and Y axes which are horizontal and vertical axis, but the inclusive of the third axis Z which is make it to be 3D of which the Z axis represent the depth.3D interaction is a form of human-machine interaction where users are able to move and perform interaction in 3D space. Both human and machine process information where the physical position of elements in 3D space. The main features of these 3D applications are immersion, interactivity, and involvement. Immersion holds the user's attention. Interactivity is related to how responsive the application is to user actions and Involvement has to do with engaging the user's interest in the underlying activity.3D interaction techniques are selection and manipulation, navigation, system control and symbolic inputs. Its application is in the area of Exploring Complex Data, Visualizations with the Cubic Mouse, Multimodal Interfaces in VEs Multimodal interaction, and VEs for Design Education Architectural design.*

**KEYWORDS:***Interaction, cartesian, information, application, interface, virtual, physical, technique, immersion, involvement design, navigation and data.*

## 1.0 INTRODUCTION

### 1.1 WHAT IS 3D TECHNOLOGY?

3D's early beginnings can be traced back to 1962 when Morton Heilig invented the Senorama simulator. It provided 3D video feed back, but there is need to know the meaning of the word **3D**? This is defined as three dimensional models that display a picture or item in a form that appears to be physically present with a designated structure. Essentially, it allows items that appeared flat to be display in a form that allows for various dimensions to be represented. These dimensions include width, depth and height. Three-dimensional (3D) also describe any object that occurs on a three-axis Cartesian coordinate system. According to Morton Heilig, the 3D feedback produces motion, audio, and haptic feedbacks to produce a virtual environment, the development was carried on by Dr. Ivan Sutherland's of his pioneering work in 1968, he created a head-mounted display that produced a 3D,



virtual environment by presenting a left and right still image of that environment.

A three-dimensional graph is generally a graph of the function which denotes relationship among three variables. The graph of the function  $f(x, y, z)$  could be a three dimensional graph. A graph of  $f(x, y, z)$  can represent a curved or planar surface in the Cartesian coordinate system that is three dimensional. This graph is generally drawn on simply a two-dimensional screen or paper. It utilizes perspective ways in such a way that the third dimension seems to be seen on the screen.

The three dimensional Cartesian coordinate system is shown in the following diagram: It has X and Y coordinate axes which are mutually perpendicular, just similar to two-dimensional system and an additional third axis, called z axis that is also perpendicular to both X and Y axes. Have a look at a more clear three-dimensional image of three dimensional coordinate system.

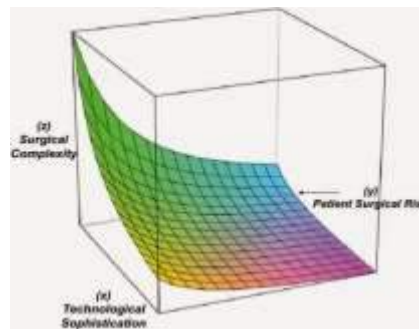


Figure 1 Shows the illustrations of 3D Cartesian graph and 3D image

**3D Models:** Any representation of an object in digital space is called a **3D model**. If you take a look at the raw information that comprises a basic 3D model, it would simply (or not so simply) be a collection of data points that mark thousands or millions of different coordinates in Cartesian space more on the Z-axis since the Z-axis is such an essential characteristic of 3D space, let's take a closer look at what "Z" really means in a 3D software environment. The Z coordinate can be used to measure four things in 3D computer graphics:

1. **The depth of an object** in terms of size. As in, 5 units wide, 4 units tall, and 3 units deep.
2. **The location of an object** in relation to the origin. The origin in any 3D scene is (0,0,0) with the third number *usually* being "Z". There are a few smaller 3D packages that use Z as the vertical axis, but these cases are rare.
3. **The distance of an object** from the rendered camera, known in computer graphics as z-depth. Z-Depth is often used to apply depth of field effects in post-production, and in video

games it's used for level of detail optimizations.

4. **The Z-axis of rotation.** For example, a ball rolling away from a camera would be said to be rotating along negative of Z-axis.

### Types of 3D Displays

The most common form of 3D display is based on shutter technology. This is basically a form of alternating images by the display that are synchronized with some **LCD glasses** to alternate the two images between the perspective eyes. This technology is far from new and has been used with computers for many years through specialized hardware. The difference is that with fast LCD monitors and shutters, it is possible to produce these images in higher resolutions with greater refresh rates. Several efforts have been carried out to investigate the applicability of capitalizing on web-based architecture to run virtual application



Figure 2 Shows visualization software that was ported to a mini-CAVE environment

## 2.0 3D INTERACTIONS

In computing, 3D interaction is a form of human-machine interaction where users are able to move and perform interaction in 3D space. Both human and machine process information where the physical position of elements in 3D space is relevant, it means users carry out their tasks and perform functions by exchanging information with computer systems in 3D. The 3D space used for interaction can be the real physical space, a virtual representation simulated in the computer, or a combination of both. When the real space is used for data input, humans perform actions or give commands to the machine using an input device that detects the 3D position of the human action. According to virtual reality applications allow users to take part in experiences that are either very difficult or impossible to take place in real life (Herndon, van Dam, & Gleicher, 1994) for instance, a microscopic world, a distant planet, a fantasy world, an expedition inside an erupting volcano. Through these applications, users are able to enter a virtual environment that can be manipulated to varying degrees and explored in real time. To allow for this interaction, these applications use special-purpose devices that engage the basic senses (e.g., vision, hearing, and touch). Therefore, due to their potential to complement and augment the learning process, these applications are being increasingly deployed in many contexts (Abbasi A et al 2012), (Finkelstein S et al 2011), (Li M, Buchthal S (2012)), (Lv Z. et al 2016), (Muhanna MA (2015), (Pedras BFV. et al 2013), for example, Mathematics, Chemistry, Flight Simulators, Sales and Marketing, Demo Prosthesis (Medical) Real time interactive application (RIA) and Geographical Information Systems. The main features of these 3D applications are immersion, interactivity, and involvement. Immersion holds the user's attention. Many immersive technologies can be used to achieve high levels of immersion as, for instance, 3D stereoscopic displays and motion tracking devices. Interactivity is related to

how responsive the application is to user actions. Involvement has to do with engaging the user's interest in the underlying activity and it can be achieved by providing engaging challenges to the user. In the early years, 3D applications required substantial computing power, thus high-end supercomputers were needed (Cruz-Neira. et al 1992). Development of these applications was further complicated due to the low-level software platforms available at the time. In recent years, however, given the advances in computer hardware, software, and network, these applications have become more affordable. 3D is also used in the development of human robot interaction technologies, haptic interfaces to provide the sense of touch. These interfaces have been utilized in medical simulation, virtual assembly and remote manipulation tasks. It is also used for teaching guidance, navigation, and control concepts of a quadrotor to undergraduate students, using a graphical user interface (GUI) and 3D animations. In the past seventeen years, 3D (VD) application has witnessed a significant transformation in nature and sophistication since the introduction of visual interactive simulation/modeling. 3D interfaces have been used in applications that feature virtual environments, and augmented and mixed realities. In virtual environments, users may interact directly with the environment or use tools with specific functionalities to do so. Therefore, 3D interaction occurs when physical tools are controlled in 3D spatial context to control a corresponding virtual tool. Users experience a sense of presence when engage in an immersive virtual world as mentioned above, this enable the users to interact with this world in 3D, it allows them to make use of natural and intrinsic knowledge of how information exchange takes place with physical object in real world. The users must have a way of performing actions in 3D as well, therefore special input and output devices to support this type of interaction such as 3D mouse which is developed based on existing devices for 2D interaction. Therefore, great



care must go into the design of user interfaces and interaction techniques for 3D applications Schaeffer B. Gouseune C (2003). All interactions in the virtual training environment could be equally carried out using either hand and participants could concurrently

complete one interaction with each hand. For example, a participant could grab and rotate the assembled pieces with one hand and grab the next block to attach with the other hand

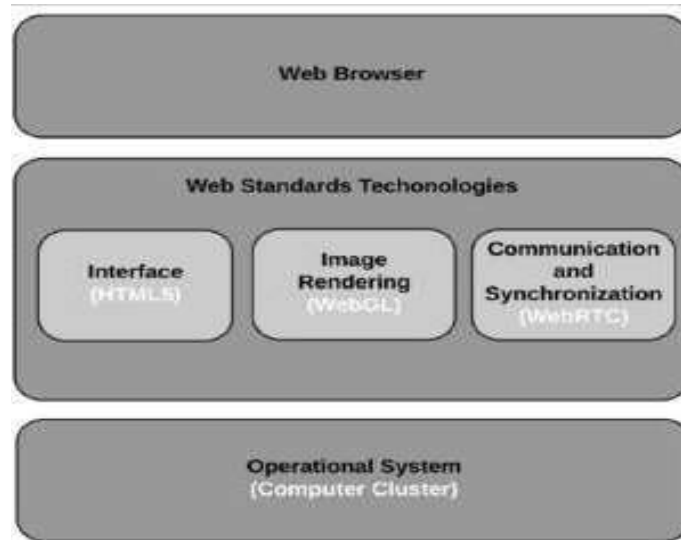


Figure 3: Software architecture to develop immersive and interactive applications to run web browsers

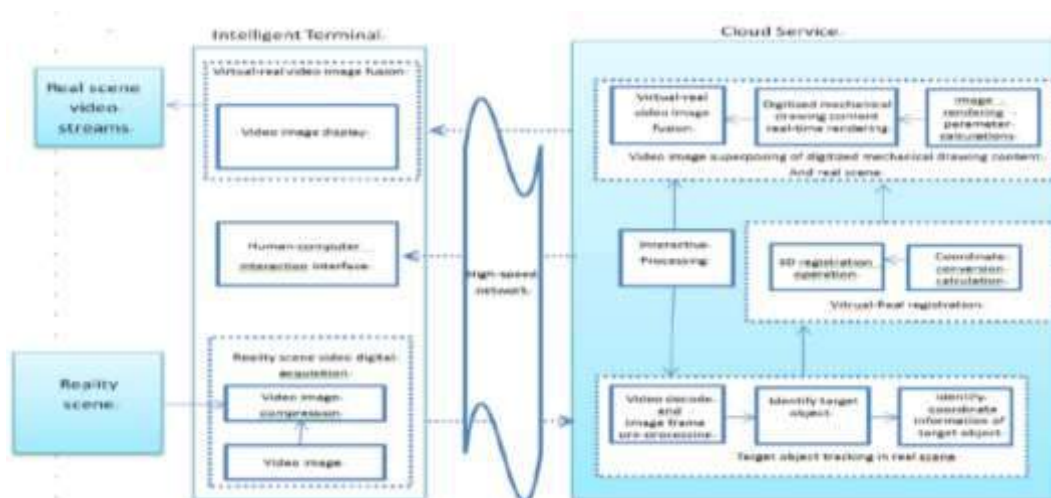


Figure 4: Functional diagram showing Mechanical interactive Teaching System

Case Study in Figure.3 illustrating an architecture porting an HTML5 application to run in immersive and interactive environment.

The diagram in Figure.4 illustrate the teaching system based on the Unity 3D game engine (Unity3D:<https://unity3d.com/cn/>), Qualcomm Vuforia and uses 3ds max for 3D digital models. The functional

design in this paper.  
diagram of the mechanical drawing interactive teaching system is based on the augmented reality approach as



Figure 5 Visualization software that was ported to a mini-CAVE environment

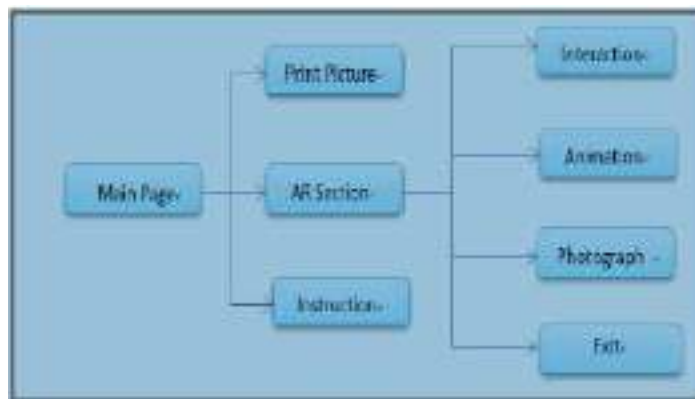


Figure. 6 Functional diagram of Mechanical Drawing interactive teaching system

### 3.0 3D USER INTERFACES

User interfaces are the means for communication between users and systems. This includes media for 3D

representation of system state, and media for 3D user input or manipulation.

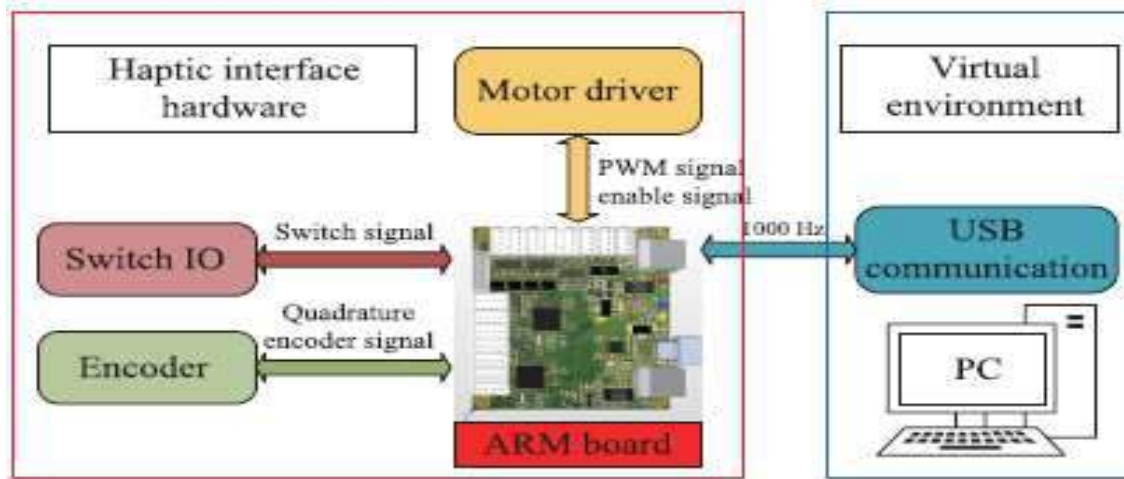


Figure 7 Interface between Virtual environment and USB Communication System



Figure 8. An experiment set up of Haptic interface between the System and the virtual environment

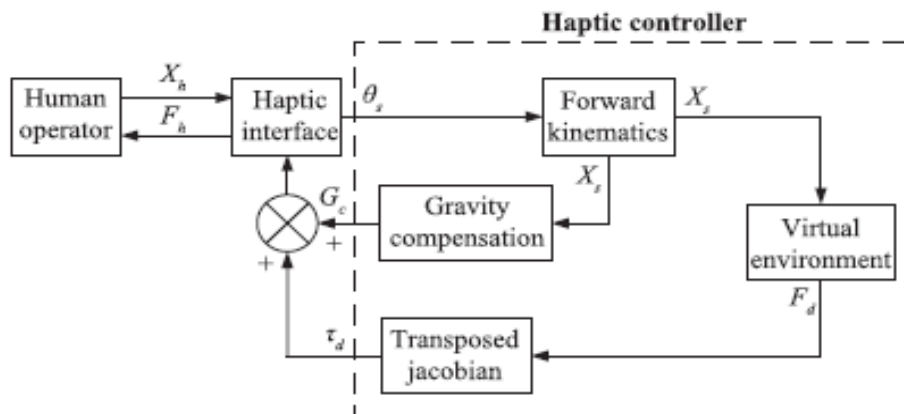


Figure 9 Block diagram showing control called "Open Loop" due to no feedback from output Controller



### 3.1 Input devices

These input devices are instruments used to manipulate objects and send control instructions to the computer system. A distinction must be made between input devices and interaction techniques. Input devices are just the physical tools used to implement various interaction techniques. Input devices can be roughly categorized based on the types of events they generate. Devices that generate one event at a time based on the user are considered **discrete-input devices** example is a Pinch gloves, developed by Fakespace, is an example of a discrete-input device (the user pinches two or more fingers to signal an event). In contrast to discrete-input devices, continuous-input devices generate a stream of

events. Two of the most common continuous-input devices are trackers, control devices, navigation equipment and gestures interfaces. Standard input devices include keyboards, tablets and stylus, joysticks, mice, touch screens, knobs, and trackballs. Devices that combine both discrete and continuous events to form single, more-flexible devices are called combination or hybrid-input devices. Examples of hybrid devices include the Ring Mouse (a small device worn on the user's finger that combines ultrasonic tracking with two buttons) and pen-based tablets, which are becoming more popular in VE applications because they give users the ability to interact in two dimensions.



Figure 10 Shows examples of input devices

### 3.2 Output devices

Output devices allow the machine to provide information or feedback to the user, but we commonly use the term display to describe output. Although the most common displays are visual, there are other important displays which include auditory, haptic, tactile, and olfactory channels. Visual displays provide feedback to users in 3D visual form. In the context of 3D user interfaces for VEs, visual displays can be roughly categorized into fully immersive and semi-immersive devices. Fully immersive displays—such as head mounted displays (HMDs), virtual reality headsets,

cave automatic virtual environment (CAVEs), arm-mounted displays, and virtual retinal displays—occlude the real world as shown in Fig.11 below. Semi-immersive displays such as stereo monitors, workbenches, and surround-screen virtual reality systems allow the user to see both the physical and virtual world. This is especially useful when supplying location and spatial information to the users, addition of background audio component to a display adds to the sense of realm. Haptic displays send tactile feedback to the user (Burdea, 1996).



Figure 11 shows an examples of 3D output device

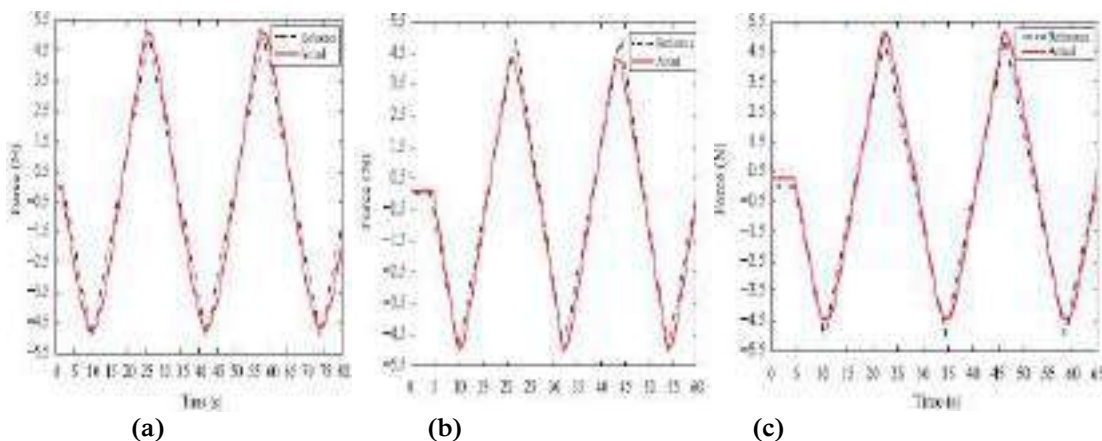


Figure 12 Graph showing example of Force Output Haptic Interface along 3(D) axes (x,y,z) with Time in an Experiment

### 3.3.0 3D Interaction Techniques

3D interaction techniques are methods used in order to execute different types of task in 3D space. Techniques are classified according to the task they support.

#### 3.3.1 Selection and Manipulation

Interaction techniques for 3D manipulation in VEs should provide means to accomplish at least one of three basic tasks: object selection, object positioning, and object rotation. This is because users need to be able to manipulate virtual objects. Manipulation tasks involve selecting and moving objects, sometimes, rotation of the objects is involved as well. Direct hand manipulations are the most natural technique because manipulating physical objects with the hand is intuitive for humans. However, this is not often possible, the classical approach to design manipulation techniques is

to provide the user with a “virtual” hand, a 3D cursor, often shaped like a human hand, whose movements correspond to the movements of the hand tracker. Selection and manipulation ply involve touching an object, then positioning and orienting this virtual hand within the VE. 3D widgets can be used to put controls on objects: these are usually called 3D Gizmos or Manipulators (Blender 1998). Users can employ these to relocate, re-scale or re-orient an object. Other techniques include the Go-Go techniques (Poupyrev, Billinghurst, Weghorst, & Ichikawa, 1996) and ray casting where a virtual ray is used to point to and select an object, the extension of the user’s reach by using a nonlinear mapping applied to the user’s hand extension. When the user extends the hand farther than a threshold distance  $D$ , the mapping becomes nonlinear and the virtual arm “grows. Different mapping functions can be



used to achieve different control-display gain between real and virtual hands (Bowman & Hodges, 1997).

### 3.3.2 Navigation

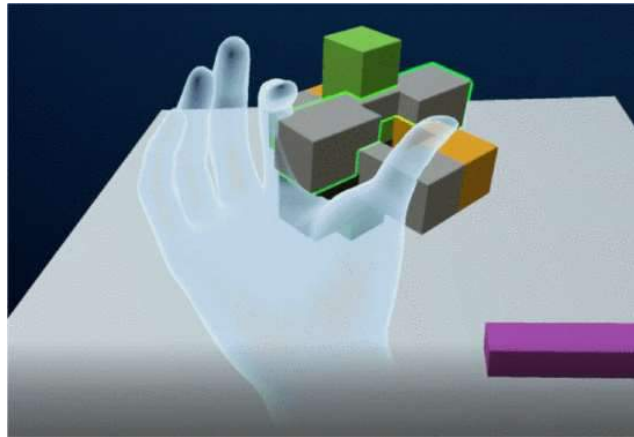
The computer needs to provide the user with information regarding location and movement. Navigation tasks have two components.

**Way-finding:** refers to finding and setting routes to get to a travel goal within the virtual environment, studies with maps (Darken & Cevik, 1999).

**Travel:** Good travel techniques allow the user to easily move through the environment. There are three types

task namely; exploration, search, and manoeuvring techniques. It can also be classified into the following:

- Physical movement- user moves through the virtual world
- Manual Viewpoint manipulation-use hand motions to achieve movement
- Steering- direction specification
- Target-based travel- destination specification
- Route planning-path specification



**Figure 13 Screenshot of a participant grabbing a virtual block and assembling it onto the 3D puzzle. The twenty degrees from the correct orientation**

### 3.3.3 System Control

Tasks that involve issuing commands to the application in order to change system mode or activate some functionality fall under the category of system control. Techniques that support system control tasks in three-dimensions are classified as:

- Graphical menus
- Voice commands
- Gestural interaction
- Virtual tools with specific functions

### 3.4.0 Symbolic Input

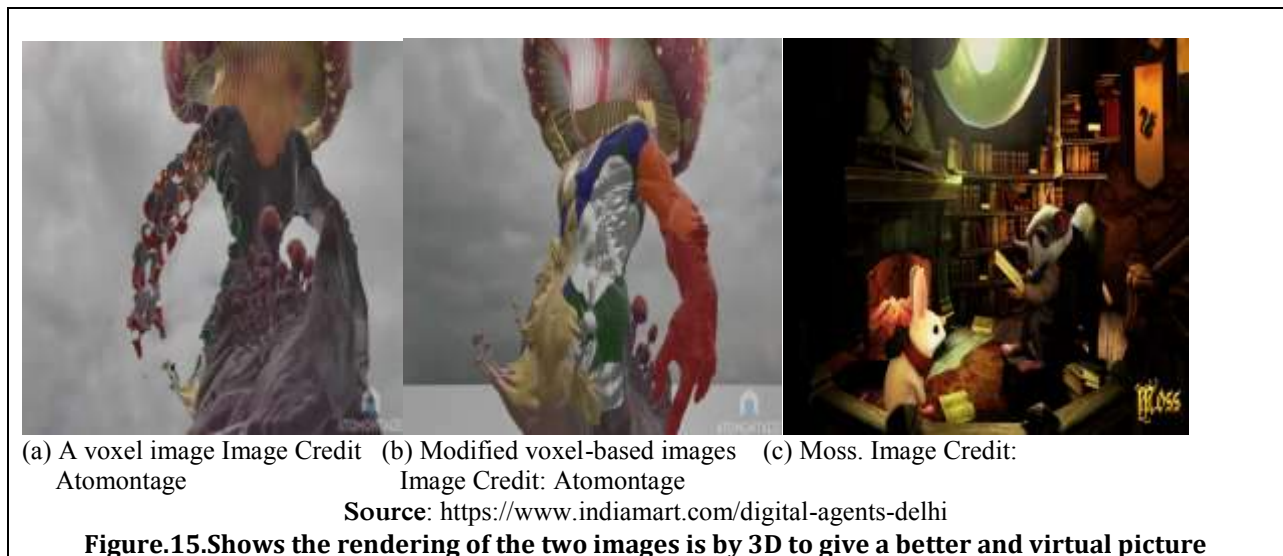
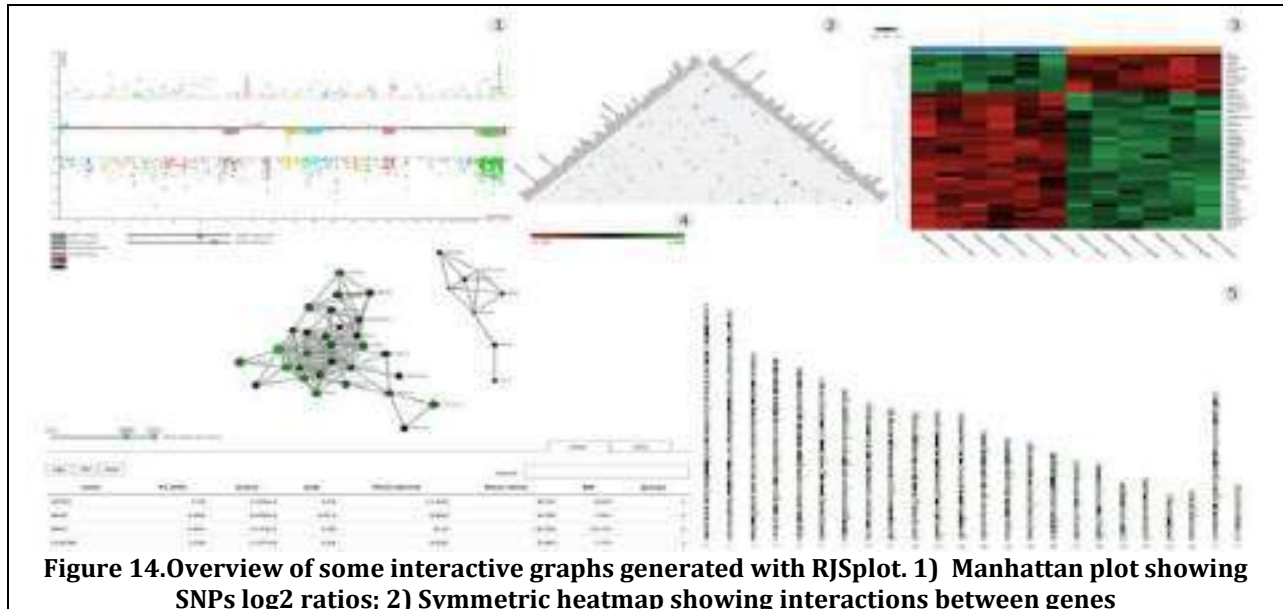
This task allows the user to enter and /or edit, for example text, making it possible to annotate 3D scenes or 3D objects.

## 4.0 3D INTERACTIVE APPLICATIONS

### 4.1.03 D interactive Application for Education

3D Interactive Learning Technologies provides interactive learning tools for training purposes. It is a package of tools that can be tailored to any learning

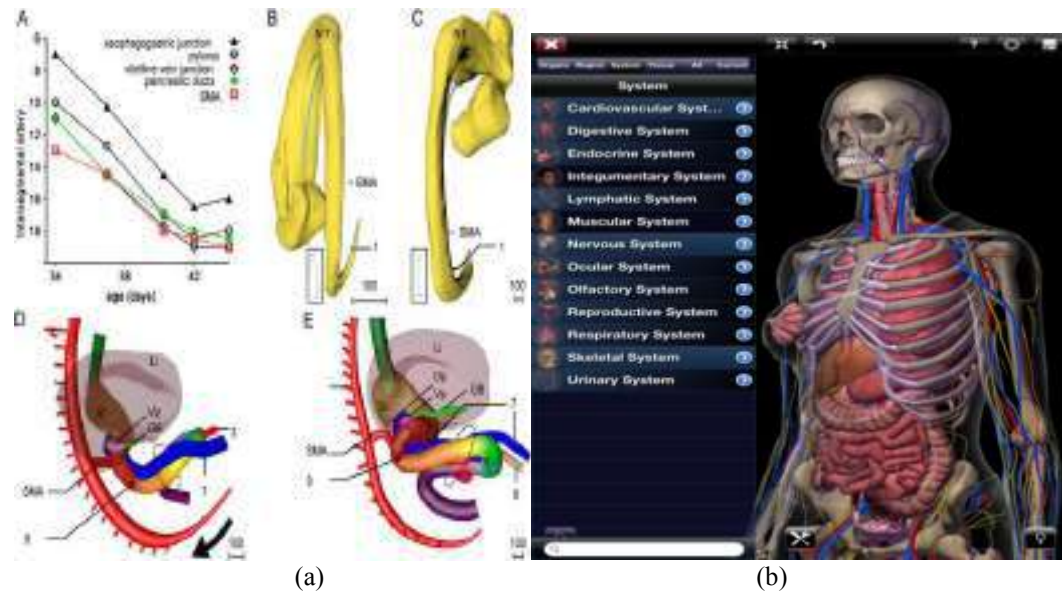
criteria. It is possible to create a tailor made system for any real world training scenario. It is also use in game developing; developers have battled each other for decades about whether voxels or polygons are best for game graphics. Atomontage's founders believe voxels are a much better way to create fully interactive 3D applications, and they're unveiling a new platform to enable voxel art in high-end video games and other 3D applications. The technology will enable volumetric simulations to scale massively in fully interactive 3D applications, with billions of voxels. "The currently dominant 3D graphics and simulation paradigm, based on polygon meshes, this show that augmented reality and virtual reality rendering and interaction with large voxel scenes is possible on low-end VR-ready hardware today as shown in fig.14 below. Data visualization techniques are also a new method which provides new methods for the generation of interactive graphs (R.R. Dev. Team Core 2011). These graphs allow a better exploration and interpretation of data but their creation requires advanced knowledge of graphical libraries as shown in fig. 14 and fig.15 below.



#### 4.1.1 Applications in the Area of Medical 3D Anatomy for human learning

Medical professionals have always been trained using human anatomy models. Earlier these anatomy models were made from wax. Later on industrially manufactured plastics replaced these models. Modern information and visualization using 3D technology offers a real alternative to anatomical plastics models, it provides a visual presentation that disseminates scientific, medical and biological knowledge with highly detailed anatomical cross-sections, it conveys medical, biological, scientific, and other life science topics visually. They improve the impact and

knowledge transfer of research publications. 3D human anatomy images give you detailed 3D models of all major organs and systems of the human body. With easy to use 3D controls and dynamical search capability, these applications are usually free online. 3D human anatomy atlas is not only used by med. students, teachers, but anyone who wants to learn more about the human body. The models are developed using novel 3D visualization techniques by (Soffers.etal (2015)) with decades of experience in the fields of medical illustration and biomedical visualization behind them, example is shown in the fig 16 below.



Source: (a) An interactive 3D-PDFCS16 (b) <https://www.biodigital.com/>

**Figure 16. Shows 3D technique application for human anatomy.**

IITD student develops app for 3D, interactive viewing of CT/MRI scans named “RealVol,” which will help view CT/MRI images in a virtual reality environment with three-dimensional perception. (Press Trust of India 2018). A new virtual reality (VR) system, developed in collaboration with trained neuroanatomists, to trace neurons in microscope scans

of the visual cortex of primates using consumer-grade VR technology to interact with neurons directly in 3D will help neuroscientists better resolve complex cases and enable them to trace neurons faster and with less physical and mental strain (Will Usher .etal.2018). This is shown in fig. 17below.



**Figure 17:3D, interactive viewing of CT/MRI scans named “RealVol,” which will help view CT/MRI images in a virtual reality environment**

#### 4.1.23D Techniques Application in Automotive and Transportation Industry (creaform)

Creaform is a key partner in the automotive and transport industries, 3D measurement technologies can be used for applications such as:

- Styling, design and reverse engineering
- Prototyping
- Simulation
- Manufacturing
- Quality control/inspection
- Design for aftermarket



An example of 3D creafom used in

automotive design is seen in Fig.18below



**Figure 18 Shows cream forming of car alloy wheel in the automobile manufacturing shop**

#### 4.1.3 3D Interactive application in printing (3D)

3D printing is a process in which material joined or solidified under computer control to create a three dimensional object, with material be in gadded together.3D printing is used in both rapid prototyping and additive manufacturing. Current industrial 3D printers are recognized for usefulness in many companies with high-quality outputs. The use printers (3D) in the automotive design field at the moment are the state stopping to sample

production or prototyping technology public relations degree level. 3D enhances effect on the Transportation Design and Printing Process by an analysis of the information and this technology and help to be actively utilized.

Objects can be of almost any shape or geometry and typically are produced using digital model data from a 3D model.(J.of Korean Society of Design Culture (2017)). The example of 3D printing is seen in Fig.19below showing the drawing and printing (rendering) of motorcycle.



**Figure 19 shows 3D Printing (rendering) of a motor bike**

*Source: <https://3dprintingindustry.com/news/best-aerospace-automotive-3d-printing-applications-2018-132091>*

#### 4.1.4 3D Interactive Applications on Sales and Marketing

Big Data is the biggest home-changing opportunity for marketing and sales since the Internet went mainstream almost 20 years ago. The data big bang has unleashed torrents of terabytes about everything from customer behaviors to weather patterns to demographic consumer shifts in emerging markets. The companies

who are successful in turning data into above-market growth will excel at three things:

- Using analytics to identify valuable business opportunities from the data to drive decisions and improve marketing return on investment (MROI).
- Turning those insights into well-designed products and offers that delight customers.

- Delivering those products and offers effectively to the marketplace.  
This goldmine of data represents a pivot-point moment for marketing and sales

leaders. Companies that inject big data and analytics into their operation show productivity rates and high profitability. This is shown in Figure 20 below.

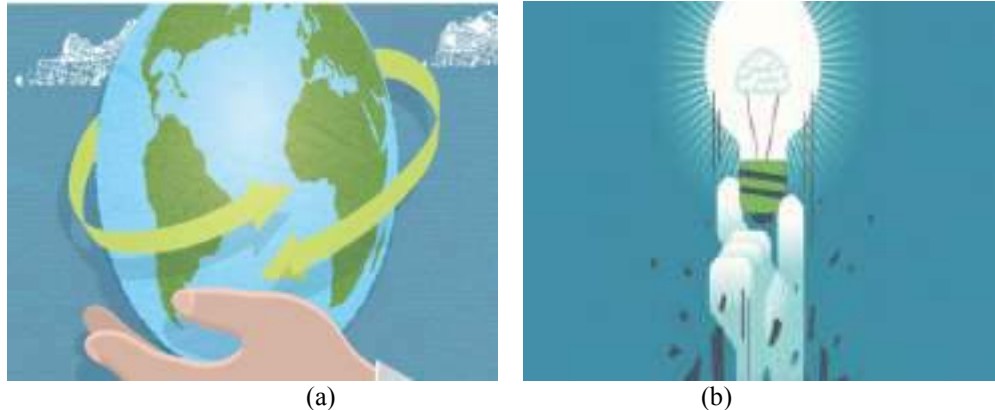


Figure 20 Shows how to get big impact on sales through big data in the micro market (Marketing and Sales across the world)

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

#### 4.1.5 Interactive Plant Simulation Modeling to Avert Industrial Accident

Model structure The interactive plant simulation model interlinks process and accident simulation models in an overall training scenario from process upsets to accident occurrence and propagation. In this model, three simulations are linked based on a certain sequence of accident scenarios: dynamic process simulation, discharge calculation, and pre-calculated 3D-CFD simulation. Through this simulation linking structure, the model leads trainees to actively analyze process variable trends based on the simulation results

and take proper actions with their own decisions to stabilize the variables or minimize operational losses and accidents. When stabilization fails and an accident occurs, associated results like gas cloud concentration and explosion overpressure at each time and position are additionally provided to the trainees. Their actions like emergency shutdown can be inputted by clicking a mouse or a joystick control, the process is shown in Fig.21 below

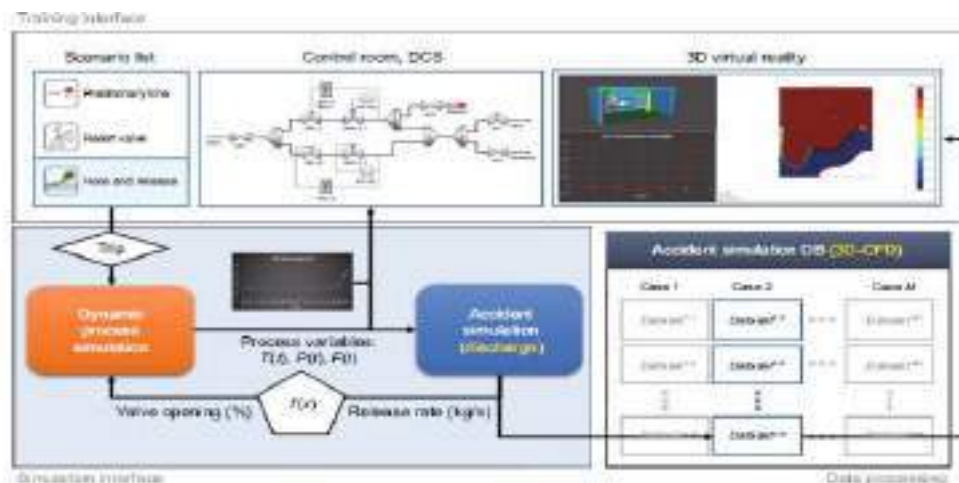


Figure 21 Shows Interactive Simulation Model for Industrial accident Prevention



This involves the PFD status of controller alarms such as high or low alarms when the pressure goes beyond the set limit. The process upsets and

accident scenarios on the left list were set up to initiate the desired scenario by clicking the button for a relief, the fig.22below shows

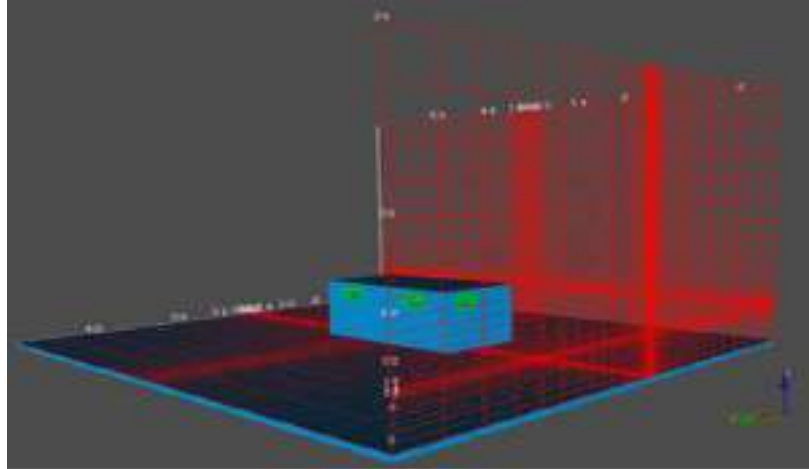


Figure 22: Accident simulation 3D-CFD using FLACS in gas industry

#### 4.1.5 3D Application in Entertainment Industry

Use of 3D Technology in industry is evident everywhere. Whether it is entertainment, games or movies, companies large and small keep on looking for ways to squeeze efficiencies out of 3D technology today. This technology seems to penetrate all realms of the world today. Quite recently, the 3D's advertisement

Propaganda is everywhere. People want to try and see something new. 3D technology in industry can already be seen impacting the home market. 3DTVs and 3D Blu-ray players are still very new, but significant developments have been made recently. This time too, use of 3D Technology in industry will sure take the advantage of the latest technological development in boosting its market as shown in fig.23 below.



Figure 23 : Shows Preprocessing of 3D Scanned Images for Facial Animation on the basis of Realistic Acquisition

#### 4.1.6 Multimodal Interfaces in VEs Multimodal interaction

This can be defined as the combination of multiple input and output modalities Bowman et al. It provide users with a richer set of interactions compared to traditional unimodal interfaces. Output modalities can be combined to allow for sensory substitution and

parallel processing of information. There are several basic ways to combine input modalities (Martin, 1998), including complementarity (two or more input modalities complement each other when they combine to issue a single command), concurrency (two or more input modalities are concurrent when they issue different commands that overlap in time), and transfer



(two input modalities transfer information when one receives information from another and uses this information to complete a given task).

#### 4.1.7 VEs for Design Education Architectural design

This is often touted as an application area for which virtual environments should be ideal. Beyond walkthroughs and validation environments, however, there are few applications of immersive design. The Virtual Habitat (Bowman et al., 1998) is a constrained design space focused on education, rather than a generic design environment aimed at professionals. The goal of the Virtual Habitat is to allow students to apply the principles of environmental design. The task of immersive design is made possible because students do not have to start with a blank environment and because the design tools are constrained by the specific tasks of exhibit design and by the principles of good environmental design.

#### Exploring Complex Data Visualizations with the Cubic Mouse

The use of complex visualization systems is widespread in application domains such as the automobile industry, the medical field, and the oil and gas industry. These visualization systems need to handle massive amounts of data, use appropriate visualization methods, and apply effective interaction techniques to inspect and manipulate data. Traditional input devices often form a bottleneck when interacting with such systems, due to their imprecision and need for regular mode changes. At the German National Research Center for Information Technology (GMD), research in visualization has led to a new input device called the Cubic Mouse (Froehlich & Plate, 2000).

#### 5.0 3D INTERACTIONS DISPLAY LIMITATIONS

- Even with all of the various 3D technologies, there is a segment of the population that lacks the physical ability required to see the images properly. For some this means they will still just see a two dimensional image while it can induce headaches or disorientation in others. In fact, some manufacturers of the 3D displays are putting warnings on their products to suggest against extended use due to these effects.
- The next problem is the fact that you will need to have specific hardware in order to use it. In the case of the glasses technology, you have to have a display and a compatible pair of shutter glasses in order to use it. This isn't too much a

problem on a single user environment like a computer but is more problematic with a standard TV where multiple users would each need a pair of compatible glasses.

- The other problem is that glasses for use with one monitor may be inverted from another presenting the wrong image to the wrong eye. There are major limitations to this technology including the need to greater space for the display, lack of color and their high costs.

#### 6.0 CONCLUSIONS

Three-dimensional interaction application and research will only continue to grow in importance as VEs become more complex and widespread. Several generic principles for 3D user interface design can be stated based on the current state of the art in this area. These include:

- Consider “magic” interfaces in place of “natural” ones when tasks require productivity and efficiency. Natural interaction should be used when a replication of the physical world.
- Choose interaction techniques based on the requirements of the application. The same set of techniques will not work well in every situation.
- Limit the required degrees of freedom for input whenever possible, and provide physical or virtual constraints to help guide user input.
- Take advantage of the increased flexibility afforded by whole-body input, multimodal I/O, and novel input devices

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## ECOTOURISM AND RURAL LIVELIHOOD OPPORTUNITIES IN EAST KHASI HILLS DISTRICT, MEGHALAYA

**Martius Rynghiasaid Rynjah<sup>1</sup>**

<sup>1</sup>Martius Rynghiasaid Rynjah is a Ph.D Scholar  
in the Department of Social Work,  
Mizoram University,  
Aizawl, Mizoram, India.

**\*Grace Lalhlupuii Sailo<sup>2</sup>**

<sup>2</sup>Grace Lalhlupuii Sailo is an Assistant  
Professor in the Department of Social Work,  
Mizoram University,  
Aizawl, Mizoram, India.

**\*Corresponding Author**

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### ABSTRACT

*Meghalaya is one of the states in North-east India that is blessed with beautiful and mesmerising natural scenic beauty. The undulating green hills, pleasant breeze, waterfalls gushing from the mountains, complimented with cool climatic condition is the best combination for nature loving tourists to experience. This paper identifies the livelihood opportunities that ecotourism has provided to the local communities. Three villages i.e., Mawlynnong, Riwai and Mawsmai has been selected for the study. Purposive Sampling was adopted to identify households engaged in ecotourism activities. Primary data was collected from the households that are engaged generating livelihood from Ecotourism related activities. There are a wide range of ecotourism related activities that are being engaged by the local community members to generate income. There are also livelihood activities engaged by the respondents that has a scope for providing employment for other community members as well. In the context of the three villages selected, ecotourism has served as both primary and also secondary sources of income for the local communities. It is evident that ecotourism has played a major role in promoting livelihood and village economy in the three villages. Ecotourism has the potential for the enhancement of rural livelihood through more innovative, sustainable and eco-friendly practices.*

### INTRODUCTION

There are a variety of ecotourism definitions such as nature travel, nature-orientated tourism, nature tourism, nature-based tourism, sustainable tourism, alternative tourism and special interest tourism (Laarman & Durst, 1987; Durst & Ingram, 1988; Wilson & Laarman, 1988; Valentine, 1992; Hall & Weiler, 1992; Diamantis, 1998a). According to the TIES (2006), ecotourism is another segment of the tourism industry that focuses on exploring the untouched and remains of natural areas (I Nee & I Beckmann, 2011).

Mass tourism was the common form of tourism practiced in the initial development stage of tourism. It was also expected that this would also bring about growth in the economy in forms of foreign exchange and GNP growth, tax revenue and employment (Lascrain, 1996); however, it had led to various problems and effects like environmental, economic and socio-cultural degradation. Due to the development of mass tourism, much of the funds and subsidies are being allocated to tourism industry that favours tourists and leaving the other programmes and industries that are benefitting the locals. According to Brown in O'Neil (2002), during the 1980s, many argued that there was a need for another alternative to tourism as it has negative impact on the environmental, economic and socio-cultural aspects of the host communities. A call for 'alternative tourism' was highly demanded on the basis that its policies should not only consider economic growth but also environmental quality and welfare of the local people.

This gave rise to the environmental movement which demanded from the government to specially allocate separate land for animals and the ecosystem and as an opportunity for people to visit and admire the



wildlife in its natural beauty and hence help in protecting more areas and species. With this, they established the linkage between tourism, environment exploration and protection and paved way for the development of ecotourism (Ceballos-Lascurain, in O’Neil; 2002).

Jamieson. W., etal (2004), view tourism as a tool for alleviation of poverty where both the individual and the community collectively can benefit through tourism. It focuses on the idea that tourism as an industry can be used as a pro-poor approach. They promote the idea for the need of a paradigm shift for tourism from just being an industry to being a pro-poor approach which has the potential to bring about socio-economic changes for the local communities.

Ecotourism development has brought about benefits such as improvement in livelihood, employment opportunities, improved income and reduced vulnerability. Livelihood improvement have contributed to diversification of livelihood options reduced dependency on the degrading natural resources. On the other hand, due to tourism development, new aspects of vulnerability like displacement and over dependency on tourism has negatively affected the locals (Boer, 2012). Meghalaya which is often called Switzerland of the East is a tourist hotspot, housing several attractive and interesting sites that has been attracting tourists for a long time. Many natural wonders have been opened up as ecotourism sites and this has led to many local people engaging in livelihood activities that involve ecotourism.

### METHODS AND MATERIALS

The study seeks to explore into the various livelihood opportunities brought about by ecotourism development in two selected villages of Meghalaya and understand the impact of tourist development on the traditional livelihood of the host communities. It also seeks to explore the scope of livelihood diversification with the existence of ecotourism practices.

The study adopts a descriptive research design employing both quantitative and qualitative research methods. Primary data is collected through Survey using pre-tested semi structured interview schedule from Mawlynnong, Riwai and Mawsmat villages, East Khasi Hills District, Meghalaya. Systematic random sampling has been used to identify the sample households from each village. Only those households involved or engaged in ecotourism activities as an income generating activity are included in the sample. The key areas that have been identified in the study are age, gender, primary and secondary source of income, livelihood diversification and the traditional livelihood practices.

### RESULTS AND DISCUSSION

The findings have revealed that ecotourism practices have brought about a positive impact on the rural livelihood of the community in the three villages included in the study.

Age Group	Gender			
	Male	%	Female	%
(20 - 30) Years	19	15.97	20	16.81
(31 - 40) Years	17	14.29	24	20.17
(41 - 50) Years	4	3.36	10	8.4
(51 - 60) Years	9	7.56	12	10.8
61 Years and Above	0	0.00	4	3.36
Total	49	41.18	70	58.82

**Table- 1: Age Group and Gender Distribution of Respondents**

The above (Table 1) shows that majority of the respondents are in the age group of 31 – 40 years (34.50 %), followed by 20 – 30 years (32.80 %) while only a small proportion (8.4%) are in the 41 – 50 years age group. The older respondents (51 – 60 years) consist of a tenth (10.8%) of the respondents while 61 and above constitute 3.36% of those engaged in tourism related livelihood activities. It can be inferred that the presence of ecotourism practices in the villages has brought about opportunities for employment and livelihood generation for youth and young adults in the villages. For each of the age groups, females engaged in ecotourism are more than their male counterparts which indicates that Ecotourism has led to economic empowerment of women folk in rural community which has considerably changed the traditional beliefs and attitudes towards women’s





contribution to family economy. A similar finding by Irandu and Shah (2014) shows how most women in Kenya are benefitting from ecotourism which has a great potential in bringing about social and economic empowerment to women and the community.

Sources of Primary Income	Frequency	%
Tourism	55	46.2
Labourer (Masonry)	20	16.8
Business	12	10.1
Farmer (others land)	9	7.6
Farmer (own land)	9	7.6
Teacher	7	5.9
Government	4	3.4
Shop Keeping	2	1.7
Electrician	1	0.8
<b>Total</b>	<b>119</b>	<b>100</b>

**Table- 2: Primary Source of Income of the Respondents**

Table 2 shows the distribution of the primary source of income of the respondents engaged in ecotourism related livelihood activities. For a majority of the respondents (46.2%), ecotourism related livelihood activities is the primary source of livelihood followed by a sixth (16.8%) who are daily wage labourers and a tenth (10.10%) who own petty businesses. Only a few (15.2%) practice agriculture even though these villages are located in the rural areas of the District. The respondents engaged in the service sector (teaching and government service) comprise less than a tenth (9.3%) of the total respondents.

Ecotourism related activities have served as the main source of income for most of the respondents in the study. There is a decline in the traditional livelihood i.e., agricultural practices in the villages as people focus on tourism as an important source of family economy. On the other hand, there is a concern in the human resource sector as very few respondents are engaged in the service sector.

A study conducted in Ghana found that despite the presence of ecotourism in the region, agriculture or farming activity has not been replaced by tourism and is a supplementary activity to the people; and is not the primary means of generating livelihood for the communities (Agyeman, 2005). On the contrary, a study by Guha (2007) found out that even though the locals reside in close proximity to the tourism destinations, their primary economic activity is not always dependent on tourism rather it is seasonal in nature but has very much contributed to improved income of the locals who are involved in tourism related livelihood activity.

Sources of Secondary Income	Frequency	%
Tourism	62	52.1
Farmer (others land)	19	16
Labourer (Masonry)	12	10.1
Not Applicable	11	9.2
Farmer (own land)	10	8.4
Business	4	3.4
Others	1	0.8
<b>Total</b>	<b>119</b>	<b>100</b>

**Table- 3: Secondary Source of Income of the Respondents**

The secondary sources of income of the respondents engaged in ecotourism activities is shown Table-3. Tourism related livelihood activities has provided supplementary income for a little more than half (52.10%) of the respondents. While almost a tenth (9.2%) do not have secondary income sources, agricultural practices (on



others'/rented land) contribute to secondary income for a sixth (16%) of the respondents. Less than a tenth (8.4%) practice agriculture on their own land.

It can be inferred that ecotourism related livelihood activities has a dominant role in the livelihood of the respondents as both primary and secondary sources of income. With very few respondents practising agriculture, the decline in agricultural practices in the villages paves way for investigation on the aspect of landholding system, soil productivity and agricultural vulnerabilities in these villages.

Mbaiwa (2008) analyzed the changes in rural livelihood before and after tourism development in Botswana where he found that rural livelihoods and conservation of resources have improved and the residents have also inculcated positive attitude towards tourism development and conservation as compared to some decades ago when they were not involved in tourism development. On the negative side the residents became too dependent on tourism development causing a decline and almost forgoing their traditional livelihood practices.

Nature of livelihood activities	Frequency	Percent
<b>Homestay</b>	<b>33</b>	<b>27.7</b>
<b>Restaurant/Food Stall</b>	<b>27</b>	<b>22.7</b>
<b>Souvenir Shop</b>	<b>27</b>	<b>22.7</b>
<b>Grocery Shops</b>	<b>16</b>	<b>13.4</b>
<b>Petty Shops</b>	<b>8</b>	<b>6.7</b>
<b>Guest House</b>	<b>3</b>	<b>2.5</b>
<b>As a Guide</b>	<b>2</b>	<b>1.7</b>
<b>Hotels</b>	<b>2</b>	<b>1.7</b>
<b>Resort</b>	<b>1</b>	<b>0.8</b>
<b>Total</b>	<b>119</b>	<b>100</b>

**Table- 4: Nature of Livelihood Activities within Ecotourism**

Table- 4 shows the diversity of ecotourism related livelihood activities that respondents in The data in the above figure shows us the wide range of economic activities that respondents from Riwai and Mawlynnong villages are engaged in. More than a fourth (27.7%) provide a Homestay while restaurants and opening a souvenir shop was mentioned by 22.7% each of respondents. Other activities also include grocery shops (13.4%) and petty shops (6.7%) for tourists to buy their needs. Very few acts as Tourist guides (1.7%), work in hotels (1.7%) and resorts (0.8%).

Similar findings can be found in a study conducted in Ghana where local communities were able to diversify their livelihood activities by engaging in making local styled guest houses and engaged selling of local souvenirs were the main income generating activities (Wuleka et al., 2012). The introduction of tourism has helped the indigenous communities to diversify livelihood strategies, whether regular or seasonal, through both collective and individual enterprises; restaurants, homestays, café, food stalls, handicraft stores and campsites (Tao, 2016).

There is wide scope for rural folk to diversify and widen ecotourism related livelihood by adding eco-friendly adventure activities that will draw tourists while also increasing their own income. Munugre (2015) identified a wide range of tourism activities offered to tourists such as agro-tourism, nature walking, cycling, cultural tourism and business marketing (selling of arts and handicrafts in local market). Njole (2011) conducted a study in Tanzania where he found that tourism has created job opportunities for the community members for employment as well as it is the major contributor of economic benefits to the community than any other sector, provided employment opportunities, infrastructural development and even educational sponsorship. Susan (2011) found that most of the natural resources were the main assets of the villagers while the creation of protected areas was the main constraints to livelihood of the villagers. The coping strategies adopted by the villagers were agricultural diversification, alternative means of livelihood activities like fishing, hired labour and petty trading.

## CONCLUSION

Common livelihood activities of the rural households such as homestay, restaurants, gift shop, grocery shop and petty shops are activities that help respondents to derive livelihood from tourists and also at the same time they have the scope to provide employment to others in the community in the forms of housekeepers in homestays, helpers in restaurants and grocery shops. Tourism industry has a dominant role as the major economic activity practised by the respondents gradually replacing the traditional livelihood i.e., agriculture. It has contributed to the growth and development of the village economy by offering its influence to operate a wide variety of services and activities associated with ecotourism that would help host communities gain economic benefits.



The development and growth of tourism industry in the villages in East Khasi Hills District of Meghalaya have created opportunities for employment of youths in the village and also created space for livelihood generation through engagement in various activities associated with tourism in the village. Tourism has also proved to enhance women empowerment in the selected villages. Tourism has played an important role in the three villages in the form of primary as well as secondary source of income for the host communities. The presence of ecotourism practices in these villages has also contributed in diversification of livelihood options for the local communities. There is huge scope for rural households to increase their livelihood outcomes through more innovate and income-generating tourism activities which at the same time are eco-friendly and sustainable.

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## FORMS AND METHODS OF INTERACTIVE LEARNING USED IN THE STUDY OF THE RUSSIAN LANGUAGE IN UNIVERSITIES

**Rakhimova Alla Innokentevna**  
Senior lecturers of the National University of  
Uzbekistan

**Ten Svetlana Konstantinovna**  
Senior lecturers of the National University of  
Uzbekistan

**Kalinina Olga Nikolaevna**  
Senior lecturers of the National  
University of Uzbekistan

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### ABSTRACT

*The article is devoted to the actual topic of the use of interactive methods. Interactive teaching methods provide solutions to educational problems in various aspects. The interest in interactive methods is caused by the need to improve the modern system. The use of interactive methods allows you to organize independent cognitive activity of students in the course of the lesson. The knowledge of interactive learning technology and its use in the educational process, including in Russian language lessons, will undoubtedly contribute to the development of students' qualities that correspond to the processes taking place in life today.*

**KEYWORDS:** *interactive method, creative approach, communication, teaching methods, interaction, dialogue, collaboration.*

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### ФОРМЫ И МЕТОДЫ ИНТЕРАКТИВНОГО ОБУЧЕНИЯ, ПРИМЕНЯЕМЫЕ ПРИ ИЗУЧЕНИИ РУССКОГО ЯЗЫКА В ВУЗАХ

*Рахимова Алла Иннокентьевна, Тен Светлана Константиновна,  
Калинина Ольга Николаевна,  
Старшие преподаватели Национального  
университета Узбекистана*

### Аннотация

*Статья посвящена актуальной теме применению интерактивных методов. Интерактивные методы обучения обеспечивают решение образовательных задач в разных аспектах. Интерес к интерактивным методам вызван необходимостью улучшения современной системы. Применение интерактивных методов позволяет организовать в процессе урока самостоятельную познавательную деятельность обучающихся. Владение технологией интерактивного обучения и использование её в образовательном процессе, в том числе и на уроках русского языка, несомненно, будет способствовать развитию у обучающихся качеств, отвечающих процессам, происходящим сегодня в жизни.*

*Ключевые слова: интерактивный метод, творческий подход, коммуникация, методы обучения, взаимодействие, диалог, совместная работа.*



Главной задачей образования на современном этапе становится не только и не столько овладение определенной системой знаний, умений и навыков, сколько развитие творческого мышления. В век компьютеризации от молодого поколения требуется не просто действовать по какому-то образцу, а применять творческий подход к решению разнообразных задач.

С появлением новых условий, нужны и новые подходы. «Творческая личность», «думать творчески», «творческий подход» - эти понятия в современном обществе являются показателем профессионализма. Мы живем в век открытий, социально-экономических и политических преобразований, и поэтому от каждого человека требуется поступать нешаблонно, в соответствии с ситуацией - творчески. Развитие у обучаемых творческой личности становится одной из важных задач современной школы. Именно в творчестве содержится источник самореализации и саморазвития личности человека.

У учащихся творческая активность развивается в процессе деятельности, имеющей творческий характер, которая заставляет обучаемых познавать и удивляться, находить решение в нестандартных ситуациях. Поэтому сегодня в педагогической науке и практике идет интенсивный поиск новых, нестандартных форм, способов и приемов обучения. Широкое распространение получают нетрадиционные виды уроков, проблемные методы обучения, интерактивные методы обучения, коллективные творческие дела, способствующие развитию творческой активности обучаемых.

В традиционной организации учебного процесса в качестве способа передачи информации используется односторонняя форма коммуникации. Суть её заключается в трансляции преподавателем информации и в её последующем воспроизведении обучающимся. Обучающийся находится в ситуации, когда он только читает, слышит, говорит об определенных областях знания, занимая лишь позицию воспринимающего. Иногда односторонность может нарушаться (например, когда обучающийся что-либо уточняет или задает вопрос), и тогда возникает двусторонняя коммуникация.

Односторонняя форма коммуникации присутствует не только на лекционных занятиях, но и на практических. Отличие только в том, что не преподаватель, а обучающийся транслирует некоторую информацию. Это могут быть ответы на поставленные преподавателем до начала практикума вопросы, рефераты, воспроизведение лекционного материала. Такая

форма коммуникации не отвечает принципам компетентностного подхода.

Принципиально другой является форма многосторонней коммуникации в образовательном процессе. Сущность данной модели коммуникации предполагает не просто допуск высказываний обучающихся, что само по себе является важным, а привнесение в образовательный процесс их знаний.

Преподавание, открытое в коммуникативном плане, характеризуют следующие утверждения:

1. Обучающиеся лучше овладевают определенными умениями, если им позволяют приблизиться к предмету через их собственный опыт.

2. Обучающиеся лучше учатся, если преподаватель активно поддерживает их способ усвоения знаний.

3. Обучающиеся лучше воспринимают материал, если преподаватель, с одной стороны, структурирует предмет для более легкого усвоения, с другой стороны, принимает и включает в обсуждение мнения обучающихся, которые не совпадают с его собственной точкой зрения.

Переход на компетентностный подход при организации процесса обучения предусматривает широкое использование в учебном процессе активных и интерактивных форм проведения занятий (компьютерных симуляций, деловых и ролевых игр, разбора конкретных ситуаций, психологических и иных тренингов) в сочетании с внеаудиторной работой.

Трудности применения интерактивных методов в образовательном процессе преподавателями включает в себе следующие этапы, во-первых, незнание содержания метода; во-вторых, неумение применять его на практике; в третьих, непонимание места метода в структуре занятия; в четвертых, неверие в эффективность применения методов в процессе обучения.

Предлагаемая статья содержит указания, раскрывающие содержание понятия методов интерактивного обучения, технологический процесс и рекомендации практического применения методов в структуре занятия.

Компетентностный подход при организации образовательного процесса требует от преподавателя изменения процесса обучения: его структуры, форм организации деятельности, принципов взаимодействия субъектов. А это означает, что приоритет в работе педагога отдается диалогическим методам общения, совместным поискам истины, разнообразной





творческой деятельности. Все это реализуется при применении интерактивных методов обучения.

Концепция интерактивного обучения предусматривает несколько **форм/моделей** обучения:

- 1) **пассивная** - студент выступает в роли "объекта" обучения (слушает и смотрит);
- 2) **активная** - студент выступает "субъектом" обучения самостоятельная работа, творческие задания, курсовые работы/проекты и т.д.);

3) **интерактивная** – взаимодействие, равноправное партнерство.

Использование интерактивной модели обучения предусматривает моделирование жизненных ситуаций, использование ролевых (деловых) игр, совместное решение проблем. Исключается доминирование какого-либо участника учебного процесса или какой-либо идеи. Из объекта воздействия студент становится субъектом взаимодействия, он сам активно участвует в процессе обучения, следуя своим индивидуальным маршрутом.[1]

Кроме того, интерактивное обучение основано на прямом взаимодействии учащихся со своим опытом и опытом своих друзей, так как большинство интерактивных упражнений обращается к опыту самого учащегося, причем не только учебному. Новое знание, умение формируется на основе такого опыта.

Интерактивное обучение - это специальная форма организации образовательного процесса, суть которой состоит в совместной деятельности учащихся над освоением учебного материала по решению общих, но значимых для каждого проблем, в обмене знаниями, идеями, способами деятельности.

Целью данной статьи является определение наиболее эффективных методов обучения, способствующих активизации учебно-познавательных действий студентов вуза. Для начала следует рассмотреть понятия «активные» и «интерактивные» методы обучения.

Учебный процесс с применением активных и интерактивных методов, в отличие от традиционных занятий, где студент является пассивным слушателем, строится на основе включенности в него всех студентов группы без исключения, причем каждый из них вносит свой индивидуальный вклад в решение поставленной задачи с помощью активного обмена знаниями, идеями, способами деятельности. К сожалению, на сегодняшний день не существует четкого разграничения между активными и интерактивными методами обучения, одни и те же виды методов относят как к активным, так и к

интерактивным, поэтому нет и четкой классификации интерактивных методов обучения.

По мнению исследователя В.Н. Кругликова, активное обучение представляет собой такую организацию и ведение образовательного процесса, которые направлены на всемерную активизацию учебно-познавательной деятельности обучающихся посредством широкого использования, как дидактических, так и организационно-управленческих средств, и методов активизации.[2]

Исследователь А.П. Панфилова предлагает свою классификацию интерактивных методов обучения: [3]

1. **Радикальные** - стремление перестроить учебный процесс на основе использования компьютерных технологий (дистанционное обучение, виртуальные семинары, конференции, игры и пр.).

2. **Комбинаторные** - соединение ранее известных элементов (лекция-диалог, лекция в вдвоем и т.д.).

3. **Модифицирующие (совершенствующие)** - улучшение, дополнение имеющейся методики обучения без существенного ее изменения (например, деловая игра).

Исследователи Т.С. Панина, Л.Н. Вавилова классифицируют интерактивные методы обучения по трем группам:

1. **Дискуссионные**: диалог; групповая дискуссия; разбор ситуаций из практики.

2. **Игровые**: дидактические и творческие игры, в том числе деловые и ролевые, организационно-деятельностные игры.

3. **Тренинговые**: коммуникативные тренинги; (направленные на формирование образной и логической сфер сознания).[4]

Внедрение интерактивных форм обучения - одно из важнейших направлений совершенствования подготовки студентов в современном вузе, где преподаватель показывает не только свою компетентность и эрудицию, но и умеет увлечь студентов новыми формами учебно-познавательной деятельности. Для этого организуются индивидуальная, парная и групповая работа, используется проектная деятельность, проводятся ролевые игры, осуществляется работа с документами и различными источниками информации. Преподаватель создает такую среду образовательного общения, которая будет способствовать деловому взаимодействию участников при взаимной оценке и контроле.

Интерактивный («Inter» - взаимный, «act» - действовать) означает взаимодействовать, находиться в режиме беседы, диалога с кем-либо.



Другими словами, в отличие от активных методов, интерактивные ориентированы на более широкое взаимодействие студентов не только с преподавателем, но и друг с другом. Преподаватель, как и прежде, разрабатывает план и содержание занятия, используя интерактивные методы с целью представления нового материала в наиболее интересной и эффективной форме.

Интерактивные методы основаны на принципах взаимодействия, активности обучающихся, опоре на групповой опыт и обязательной обратной связи. Преподаватель на таком занятии выполняет роль помощника в исследовательской работе студентов. Активность преподавателя уступает место активности студентов, его задачей становится создание условий для их инициативы. Участники активно вступают в коммуникацию друг с другом, совместно решают поставленные задачи, преодолевают конфликты, находят общие точки соприкосновения, идут на компромиссы. Организация занятия ведется преподавателем заблаговременно, тщательно отбираются задания и вопросы для обсуждения в группах. [5]

Интерактивное обучение - это специальная форма организации познавательной деятельности. Она подразумевает вполне конкретные и прогнозируемые цели. Главная цель состоит в создании педагогических условий обучения в вузе, при которых студент сможет стать уверенным в своей интеллектуальной состоятельности, что делает продуктивным сам процесс обучения. Другими словами, интерактивное обучение - это, прежде всего, диалоговое обучение, в ходе которого осуществляется взаимодействие между студентом и преподавателем, а также между самими обучающимися. [6]

Задачами интерактивных форм обучения являются:

- пробуждение у студентов интереса к обучению;
- эффективное усвоение учебного материала;
- самостоятельный поиск учащимися путей и вариантов решения поставленной учебной задачи (выбор одного из предложенных вариантов или нахождение собственного варианта и обоснование решения);
- обучение работе в команде: проявление толерантности к различным точкам зрения, уважение прав каждого на свободу слова;
- формирование у обучающихся собственного мнения, опирающегося на определенные факты;
- выход на уровень осознанной компетентности студента.

Самыми распространенными среди преподавателей являются следующие интерактивные формы:

- круглый стол (дискуссия, дебаты);
- мозговой штурм (брейншторм, мозговая атака);
- case-study (анализ конкретных ситуаций, ситуационный анализ);
- мастер-классы;
- работа в малых группах;
- обучающие игры (ролевые, деловые, образовательные и др.);
- использование общественных ресурсов (приглашение специалиста, экскурсии);
- социальные проекты и другие внеаудиторные формы обучения (соревнования, фильмы, спектакли, выставки и др.);
- интерактивная лекция с применением видео- и аудиоматериалов;
- обсуждение сложных и дискуссионных вопросов и проблем (займи позицию, шкала мнений);
- «дерево решений», «переговоры и медиация»;
- тренинги и др. [5]

Следует обратить внимание на то, что в ходе подготовки занятия на основе интерактивных форм обучения перед преподавателем стоит вопрос не только в выборе наиболее эффективной формы обучения для изучения конкретной темы, но и в возможности сочетания методов обучения, что, несомненно, способствует наиболее глубокому осмыслению темы. При этом нужно опираться на следующие методологические принципы:

- интерактивное занятие - это не лекция, а совместная работа обучающихся по определенной проблеме;
  - все участники учебного процесса равны независимо от возраста, социального статуса, опыта, места работы;
  - каждый участник имеет право на собственное мнение по изучаемому вопросу.
  - критика личности недопустима (подвергнуться критике может только идея или неверная информация).
- Как передается в методической литературе, «интерактивное занятие означает работать с кем-то рука об руку, быть вместе с ним в диалоге» [7, с.246]. Интерактивная технология:
- заставляет думать и творить,
  - учит анализировать полученную информацию,
  - дает возможность высказывать свое мнение, точку зрения в решении проблемы,
  - активизирует работу учащихся в диалоге, группе,



- воспитывает учащихся к ответственности и сотрудничеству. [7]

Алгоритм проведения интерактивного занятия:

#### 1. Подготовка занятия.

Ведущий производит подбор темы, ситуации, определение дефиниций. При разработке интерактивного занятия рекомендуем обратить особое внимание на следующие компоненты:

- возраст участников, их интересы, будущая профессия;
- временные рамки проведения занятия;
- заинтересованность группы в данном занятии.

#### 2. Перечень необходимых условий:

- четкое определение цели занятия;
- уточнение проблем, которые предстоит решить;
- подготовка программы занятия;
- подготовка раздаточного материала;
- обеспеченность технического оборудования;
- подбор основных вопросов, определение их последовательности;
- подбор практических примеров из жизни;
- использование графиков, иллюстраций, схем, символов;
- доверительные, позитивные отношения между обучающимися;
- многообразие форм и методов предоставления информации, форм деятельности обучающихся и др.

Вступление занятия состоит из сообщения темы и цели занятия. Участники знакомятся с предлагаемой ситуацией, с проблемой, над решением которой им предстоит работать, ставят перед собой цель, определяют задачи. Педагог информирует участников об условиях, дает четкие инструкции о правилах работы в группах. Если есть необходимость, то нужно представить участников (в случае, если занятие межгрупповое, междисциплинарное).

В ходе занятия следует добиваться однозначного семантического понимания терминов, понятий. Для этого с помощью вопросов и ответов следует уточнить понятийный аппарат, рабочее определение изучаемой темы. Своевременное уточнение понятийного аппарата сформирует у студентов привычку оперировать только хорошо понятными терминами, избегать малознакомых слов или попутно выяснять их значение, систематически пользоваться справочной литературой.

Примерные правила работы в группе:

- быть активным и доброжелательным;
- не перебивать собеседников, уважать мнение других участников;

- быть открытым для взаимодействия;
- стремиться дойти до истины;
- придерживаться регламента;
- проявлять креативность.

Особенности основной части определяются выбранной формой интерактивного занятия. Определение позиций участников следует делать очень корректно. Интерактивное позиционирование участников заключается в осмыслении общего для их позиций содержания, а также в формировании нового набора позиций на основании приведенных фактов и доводов.

Рефлексия проводится на эмоциональном аспекте, чувствах, которые испытывали участники в процессе занятия. Обязательным этапом является оценочный, который определяет отношение участников к содержательному аспекту использованных методик, актуальности выбранной темы и др. Рефлексия заканчивается общими выводами, сделанными обучающимися с помощью наводящих вопросов преподавателя.

Примерные вопросы для проведения рефлексии:

- произвела ли на вас впечатление проведенная дискуссия?
- была ли ситуация, которая удивила вас в процессе занятия?
- чем вы руководствовались в процессе принятия решения?
- учитывалось ли вами мнение других участников группы?
- как вы оцениваете свои действия и действия группы?
- что бы вы хотели изменить в организации подобных занятий?

В условиях интерактивного обучения у студентов наблюдается повышение точности восприятия, мыслительной работоспособности, происходит интенсивное развитие интеллектуальных и эмоциональных свойств личности: устойчивости внимания, наблюдательности, способности анализировать и подводить итоги. Интерактивное обучение способствует развитию коммуникативных умений и навыков обучающихся, помогает установлению эмоциональных контактов между ними, активизирует работу в команде, расширяет спектр образовательных возможностей.

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## BINGE WATCHING AND CLINICAL DEPRESSION- ONE HARBINGER FOR ANOTHER?

**Dr. Ankit Halder\***<sup>1</sup>

<sup>1</sup> Second Year Junior Resident,  
Department of Psychiatry

**Dr. Navna Panchami Ravindran**<sup>2</sup>

<sup>2</sup> First Year Junior Resident,  
Department of Psychiatry

**Dr. Abhishek Das**<sup>3</sup>

<sup>3</sup> Third Year Junior Resident,  
Department of Pathology

**Dr. Devavrat Harshe**<sup>4</sup>

<sup>4</sup> Associate Professor,  
Department of Psychiatry

\*Corresponding Author

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### ABSTRACT

*Television is one of our most preferred forms of entertainment. Due to the emergence of smartphones and online streaming platforms television is now in our hands and pockets constantly. Depression may be positively related to television viewing affinity. Individuals higher in depression were more likely to binge- watch television shows out of comfort seeking. It also seemed possible that individuals who had higher in depression lack the motivation or cognitive energy to resist the auto- play functions of streaming products. Viewers tend to binge watch more in order to forget temporarily about every day life stress due to work and social life that are the hallmark of many depressive episodes. Still, the cause and effect relationship could not be established properly; it is not known whether the depressed people tend to binge-watch more for the reasons mentioned or the binge watching leads to depression. It is therefore reasonable to conclude that both depression and binge watching in many ways can be prelude for the other. So, it is plausible to conduct further studies on pathophysiology of binge watching and depression and to find the core behind the link between them.*

**KEYWORDS:** Binge-watching, Depression, Smartphones

### INTRODUCTION

Television is one of our most preferred forms of entertainment. Due to the emergence of smartphones and online streaming platforms television is now in our hands and pockets constantly.[1] Depression may be positively related to television viewing affinity. Individuals higher in depression were more likely to binge- watch television shows out of comfort seeking. It also seemed possible that individuals who had higher in depression lack the motivation or cognitive energy to resist the auto- play

functions of streaming products. Viewers tend to binge watch more in order to forget temporarily about everyday life stress due to work and social life that are the hallmark of many depressive episodes[2].

### DISCUSSION

Television is one of our most favorite forms of entertainment. Studies have shown that, up to 30 to 40% of adults spend about 4 hours daily spending on Television (TV) [1]. In present scenario, watching TV need not always involve a television set. Thanks to the





emergence of smartphones and online streaming platforms, like Netflix, Hotstar, Amazon Prime and countless others, television is now in our hands and pockets constantly. Users also are relieved of making any payments to cable services, contracts, copyright violations and importantly, boredom! [3]

The TV series nowadays have become very sophisticated with complex narrative structures and dramatic techniques that is directed at keeping viewers “hooked”. As a result of this, the watching of several episodes of one series has become a popular pattern of viewing. Despite having no empirically validated definition, several authors recommend watching >2 episodes in one sitting as a criterion for binge-watching [4].

Key motives for binge-watching are emotional enhancement and coping. Binge-watching might serve as an easy way to escape reality and avoid negative emotions [5]. Individuals experiencing negative emotions and having difficulties applying adaptive coping strategies might tend to engage in excessive binge-watching as a coping approach. Furthermore, individuals who depend on using media to regulate their restless moods might find it difficult to stop using media. A lack of self-regulation can have a mediating effect on depression and media addiction. This contributes to excessive media consumption. Furthermore, depression symptoms may also affect subjective time flow. This leads to the perception of time passing slowly. This phenomenon might attempt individual to binge-watching [5].

Depression may be positively related to television viewing affinity. It is reasonable to assume that individuals that view television for instrumental reasons may have a greater affinity for viewing television than those who view television for ritualistic purposes. Viewing television for instrumental purposes is associated with higher scores of depression [2]. Participants high in depression tended to report higher levels of watching television for both ritualistic and instrumental or purposeful motivations, such as to gain information or for engaging entertainment, and these individuals also reported higher frequencies of engaging in binge-watching behavior. Individuals higher in depression were more likely to binge-watch television shows out of comfort seeking. It also seemed possible that individuals who had higher in depression lack the motivation or cognitive energy to resist the auto-play functions of streaming products [2].

Retrospectively, depression scores can be higher in binge watchers than on-binge-watchers [6]. So, depression can make the person attempt to escape from his condition to watch more TV acts as stress buster [7]. More an individual was depressed, the more

episodes the individual watched [6]. Literature on uses and gratification provide media scholars with many signs of having “escape from reality is the primary motive behind intensive TV watching. Viewers tend to watch more TV in order to forget temporarily about every day life stress due to work and social life. However, the cause and effect could not be claimed; it is not known whether the depressed people tend to binge-watch more for the reasons mentioned or the binge watching leads to depression as viewers might regret spending many hours in one session watching a whole session of a TV programme [5]

Another study though reported a negative relation between depression and binge-watching, and no connection between self-control, loneliness and binge-watching [7].

## CONCLUSION

It is therefore fair to conclude that both depression and binge watching in many ways can be prelude for the other. Both can thus be an harbinger for one another and should be carefully probed into during history and management of presentation with such symptoms. Thus, it is plausible to conduct further studies on pathophysiology of binge watching and depression and to find the core behind the connection between them.

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# PRODUCT DEVELOPMENT AND CHEMICAL COMPOSITION ANALYSIS OF SWEET PICKLED GREEN PAPAYA (*Carica papaya*)

**Arnel B. Millesca**  
Associate Professor,  
Partido State University,  
Camarines Sur,  
Philippines

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## ABSTRACT

*Papaya (Carica papaya) is one of the most popular fruit grown in tropical and sub-tropical regions particularly in the Philippines. It is highly available in the local markets and can also be grown in home backyards. Ripe papaya is fleshy, juicy, and usually consumed raw while the unripe or the green fruit can be cooked or processed. In the Philippines, pickling is the most popular method in utilizing green fruit to produce pickled papaya or locally known as "atchara". Pickled green papaya is a favorite side dish for viands like fried fish, pork, chicken, and the like. As a result, this study is conducted to produce a highly acceptable pickled green papaya as a side dish or as a souvenir or token for visiting tourists in district. Two treatments of brine solution, treatment I (uncooked pickling solution) and treatment II (cooked pickling solution) were performed in producing pickled green papaya. Pickled samples from the two treatments were subjected to sensory evaluation and results showed that taste and aroma for both treatments have no significant differences ( $P \leq 0.05$ ). However, with regards to color and texture, treatment II obtained a higher scores (8.17 and 8.27, respectively) than treatment I (7.47 and 7.47, respectively). Proximate analysis of treatment II showed a pH of 3.7, 0.30 g/100g total fat, 0.50 g/100g protein, 0.40 g/100g total ash content.*

**KEYWORDS:** Pickled papaya, pickling solution, pH

## 1. INTRODUCTION

There are various types of foods produced from all over the world using preservation methods. The term "pickle" in Southeast Asia is usually used for fruits and vegetables preserved with vinegar and salt. Preservation methods such as pickling is a technology that is considered the oldest technology (Battock and Ali, 1991) to add flavor and improve the taste of food biologically (Jyoti, 2011; Vichai, n.d.). Euromonitor (2006) defined pickled products as fruits or vegetables preserved in vinegar or brine. Pickles are considered high-acid food. Acid can be added in the form of vinegar or produced naturally by fermentation process. Pickled products are used as food adjuncts and function as appetizers. It also aids in digestion by stimulating the flow of gastric juices.

Papaya (*Carica papaya*) belongs to the family *Caricaceae*, a tall herbaceous plant in the genus *Carica*. Papaya originated in Southern Mexico and Costa Rica. Subsequently, it was introduced as a plantation crop in Australia, Philippines, Hawaii, South Africa, Sri Lanka, India, and in all tropical

regions (Krishna et. al, 2008). It is native to the tropical region of America, mainly from southern Mexico to Central America. It is widely cultivated for its fruit, consumed as raw or cooked as vegetable. It is fast growing, high yield and planting is generally done from seed extracted from a ripe fruit (Hawkins, 2007).

Nutritionally, papaya is a rich source of carotenoids, vitamins, minerals (Devaki et al., 2015) and other non-nutrients such as saponins, flavonoids, and phenols (Okon et al., 2017). It is also a source of the proteolytic enzyme papain, particularly the unripe fruit, which aids in digestion of protein. Papain also has many economic and industrial applications (Boshra and Tajul, 2013). Papaya also has property in tenderizing meat which is put to use by cooking to make the meat digestible.

A study by Mendoza (2007) found that papayas have very high levels of potassium (257 mg/100g) next to banana. The study also reported a high ascorbic acid content (61.8 mg/100g) of papaya



which indicates a high antioxidant activity beneficial to human health.

In the Philippines, there are currently seven commercial varieties of papaya sold for human consumption. These are Cavite Special, Morado, Solo, Sinta, Cariñosa, Red Lady and Red Royale. Papayas from these varieties are sold fresh either in its whole or fresh-cut form for direct consumption or sold to food industries for further processing. The fresh-cut form of papayas, however, are gaining popularity with consumers and can often be found in local markets, supermarkets and in food carts (Bureau of Agricultural and Fisheries Standards, 2015).

Unripe papaya can be eaten as a side dish accompanying viands. Processing involves the application of fermentation method to produce pickled green papaya. Pickled papaya is a popular dish made of grated papaya and pickling solution. This dish is usually eaten along with fried or grilled foods such as chicken, fish, pork, beef and seafoods to mitigate its fatty taste. The process of pickling is very simple and there is no need for specific equipment. Salt, sugar, vinegar, and ginger mixed in shredded unripe papaya are the essential or basic ingredients in making pickles. Pickles also contain acetic acid which acts as preservative in order to keep the product quality for a longer time (Nurul &

Asmah, 2012). As per the result of craving of pickled papaya by the public, this study has been conducted.

The researcher conducted this research because of the absence of single study that has been conducted. The study aims to develop a standard procedure along with the best recipe for making pickled green papaya. More specifically, the study aimed to determine the most acceptable pickling solution formulation for pickled green papaya; evaluate the sensory attributes and acceptability of pickled green papaya; and determine the nutrient value total fat, protein, ash content, and pH of the product. The findings from this study will increase the availability of scientific data for future reference and for commercialization of pickled products using green papaya or any other fruits and vegetables.

## 2. MATERIALS AND METHODS

The study was conducted at Partido State University – San Jose Campus from March 2018 to March 2019.

Raw materials were purchased from the local market. Proximate analysis such as total fat, protein, ash content, and pH of the most acceptable pickled green papaya treatment were determined at the service laboratory of Food and Nutrition Research Institute (FNRI).

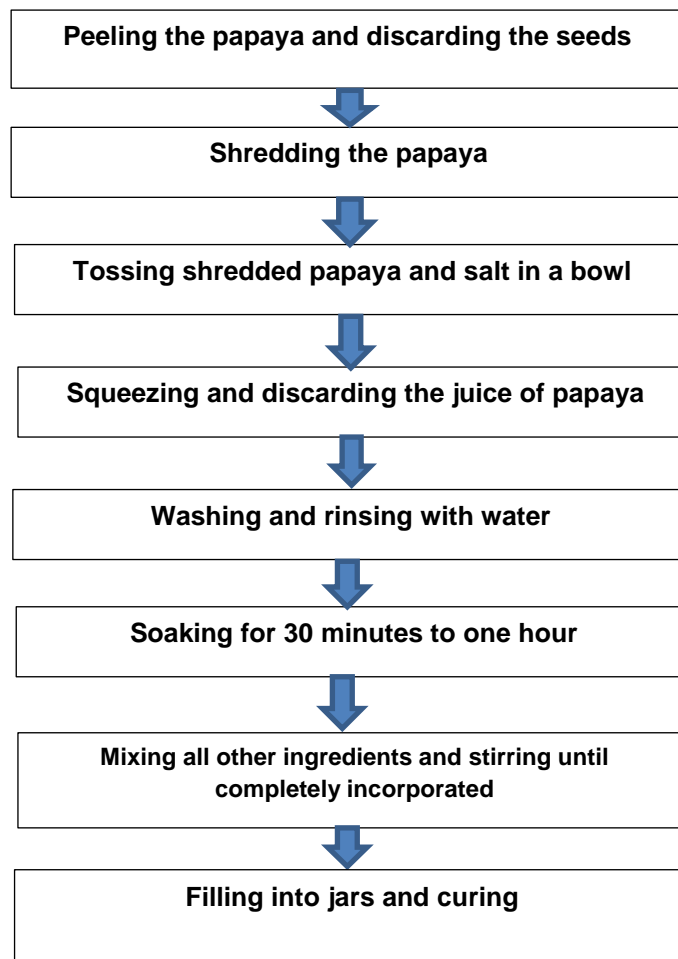
**Table 1. Pickled green papaya recipe.**

Quantity	Ingredients
3 lbs. (1.4 kg.)	Shredded green Papaya
1 teaspoon	Salt
1/8 kg	Ginger
25 grams	25 grams sliced garlic
7 cups	vinegar
7 cups	brown sugar
1 cup	sliced fresh pineapple
¾ cups	pickled relish
¼ kg	red bell pepper

**Preparation of pickled green papaya.** Two sets of the recipe shown in Table 1 are prepared for two treatments of pickling process. Raw materials were purchased from the local wet market. Materials such as measuring cups, weighing scale, knife, chopping board, pots, and stove were provided by the Food Laboratory, PSU-San Jose. Two sets of the recipe are weighed and prepared for the formulation of two treatments. Treatment 1 used uncooked vinegar for the pickling solution. Pickled relish and fresh pineapples were added as enhancers. Fresh, firm unripe green papaya were peeled and washed in potable water to remove adhering dirt. Seeds and damaged parts were discarded. The fruits were sliced

into convenient pieces and grated using a stainless steel grater. Grated papaya was then tossed in a bowl with salt and then squeezed to discard the juice. It was then washed with water and soaked for 30 minutes to one hour and then squeezed again.

The remaining ingredients were all mixed with the grated papaya then filled in glass jars. For the pickling solution, salt, sugar, and vinegar are mixed together in a separate bowl before adding to the papaya mixture. Glass jars are wiped dry then labelled before storing. Sensory evaluation was conducted one day after processing. Figure 1 summarized the processing flow of pickled green papaya using treatment 1.

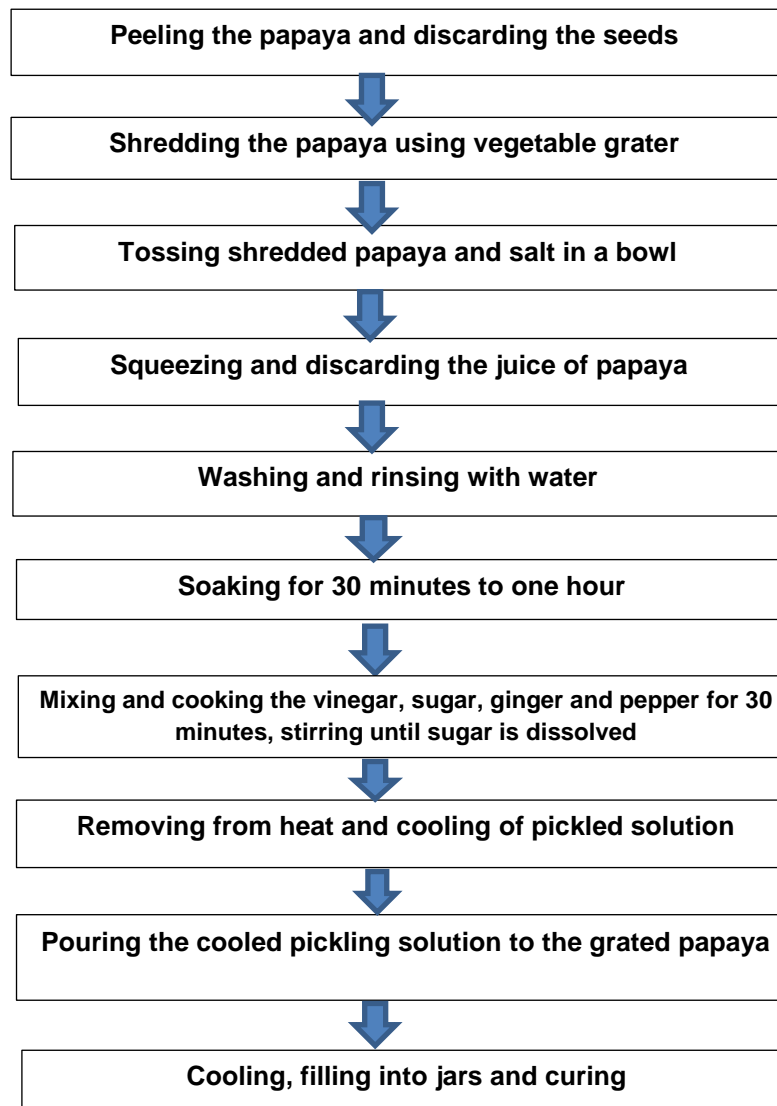


**Fig. 1. Process flow of preparing pickled papaya using uncooked pickling solution (Treatment 1).**

For treatment 2, the pickling solution consists of vinegar, sugar, ginger, and bell pepper are cooked for 30 minutes before adding to the grated papaya and

other ingredients. Processing flow of pickled green papaya using treatment 2 are shown in Figure 2.





**Fig. 2. Process flow of preparing pickled papaya using cooked pickling solution (Treatment 2).**

**Sensory evaluation.** Pickled green papaya samples were subjected to sensory evaluation using a nine-point Hedonic scale where 9 indicates “extremely like” while 1 for “extremely dislike”. This method was used to assess the color, aroma, texture, and flavor based on the degree of liking. A panel of 30 judges, composed of students, faculty, cooks, vendors and target consumers evaluated the prepared samples to determine the most acceptable product. The samples were coded with three-digit numbers and presented to the panelists. The panelists were asked to rinse their mouths with water after every sample and not to make comments during evaluation to prevent influencing other panelists.

**Proximate chemical analysis.** Due to the limited facilities in the study place, samples were submitted to service laboratory of DOST-FNRI to

determine the total fat, protein, ash content, and pH. Fat content was determined using Soxhlet apparatus while protein was determined by Kjeldahl method. The method for protein content estimated the amount of nitrogen in the sample which was subsequently used to calculate the protein content by multiplying with the factor of 6.25. Total ash was determined from the residue left after incinerating a 50 g portion of the sample in a muffle furnace at 550 °C. The pH were determined using the standard method of the Association of Official Analytical Chemists (AOAC) Official Method.



### 3. RESULTS AND DISCUSSION

#### 3.1. Development of pickled papaya

Pickles can be prepared from a variety of fruit and vegetables and the right amount of spice added. It can be successfully and safely prepared if top-quality ingredients are used. In this study, pickled papaya or *atchara* is prepared by adding correct proportions of sugar, vinegar, and salt on the grated unripe papaya. Fruits should be green and very firm and must be harvested before the fruit ripens. Ripe papaya has reduced acidity and firmness that results to softening of the flesh making it inappropriate for pickling. However, if it is harvested too early, the pickle will have a bitter milky flavor. Therefore, fully mature but unripe fruit with no signs of spoilage and bruises must be used for the preparation of pickled papaya. Usually, the ends of the fruit is discarded as it contains enzymes that may cause excessive softening of the pickles (Albrecht, 2010).

**Process and principle.** Lactic acid bacteria (LAB) that are naturally present in fruit convert sugar into lactic acid and enhance the flavor. LAB are generally recognized as safe (GRAS) microorganisms play an important role in food fermentation and preservation. Fermentation converts complex indigestible polymers to digestible carbohydrates (Sareedha et al., 2006). Addition of sugar increases the rate of fermentation or make the product sweeter. Salt helps maintain the firm texture of pickled papaya. Acids lower the pH and thus inhibit the growth of many micro-organisms. It is more effective against yeast and bacteria than molds. About 20% vinegar (acetic acid) prevents the spoilage of most products. Though, acid is the main preservative in pickled vegetables and fruit, salt also aids in the growth of desirable bacteria while inhibiting the growth of pathogenic and spoilage microorganisms. Most spoilage bacteria cannot tolerate salt and will die in the brine. Cloudy solution, off-odor, and slipperiness are the usual sign of food spoilage.

**Cooking of pickling solution.** Acid and heat are destructive to chlorophyll – the pigment responsible for the green color of fruit. Thus, bright green color is not expected in pickled green papaya. Cooking the pickling solution retards the growth of yeasts and mold. Basically, the application of heat inactivates microbial vegetation cells and the addition of acid further prevents the germination of bacterial spores. This will prevent spoilage by microorganisms and therefore extends the shelf life of the food. When the product is preserved properly, risk of food poisoning is very low. Also, storing the pickled products for a longer time improves flavor and increase acidity which serves as a natural preservatives in food.

#### 3.2. Sensory evaluation of pickled green papaya

Sensory evaluation is a scientific method used to evoke, measure, analyze, and interpret those responses to product as perceived through the senses of sight, smell, touch, taste, and hearing (Stone and Sidel, 1993; Sharif et. al., 2017). Sensory evaluation or subjective evaluation is an important method to determine the human responses to food especially for new products as it will provide desirable changes to improve the quality of the product. Evaluation includes selected or dominant attributes of the food such as color, aroma, texture, aftertaste, and general acceptability using a scale. This assessment is an ideal method to find out the influence of variation in ingredients or processing. Customer's likeability is a factor for successful introduction and placement of food products in the market.

Pickled samples were evaluated for its color, taste, aroma, and texture. Color is a characteristic that is first perceived by human senses. The color of the food may affect craveability and acceptance and can also be used as a determinant for final selection of food. Taste involves the perceptions of constituents after being dissolved in saliva, oil, or water by the taste receptors in the taste buds (Sharif et al., 2017). Aroma of food also affects the appreciation of foods. The pleasant smell of food makes it more delicious and palatable. Texture is perceived by a combination of senses to evaluate the consistency, softness, chewiness, thickness, and the particle sizes in the food.

Pickled papaya usually has crisp, firm texture with pungent, sweet-sour flavor. Green papaya alone has mild flavor, thus the other ingredients are responsible to its strong flavor. Table 3 shows the mean scores of pickled papaya obtained from sensory evaluation. In general, treatment II obtained higher scores for all the attributes. The color of the pickled papaya can be influenced by various factors such as the color of ingredients (e.g. sugar) added and the type of vinegar used. Higher average score (8.17) was obtained from treatment II (cooked solution) which indicates that judges prefer it than uncooked solution (7.47). One reason could be is that the application of heat dissolves all the sugars and salts and extracts the natural colors of the spices.

For aroma and taste, treatment II obtained higher scores than treatment I. However, statistics showed that the mean scores are not significantly different from each other. It can be said that the judges found no significant differences in both the aroma and taste of two treatments used for pickled papaya.



**Table 2. Results of 9-point Hedonic Scale for Treatment 1 and 2**

ATTRIBUTE	TREATMENT 1 (WITH UNCOOKED PICKLING SOLUTION)			TREATMENT 2 (WITH COOKED PICKLING SOLUTION)		
	%	Score	Rating	%	Score	Rating
Color	43%	8	Like very much	43%	9	Like extremely
	3%	3	Dislike moderately	18%	7	Like moderately
	3%	3	Dislike moderately			
Aroma	53%	8	Like very much	46%	8	Like very much
	7%	3	Dislike moderately	4%	6	Like slightly
Texture	40%	8	Like very much	43%	9	Like extremely
	7%	6	Like slightly	4%	6	Like slightly
	7%	2	Dislike very much			
Taste	43%	8	Like very much	43%	9	Like extremely
	7%	3	Dislike moderately	7%	6	Like slightly

**Table 3. Mean scores of the different sensory attributes of papaya atchara**

Treatment	Color	Aroma	Taste	Texture
Uncooked solution	7.47	7.6 <sup>a</sup>	7.70 <sup>b</sup>	7.47
Cooked solution	8.17	8.0 <sup>a</sup>	7.97 <sup>b</sup>	8.27

Mean scores within the same column followed by the same superscripts are not significantly different at  $P \leq 0.05$

Range of scores: 9-extremely like, 1-extremely dislike

Sensory evaluation for texture, on the other hand, have significant difference from each other based on their mean scores. Boiling of pickling solution reduces the water content thus increasing the total soluble solids. Boiling also dissolves salt which reduces water content in the vegetables and hardens the plant pectin therefore preventing softening of the vegetable tissue. Also, application of heat inhibits the activity of pectinase responsible in breaking down pectin. In general, processing or application of heat

may alter the sensorial properties, so changes in texture, color, or palatability are perceivable.

### 3.3. Chemical composition of pickled green papaya

Table 4 shows the results of proximate analysis of the most acceptable treatment for pickled green papaya and the reference method for every analysis. Results showed that pickled papaya is not a good source of fat and protein. Slavin and Lloyd (2012) reported that fruits in general are low in protein and mineral constituents. They also reported that fruits are generally low in fat content and hence, recommended in weight-reducing diet.

**Table 4. Proximate Analyses of Green Pickled Papaya with cooked pickling solution**

ANALYTE per 100 g	RESULT	REFERENCE METHOD
Total Fat, g	0.3	Acid hydrolysis (Soxhlet)
Protein (N x 6.25), g	0.5	Automated Kjeldahl Method (Buchi)
Ash, g	0.4	AOAC 923.05
pH	3.7	AOAC 981.12 (Modified)

Papaya belongs to low acid content fruit with its pH ranging from 5.5 to 6.9. The resulting pH of the pickle is 3.7. This is in accordance with US Code of Federal Regulations that pickles acidified with vinegar or acetic acid have final equilibrium pH of 4.6 or below. Decrease in pH is attributed to increase acidity. The addition of vinegar greatly affects the lowering of pH because vinegar are naturally acidic with pH range of 2 to 3.

## 4. CONCLUSION AND RECOMMENDATIONS

In this study, pickled green papaya was prepared using two different treatments. Treatment I for uncooked pickling solution and Treatment II for cooked pickling solution. Sensory evaluation was conducted to determine the most acceptable among the sample treatments. The most acceptable sample



was subjected to chemical analyses. Total fat, protein, ash and pH of pickled green papaya were also determined. The results of the study revealed that, cooking the pickling solution is more acceptable than uncooked. Chemical analysis showed that pickled papaya is not a good source of fat and proteins. Final product showed a low pH values which is attributed to its acidity.

Further studies must be conducted on the shelf life that be carried out weekly to determine change in quality with storage time. Microbial analysis can also be conducted to determine the presence of visible decay such as fungal growth, gas production, and off-flavor over time. Yield, cost of production, and suggested price must be accounted to determine the marketability of green pickled papaya. To assess the market acceptability or sale ability, the product will be sold in the school canteen, caterers and other food outlets. Promotional activities will also be done to further determine the demand and sale of the said product. This may serve as preparation for the commercialization of green pickled papaya.

It is also recommended to prolong the fermentation period of pickled green papaya. Taste, flavor, texture, and consistency improve with increased storage period. Pickled products usually develop flavor over a four- to five-week period. Fruits and vegetable fiber are further broken down during storage thus, increasing digestibility of pickled products. Acidity also increase due to lactic acid fermentation. Lactic acid bacteria such as lactobacilli are good bacteria that are beneficial to human health.

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# THE UNDERSTANDING OF THE ORGANIZATIONAL CULTURE AMONG EDUCATIONAL LEADERS AND STAFF: CASE STUDY OF PRIVATE UNIVERSITY IN DKI JAKARTA

**I Wayan Sugiana**

School of Government,  
College of Law,  
Government and International Studies,  
Universiti Utara Malaysia,  
Sintok, Kedah,  
Malaysia

**Azlizan Talib**

School of Government,  
College of Law,  
Government and International Studies,  
Universiti Utara Malaysia,  
Sintok, Kedah,  
Malaysia

**Mohd Nazaruddin Yusoff @ Abdul Rahman**

School of Government,  
College of Law,  
Government and International Studies,  
Universiti Utara Malaysia,  
Sintok, Kedah, Malaysia

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## ABSTRACT

*The study of organizational culture has received a lot of attention among academics in many fields of study, including education. At the tertiary level, culture can be cited as the key to success. This study aims to describe the perspectives of educational leaders and staff about organizational culture at the tertiary institutions where they work. Data were collected from the leadership and educational staff of leading private universities in DKI Jakarta, which are included in clusters 1-3 based on the results of the higher education clustering of the Ministry of Education and Culture. The data obtained from the questionnaire were analyzed with descriptive statistics. The results show that the organizational culture of leading private universities, although diverse, is mostly characterized by certain characteristics. Participants define organizational culture in general as procedures, beliefs, attitudes, and ways of working that are typical for an organization, and refer to working to achieve organizational goals. Apart from that, they also describe the organizational culture of their university by referring to terms such as desiring academic success, discipline and rules, respect, and tolerance.*

**KEYWORDS:** *organizational culture, private universities, education, Jakarta*

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## 1.0 INTRODUCTION

The term culture usually conjures up descriptions of the customs and practices of a person living in another country. One can imagine oneself traveling abroad and studying how people live and behave differently in other countries and contemplate what needs to be done to change one's own behavior patterns to make them more suitable in that other country (Chatman, Caldwell, O'Reilly & Doerr, 2014). In many ways, the acculturation of individuals in an organization is similar to the acculturation of a person starting life in another country. When a person becomes a new member of a group or organization, he must be familiar with the ways in which work is done

and how to behave appropriately in the workplace. New employees quickly learn how the behavior patterns match the characteristics and practices of the group or organization. In recent years, organizational culture has been researched in national or international companies and institutions in various countries. Organizational culture has been recognized as an important element that can influence organizational success. Since then organizational culture has become a very important area of inquiry (Fellows & Liu, 2013).

## 2.0 LITERATURE REVIEW

Varies definitions given for organizational





culture. Schein (1992), one of the most prominent organizational culture theorists, provides the following very general definition: "A common pattern of assumptions that groups learn when solving problems of external adaptation and internal integration that have worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to see, think, and feel in connection with the problem.

Hofstede (2001) states that "culture is basically about how people are expected to behave, drawing a line where certain personalities will directing people, and expressing themselves through practices such as rituals (collective activities that may not be technically necessary - ceremonies, for example), heroes (people who have highly valued characteristics), and symbols (words, gestures, pictures, and meaningful objects for those who share the culture)". Organizational culture is communicated, taught and transferred to members; help organizations to adapt to environmental conditions and integrate internally; works like a problem-solving framework or guide, and even as a tool intended to enhance the functioning of an organization and its decision-making processes, performance, effectiveness, and competitive position.

The study of organizational culture has received a lot of attention among academics in many fields of study, including education. At the tertiary level, culture can be cited as the key to success. Culture influences individual behavior at work and influences the success of individuals and organizations (Kriemadis, Pelagdis & Kartakoullis, 2012). The study of organizational culture is of growing importance in higher education analysis. Analysis of the organizational culture of higher education is important because it is interested in adapting culture to the values and behavior of its members, so as to maintain a healthy mindset and encourage permanent improvement (Folch & Ion, 2009).

In studies developed in the context of higher education and on organizational culture, Pelekais and Rivadeneria (2008) have considered the need to include cultural elements such as beliefs, values, rituals, language and history, because weak perceptions of culture seem to be shared by their own personnel. University culture is a different type of organizational culture whose values and beliefs and basic assumptions are shared by all universities (Salonda, 2008). For example, universities have regular ceremonies. Furthermore, people should celebrate at work not only events related to their professional promotion but also their personal events, such as weddings, birthdays or retirement (Antic & Ceric, 2008). University culture cannot be formed by individuals who act alone. The exchange and collective acceptance of the same values and artifacts is a key role shared in the culture of the higher

education (Calciolari, Prenestini & Lega, 2018).

According to Kuh and Whitt (1988), university culture can be defined as a collective pattern that forms norms, values, practices, beliefs, and assumptions that guide individual and group behavior. It provides a frame of reference for interpreting the meaning of events and actions on and off campus. The university culture allows one to see and understand the interactions of people outside of organizations and special events, actions, goals, and situations in different ways. University culture basically comes from three sources, namely the beliefs, values, and assumptions of the organization's founders and the learning experiences of group members as their organization develops. Values, beliefs and assumptions can be considered to greatly influence the decision-making process in higher education and shape individual and organizational behavior. Behavior based on underlying assumptions and beliefs is conveyed through stories, specific language and institutional norms (Cameron & Freeman, 1991).

The university culture is also created by new beliefs, values, and assumptions brought by new members and leaders. University is an existing cultural form, which results in the attention that needs to be paid to campus culture. Campus culture is a combination of various cultures on campus that are co-created by all campus people and accumulated in long-term university management practices. It consists of three aspects, namely material culture, institutional culture and spiritual culture (Xi, 2012). Campus material culture, which is generally in the form of environment and facilities, is a general term for external forms in the development of higher education. Institutional culture includes shared and distinctive systems, which mainly refers to systems of rules and regulations, management and operation rules, and restriction mechanisms. Spiritual culture refers to how campus people take part in cultural activities and what results are achieved, so that they reflect ideology, values, psychological qualities and aesthetic awareness, and so on (Morgan & Vorhies, 2018).

There are many ways to assess university culture. One is the Organizational Culture Assessment Questionnaire (OCAQ) based on the work of Talcott Parsons, a sociologist at Harvard. Parsons develops a framework and theory of action in social systems. He argued that all organizations must perform four essential functions if they are to last for a long time. Sashkin and Rosenbach (2013) have labeled these four functions as: managing change, achieving goals, coordinating teamwork, and building a strong culture. One aspect of how the organization achieves its goals is very important, but often overlooked. This factor has been made into a separate fifth scale, namely customer orientation.

Managing change: This area of action



concerns how well the organization is able to adapt and deal effectively with changes in its environment. Achievement of objectives: All organizations must achieve some goal or objectives for the client or customer. Having a clear focus on explicit goals has been shown time and again to have a very strong relationship with actual success and achievement. The achievement of goals is also facilitated when the goals of the members of the organization are in line or aligned with each other and with the overall goals of the organization. Coordinated teamwork: The long-term survival of an organization depends on how well the efforts of individuals and groups in the organization are tied together, coordinated and sequenced so that people's work efforts fit together effectively. The power of culture: All organizations have a culture, which is formed from the patterns of values and beliefs shared by some, most, or all members of the organization. Customer orientation: Although organizations often have specific product or service objectives - the quality standards or types of products or services that make the organization known - the crucial question is whether these internally derived, defined goals match or match what the client or customer wants from the organization. No matter how strong the culture is and no matter how well other functions are performed, if no one wants what the organization produces or does, then the organization is unlikely to succeed.

With all this in mind, this specific research is based on an understanding of the organizational culture of academic education institutions: in this case it is the leading private university in DKI Jakarta. This study aims to describe the perspectives of educational leaders and staff about organizational

culture at the universities where they work to determine the perceptions of leaders and staff about the problem. The research findings will be of great value as an exploratory study of the participants' views on cultural issues in their workplace. Furthermore, these findings will become a database for the Ministry of Education and Culture. The research findings can also be used to recommend ways to increase institutional productivity by forming a valid organizational culture, given the fact that a set of beliefs gives way to institutional efficiency. In addition, the findings of this study will serve as guidelines for leaders in forming a unique organizational culture or keeping existing organizational cultures alive.

### 3.0 METHOD

This research was conducted using quantitative and qualitative data collection methods. The instrument used in this study was a questionnaire. Data were collected from 200 leaders and educational staff of leading private universities in DKI Jakarta who were included in clusters 1-3 based on the results of the 2020 Ministry of Education and Culture's higher education clustering.

The data obtained from the questionnaire were analyzed using descriptive statistics. Based on the descriptive research design, this study involved descriptive statistical data analysis. To analyze the data obtained from the questionnaire, the mean was used as a statistical technique to determine the level of agreement regarding items regarding organizational culture. The following scores are used to compare the mean:

**Table 1: Mean Scores**

Level of Agreement	Mean Score
Never	1.00 - 1.49
Rarely	1.50 - 2.49
Sometimes	2.50 - 3.49
Often	3.50 - 4.49
Always	4.50 - 5.00

The assumption of normality is tested through the Kolmogorov-Smirnova and Shapiro-Wilk examinations which show that normality is an

acceptable assumption. Cronbach's Alpha was used to test the reliability of the scale. The total responses from 200 participants were used in the analysis.

**Table 2: Reliability Test**

Cronbach's Alpha	N
0.95	30

Reliability was found to be 95% for a scale of 30 items. So, the scale is very reliable.



**Table 3: Dimensional Reliability**

Dimension	Cronbach's Alpha	Item
Manage change	0.85	6
Achieving goals	0.88	6
Coordinated teamwork	0.96	6
Customer orientation (students/graduates)	0.82	6
Cultural power	0.84	6

The subgroup reliability rate on the scale was between 85% and 96%. So, the subgroup is very reliable.

organizational culture, Table 4 presented the mean score and standard deviation obtained for each dimensions. There are five dimension consist manage change, achieving goals, coordinated teamwork, customer orientation (students/graduates) and cultural power.

#### 4.0 RESULT AND DISCUSSION

To analyze the evaluation of the leadership and education staff regarding their perceptions of

**Table 4: General Results of Organizational Culture**

Dimensions	Mean	S.D
Manage change	4.20	0.252
Achieving goals	4.43	0.311
Coordinated teamwork	4.28	0.204
Customer orientation (students/graduates)	4.50	0.223
Cultural power	4.63	0.251

Table 5 till Table 9 is related to each dimensions of organizational culture. Table 5 related to the dimensions of managing change which aim to

determine the perspective of the leadership and educational staff.

**Table 5: Manage Change**

Dimensions	Mean	S.D
People are flexible and adaptable when change is needed.	4.29	0.225
People feel that most of the changes are the result of pressure being imposed from superiors within the organization.*	4.48	0.152
People have clear ideas about why and how to proceed with the entire change process.	4.60	0.170
People believe that change happens too quickly and causes too many distractions.*	4.50	0.348
People believe they can influence their workplace through their ideas and engagement.	4.96	0.102
People believe that their worries and anxieties during the period of change are heard and taken into account.	4.87	0.308

Table 6 related to the dimensions of achieving goals that aim to determine the perspective of the

leadership and educational staff.

**Table 6: Achieving Goal**

Dimensions	Mean	S.D
Individuals and teams have clear goals related to the goals and mission of the university.	4.29	0.225
People and teams are often expected to achieve goals they believe are impossible.*	4.48	0.152
Individuals and teams are measured	4.60	0.170



and rewarded according to how well the goals were achieved.		
Individuals and teams participate in setting specific goals.	4.50	0.348
Universities are constantly setting goals, to keep improving.	4.96	0.102
Individuals, teams, and functional areas often have incompatible goals.*	4.87	0.308

Table 7 related to the dimensions of coordinated team collaboration which aims to determine the perspective of the leadership and educational staff.

**Table 7: Coordinated Teamwork**

Dimensions	Mean	S.D
Teams often lack the authority needed to get the job done effectively.*	4.41	0.135
People believe in teamwork, a "what's in it for us" approach rather than "what's in it for me".	4.61	0.202
People lack the interpersonal and technical skills they need to work effectively in teams.*	4.50	0.208
People know what is expected of them and understand how it impacts other people, teams and functions.	4.79	0.323
Believers in working together collaboratively, prefer cooperation over competition.	4.89	0.321
Leaders at all levels work together as a team to achieve results for the organization.	3.91	0.154

Table 8 relating to the results related to the dimensions of customer orientation (students / graduates) which aim to determine the perspective of the leadership and educational staff.

**Table 8: Customer Orientation (Students / Graduates)**

Dimensions	Mean	S.D
The university gives the highest priority and support to meet the needs of students/graduates and to solve their problems.	4.28	0.241
Policies and procedures help universities provide the services their students/graduates want and need.	4.72	0.184
People often see student/graduate problems as someone else's responsibility.*	4.55	0.111
Everyone is always looking for new ways to better serve students/graduates.	4.49	0.282
Everyone who does their best work to serve students/graduates is more likely to be recognized or valued than others.	4.31	0.191
When students/graduates have a problem with the service they receive, it is almost always resolved to their satisfaction.	4.01	0.212

Next Table 9 related to the dimensions of cultural strength which aim to determine the perspectives of educational leaders and staff.



**Table 9: Culture Change**

Dimensions	Mean	S.D
Everyone values and makes use of each other's unique strengths and abilities.	3.70	0.272
Everyone knows and understands the goals and priorities of university.	4.50	0.098
People sometimes compromise university policies or principles to achieve operational goals.*	4.38	0.079
Decisions are most often made based on facts, not just perceptions or assumptions.	4.06	0.971
Everyone has access to timely and accurate information about what is really going on in university and why.	4.01	0.084
Everyone strongly believes in a shared set of values about how people should work together to solve common problems and achieve common goals.	4.97	0.021

Participants who took part in the research defined organizational culture in general as procedures, beliefs, attitudes, and ways of working that are typical for an organization, as well as referring to working for organizational goals. In addition, they also describe the organizational culture of their own higher education by referring to terms such as desiring academic success, discipline and rules, respect, and tolerance.

The picture drawn from the research findings illustrates the following aspects: participants are satisfied with the support they get from the universities where they work; improving student academic success and performing the tasks specified in the program are the top priorities of participants; participants are satisfied with the award given; and the majority of participants considered that the bureaucracy had functioned well. The implication is, in simple terms, it can be stated that the leadership and staff of education at the private tertiary institutions studied already know the term organizational culture and its functions. Besides being aware of the university's mission, they also get support in various aspects.

## 5.0 CONCLUSION

The results show that the organizational culture of leading private universities, although diverse, is mostly characterized by certain characteristics. Some of the dominant cultural characteristics can be indicated as follows: the hierarchical character of the academic structure, formal relationships in the academic hierarchy, the debureaucratization of higher education activities, ceremonialism and ritualism in organizational culture, the relationship of democratic character between leaders and educational staff, and focus on internal promotion.

Organizational culture is a complex structure

involving all internal stakeholders and many internal processes. The most important parts of any process are communication, trust and participation. Building such a culture requires hard work and years of commitment from all. Universities exist to create or share knowledge and the process of sharing involves interacting as well as sharing trust, all of this has to take place in the right environment. The main output of the education process is graduates and their ability to work in a real context. An organizational culture that focuses on quality will not only provide students / graduates with good competencies in their fields, but also social competencies that are developed from interactions with leaders and educational staff during their education program.

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## LOCAL ORIGINS OF OXUS CIVILIZATION

**A. Bakiev**

Termez State University.  
Termez, Uzbekistan.

## ЛОКАЛЬНЫЕ ИСТОКИ ЦИВИЛИЗАЦИИ ОКСА

*Бакиев А.,*

*Термезский государственный университет, г. Термез, Узбекистан*

### ABSTRACT

*The article is based on the civilization approach studied the culture of the Bronze Age of Central Asia. The analysis of various interpretations of the term "civilization" in the scientific literature. The local origins of the BMAC, which was named in science as the Oxus civilization, are discussed. An attempt was made to highlight the creative and creative and creative specifics of the population of the Oxus civilization in the Eneolithic and Bronze Age on the basis of a scientific analysis of archaeological, anthropological, ethnographic sources found in Central Asia.*

**KEYWORDS:** *Oxus civilization, civilization, mega-civilization, proto-civilization, proto-city, Anau, Jeytun, Namazga, Dashli, Sapallitepa, Arkaim, Altyn Depe, BMAC.*

*Аннотация.* В статье на основе цивилизационного подхода изучена культура бронзового века Центральной Азии. Проведен анализ различных интерпретаций термина «цивилизация» в научной литературе. Обсуждены локальные истоки БМАК, получившая названия в науке как цивилизация Окса. Предпринята попытка осветить созидательную и творческую специфику населения оксской цивилизации в эпоху энеолита и бронзового века на основе научного анализа археологических, антропологических, этнографических источников, найденных в Центральной Азии.

*Ключевые слова:* Цивилизация Окса, цивилизация, мегацивилизация, протоцивилизация, протогород, Анау, Джейтун, Намазга, Дашли, Сапал-литепа, Аркаим, Алтын-Депе, БМАК.

При определении корней цивилизаций, чьи экономические базы развивались на этой основе урбанистическом способом и поднялись до уровня ранних городских культур, точные сведения дают наблюдения за развитием общества. В этой сфере, начиная с 70-х годов прошлого века в науках истории и археологии были опубликованы труды французского исследователя Ж. Дюмезиля о социальной структуре населения земледельческих общин бронзового века. [33]. Он разделяет индоариев и индоиранцев на три прослойки – священники, военные и трудовое население. Но, в результате археологических

исследований многие аспекты взглядов французского социолога не нашли своего подтверждения и выясняется, что земледельческие общины являются многослойными и существуют их вертикальные и горизонтальные прослойки [21: 99-113; 22: 165-171]. В сферах наук антропологии и этнографии проводились исследования, были высказаны многие идеи о структуре населения переходного периода от первобытного общества к классовому обществу, к государственности. В настоящее время становится сложным, какая из них верная, какую из них целесообразно применить для развития общества. В



частности, появились такие общественные термины, как “комплексное общество”, “раннее классовое общество”, “вождество”, “ранние государства” [10; 11; 12: 1-61; 13; 25; 26; 27]. Вместе с упомянутыми выражениями для земледельческих сообществ началось применение термина “цивилизация”, и такой взгляд противопоставляется закономерности формационного развития общества. Термин “цивилизация” стал широко применяться вместе с оседлыми обществами и к кочевым обществам [2: 36-37; 8: 58-63; 16: 3-8; 17: 284-291]. В результате в отношении к ним в науке также появились такие термины, как “цивилизация кочевых скотоводов”, “кочевая мегацивилизация”, “протоцивилизация”, “протогородская цивилизация”, “древние очаги цивилизации”, “цивилизационные процессы”, “обозная цивилизация”, “неформированная цивилизация” [3: 151-164; 6: 179-189]. В итоге было забыто настоящее лексическое значение выражения цивилизации, относящегося обществу, потому теряются свойства эвристичности, привлекательности этого слова [4: 10-13; 24: 139-153; 34: 679-774].

По анализам работ исследователей, проводивших исследование по цивилизационному развитию, можно сделать заключение о существовании следующих понятий, видов:

1. Формирование первых классовых отношений и государственности начинается с периода качественных изменений развития общества цивилизация рассматривается как самый развитый этап в истории человечества. Это понятие по своим корням исходит из трехэтапного, выраженного в форме “дикость – варварство – цивилизация” понятия А. Фергюсона, Л. Моргана, Ф. Энгельса [30: 169-218].

2. Понятие культурологии – по взглядам О. Шпенглера и А. Тойнби, является самой высшей категорией религиозной культуры, и цивилизация тоже неповторима и по своеобразным качествам - один из видов культуры [39: 111].

3. В аксиологическом понятии – цивилизации происходящие во всем мире будничные заботы людей в материальном виде противопоставляются категории культуры и даются божественные качества (И. Кант) [30: 169-218].

4. Понятие на французском – выражение “civilisation” вне зависимости от развития общества применяется относительно любых трех периодов [29: 127; 38: 30]. В этом

значении применение таких выражений, как “лесная цивилизация”, “цивилизация лука”, которые были использованы относительно тропических регионов Африки, что является вполне естественным [15].

В археологии Средней Азии, в науке История Узбекистана широко используется выражение цивилизация, многие археологи пытаются найти признаки, относящиеся цивилизации в культурах бронзового периода. В работах В.М. Массона эта проблема раскрыта на основе широких, научных, теоретических и археологических источников [18; 19: 41-47].

По нашему мнению, в археологии Средней Азии, при определении корней “Цивилизации Окса” культур основанных на земледелии бронзового века, необходимо обратить внимание на три их аспекта:

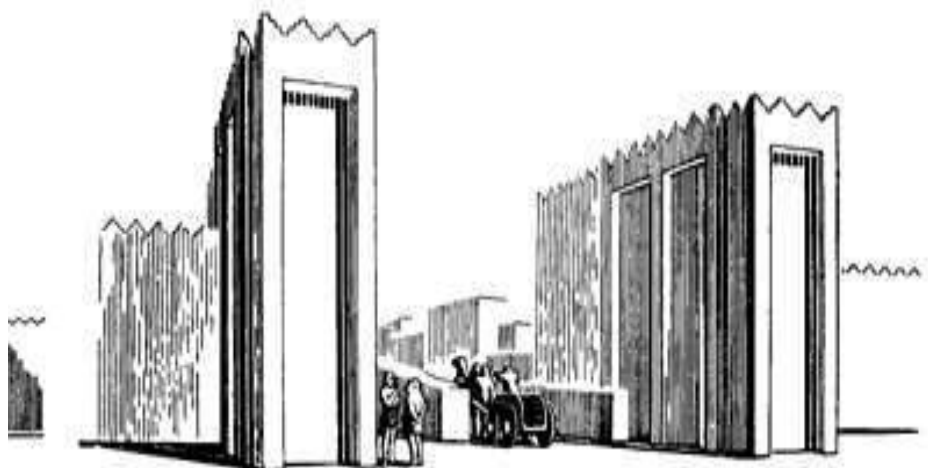
- Во первых, сравнение их с материальными культурами, относящимися к предыдущим периодам;
- второй путь – сравнение их с материальными культурами цивилизаций Древнего Востока;
- в – третьих, сравнение с цивилизациями, основанными на письменных источниках, изученными на этой территории.

По поводу первого направления это метод сравнения и получения выводов основных аспектов материальной культуры памятника Альтынтепа и культуры цивилизации Окса, относящихся к энеолиту и раннему бронзовому веку, находящихся на территории Южного Туркменистана.

Археологические исследования, проведенные на Алтын-Депе утверждают, что в этом памятнике во втором тысячелетии III века до нашей эры, в период среднего бронзового века была обоснована протоцивилизация [20]. В этом памятнике, расположенном в 25 гектарах, были изучены такие архитектурные комплексы, как центр молельни, имеющий монументальную архитектуру, методы строительства дома, показывающие иерархия общества, высокоразвитая коммуникация, широкие улицы, городские ворота, предназначенные для езды телег и построенные на основе высоких фортификационных стилей. Экономическую основу населения памятника, кроме земледелия и животноводства составляло ремесленничество (гончарное дело, обработка металла, обработка камня). По мнению В.М. Массона, Алтын-Депе

является вторичным, находящимся в периферии в сравнении с Месопотамией, Элам, Индией, с развитым, дифференцированным социальным обществом, имеющим сложные

идеологические представления, давшим основу формированию знаковой системы в письме, расположенный в Древней Восточной системе.

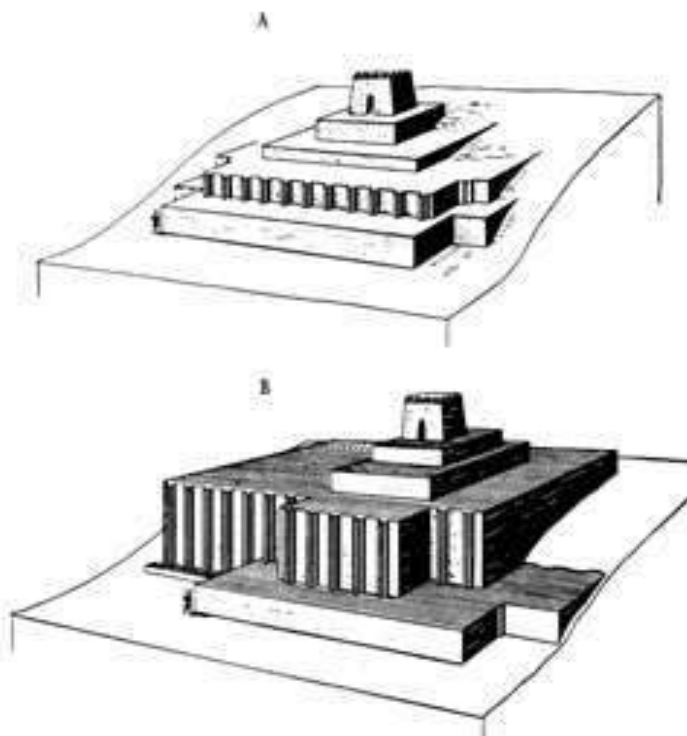


**Рисунок №1. Алтын-Депе. Оборонительная стена и ворота раннего города.**

Л.Б. Кирчо продолжает исследования в этом памятнике и добивается самых новых научных открытий. [9: 142-160]. По его сведениям, основа памятнику Алтын-Депе положена в начале периода энеолита. В этот период на территории Южного Туркменистана в таких памятниках, как Намазга, Дашли, Ялангач, Карадепе тоже проживали земледельческие племена. В IV-III тысячелетиях до нашей эры на Алтын-Депе жизнь продолжалась непрерывно. Общая толщина культурного слоя составляет 12 метров, наблюдается, что на территории

города 17 раз происходила перестройка и его территория постоянно расширялась [9: 153].

Наблюдения по изучению памятника показывают, что в начальном этапе маленькие семьи проживали по кварталам. Это состояние свидетельствует о том, что небольшие семьи объединенно вели единое хозяйство. К раннему бронзовому веку увеличивается объем домов, в которых проживали семьи, появились дворы. В каждом квартале сооружались идеологические центры. Встречаются также источники в виде богатых могил [9: 154].



**Рисунок №2. Алтын-Депе. Храм в типе Зиккурат.**

Население в основном занималось животноводством, земледелием и ремесленничеством. Строительство велось по единому плану, об этом свидетельствует нахождение строительных модулей и метод планового строительства. Конечно, оборонительная стена и монументальный храм являются продуктом коллективного труда.

Развивался один из самых тяжелых и тонких видов ремесленничества – обработка металла. Доказывают это разные трудовые и военные орудия, украшения, печати. Изображения на печатях, узоры на стеклах говорят о формировании литейного металлообработки. В обработке камня из гипса, гранита и диорита, присущего горным веществам Копетдага, изготавливали разные орудия труда и оружие. Из таких камней, как мрамор, доломит изготавливали ожерелья, пряслица, маленькие посуды, печати, подсвечники, статуи антропоморфной формы. А драгоценные камни стеатит, агат, халцедон, сердолик, лазурит были привезены в результате культурных связей и из них изготавливали украшения. Пропорционально с разнообразием камней наблюдается развитие технологии их обработки [9: 156].

Гончарное дело развивалось на основе местных традиций с периода энеолита до последних времен памятника. В

раннем бронзовом веке были изобретены гончарный круг, двухъярусные печи для обжига гончарных изделий. Эти новшества, осуществленные в техническом и технологическом плане, привели к качественным и количественным изменениям гончарных изделий. Вместо керамических посуды, изготовленных вручную и украшенных снаружи краской, относящихся периоду энеолита, началось изготовление на точилках, изящного вида посуды, таких как кубок, ваза и другие.

По исследованиям, проведенным в памятнике Алтын-Депе со стороны В.М.Массона и Л.Б. Кирчо можно дать такое заключение, что здесь в период энеолита формировалась местная культура, к бронзовому веку она поднялась до уровня “протогорода”, основана ранняя цивилизация и продолжалась до конца III тысячелетия до нашей эры.

Значит, в памятнике Алтын-Депе были основаны многие памятники, присущие цивилизации Окса. Это градостроительства (методы строительства, монументальная архитектура, оборонительные сооружения), изобретение в гончарного круга, двухъярусной печи для обжига и точилки в одном из основных направлений ремесленничества, по своим корням свойственны алтынтепинцам и именно



алтындепинцы считаются населением, поднявшим каменотесание до уровня искусства, техника и технология изготовления печати, формированные на Алтын-Депе, изображения на них полностью повторяются в глиптике Окса.

Однако, исследователи цивилизации Окса ищут его корни извне. Основные причины этого, такие как лабиринтная

система в фортификации цивилизации Окса, зооморфные терракоты на венчиках керамических изделий, миниатюрные колонки, изменения в печатях, в общем «несоответствия» в материальной культуре цивилизаций Алтын-Депе и Окса стали причиной того, что исследователи стали искать корни новых цивилизаций из миграции народов Древнего Востока.

### Созидательные, творческие своеобразия населения цивилизации Окса в период энеолита

1.	Появления земледелия, основанного на искусственном орошении	Геоксюр
2.	Увеличение видов культурных растений в земледелии	Джейтун
3.	Изобретение оборонительных стен	Анау, Намазга
4.	Переход к системе патриархата в коллективном управлении	Алтын-Депе
5.	Формирование общих молельных помещений в общинах	Анау
6.	Открытие таких видов молитв, как зоолатрических, к духам предков и небесным телам.	Алтын-Депе
7.	Изобретение ткачества	Джейтун, Анау, Намазга
8.	Изобретение металла (меди, свинца, золота, серебра)	Джейтун, Анау, Намазга
9.	Постоянное развитие технологии металлообработки (стеклоделия)	Джейтун, Анау, Намазга
10.	Изобретение печей для обжига гончарных изделий	Намазга
11.	Появление печатей как знака личной собственности	Анау, Намазга

Археологическая наука делает выводы на основе фактов. По этому аспекту мнения археологов исследователей верны. Керамики

Алтын-Депе и Окса не полностью соответствуют по форме друг другу.



Рисунок №3. Предметы, не относящиеся материальной культуре Алтын-Депе.

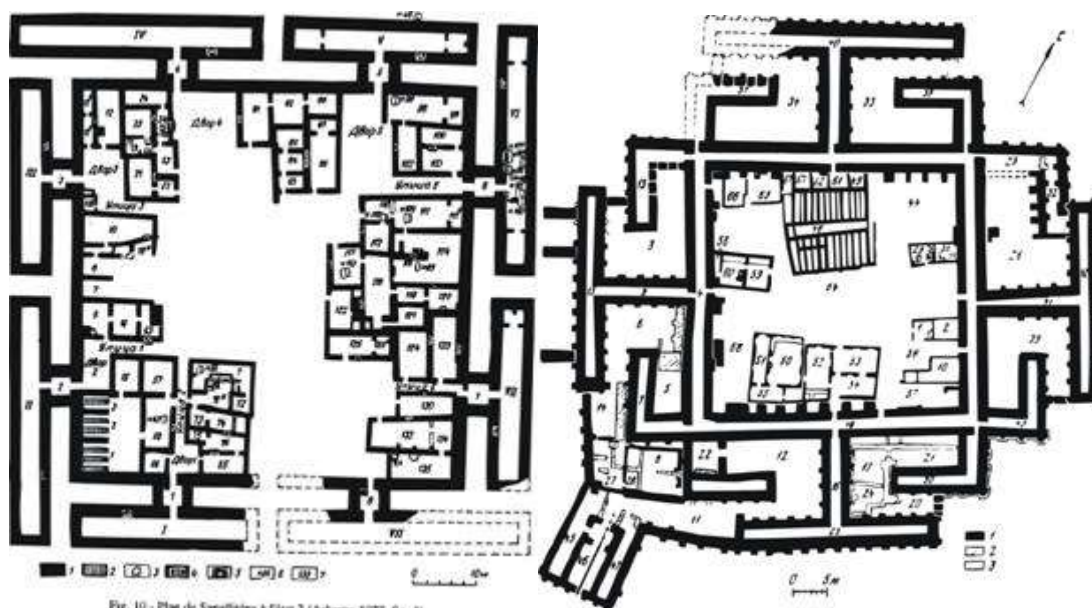


Рисунок № 4. Лабиринтная система, присущая архитектуре цивилизации Окса. Сапаллитепе, Дашли.

В исторической науке современного мира обращается особое внимание трем аспектам обозначения цивилизаций. Это возникновение городов, формирование монументальной архитектуры относящейся правительству и божеству [36; 37]. По мнению В.М. Массона эти признаки не являются последними заключениями в обозначении цивилизаций, определяют также их культурные комплексы [18: 9].

А.П.Медведев при изучении социальной структуры ранних цивилизаций и населения признает самым верным путем следующие научные направления:

- изучение при определении их территорий расположения и распространения и широты закономерностей их структур памятников и расположения по поливным ветвям ;
- выявление территорий памятников, дающих демографические и социальные сведения о правящих сословиях и территории других памятников;
- определение размера памятников и помещений, являющихся основным источником при обозначении состава и вида семьи;
- разработка типологии могил при определении социальной структуры населения;
- изучение места расположения богатых могил в формировании кладбищ [23].

В современной научной литературе утверждается, что ранним цивилизациям и государственности присуще многосословное

общество [31: 234-243]. По взглядам ряда исследователей, естественно, что памятники состоящие из двух частей, естественно, двухэтапное сообщество относится к этапу “абсолютизма”, а многосословное сообщество оценивается как цивилизационная система [1: 122-126; 5: 98-100].

Начиная с исследований Г. Чайлда одним из основных аспектов, различающих города от других памятников, отмечается количество населения. По подсчетам ученого, количество городского населения должно состоять из 5000 человек [32: 9]. Конечно, эта цифра никем не подвергнута под сомнение отвергнуто и не предложено как самый хороший вариант. Только, ни один памятник, относящийся к Андроновской культуры не войдет в категорию городов, если будет определяться по этому. Общая площадь Аркаима состоит из 2-3 гектаров, а население по самым простым подсчетам не превышает 2000-2500 человек [7: 35].

Сословия населения – это социальные группы, чье положение в обществе защищено по традициям, религиозным правилам, а в последнее время в правовом отношении [14: 190-191; 28: 129-149]. Если будем рассматривать структуру населения по некоторым памятникам, в частности в примере памятника Сапаллитепе, то здесь будет неуместным говорить о сословном социальном населении. По классификации М. Фрида население Сапаллитепе является “приравненным”,



“равноправным” сообществом, соблюдающим конкретным правилам [35: 715-721].

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# WEIGHT MANAGEMENT PRACTICES AMONG TERTIARY STUDENTS IN SELECTED INSTITUTIONS IN SAGNARIGU MUNICIPAL OF THE NORTHERN REGION

**Bukari Marima**

<sup>1</sup>Tamale College of Education,  
Prevocational skills Department,  
P. O. Box 1 ER,  
Tamale-Ghana

**Ibrahim Nshinmi Iddrisu**

<sup>2</sup>Tamale College of Education,  
Prevocational skills Department,  
P. O. Box 1 ER,  
Tamale-Ghana

**Kwaatema Florence**

<sup>3</sup>Home Economics Department,  
Berekum College of Education,  
Box 74, Bono Region-Ghana

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## ABSTRACT

*This study was undertaken to investigate the weight management practices among tertiary students in selected institutions in Sagnarigu Municipal of the Northern Region. A survey research design was used for the study. The target population comprised of students in some tertiary institutions of the Sagnarigu municipality. Two hundred and fifty (250) respondents from Tamale College of Education, Bagabaga College of Education and Tamale Technical University participated in this exercise and the sample size was calculated based on prevalence of obesity/overweight. A convenience sampling technique was used in order to meet sample size requirement within the stipulated data collection period. A total of 121 (48.4%) females and 129 (51.6%) of males were involved in the study. Questionnaire was the instrument for data collection. Data were analyzed using IBM SPSS version 20. The study found out that majority (55.6%) of the respondents perceived themselves to have a normal weight, Social media was one of the factors that influence student's bodyweight perception. It was concluded that most of the students had no knowledge of their weight. Forty-seven percent (47%) of them were actually terrified about their current weight. The mean BMI was 23.9kg/m<sup>2</sup> indicating that the sample had normal weight. Almost half (49.2 %) wanted to maintain their weight to regulate their bodyweight. The recommendation was that school authorities should put appropriate measures in place to promote and increase physical activities in their various institutions*

**KEY WORDS:** *Body mass index, weight management practices, weight problems, dieting, exercising, under-weight.*

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## INTRODUCTION

Weight related issues refer to the presence of additional amounts of fat in the body (obese) or inadequate body fat referred to as underweight or Weight management is very vital for humans with weight issues because failure to control body weight could result in health situations that have an effect on people bodily [1]. Weight management is not approximately weight loss most effective but it covers all elements of accomplishing and retaining foremost weight. This is accomplished by using dropping weight within the case of obese or weight problems, and

gaining weight inside the case of underweight. Weight problems, either underweight or over wright are related to increase mortality relative to everyday weight type [2]. From the inception, weight problems has a life time effect due to the fact that weight problems are associated with an accelerated number of harmful life that affect grownup excessively [3].

Weight management strategies are activities such as dieting and exercising that individuals choose to engage in with the ultimate hope of reaching weight related goals [4]. There is a need for weight management especially for people with weight





problems, as untreated weight problems can lead to health disorders that negatively affect different spheres of an individual's life [5]. Weight management can help to address physical problems (physical impairment), psychological problems (restore positive regard for oneself) social problems (engage in social activities), and economic problems (decrease health care costs). Weight management strategies refer to the behaviours an individual engages in as an attempt to lose, gain or maintain weight [6]. These behaviours can range from being healthy to unhealthy, and even life-threatening. Healthy weight control behaviours could include following a low-fat diet and exercising. Unhealthy behaviours could include self-induced vomiting, overuse of laxatives, and skipping meals. According to [7] one of the unhealthiest weight management strategies include not eating any food for significant periods of time and skipping meals intentionally as this slows down the body's normal metabolic activity. In this instant, temporal weight loss occurs, but with the reversion to old eating habits weight regains are inevitable and at times larger than before (this is termed weight cycling). Author [8] identified the three major weight management strategies as physical activity, dieting, and lifestyle modifications. Even though making lifestyle modifications (changes in diet coupled with physical activity and a strong psychosocial support system to enable behavioral changes) is recommended since it is a holistic approach to weight management. Author [9] reports that how a young person perceives weight reflects on their weight management behaviour and they recorded no significant relationship between weight perception and the type of weight management behaviour employed by participants.

Weight management is often misinterpreted as suggesting weight loss, whereas it is a process of living a healthy lifestyle in which one engages in healthy strategies in an effort to obtain and maintain a healthy weight. To achieve a healthy weight, people who are overweight would need to lose weight, and those who are underweight would need to gain weight. With this said, the choice to engage in weight management strategies is largely influenced by one's weight perception, accurate detection of a weight problem and one's emotional response to their perceived weight [4]. According to the self-discrepancy theory people are motivated to use weight management strategies to minimize the discrepancy between their perceived weight and desired weight [10]. Weight management strategies are used in an effort to bring one's perceived weight closer to what is seen as the ideal weight, thus ultimately minimizing the emotional discomfort created by this supposed discrepancy.

According to [11], the young female college students in their study were generally unsatisfied with their weight, and the underlying dissatisfaction was due to a discrepancy between their perceived weight and ideal weight. In other words, the female students' perception of their weight was not congruent with or did not reflect the weight or body shape they desired, which left them with feelings of discontent. This sense of dissatisfaction largely influenced their decision and attempts to either loose or gain weight. Their research found a correlation between weight satisfaction/dissatisfaction and weight control behaviours [11]. The study was undertaken to assess the weight management practices among tertiary students in selected institutions in Sagnarigu Municipal of the Northern Region

## MATERIALS AND METHODS

A survey research design was used for the study. The study was carried out in some tertiary institutions within the Sagnarigu municipality. The target population comprised of students in some tertiary institutions of the Sagnarigu municipality: Tamale College of Education, Bagabaga College of Education and Tamale Technical University respectively. A convenience sampling technique was used in order to meet sample size requirement within the stipulated data collection period. In all two hundred and fifty (250) students participated in this exercise and the sample size was calculated based on prevalence of obesity/overweight ( $P=19\%$ ). A total number of 121 (48.4%) female and 129 (51.6%) of male respondents were involved in the study. A questionnaire was the data collection tool. The questionnaire was assessed for clarity, length and completeness. The data were collected after ethical clearance was granted by the various selected tertiary institution. Data was entered and analyzed using IBM SPSS version 20. Descriptive statistics was used to describe and analyze gender, age, ethnicity, parents' educational level and other socio-demographic characteristics. BMI was calculated as weight (Kg) divided by height (m) squared. Participants were classified into in to 4 groups according to WHO guidelines as follows: underweight (BMI less than  $18.5\text{kg/m}^2$ ), normal weight (BMI  $18.5 - 24.90\text{kg/m}^2$ ), overweight (BMI  $25.00 - 29.00\text{kg/m}^2$ ), and obese (BMI greater than  $30.00\text{kg/m}^2$ ). Evaluation of BMI and respondents perceived weight was done. Also, evaluation of weight perception with respect to nutritional status was done.

## RESULTS AND DISCUSSION

This study seeks to find out the various weight managements practices of students in the study sample



based on the results as indicated in Table 1. Almost half (49.2 %) wanted to maintain their weight. Also, 26.8% respondents engaged in exercise to lose weight and 14.8% wanted to eat more to gain weight. Very few

people (7.7%) dieted to lose weight. In addition to the above, 78.4% of the respondents did not refrained from eating for the pass 24 hours during the last 30 days to avoid increasing their body weight.

**Table 1 Percentage distribution of weight management practices**

Variables	Frequency (N)	Percentage (%)
Exercise to loses weight	67	26.8
Diet to lose weight	18	7.2
Vomit to lose weight	3	1.3
Take diet pill to lose weight	2	0.8
Eat more to gain weight	37	14.8
Did not do anything	123	49.2
<b>Refrain from eating for 24 hours during the last 30 days</b>		
<b>1. Yes</b>	54	21.6
<b>2. No</b>	196	78.4

*Source; field survey, 2019*

Perceived bodyweight and weight management practice in this study is one objective in our study as shown in Table 2. How a person perceives him/herself may predict the kind of weight management practice they engage in whether healthy or unhealthy weight management behavior. Twenty-four (24) and eleven (11) people respectively wanted to gain and maintain their weight; however, five (5) people wanted to lose their weights. 68 of those who perceived themselves as

normal weight wanted to maintain their weight while 28 people wanted to gain weight. Among those who considered themselves to be overweight, 7 people wanted to lose weight and 6 of them wanted to maintain their eights.

**Table 2 Distribution of body weight perception and weight management practice (What are you trying to do about your bodyweight?)**

Weight Perception	Strategies adopted as weight management practice			
	Not trying to do anything	Maintain weight	Lose weight	Gain weight
Underweight	4.0	11.0	5.0	24.8
Normal	24.0	68.0	19.0	28.0
Overweight/obesity	1.0	6.0	7.0	2.0
Do not know	14	8.0	14.0	15.0

*Source; field survey, 2019*

Table 3 show results of the respondents' weight perception and what they did within the last 30 days as a means to regulate their bodyweight. Among the respondents who considered themselves as underweight, 16 people did not actually do anything to regulate their weight status whiles 14 people decided to eat more to gain weight. However, 13 peoples also dieted as a means to regulate their weight status. Also,

69 people of those who perceived themselves as normal weight did not actually do anything to regulate their weight status. Forty-two (42) people engaged in exercise to lose weight and only 19 people ate more to gain weight. Among those who considered themselves to be overweight, 7 people wanted lose weight and 6 of them wanted to maintain their weights.



**Table 3 Frequency distribution of perceived bodyweight and weight management Practices**

During the last 30 days, did you do any of the following?						
Weight Perception	Exercise to lose weight	Diet to lose Weight	Vomit or take laxatives	Take diet pills	Eat more to gain weight	Did not do Anything
Underweight	9.0	13.0	0.0	2.0	14	16.0
Normal	42.0	8.0	1.0	0.0	19.0	69.0
Overweight/obesity	4.0	4.0	1.0	0.0	0.0	7.0
Do not know	12.0	3.0	1.0	0.0	4.0	31.0

Source: field survey, 2019

Table 4 presents the relationship between perceived bodyweight and weight management practices in the study sample. Also, this result indicates the respondents' weight perception and what they did during the last 30 days to regulate their bodyweight. Among the respondents who considered themselves as normal, 29 of them refrained from eating for 24 hours

and 110 of them did not refrain from eating for 24 hours. For respondents who perceived themselves as overweight or obese, 4 of them refrained from eating while 12 of them did not refrain from eating for 24 hours.

**Table 4 Distribution by perceived bodyweight and weight management practices**

During the last 30 days, did you refrain from eating for 24 hours?		
Weight Perception	Yes	No
Underweight	7.0	37.0
Normal	29.0	110.0
Overweight/obese	4.0	12.0
Do not know	14.0	37.0

Source: field survey, 2019

## DISCUSSION

This study demonstrated that almost half (49.2%) of students in the Sagnarigu municipality wanted to maintain their weight hence did not do anything about their weight. According to [12] the two main components that influence weight control behaviour are one's perception and satisfaction with one's weight. Also, from the study, most of the students had accurate body weight perception which resulted in healthy weight management practices (who exercise to lose weight, diet to lose weight or avoid gaining weight). Seventy-eight percent (78.4%) did not refrain from eating for the pass 24 hours or did not skip meals for 24 hours. To achieve a healthy weight, people who are overweight would need to lose weight, and those who are underweight would need to gain weight. With this said, the choice to engage in weight management strategies is largely influenced by one's weight perception, accurate detection of a weight problem and one's emotional response to their perceived weight [4].

The study also revealed that most of respondents in the Sagnarigu municipality wanted to maintain their weight and therefore, healthy weight management practices or behaviors were practiced. This indicates that making a decision to engage in weight management strategies is directly influenced by one's weight perception. Most students in our research area had accurate weight perception which reflects positive weight management which changed their current weight status. The correlation between weight perception and weight management strategies could potentially speak to how, based on their perception, the participants would choose to engage in various weight management strategies. The motivation or reason behind the type of weight management strategy chosen is still not clear, however, each type of strategy may yield different results for the individual in question.

In comparison to the normal weight, underweight, overweight or obese and do not know classification categories, there were fewer people in this study who were actually overweight or obese,



underweight and do not know. But many of them were trying to lose weight. This highlights an important idea that individuals' decision to lose weight or maintain their weight is largely based on their perceived weight. Author [13] found that for many of their participants, children and adults, their weight perception were directly associated with their decision to attempt weight loss, irrespective of their actual weight status. In knowing this, attempts to lose weight may be necessary but not utilized or unnecessary and dangerous. As found in many other studies, weight perception has a significant influence on weight management strategies [14]; [15]. Individuals who are overweight but do not perceive themselves as such are dubious to participate in weight control practices such as diet or exercise [16]. A study conducted by [17], revealed that extra respondents underestimated their weight and this can be a barrier to have interaction in appropriate life-style modification. To efficiently control weight problems and decrease attendant morbidity and mortality, there must be an accurate self-perception of weight via people [18]. The results of the present study indicate that students had an accurate body weight perception which leads to practicing healthy weight management behaviours in Sagnarigu municipality.

## CONCLUSION

From the study, the population surveyed were found to have an accurate perception about underweight, overweight or obese people by identifying them as not being healthy and being physical inactive. Social media was the leading factor that influenced student's bodyweight perception while most students had no knowledge of their weight. Forty-seven percent (47%) of the students were actually terrified about their current weight. The study also revealed that most of respondents in the Sagnarigu municipality wanted to maintain their weight and therefore, healthy weight management practices or behaviors were practiced. This indicates that making a decision to engage in weight management strategies is directly influenced by one's weight perception.

## RECOMMENDATION

School authorities should put appropriate measures in place to promote and increase physical activities in their various institutions

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# A CONCEPTUAL STUDY ON ISLAMIC BANKING VERSUS CONVENTIONAL BANKING -A MULTIDIMENSIONAL ANALYSES

\***Akhthar Jabeen.A** , Student, Department of commerce

\*\***Dr. S.S.Muruganandam** M.com.,MBA., M.Phil.,Ph.D. Assistant Professor,  
Department of Commerce

\* Dr. N.G.P Arts and Science College, Coimbatore- 48. -DrNGPASC 2020-21  
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## ABSTRACT

*In the early period Islamic merchants were indispensable middlemen for trading and business activities. Even. All the previous references of mercantile activities were in the motive of "interest-free" system. The Muslim population is expected to be over 2.6 billion or over 26% of the projected world population of 10 billion by the year 2050. In the 21st century every fourth people would be a Muslim, to explore the potential of economic system in line with Islamic laws where interest (Riba) is prohibited. The present study emphasizes the implementation of Islamic Banking in India. An attempt has been made to study the divergence between the operational aspects of conventional (Western) banking versus Islamic banking. The study identifies that the principles and concepts of Islamic banking which promotes the concept of entrepreneurship and eliminates the default risk in credit. In Islamic Banking entrepreneurs are getting beneficiaries by mutual relationship of risk sharing, financial support. It leads to better performance of entrepreneurs. Islamic banks are expected to be more ethical comparing to western banking, reason being investment methodology selection is subjected to the prohibitions of Islamic laws. Islamic banking seems to be a better management technique for inflation control in India. The study has also made suggestions for various important components like feasible financial structure instruments, the expert panel and advisory board.*

**KEYWORDS:** Financial inclusion, Islamic banking, Riba, Shariah.

## INTRODUCTION

Islamic banking emerged with concepts, techniques and instruments since very long back but the full fledged system came in existence recently in 1980s. Islamic banking is an era of interest free banking governed by the Shariah law in coherence with "The Quran". The Islamic law has developed specific forms of financial transaction as means of earning without resorting to income generation through interest (Riba). The main purpose of Islam is providing utmost welfare to the society and hence Islamic banking is not restricted to Muslims alone. The concept and operational application has been initiated by some Islamic countries like Iran and Pakistan. These countries have implemented Islamic Banking as the sole banking system in their country while others have permitted Islamic banking institutions to operate along with other traditional banks. For example, Malaysia, the first country to issue bonds on Islamic basis. In this way government permitted conventional banks to supply Islamic products along side conventional products. There are

more than 300 Islamic banks in 48 countries working on non-interest modes across globe. In the past years, Bahrain is recognised as the hub of Islamic Banking activities. The country with the largest concentration of Islamic Financial Institutions within the Middle East region, dealing in diversified activities including commercial banking, investment banking, offshore banking and funds management.

## STATEMENT OF THE PROBLEM

Islamic banking is increasingly gaining the acceptance as an effective means to build an inclusive financial system. The central Bank of India and finance ministry should consider Islamic banking as a viable alternative to handle the economic problems as it has all the features of modern banking except interest charging. Islamic banking holds promising opportunities for fuller market operations. Moreover market itself are going to be the simplest judge for the efficiency and pitfalls of Islamic banking in Islamic banking is an ethical business model and works for the overall



welfare of the society, which is much needed for the development of the INDIAN ECONOMY.

### OBJECTIVES OF THE STUDY

- To study the basic principles of Islamic law and concepts in Islamic Banking;
- To study Islamic banking by understanding various Islamic banking products.

### RESEARCH METHODOLOGY

Research methodology is a way to solve the research problems systematically. Primary data- It is collected through questionnaire  
Secondary data- collected from journals, magazines and websites

### TOOLS USED IN THE STUDY

Conventional tools like percentage and descriptive tables were used for the purpose of analysis. Further, the following specific tools were used,

- ▲ Simple percentage analysis
- ▲ Chi-square analysis

### LIMITATIONS OF THE STUDY

1. The data was collected from the respondents of Coimbatore district . So the findings of the study does not considered for other districts.
2. The information can be biased due to questionnaire. Time and Cost are the factors which have limited the size of sample as 120.

### REVIEW OF LITERATURE

Raqeeb (2009) in his study titled 'Interest-free banking ideal for India' concluded that the implementation of Islamic finance in India would attract funds from Gulf countries (Gulf Cooperation Council) for developmental projects. It will also help the minorities and the marginalized to participate in the economy with micro-finance based on equity.

### ISLAMIC BANKING –AN OVERVIEW

Islamic Banking is the banking method which is based on Shariah Law . The Shariah prohibits receipt and payment of interest based system and permits only profit sharing based system. The Holy Quran states that "Allah has allowed only legitimate trade and prohibits interest". It is against receipt and payment of the interest, as interest is leads to exploitation . The purpose of Islamic banking is same as the purpose of conventional banking except that it operates in accordance with the

rules of the Islamic law , known as Islamic rules on transactions (Fiqh al-Muamalat). Islamic Banking does not mean a mere lending institution extending interest-free loans, but a package of Shariah-compliant financial services like Islamic bonds (sukuk), Islamic insurance (takaful), Islamic mutual funds, Technology-driven services like ATMs and online banking, all of which have a tremendous market opportunities in India. In many modern countries mainstream banks are now opening interest free divisions to cater to Muslim clients who refuse to either give or earn interest. There is still a long way to go before the idea of interest-free banking is taken seriously by conventional bankers,customers of conventional banks and policy makers.

### BASIC PRINCIPLES OF ISLAMIC BANKING

- Receipt and payment of interest (Riba) is strictly prohibited. The business is base on sharing profit and loss.
- Certain industries like entertainment for adults, drugs , and gambling are disallowed by Sharia and it has been prohibited for investment. Thiat is why Islamic Banking is also referred to as Ethical banking.
- Banks may not lease or lend any product which they do not own wholly.
- Debt Trading is also not allowed, which is why Banks do not deal in traditional bonds rather they have their own version of such instruments called Sukuk (Islamic Bond).
- Interest free loans are also encouraged in Islamic banks to spread financial inclusion.

### ISLAMIC BANKING PRODUCTS

- Mudarabah
- Murabaha
- Musharaka
- Takaful
- Ijarah

### DATA ANALYSIS AND INTERPRETATION

- The analysis and interpretation of the study is based on the information supplied by a sample of 120 respondents.
- Simple percentage analysis of collected data
- Chi-square Analysis



## SIMPLE PERCENTAGE ANALYSIS

**TABLE 1**  
**AGE OF THE RESPONDENTS**

S.NO	AGE IN YEARS	No. OF RESPONDENTS	PERCENTAGE
1	18- 30 years	62	51.70%
2	31-40 years	33	27.50%
3	41- 50 years	18	15.00%
4	51-60 years	7	5.80%
5	Above 60 years	0	0%
	<b>TOTAL</b>	<b>120</b>	<b>100</b>

Source: Questionnaire

### INTERPRETATION

The above table reveals that the age of the respondents. It is clear that 51.70% of them are between 18- 30 years, 27.50% of them are between

31-40 years, 15.00% of them are between 41- 50 years, 5.80% of them are between 51-60 years, 0 of them are above 60 years

**TABLE 2**  
**HAVE YOU HEARD ABOUT ISLAMIC BANKING**

S.NO	HAVE YOU HEARD ANOUT ISLAMIC BANKING	NO.OF.RESPONDENTS	PERCENTAGE
1	Yes	59	49.20%
2	No	61	50.80%
	<b>TOTAL</b>	<b>120</b>	<b>100</b>

Source: Questionnaire

### INTERPRETATION

The above table reveals the number of respondents heard about Islamic banking. 49.20% of the respondents have heard about Islamic banking, 50.80% of the respondents have not heard about Islamic banking.

### CHI-SQUARE ANALYSIS

In this chapter an attempt is made to analyse the main factors influencing the satisfaction level of the customers while using the products of banks. For the purpose of this analysis, variables are classified into two important strata viz.,  
 Dependent variables and  
 Independent variables.

**TABLE 1- RELATIONSHIP BETWEEN GENDER AND SATISFACTION LEVEL ON TYPE OF BANK**

GENDER	TYPE OF BANK		TOTAL
	ISLAMIC BANKING	CONVENTIONAL ( WESTERN) BANKING	
<b>FEMALE</b>	<b>17</b>	<b>54</b>	<b>71</b>
<b>MALE</b>	<b>12</b>	<b>37</b>	<b>49</b>
<b>TOTAL</b>	<b>29</b>	<b>91</b>	<b>120</b>



To find out the association between age and satisfaction level of respondents on type of bank, chi square test is used and the result is given below.

**HYPOTHESIS**

There is significant relationship between age of the respondents and satisfaction level given by them on type of bank.

**CHI-SQUARE TEST**

FACTOR	CALCULATED VALUE	D. F	TABLE VALUE	REMARKS
GENDER	.005 <sub>a</sub>	1	3.84	ACCEPTED

**INTERPRETATION**

It is clear from the above table show that, the calculated value of chi-square at 0.05% level is more

than the table value. Hence the hypothesis is accepted. So there is a relationship between gender and satisfaction level of respondents on type of bank.

**TABLE 2- RELATIONSHIP BETWEEN RESIDENTIAL AREA AND SATISFACTION LEVEL ON AWARE ABOUT ISLAMIC BANKING**

RESIDENTIAL AREA	AWARE ABOUT ISLAMIC BANKING		TOTAL
	YES	NO	
URBAN	50	5	55
SEMI URBAN	38	1	39
RURAL	19	3	22
SEMI RURAL	4	0	4
<b>TOTAL</b>	<b>111</b>	<b>9</b>	<b>120</b>

To find out the association between residential area of the respondents and satisfaction level on awareness about Islamic banking, chi-square test is used and results is given below.

**HYPOTHESIS**

There is a significant between residential area of the respondents and satisfaction level on awareness about Islamic banking.

**CHI-SQUARE TEST**

FACTOR	CALCULATED VALUE	D. F	TABLE VALUE	REMARK
RESIDENTIAL AREA	3.089 <sub>a</sub>	3	7.82	ACCEPTED

**INTERPRETATION**

It is clear from the above table show that, the calculated value of chi-square at 0.05% level is more than the table value. Hence the hypothesis is accepted. So there is a relationship between residential area and satisfaction level of respondents on aware about Islamic banking.

area of the respondents and satisfaction level on awareness about Islamic banking.

**SUGGESTIONS**

- As the system has great potential for our country, a survey is required to be conducted to know the voice of masses about the implementation of this system leading to awareness campaign at larger level.
- Mobilization of resources can be enhanced by channelizing the savings of Muslim community in the financial system of the country.
- The parallel implementation can be done by having strong guidelines on this system The provisions should be designed in such a way, which will give a positive correlated growth for both the systems.

**FINDINGS**

**SIMPLE PERCENTAGE ANALYSIS**

- Majority (51.70%) of the respondents are between 18- 30 years
- Majority (50.80%) of the respondents have not heard about Islamic banking .

**CHI-SQUARE ANALYSIS**

- There is a significant relationship between age of the respondents and satisfaction level given by them on type of bank.
- There is a significant between residential



## CONCLUSION

Islamic banking system has a great potential for our country and for the entire world. It will rise with the times to come. In this way it becomes important to pave a way for those sections which are away from the banking industry. As banking is the backbone of the economy, a definite support is required from all the sections of the community and of course a significant growth of the community too. This system has a lot of benefits and it is based upon Islamic laws. That's why this banking system can be implemented in a very successful manner. The need is only to understand the concept and to create awareness of this system.





# INFLUENCE OF WATER, SANITATION AND HYGIENE PRACTICES ON STUNTING AMONG UNDER FIVE CHILDREN IN RUKWA REGION, TANZANIA

**Abela Zakayo Twin'omujuni<sup>1\*</sup>**

<sup>1</sup>Research Officer-Nutrition;  
Tanzania Food and Nutrition Centre

**Nyamizi Julius Ngasa<sup>2\*</sup>**

<sup>2</sup>Research Officer-Dietetics;  
Tanzania Food and Nutrition Centre

**Josephine Manase<sup>3\*</sup>**

<sup>3</sup>Research Officer-Sociology;  
Tanzania Food and Nutrition Centre

**Luitfrid Nnally<sup>4</sup>**

<sup>4</sup>Research Officer-Nutrition;  
Tanzania Food and Nutrition Centre

**Elizabeth John Lyimo<sup>5</sup>**

<sup>5</sup>Research Officer-Dietetics;  
Tanzania Food and Nutrition Centre

**Doris Beda Katana<sup>6</sup>**

<sup>6</sup>Senior Research Officer-Nutrition;  
Tanzania Food and Nutrition Centre

*\*Corresponding author*

## ABSTRACT

*Stunting is among the barriers constraining growth and development of many underfive years children particularly in developing countries like Tanzania. Rukwa is among the regions with highest prevalence rate of stunting of the underfive children. Water, sanitation and hygiene (WASH) practices may contribute on stunting of underfive children in the region. The main objective of the study was to explore WASH practices influencing stunting among underfive children in Rukwa Region. A cross-sectional survey design was used to collect data from households whereby 401 mothers with children aged 6-59 months were selected by using simple random sampling. This study used raw data collected through questionnaire by Tanzania Demographic and Health Survey (TDHS) 2015/16. Data analysis was done descriptively and using logit regression model. STATA version 14 was employed to run the analysis. Results showed that spending short time in fetching water for a mother (AOR=0.468, p=0.021) as water practice, and household members use of improved toilet (AOR=0.442, p=0.041) as hygiene practice had significant influence on stunting of underfive children as the two WASH practices minimize the likelihood of stunting. The study recommends that policy makers should endorse new policies or review existing ones as well as implement most appropriate interventions which can improve household access to water and promote sanitation and hygiene especially by providing adequate clean and safe water while sensitising an improvement and use of toilets among community members so as to reverse the rate of stunting partly contributed by poor WASH practices in Rukwa Region.*

## 1. INTRODUCTION

Stunting is a serious problem constraining growth and development of children below the age of five years in developing countries including Tanzania. Stunting has been defined by the World Health Organization (WHO) as height for age z-score of less

than negative two (HAZ<-2) or simply short for age (WHO,2006). It affects approximately 165 million of under-five children globally equivalent to 23% of all children (approximately one in every four children) (Marie et al., 2018). Stunting is an indication of chronic undernutrition which leads to impaired cognitive



development, resulting in low school performance and lower earning as adults, which in turn affects national economic growth at large.

Poor environmental conditions related to water, sanitation and hygiene (WASH) such as lack of availability and accessibility of clean and safe water, poor handwashing at a critical times, improper faecal disposal at the household level, unimproved toilet facility and sharing of toilets among members are the principle causes of diarrhoea among under-five years of age children and may contribute to stunting (Bhutta et al., 2013). The most direct pathway that links poor WASH practices to stunting is via repeated bouts of diarrhoea from a recurrent faecal-oral contamination with a resultant chronic intestinal inflammation and villous blunting (Brown et al., 2013). Apart from contaminated water, poor sanitation and hygiene, infections is also implicated in the pathogenesis of Environmental Enteric Dysfunction (EED) which is still among the possible cause of stunting among under-five children (Brown et al., 2013; Cumming et al., 2016).

In efforts to eradicate stunting and diarrhoea among under-five years of age children, access and all-time availability of safely managed water sources within the premises for purposes of drinking and other house chores is paramount (Modern et al., 2020). Moreover, safely managed sanitation services with unshared latrine facilities within the premises are also vital (Cairncross et al., 2010). People, including children, should have the convenience place for washing their hands with soap and water at all times within their premises. These improved conditions can prevent disease transmissions which lead to diarrhoea, EED and subsequently to stunting among children (Clasen et al., 2014).

In Tanzania, the average stunting prevalence has decreased from 50% in 1991/92 to 34% in 2015/16 affecting one in every three children below the age of five years. Although national prevalence rate of stunting has been observed to drop according to the Tanzania Demographic Health Survey (TDHS), still there is high stunting prevalence rate of 56% in Rukwa region affecting approximately one in every two children (TDHS 2015/2016). Also in the National Nutrition Survey (TNNS) which was conducted in 2018 in the same country, showed high rates of stunting in Rukwa Region, which was 48%. In both Tanzanian national surveys; TDHS 2015/2016 and TNNS 2018, Rukwa remained among of the regions with highest stunting prevalence rate of 56% and 48% respectively which is above World Health Organisation (WHO) threshold ( $\geq 40\%$ ).

The linkages between stunting and nutrition are well known (e.g. Musheiguza et al., 2021; Sunguya et al., 2019; Mgongo et al., 2017), but a few has been explored on the linkages between Water, Hygiene and Sanitation (WASH) and stunting especially in Rukwa Region. Whilst the linkages between nutrition and stunting are well recognized, there is a need to explore environmental factors such as water, hygiene and sanitation, which may influence stunting outcomes (Kwami et al., 2019). Therefore, this study assessed the influence of WASH practices on stunting among under-five children in Rukwa region. The findings from this study will help the government, policy maker, WASH program officers and nutrition partners to plan appropriate nutrition interventions which incorporate WASH factors so as to reduce the rates of stunting for under-five children not only in Rukwa Region but also Tanzania as a whole.

## 2. STUDY OBJECTIVES

### 2.1 Main objective

The main objective of the study was to explore the influence of water, hygiene and sanitation (WASH) practices on stunting among under-five children in Rukwa Region.

### 2.2 Specific objectives

- i. To identify water practices influencing stunting among under-five children.
- ii. To assess sanitation practices influencing stunting among under-five children.
- iii. To determine hygiene practices influencing stunting among under-five children.

## 3. METHODOLOGY

A cross-sectional design was adopted in conducting this study. The study employed quantitative raw data from Tanzania Demographic and Health Survey (TDHS) 2015/16 which was gathered using structured questionnaire administered to mothers with children of 6 to 59 lifetime months. The questionnaire comprised of questions asking WASH practices and measurement instrument of stunting. The study used logit regression model to examine WASH practices influencing stunting among under-five children. Binary indicators was created to measure status of stunting which thereafter coded as 1 if "stunted" (HAZ less than  $-2$  SD) and 0 if "not stunted" (HAZ greater or equal to  $-2$  SD). Independent variables was WASH practices which were measured by selected WASH indicators using dummies except for the time spent by mothers in getting water which was measured in interval scale (walking minutes) (Table 1). Statistical analysis was performed using STATA version 14. The outputs of



logit regression model including Adjusted Odds Ratio (AOR), confidence intervals (C.I) and significance value (p value) were used in interpretation of results regarding WASH factors influencing stunting of underfive children. The following is a logit regression model used in examining WASH predictors.

$$\text{logit}(p) = \ln\left(\frac{\text{Odds}}{1 - \text{Odds}}\right) = \beta_0 + \beta_n X_n + \epsilon_i$$

Whereby; Odds=likelihood of a child to be stunted;  $X_n$ =independent variables comprising of WASH practices;  $\beta_n$ =coefficient of  $X_n$ ;  $\beta_0$ =constant term; and error term denoted as  $\epsilon_i$ .

**Table 1: Independent variables and measurements used in the study**

Variable	Description of indicators	Measurement
Time spent to find water within 16-35 walking minutes (W1)	Spending about 16-35 minutes in finding water.	Walking minutes
Time spent to find water in more than 35 walking minutes (W2)	Spending more than 35 minutes in finding water.	Walking minutes
Drinking water cleanliness and safety (S1)	Use of clean and safe water for drinking	1=if drinks clean and safe water 0=otherwise
Water treatment (S2)	Household treatment of water to make it safe	1=if household treat water 0=otherwise
Sharing of toilets (H1)	Whether households share toilets	1=if households share toilets 0=otherwise
Use of improved toilet (H2)	Whether households use improved toilet facility	1=if household has improved toilet 0=otherwise
Safety handwash (H3)	Use of soap/detergent for hand washing	1=if household members use soap/detergent for handwash 0=otherwise
Handwash place (H4)	Availability of clean and safe water at handwash place.	1=if handwash place has clean and safe water 0=otherwise

#### 4. SAMPLING DESIGN

The survey sample was obtained through simple random sampling of mothers with children of 6-59 lifetime months. Sampling procedures were conducted by Tanzania Demographic and Health Survey (TDHS) in 2015/16. Based on sampling procedures undertaken, 401 mothers were selected by using simple random sampling and thereafter participated as respondents.

#### 5. GEOGRAPHICAL AREA

Rukwa region is situated in the South West highlands of the Tanzania between Latitude of 50 and 90 degrees South of Equator, and between Longitudes of 300 and 33 degrees East. Rukwa Region has an area of 75,240 sq. km, (68,635 sq. km. of land and 6,605sq. km. of inland water) which is equivalent to 8% of the total area of Tanzania Mainland. This region has the

highest stunting prevalence rates of 56% that is approximately one in every two children (TDHS 2015/16), which is above WHO threshold ( $\geq 40$ ). Therefore, this study is ideal in providing useful information to policy makers and other health sector stakeholders so that they can use the study to initiate and implement interventions which can effectively address stunting among underfive children in Rukwa region.

#### 6. RESULTS AND DISCUSSION

##### 6.1 Stunting among the underfive children across demographic characteristics

Demographic characteristic of a child and mother was cross-tabulated against stunting among the underfive children and results are shown in table 2.



**Table 2: Cross-tabulations and chi-square tests of the association between demographic characteristics and stunting(HAZ<-2SD) among underfive children**

Variable		Stunted	Normal	p-value
		%	%	
Child's age in months	0-5	32.50	67.50	0.002**
	6-23	52.52	47.48	
	24-59	62.71	37.29	
Child's sex	Male	58.24	41.76	0.260
	Female	52.30	47.70	
Residence	Rural	56.73	43.27	0.331
	Urban	50.62	49.38	
Mother's Education	Non formal education	48	52	0.015**
	Primary education	60.89	39.11	
	Secondary or higher education	38.71	61.29	

Note:\*\*significantat p< 0.01

This study identified that stunting rate is higher among male children than female in Rukwa Region (58.24% and 52.30% respectively) although the association between sex of a child and stunting is not significant at 5% significant level. This study also found that stunting rate increases with age, from 0 to 59 months. The association between age of the child and stunting is significant (p=0.002) at 5% level of significance (Table 2). Mothers of who had underfive children participated in the study were distributed in different levels of education. Most of mothers had primary education (60.89%) while majority of mothers with stunted children were belonging to respondents who completed secondary and post secondary

education and those who never attend formal education. However, there was significant association between mother's level of education and stunting of their underfive children (p=0.015) at 5% significance level.

### 6.2 Influence of WASH practices on stunting among underfive children

In order to ascertain whether there is influence of WASH practices on stunting of underfive children, multiple logit model was used to examine strong WASH predictors. The findings revealed by logit regression model are summarized in table 3 below.

**Table 3: WASH factors influencing stunting among underfive children**

Characteristics	AOR	95% Confidence interval (C.I)		p-value
		Lower C.I	Upper C.I	
Fetching water by walking within 16-35 minutes (W1)	0.468	0.246	0.89	0.021***
Fetching water by walking in more than 35 minutes (W2)	0.711	0.392	1.289	0.262
Drinking clean and safe water (S1)	1.231	0.709	2.139	0.460
Water treatment (S2)	0.843	0.459	1.545	0.581
Sharing of toilets between households (H1)	0.842	0.518	1.370	0.489
Use of improved toilet (H2)	0.442	0.202	0.965	0.041***
Handwash by clean and safe water (H3)	0.755	0.292	1.95	0.563
Handwash place has clean and safe water (H4)	0.765	0.397	1.475	0.425
Safety handwash (H5)	0.754	0.416	1.368	0.353

Note: W=Water safety practices; S=Sanitation practices; H=Hygiene practices

In water safety practice, the study revealed that mothers of children who spend 16 to 35 minutes to

and from the water source to fetch water had Adjusted Odd Ratio (AOR) of 0.468, which indicated that



likelihood of their underfive children to be stunted was times 0.468 lower than that of their counterparts who spend more than 35 minutes ( $p=0.021$ ) (Table 3). At 95% confidence level, the lower and upper confidence interval for a child belongs to a woman spending a range of 16 to 35 minutes to fetch water for domestic use to be stunted is 0.246 and 0.89 times lower than their counterparts belonging to women who spend more than 35 minutes to fetch water. Inaccessible water sources can cause additional financial burden on households. The water purchase and travel time to access water may drain funds required for adequate diet and time caring for children. Lack of access to safe water also affects the physical well-being a mother and children who have no choice but to carry heavy vessels long distances to fetch water which impacts the health of families. Short time duration to access to safe water helps the families to prepare and protect themselves from illness and disease. Improved access to water could help them to practice good hygiene like handwash and will make the family members not to leave their homes to collect water for long time and save time to care for their children and hence, escape them from stunting.

As far as the use of hygiene ins concerned, it appeared that the Adjusted Odd Ratio of children who belong to mothers living in households with improved toilet facilities to be stunted was 0.442, which is significant at  $p=0.041$  (Table 3). This implies that the likelihood of being stunted among children belonging to households with improved toilet facilities was times 0.442 lower than that of their counterparts who live in households which do not have improved toilets. The lower and upper confidence interval where the odds of being stunted among children belonging to households with improved toilet facilities was 0.202 to 0.965 times lower than that of their counterparts who live in households which do not have improved toilets. Therefore, there is lower possibility for children from households using improved toilet for defecation and disposal of child faeces to be stunted than children from households whose members use unimproved toilets. Stunting of children can be caused by faecal contaminations which led to frequent attacks of diseases such as diarrhoea. Poor health status of children due to frequent attacks of diseases from water contaminations with faeces discharged from unimproved toilets is often adversely affect growth and development of children and consequently may contribute to child stunting.

Evidence from descriptive statistics revealed in this study show that in Rukwa 57.97% of households dispose the stool from children in an open environment (not in the toilet) and 61.39% percent of households do

not have access to improved sanitation such as improved toilets which do not discharge faeces or allow disease transmission agents such as flies to enter in. This implies that the more open defaecation and use of unimproved toilets are practiced in the community, the more children will suffer from infectious diseases and hence result to child stunting. Moreover, the study revealed that other WASH assessment indicators including drinking clean and safe water among household members; water treatment at household level; sharing of toilets between households; use of clean and safe water for handwash; availability of water at handwash places; and use of soaps and detergents as safety handwash had no significant influence on stunting of underfive children.

## 7. SUGGESTIONS

This study is suggesting that policy makers should endorse new policies or review existing ones as well as implement effective interventions which can appropriately address stunting among underfive children while dealing with improvement of water, sanitation and hygiene. Policies supporting WASH interventions especially those improving household access to clean and safe water together with sensitising improvement and use of improved toilets among community members can contribute in reversing the rate of child stunting accelerated by existence of poor water, sanitation and hygiene practices in the study area.

## 8. CONCLUSION

Adequate childhood development is crucial especially for children who are under the age of five years due to the fact that during this lifetime children face several barriers in their growth and development including stunting. Adequate and safe drinking water, proper sanitation and adequate hygiene are key drivers of health and nutrition for human beings especially the underfive children. Rukwa Region in Tanzania is experiencing the highest rate of stunting among underfive children. Water, sanitation and hygiene practices have an influence on stunting of these children in the region. Spending few hours for mothers in fetching water for domestic uses reduces the possibilities of stunting of their children since mothers can have more time to take care of their children by making sure that children are always clean, child have access to safe water and complying with general hygienic conditions. Also, children from households with improved toilets have low possibilities of being stunted due to the fact that they are usually prevented from faecal contaminations which contribute to waterborne diseases such as diarrhea. Exposure to





waste contaminations results cause diseases to underfive children which deteriorate their health and growth. Thus, improving water, sanitation and hygiene practices especially by making water available nearby households and improving household toilets can contribute to reduce the rate of stunting among underfive children.

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# A KNOCK AROUND THE ECONOMIC IMPACT OF COVID-19 WITH REFERENCE TO THE QUANTUM OF GOODS AND SERVICES TAX COLLECTION IN INDIA

**Dr. Baneswar Kapasi**

Associate Professor,  
Department of Commerce,  
Kazi Nazrul University, Asansol  
Paschim Bardhaman,  
West Bengal, Pin – 713340

**Dr. Mahesh Kumar Kurmi \***

Assistant Professor,  
Department of Commerce,  
Kazi Nazrul University,  
Asansol  
Paschim Bardhaman,  
West Bengal, Pin – 713340

\*Corresponding Author

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## ABSTRACT

*COVID -19 has wedged all the major economies across the globe significantly. The World Health Organisation (WHO) first declared COVID-19 as a world health emergency in January 2020. The virus originated in Wuhan, China, but has been detected in over 200 countries. Amid the Coronavirus Pandemic, several countries worldwide resorted to lockdown to control infection. Due to lockdown, the production and distribution chains have been disrupted across the lands. All the segments of the economy have been impacted in different magnitude, and this has a direct impact on GDP, unemployment ratio, and tax collection. Goods and Services Tax (GST) is a harmonized tax of different indirect taxes in India. The GST collection reflects the volume of economic activities in India. Thus, in this paper, an attempt has been made to assess the impact of Covid-19 on the Indian economy concerning the quantum of Goods and Service collection in India during the lockdown period. For this study, secondary data relating to GST collection have been pooled from the official websites of the GST Council of India for the last three years, i.e., 2018 to 2020, and pair t-test have been run for testing statistical significance of the impact of COVID-19 on the quantum of the collection of Goods and Service Tax in India before and after lockdown announcement after adjusting the inflation factor. The results indicate no significant difference in the quantum of Goods and Services Tax Collection in India before and after the lockdown announcement due to the COVID-19 outbreak but a loss of Rs. 1,41,837 crore owing to the low collection of GST from March 2020 to August 2020 gives us a clear message that we should undoubtedly rethink the plans in more structural and more viable ways to reach a position to absorb any kinds of uncertain threats from the external environment.*

**KEYWORDS:** Covid-19, GST, Indian Economy, Pandemic, Lockdown

## 1. INTRODUCTION

Covid-19 has impacted every part of our life, whether it is our social life or economic, political life or religious. Although this untreatable virus originated from China, it has affected us much more poorly than China as we are not able to absorb the uncertain threats from the external environment. All the parts, especially the transport sector, including tour and travel, production, and distribution, have been badly impacted due to prolonged lockdown. In some cases, the lifestyles have been changed totally due to this Corona outbreak.

The most critical impact of the Covid-19 pandemic has been witnessed on the Indian economy, especially regarding employment and income generation. The majority of the Indian population

depends upon daily income. This Covid-19 and subsequent prolonged lockdown made many populations of India unemployed. The low-income feature of the Indian economy has created a vicious circle on the low-income group of people. The second significant impact of Covid-19 on the Indian economy can be seen in the transport and distribution system. Covid-19's third impact on the Indian economy can be seen as consumer spending, as consumer spending has been the worst hit due to the loss of daily income jobs.

Goods and Services Tax in India is a harmonized indirect tax on a PAN India basis. Significant indirect taxes are subsumed with the GST. It indicates economic activities in terms of production, trade, commerce, and consumption.



Indirectly it also implies the magnitude of employment in India. Hence, the economic impact can be assessed through the quantum of collection of GST.

## 2. SURVEY OF EXISTING LITERATURE

There is no good number of studies conducted so far on the impact of Covid-19 on the Indian economy. Different news report of electronic and print media has conducted few studies on this issue. Different economic and financial agencies have also undertaken few studies to assess the impact of Covid-19 on the Indian economy regarding various economic indicators and economic sectors.

**J.D Sonkhaskar (2020)**, through his article 'Impact Of Covid-19 on Indian Economy', attempted to give an overview of the Covid-19 situation in India, the state of the Indian economy before the pandemic, its impact on different sectors of the economy, policy recommendation and strategies designed by the Indian government to lower the financial disaster. He has elaborated the influence of the pandemic situation sector-wise and suggested the different strategies for minimizing the economic losses in Indian scenario.

**Agarwala, Shubhi and Singh, Archana (2020)** put an effort to depict the waves of Covid-19 on different sectors of the Indian economy in their study 'Covid-19 and Its Impact on Indian Economy. He has also made an effort to endow the government policy framework in this regard. Authors have also focused on those economic sectors that grasp a boost due to the outbreak of covid-19. They considered secondary data to judge the economic conditions from December 2019 to May 2020. Interestingly they provided twenty-four suggestions for minimizing the impact of the pandemic on the Indian economy after considering the effects of the pandemic on-demand front, supply front, financial market, and international trade, and economic growth.

**HaiYue Liu et al. (2020)** have conducted a study on the COVID-19 Outbreak and Affected Countries Stock Markets Response. They have evaluated the short-term impact of Covid-19 through event study methodology on twenty-one leading the stock market. They have concluded that the effects of the Covid-19 on Asian Countries are negatively abnormal after Covid-19 compared to other Countries.

**M. Chaudhary, P. R. Sodani, and S. Das (2020)**, through their article "Effect of COVID-19 on Economy in India: Some Reflections for Policy and Programme," have assessed the bearing of Corona outbreak on affected sectors. They have highlighted the impact of Covid-19 on aviation, tourism, retail, capital markets, MSMEs, and Oil sectors. They have suggested that the policymakers of India must rethink the development paradigm more inclusively

with the help of some reforms in the area of the labour market.

Most of the studies have been conducted to assess the impact of Covid-19 on the Indian economy regarding the demand-supply chain, international trade, financial market, stock market, and economic growth. However, hardly any study has been conducted to assess the impact of Covid-19 with reference to the quantum of Goods and Services Tax Collection in India.

## 3. OBJECTIVES OF THE STUDY

This study aims to assess the economic impact of COVID-19 with reference to the quantum of Goods and Services Tax collection in India.

## 4. HYPOTHESIS OF THE STUDY

To attain the above stated objective of the study, the following null hypothesis is to be tested in this regard:

Null Hypothesis ( $H_0$ ): There is no significant difference in quantum of Goods and Services Tax collection in India before and after lockdown announcement due to COVID-19 outbreak.

Alternative Hypothesis ( $H_1$ ): Rejection of Null Hypothesis implies a statistically significant difference in quantum of Goods and Services Tax collection in India before and after the lockdown announcement due to the COVID-19 outbreak.

## 5. RESEARCH METHODOLOGY

Secondary Data relating to GST collection have been pooled from the official websites of the GST Council of India. In addition to that, data pertaining to the Consumer Price index have been collected from the relevant industry website.

For adjusting inflation factors on GST collection, the data of 2018 and 2019 have been converted at the price level of 2020. After converting the GST collection of 2018 and 2019, a paired t-test has been run for calculating the statistical significance of COVID-19 on the collection of Goods and Service Tax. The conversion factor for converting GST collection in 2018 at the price level of 2020 =  $CPI_{20}/CPI_{18}$ . Similarly, the Conversion factor for converting GST collection in 2019 at the price level of 2020 =  $CPI_{20}/CPI_{19}$ .

After collecting and converting the data into the current price level, analysis has been done by comparing the quantum of GST collection for the period from April 2020, i.e., from the announcement of lockdown by the Indian Government to December 2020 with the average quantum of GST collection for the period from April to December of 2018 and 2019 at the price level of 2020 to conclude the economic impact of Covid-19 concerning the quantum of Goods and Services Tax Collection in India.



## 6. FINDINGS AND DISCUSSIONS

### 6.1 COLLECTION OF GOODS AND SERVICE TAX (GST): GAIN/ LOSS ANALYSIS

Goods and Service Tax in India is a single indirect tax that combines different indirect taxes levied on goods and services in India. Goods and Service Tax includes Central Goods and Service Tax (CGST), State Goods and Services Tax (SGST), Union Territory Goods and Services Tax (UTGST), Integrated Goods and Services Tax (IGST). Goods and Services Tax is collected on every stage of value addition in production, distribution, and consumption. It is a destination-based consumption

tax that reflects the production and the consumption or demand. Goods and Services Tax is also collected on services, and therefore the economic activities relating to services can also be assessed using the quantum of Goods and Services Tax collection.

GST collection directly or indirectly indicates the level of economic activities in terms of trade, commerce, production, distribution, and consumption in the country. Higher GST collections represent an increase in economic activities like production, distribution, and consumption. Similarly, lower GST collections epitomize the downtrend of economic activities.

**Table -1: Monthly GST Collection (Rs.) (In Crore) along with YoY Growth Rate**

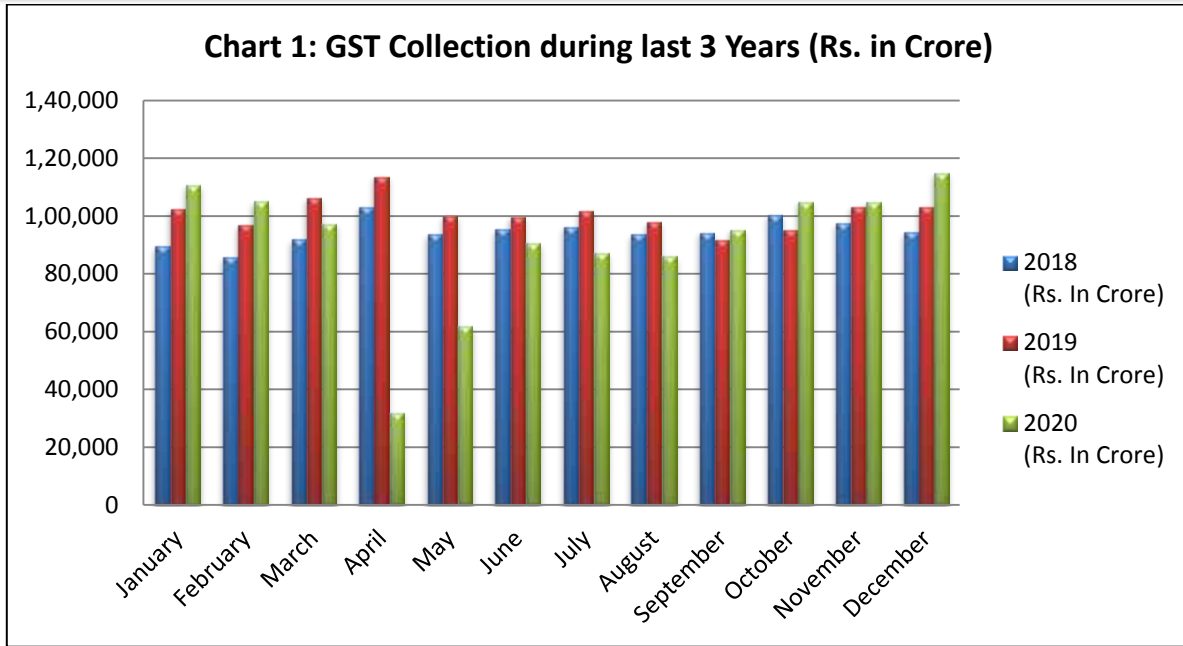
Months	2018 (Rs. In Crore)	2019 (Rs. In Crore)	YoY Growth Rate (%) from the Year 2018 to 2019	2020 (Rs. In Crore)	YoY Growth Rate (%) from the Year 2019 to 2020
January	89,825	1,02,503	14.11	1,10,828	8.12
February	85,962	97,247	13.13	1,05,366	8.35
March	92,167	1,06,577	15.63	97,597	-8.43
April	1,03,459	1,13,865	10.06	32,172	-71.75
May	94,016	1,00,289	6.67	62,151	-38.03
June	95,610	99,939	4.53	90,917	-9.03
July	96,483	1,02,083	5.80	87,422	-14.36
August	93,960	98,202	4.51	86,449	-11.97
September	94,442	91,916	-2.67	95,480	3.88
October	1,00,710	95,379	-5.29	1,05,155	10.25
November	97,637	1,03,491	6.00	1,04,963	1.42
December	94,725	1,03,184	8.93	1,15,174	11.62

Source: [www.gst.gov.in](http://www.gst.gov.in)

Table-1 indicates monthly GST collection in India from January 2018 to December 2020. The above table shows that the GST collection has been amply crushed from April 2020 to August 2020. The GST collection was Rs 89,825 crore in the month of January 2018, and it was accounted for Rs 1,02,503 crore in the month of January 2019, which indicates 14.11% growth on a Year-on-Year basis. GST collection in the Month of January 2020 was accounted for Rs 1,10,828 crore, showing 8.12% growth on a Year-on-Year basis. A declining and up-down trend in GST collection is noticed from March 2020 to August 2020. Total GST collection was amounting to Rs 1,03,459 crore in the month of April 2018, and it was accounted for Rs 1,13,865 crore in the month of April 2019 that representing 10.06% growth on a Year-on-Year basis. Total GST

collection was amounting to Rs 32,172 crore in the month of April 2020, which reflects 71.25% negative growth on a Year-on-Year basis.

Similarly, total GST collection was amounting to Rs 94,016 crore in the month of May 2018, and the same was amounting to Rs 1,00,289 crore in the month of May 2019 that signifies a 6.67% growth in total GST collection on a Year-on-Year basis. The entire GST collection for the month of May 2020 was amounting to Rs 62,151 crore that shows 38.03% negative growth on a Year-on-Year basis. Recovery in the total GST collection was started from the month of September 2020. The monthly collection of data has also been depicted through chart one that reflects the last three years collection of GST (Rs. in crore) in India.



Comparative YoY Growth Rate (%) from the Year 2018 to 2019 and YoY Growth Rate (%) from the Year 2019 to 2020 have been portrayed through Chart 2.

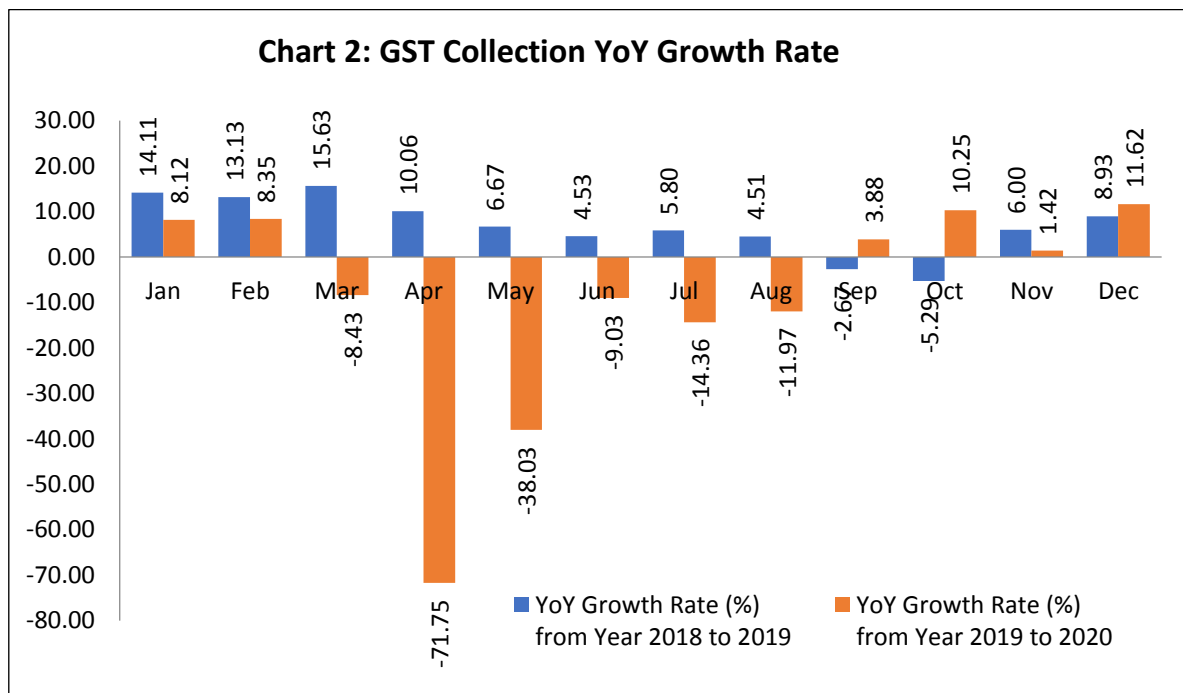


Table-2 depicts the GST collection of 2018 and 2019 at the price level of 2020 and the loss of GST collection during the lockdown period in India due to the COVID-19 outbreak. The maximum loss is seen in April 2020, a month of complete lockdown followed by May 2020. Loss of GST collection at the price level of 2020 is also seen in the month of July

and August 2020, but the quantum of loss is relatively lower than the month of April and May because of partial lockdown. However, recovery of loss of GST collection is noticed from the month of September 2020. Total loss of GST collection was accounted for Rs 1,41,837 crore from March 2020 to August 2020.





**Table-2: Goods and Service Tax Collection at the Price level of 2020) (Rs. in Crore)**

Months	Amount of GST collected in 2018 at 2020 price level (Rs. In Crore)	Amount of GST collected in 2018 at 2020 price level (Rs. In Crore)	Monthly Average	Amount of GST Collected in 2020 (Rs. In Crore)	GST Gain/Loss (Rs. In Crore)
January	95,555	1,06,115	1,00,835	1,10,828	9,993
February	90,479	99,444	94,961	1,05,366	10,405
March	95,416	1,07,021	1,01,219	97,597	-3,622
April	1,05,135	1,12,079	1,08,607	32,172	-76,435
May	93,380	96,908	95,144	62,151	-32,993
June	95,771	98,129	96,950	90,917	-6,033
July	97,368	1,01,831	99,599	87,422	-12,177
August	95,446	98,606	97,026	86,449	-10,577
September	96,004	93,128	94,566	95,480	914
October	1,02,196	96,786	99,491	1,05,155	5,664
November	99,725	1,05,099	1,02,412	1,04,963	2,551
December	99,869	1,05,868	1,02,869	1,15,174	12,305

Source: Own Computation

## 6.2 TESTING OF HYPOTHESIS

To achieve the specific objective of the study and to test the research hypothesis, paired t-test has been applied here. Here GST collection has been divided into two categories: Variable 1- Average

monthly GST collection of year 2018 and 2019 at the price level of 2020 for the period April to December and Variable 2- GST collection from April 2020 to December 2020.

**Table 3 : Result of Paired t-Test**

	Variable 1	Variable 2
Mean	99629.32499	86653.66667
Variance	19819346.5	644535688.5
Observations	9	9
Pearson Correlation	-0.3251805	
Hypothesized Mean Difference	0	
Df	8	
t Stat	1.433056703	
P(T<=t) one-tail	0.094870096	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.189740193	
t Critical two-tail	2.306004135	

Since the calculated p-value (0.1897) is more than 0.05, we cannot reject the null hypothesis, indicating any significant difference in the quantum of Goods and Services Tax Collection in India before and after the lockdown announcement due to the COVID-19 outbreak.

## 7. CONCLUSION

The Covid-19 has distorted the Indian economy in unpredictable ways during the lockdown period. The lockdown nature was unique, unexpected due to demand shock, supply shock, and market

shock. Due to the lockdown for COVID-19, the Indian economy has affected all other economies differently. Goods and Service Tax collection is a variable that combines different economic parameters. It indicates production, consumption, income, employment, etc. Though the above study demonstrates no significant difference in quantum of Goods and Services Tax Collection in India before and after lockdown announcement due to COVID-19 outbreak, if we observe the first six months of lockdown period, we can say that the Indian economy suffers a loss of Rs. 1,41,837 crore due to



low collection of GST from March 2020 to August 2020. This negative impact on GST collection indirectly indicates how the Indian economy and different sectors have impacted during the lockdown period. This impact has a long-term bearing on the Indian economy in GDP, employment, trade, and commerce. The policymakers should undoubtedly rethink the plans in more structural and more viable ways to reach a position to absorb the uncertain threats in any form from the external environment. This Covid outbreak gives us a clear message to adopt a sustainable development model based on inclusive growth and self-reliance.

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## ANNEXURE

Table 4: Wholesale Price Index

Year (WPI)	2018	2019	2020	(PI2020/PI2018)	(PI2020/PI2019)
January	116	119.2	123.4	106.38	103.52
February	116.1	119.5	122.2	105.25	102.26
March	116.3	119.9	120.4	103.53	100.42
April	117.3	121.1	119.2	101.62	98.43
May	118.3	121.6	117.5	99.32	96.63
June	119.1	121.5	119.3	100.17	98.19
July	119.9	121.3	121	100.92	99.75
August	120.1	121.5	122	101.58	100.41
September	120.9	121.3	122.9	101.65	101.32
October	122	122	123.8	101.48	101.48
November	121.6	122.3	124.2	102.14	101.55
December	119.7	123	126.2	105.43	102.60

Source: <http://eaindustry.nic.in>



# ARCHITECTS OF BHAGAT SINGH: INFLUENCE OF THE FAMILY AND GURUS ON THE LIFE OF BHAGAT SINGH

**Mr. Nikhil W. Chavan**

Research Scholar  
Department of English,  
Dr. Babasaheb Ambedkar Marathwada  
University, Aurangabad

**Dr. Pradnyashailee Bhagwan Sawai**

Associate Professor and Research Guide  
Government College of Arts and Science,  
Aurangabad.

## ABSTRACT

*Every page of Bhagat Singh's life is filled with unselfish zeal, amazing courage and wonderful deeds. He was such a revolutionary who cannot be banned by the boundaries of history. The revolutionary movement of Bhagat Singh was not just a movement against the British government, but there was an ever-ending revolutionary struggle against fascism and imperialism, which has great significance not only in the politics of India but also in the politics of the world. In this paper his schooling in colonial era, Choices of institutes, reading preferences, role of hereditary and academic Gurus will be discussed.*

**KEYWORDS:** *Biography, Education, Reading-Learning, Teaching, History, Thoughts, Reading, Writings.*

## ARCHITECTS OF BHAGAT SINGH

Bhagat Singh had got revolutionary seeds from his uncle Ajit Singh in his childhood. Ajit Singh was a belligerent revolutionary and with Lala Lajpat Rai, he had created an organization named Bharat Mata Society which taught the young people the love of nation. Ajit Singh was a great leader of the *Kisan Sangathan* and was afraid of arrest, leaving the country in 1909; he went abroad, while Bhagat Singh was only two years old. On the same day after the independence of India, this great revolutionary died.

Bhagat Singh came to Kanpur in 1923. Before coming, he informed his father through a letter that he could not get married as he had taken a vow to offer his life for the freedom of the country. Bhagat Singh met Ganesh Shankar Vidyarthi who was editor of *Pratap* newspaper. Bhagat Singh started writing in *Pratap* in the pseudonym of Balwant Singh. He also contributed to flood relief works and for some time he also worked as a headmaster in a school. His article "Why, I am an Atheist" was published in 1930. After this revolutionary work Bhagat Singh's name spread throughout North India. When Bhagat Singh was 19 years old, he had declared that he was an atheist and his path to revolution was his own way.

The Dwarka Das Library of Lahore also has an important contribution in the development of

Bhagat Singh's intellectual and political consciousness. There were several compositions of Marx in this library that there were many important books of communist ideology. Bhagat Singh was fascinated by the consciousness of human freedom, and in the mid-1920s books available in this library only increased his attitude towards Marxism. The Ghadar movement of Punjab also led Bhagat Singh to this path and made rapid progress. Bhagat Singh's ideology was clearly near to the Marxist ideology. He was also favoured for social change. When Ramanand Chatterjee, editor of *Marion Review*, raised many questions on the slogan of 'Inquilab Zindabad', Bhagat Singh responded by a character who was featured in 'The Tribune' in December 24. Bhagat Singh wrote that:

"The revolution is not the only name to engage in cruel acts, nor is it the sight of the bomb and pistol, although they play a role during the revolution, but this revolution is not the only instrument. Hence revolt is not considered a revolution. The meaning of the word revolution is with the thought and the spirit that changes the form of change for the good. People often become etc. of the established system and are afraid of change. This lazy feeling is thrown away by revolutionary consciousness. In its absence,



the ability to fight the society decreases and the entire humanity gets entangled in the clutches of reactionary forces. This stops the development of the country society and the person. The spirit of revolution communicates with the new consciousness in the colors of the human being, due to which the reactionary forces can not dare to stop its path. Always try to change old practice in the new system so that corruption cannot be reached in the system. With this spirit, we raise the slogan of the revolution to be omnipresent”

(1929, 03)

Bhagat Singh was feeling that he should come in front of the public openly and make the public aware of his thoughts. And in keeping with the revolutionary party's position in 1926, he established the Naujawan Bharat Sabha. This was the open forum of the revolutionary party in which doors for the believers who considered the customs of the Naujawan Bharat Sabha were open. To make a progressive constitution of Naujawan Bharat Sabha, his best companion revolutionary Bhagwati Sharan Vohra provided full support. In his My Meetings with Bhagat Singh, Sohan Singh writes:

The activities of the Naujawan Bharat Sabha founded by Bhagat Singh were mainly confined to the students in colleges. It was semi-secret organisation with open and secret programme for enlisting recruits from among the students for revolutionary purpose....The British Vice-Chancellor ordered that no college staff member was to lecture for the Sabha on social topics, civics, etc.

(1976, 12-13)

In keeping with the development of labourers, farmers and other components in this Constitution Bhagat Singh, Sukhdev and Bhagwati Sharan etc constituted 'Naujawan Bharat Sabha' in Lahore. Its real purpose was to bring its thoughts to the public through commentaries, statements and meetings and to awaken the said national sentiment in the public. The purpose of this meeting was to protect Indian languages and culture, increase physical, mental health, and remove the prejudices. It was a historical stage of revolutionary movement, under which, by introducing new comrades, the revolutionary path was carried forward. While becoming a member of the Naujawan Bharat Sabha, he had to swear that he would understand the interest of the nation better than himself. Bhagat Singh, Sukhdev and Bhagwati Sharan Vohra used to prepare the program for this meeting. And within a few days the branches of Naujawan Bharat Sabha spread far and wide. The Sabha observed the celebration of the martyr Sardar Kartar Singh Sarabha's sacrifice day with great fanfare in Bradley Hall openly. It was a public

meeting, whose main purpose was to make youths oriented for revolution. A big picture of Kartar Singh Sarabha was performed in this festival, which was inaugurated by the great revolutionary Smt. Durga Bhabhi and Sushila Didi, cutting their finger and bleeding with blood. Seeing this, celebrating the country's devotion and sacrifice in public was a historic event. Another objective of the Naujawan Bharat Sabha was to chase young men for the revolutionary party and to fulfil the objective; Bhagat Singh organized a union of students in Lahore, which was a co-institution of Naujawan Bharat Sabha. Through this, the use of political awakening in the public from time to time and the strengthening of the revolutionary party was done. In the Naujawan Bharat Sabha, there used to be speeches from time to time. The Sabha was busy in organizing meetings for communities and communal harmony, collective food, opposition to religious superstition and to overcome from all kinds of discrimination was their supreme aim. There was no place for religious slogans in this meeting. Its slogans were 'Hindustan Zindabad' and 'Vande Matram'. This meeting was a sort of secret revolutionary movement, which later changed into a different organization.

How did Bhagat Singh revolutionize? The answer to the question of how his thoughts were so developed? Profoundly Bhagat Singh was originally born in a revolutionary family. Similarly, Bhagat Singh had read revolutionary literature in his house. Later, when he was in school and college, he read more about political literature, revolutionary literature and western ideas. This resulted in the ideological backdrop of Bhagat Singh.

Bhagat Singh was a studious personality since childhood. He did a thorough study before doing any work and decided on it only after thorough investigation. He did not do any work without understanding the ideological background. There were always books in his pocket. In addition to being a revolutionary, he was a multi-faceted personality and a talented young man who was ordinary but extravagant. He had good leadership qualities in him. That's why he got an opportunity to lead in the Hindustan Socialist Republican Association. His leadership was so artistic; he justified the opinions in the discussion of the Council. He was successful in convincing his opinions.

One of the qualities of being a leader in Bhagat Singh was that he understood the aspiration of the people in a proper way. Secondly, he knew the right way to achieve the goal. He had the ability to overcome the problems in the path. Bhagat Singh was a distinguished and ideal young man. Most of those people knew him as a young man working on revolutionary and violent lines. He was originally rebellious, but on the contrary, he was a good man, supreme patriot, thinker and a great leader. Apart



from this, his contributions in the form of a good writer are incomparable.

In the year 1931, Bhagat Singh wrote the introduction to the book *Dreamland*, written by his friend, Lala Ramasarasandas. In which his articles on violence-non-violence, God, religion and political issues are important. An example of Bhagat Singh's literary love is the prison diary written in the cell. Shiv Verma has discussed Bhagat Singh's four books in his last days in jail. Virendra Sindhu in his *Sardar Bhagat Singh, Patra Aur Dastavej* mentioned:

Ideals of Socialism, Autobiography, Maut Ke Darvaje Par, Swadhinta ki Ladhai Me Punjab Ka Pehla Ubhar. These are some of his important books. These books were sent outside the jail safely but unfortunately got destroyed. Fortunately some part of *Swadhinta ki Ladhai Me Punjab Ka Pehla Ubhar* was published in *Vande Mataram* an urdu weekly.

(2012, 88)

The original body of Bhagat Singh was of revolutionary thought. He was not only a writer but was also a revolutionary writer.

"Bhagat Singh was an objective writer, he had dedicated every move and every work for a purpose, that purpose was to make the people ready for revolution."

(2013, 10)

One habit of Bhagat Singh was that, while reading, he used to memorise the sentences which he liked, and often used them in articles and conversation. These sentences made his writing and conversations beautiful. One thing can certainly be said about Bhagat Singh that while he was in the National College, the writings of Bhagat Singh appeared in various forms. In the preface of 'The problem of language and script of Punjab', he established the importance of literature, and on such a solid historical background. In *Yugdrashta Bhagat Singh aur unke mrityunjay purkhe* Virendra Sindhu writes:

"Patriots though they are social reformers, or politicians, give the most attention to literature. If they cannot create new material according to the contemporary problems and circumstances, then all their efforts will fail and the work will not be permanent." (1968, 305)

Bhagat Singh was a good translator and teacher along with a prominent speaker. Bhagat Singh cleverly tasked the post of headmaster in the National School in Shadipur village in Khaer Tehsil under Aligarh district. Students used to say from his studious nature and fondness of teaching:

"If you were not a revolutionary, you would have been an impoverished headmaster" (2013, 69)

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## COVID 19 OUTBREAK-REVIEW ARTICLE

<sup>1</sup>Ravula Rohini\*, <sup>2</sup>Nerella Keerthana, <sup>3</sup>Gourishetti Bindhu, <sup>4</sup>Akula Shiva  
 St.Peter's Institute of Pharmaceutical Science, Hanmakonda, Warangal, Telangana,India

### ABSTRACT

*An acute respiratory disease, caused by a novel coronavirus (SARS-CoV-2, previously known as 2019-nCoV), the coronavirus disease 2019 (COVID-19) has spread throughout China and received worldwide attention. On 30 January 2020, World Health Organization (WHO) officially declared the COVID-19 epidemic as a public health emergency of international concern. The emergence of SARS-CoV-2, since the severe acute respiratory syndrome coronavirus (SARS-CoV) in 2002 and Middle East respiratory syndrome coronavirus (MERS-CoV) in 2012, marked the third introduction of a highly pathogenic and large-scale epidemic coronavirus into the human population in the twenty-first century. As of 1 March 2020, a total of 87,137 confirmed cases globally, 79,968 confirmed in China and 7169 outside of China, with 2977 deaths (3.4%) had been reported by WHO. Meanwhile, several independent research groups have identified that SARS-CoV-2 belongs to  $\beta$ -coronavirus, with highly identical genome to bat coronavirus, pointing to bat as the natural host. The novel coronavirus uses the same receptor, angiotensin-converting enzyme 2 (ACE2) as that for SARS-CoV, and mainly spreads through the respiratory tract. Importantly, increasingly evidence showed sustained human-to-human transmission, along with many exported cases across the globe. The clinical symptoms of COVID-19 patients include fever, cough, fatigue and a small population of patients appeared gastrointestinal infection symptoms. The elderly and people with underlying diseases are susceptible to infection and prone to serious outcomes, which may be associated with acute respiratory distress syndrome (ARDS) and cytokine storm. Currently, there are few specific antiviral strategies, but several potent candidates of antivirals and repurposed drugs are under urgent investigation. In this review, we summarized the latest research progress of the epidemiology, pathogenesis, and clinical characteristics of COVID-19, and discussed the current treatment and scientific advancements to combat the epidemic novel coronavirus.*

### BACKGROUND

In December 2019, a cluster of pneumonia cases, caused by a newly identified  $\beta$ -coronavirus, occurred in Wuhan, China. This coronavirus, was initially named as the 2019-novel coronavirus (2019-nCoV) on 12 January 2020 by World Health Organization (WHO). WHO officially named the disease as coronavirus disease 2019 (COVID-19) and Coronavirus Study Group (CSG) of the International Committee proposed to name the new coronavirus as SARS-CoV-2, both issued on 11 February 2020. The Chinese scientists rapidly isolated a SARS-CoV-2 from a patient within a short time on 7 January 2020

and came out to genome sequencing of the SARS-CoV-2 [1]. As of 1 March 2020, a total of 79,968 cases of COVID-19 have been confirmed in mainland China including 2873 deaths [2]. Studies estimated the basic reproduction number ( $R_0$ ) of SARS-CoV-2 to be around 2.2 [3], or even more (range from 1.4 to 6.5) [4], and familial clusters of pneumonia [5] outbreaks add to evidence of the epidemic COVID-19 steadily growing by human-to-human transmission. The present current cases all over the world was shown in the table as on June 6 2020 in the table 1.

**Table 1. Current covid cases in top 10 countries all over the world as on May 02 2021**

S.NO	Country, Other	Total Cases	Total Deaths	Total Recovered	Active Cases
	World	153,565,255	3,218,006	131,616,140	18,731,109
1	<u>USA</u>	33,180,441	591,062	25,823,800	6,765,579
2	<u>India</u>	19,925,604	218,959	16,293,003	3,413,642
3	<u>Brazil</u>	14,754,910	407,775	13,278,718	1,068,417
4	<u>France</u>	5,652,247	104,819	4,636,940	910,488
5	<u>Turkey</u>	4,875,388	40,844	4,480,381	354,163
6	<u>Russia</u>	4,831,744	111,198	4,450,289	270,257

7	<b>UK</b>	4,420,201	127,538	4,221,582	71,081
8	<b>Italy</b>	4,044,762	121,177	3,492,679	430,906
9	<b>Spain</b>	3,524,077	78,216	3,206,273	239,588
10	<b>Germany</b>	3,425,598	83,826	3,040,700	301,072

## ORIGIN AND TRANSMISSION OF SARS-CoV-2

The SARS-CoV-2 is a  $\beta$ -coronavirus, which is enveloped non-segmented positive-sense RNA virus (subgenus *sarbecovirus*, *Orthocoronavirinae* subfamily) [6]. Coronaviruses (CoV) are divided into four genera, including  $\alpha$ - $\beta$ - $\gamma$ - $\delta$ -CoV.  $\alpha$ - and  $\beta$ -CoV are able to infect mammals, while  $\gamma$ - and  $\delta$ -CoV tend to infect birds. Previously, six CoVs have been identified as human-susceptible virus, among which  $\alpha$ -CoVs HCoV-229E and HCoV-NL63, and  $\beta$ -CoVs HCoV-HKU1 and HCoV-OC43 with low pathogenicity, cause mild respiratory symptoms similar to a common cold, respectively. The other

two known  $\beta$ -CoVs, SARS-CoV and MERS-CoV lead to severe and potentially fatal respiratory tract infections [7]. It was found that the genome sequence of SARS-CoV-2 is 96.2% identical to a bat CoV RaTG13, whereas it shares 79.5% identity to SARS-CoV. Based on virus genome sequencing results and evolutionary analysis, bat has been suspected as natural host of virus origin, and SARS-CoV-2 might be transmitted from bats via unknown intermediate hosts to infect humans. It is clear now that SARS-CoV-2 could use angiotensin-converting enzyme 2 (ACE2), the same receptor as SARS-CoV [8], to infect humans (upper panel, Fig. 1).

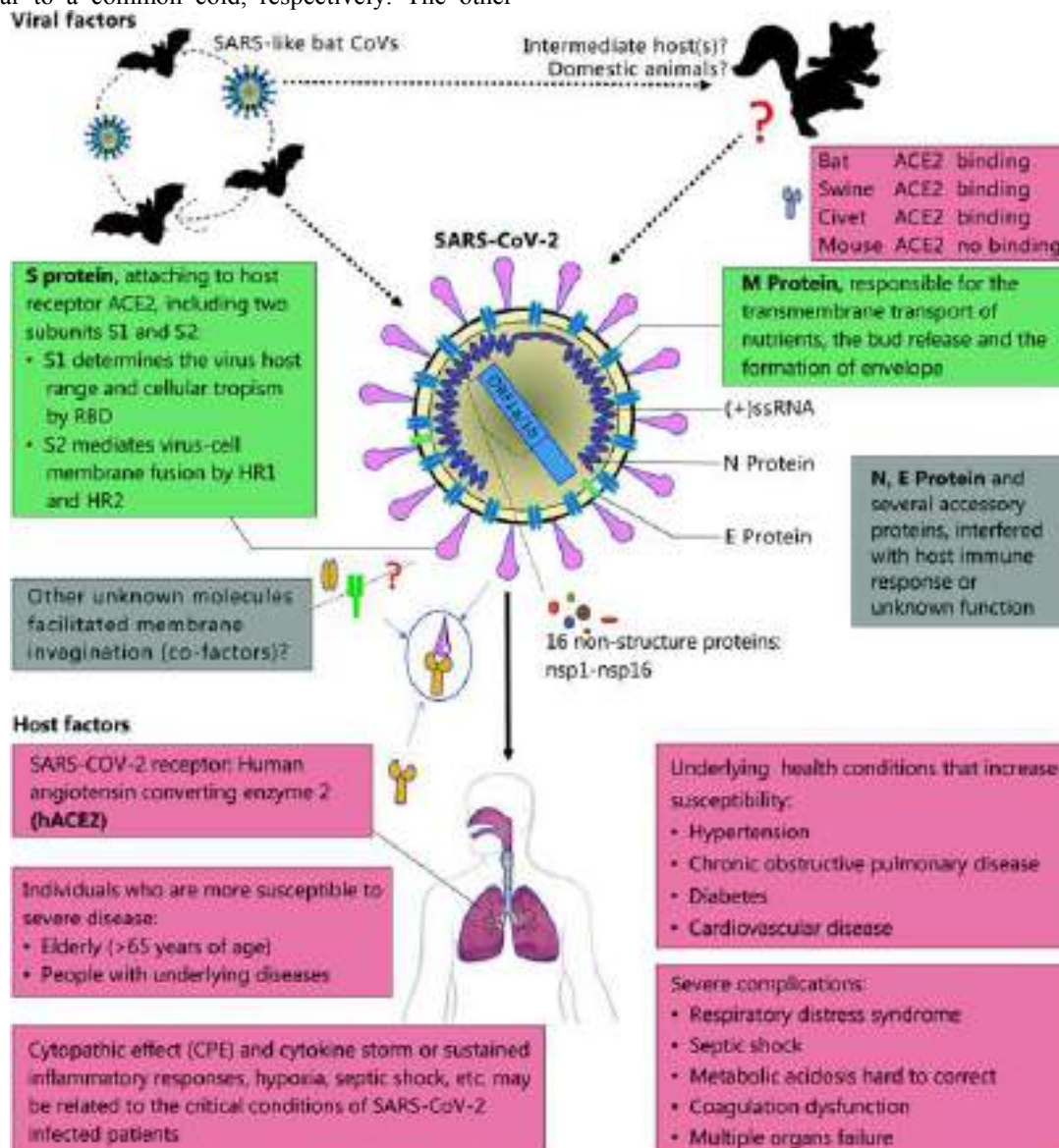




Fig 1. Viral and host factors that influence the pathogenesis of SARS-CoV-2. Bats are the reservoir of a wide variety of coronaviruses, including severe acute respiratory syndrome coronavirus (SARS-CoV)-like viruses. SARS-CoV-2 may originate from bats or unknown intermediate hosts and cross the species barrier into humans. Virus-host interactions affect viral entry and replication. Upper panel: Viral factor. SARS-CoV-2 is an enveloped positive single-stranded RNA (ssRNA) coronavirus. Two-thirds of viral RNA, mainly located in the first open reading frame (ORF 1a/b), encodes 16 non-structure proteins (NSPs). The rest part of the virus genome encodes four essential structural proteins, including spike (S) glycoprotein, small envelope (E) protein, matrix (M) protein, and nucleocapsid (N) protein, and also several accessory proteins. S glycoprotein of SARS-CoV-2 binds to host cell receptors, angiotensin-converting enzyme 2 (ACE2), that is a critical step for virus entry. The possible molecules facilitated membrane invagination for SARS-CoV-2 endocytosis are still unclear. Other virus proteins may contribute to pathogenesis. Host factors (Lower panel) can also influence susceptibility to infection and disease progression. The elderly and people with underlying disease are susceptible to SARS-CoV-2 and tend to develop into critical conditions. RBD, receptor-binding domain; HR1, heptad repeats 1; HR2, heptad repeats 2

### Epidemiology – Reservoirs and Transmission

The epidemic of unknown acute respiratory tract infection broke out first in Wuhan, China, since 12 December 2019, possibly related to a seafood market. Several studies suggested that bat may be the potential reservoir of SARS-CoV-2 [9, 10]. However, there is no evidence so far that the origin of SARS-CoV-2 was from the seafood market. Rather, bats are the natural reservoir of a wide variety of CoVs, including SARS-CoV-like and MERS-CoV-like viruses [11, 12, 13]. Upon virus genome sequencing, the COVID-19 was analyzed throughout the genome to Bat CoV RaTG13 and showed 96.2% overall genome sequence identity [8], suggesting that bat CoV and human SARS-CoV-2 might share the same ancestor, although bats are not available for sale in this seafood market [14]. Besides, protein sequences alignment and phylogenetic analysis [15] showed that similar residues of receptor were observed in many species, which provided more possibility of alternative intermediate hosts, such as turtles, pangolin and snacks.

Human-to-human transmission of SARS-CoV-2 occurs mainly between family members, including relatives and friends who intimately contacted with patients or incubation carriers. It is reported [16] that 31.3% of patients recent travelled to Wuhan and 72.3% of patients contacting with

people from Wuhan among the patients of non-residents of Wuhan. Transmission between healthcare workers occurred in 3.8% of COVID-19 patients, issued by the National Health Commission of China on 14 February 2020. By contrast, the transmission of SARS-CoV and MERS-CoV is reported to occur mainly through nosocomial transmission. Infections of healthcare workers in 33–42% of SARS cases and transmission between patients (62–79%) was the most common route of infection in MERS-CoV cases [17, 18]. Direct contact with intermediate host animals or consumption of wild animals was suspected to be the main route of SARS-CoV-2 transmission. However, the source(s) and transmission routine(s) of SARS-CoV-2 remain elusive.

### Genome Structure and Key Viral Factors

Isolated from a COVID-19 pneumonia patient, a worker in the Wuhan seafood market, the complete genome of Wuhan-Hu-1 coronavirus (WHCV), one strain of SARS-CoV-2, is 29.9 kb [14]. While SARS-CoV and MERS-CoV have positive-sense RNA genomes of 27.9 kb and 30.1 kb, respectively [19]. It has been shown that the genome of CoVs contains a variable number (6–11) of open reading frames (ORFs) [20]. Two-thirds of viral RNA, mainly located in the first ORF (ORF1a/b) translates two polyproteins, pp1a and pp1ab, and encodes 16 non-structural proteins (NSP), while the remaining ORFs encode accessory and structural proteins. The rest part of virus genome encodes four essential structural proteins, including spike (S) glycoprotein, small envelope (E) protein, matrix (M) protein, and nucleocapsid (N) protein [21], and also several accessory proteins, that interfere with the host innate immune response. Wu et al. [14] have recently performed deep meta-transcriptomic sequencing on WHCV, which contained 16 predicted NSP. WHCV exhibits some genomic and phylogenetic similarity to SARS-CoV, particularly in the S-glycoprotein gene and receptor-binding domain (RBD), indicating the capability of direct human transmission. Compared with the known SARS-CoV and MERS-CoV genome, SARS-CoV-2 is closer to the SARS-like bat CoVs in terms of the whole genome sequence. Most genomic encoded proteins of SARS-CoV-2 are similar to SARS-CoVs, as well as exist certain differences. At the protein level, there are no amino acid substitutions that occurred in NSP7, NSP13, envelope, matrix, or accessory proteins p6 and 8b, except in NSP2, NSP3, spike protein, underpinning subdomain, i.e., RBD [22]. Another recent research suggested [23] that the mutation in NSP2 and NSP3 play a role in infectious capability and differentiation mechanism of SARS-CoV-2. This provokes people to explore the difference of the host tropism and transmission between SARS-CoV-2 and SARS-CoV or conduct further investigations on the potential





therapeutic targets. Zhang et al. [24] analyzed the genotypes of COVID-19 in different patients from several provinces and found that SARS-CoV-2 had been mutated in different patients in China. Although the degree of diversification of SARS-CoV-2 is smaller than the mutation of H7N9 avian influenza [25]. Tang et al. [26] conducted a population genetic analyses of 103 SARS-CoV-2 genomes and classified out two prevalent evolution types of SARS-CoV-2, L type (~70%) and S type (~30%). The strains in L type, derived from S type, are evolutionarily more aggressive and contagious. Thus, virologists and epidemiologists need to closely monitor the novel coronavirus, in order to inspect the virulence and epidemic.

### Coronavirus Replication and Pathogenesis

ACE2, found in the lower respiratory tract of humans, is known as cell receptor for SARS-CoV [27] and regulates both the cross-species and human-to-human transmission [28]. Isolated from the bronchoalveolar lavage fluid (BALF) of a COVID-19 patient, Zhou et al. [8] have confirmed that the SARS-CoV-2 uses the same cellular entry receptor, ACE2, as SARS-CoV. The virion S-glycoprotein on the surface of coronavirus can attach to the receptor, ACE2 on the surface of human cells [29]. S glycoprotein includes two subunits, S1 and S2 [30]. S1 determines the virus-host range and cellular tropism with the key function domain – RBD, while S2 mediates virus-cell membrane fusion by two tandem domains, heptad repeats 1 (HR1) [31] and HR2 [32]. After membrane fusion, the viral genome RNA is released into the cytoplasm, and the uncoated RNA translates two polyproteins, pp1a and pp1ab [33], which encode non-structural proteins, and form replication-transcription complex (RTC) in double-membrane vesicle [34]. Continuously RTC replicate and synthesize a nested set of subgenomic RNAs [35], which encode accessory proteins and structural proteins. Mediating endoplasmic reticulum (ER) and Golgi [36], newly formed genomic RNA, nucleocapsid proteins and envelope glycoproteins assemble and form viral particle buds. Lastly, the virion-containing vesicles fuse with the plasma membrane to release the virus.

Because the binding of SARS-CoV-2 Spike (S) glycoprotein and ACE2 receptor is a critical step for virus entry, virus-receptor binding affinity is under intensive study through different approaches. Systematic detection of  $\beta$ -CoV receptors showed that human cells expressing ACE2, but not human Dipeptidyl peptidase-4 (DPP4) or APN (Aminopeptidase N), were enhanced entry of SARS-CoV-2 [37]. While, another study showed that S-protein and ACE2 binding efficiency is 10- to 20-fold higher than that of SARS-CoV, evidenced by Cryo-EM Structure of the SARS-CoV-2 Spike in the

prefusion conformation [38]. For SARS-CoV, the cleavage of trimer S protein is triggered by the cell surface-associated transmembrane protease serine 2 (TMPRSS2) [39] and cathepsin [40], while the possible molecules facilitated membrane invagination for SARS-CoV-2 endocytosis are still unclear. Up to the date this review paper was prepared, reports showed that the SARS-CoV-2 may readily transmit, while cause less serious human infection rather than human SARS-CoV. Based on the latest WHO report, the number of infected people (over 80,000 globally, updated on 1 March 2020). The global outbreak may due to the following factors: firstly, the unknown pneumonia outbreak at the time of China Spring Festival, when the mass population flowing. Secondly, more detailed molecular mechanisms of viral binding and entry manners await to be elucidated, which may hamper the development of targeted therapy. Thirdly, available data suggested that the SARS-CoV-2 may be less virulent than the SARS-CoV and MERS-CoV, with the currently analyzed mortality of COVID-19 is 3.4%, lower than death rate of SARS (9.6%) and MERS (around 35%), respectively [19]. Thus, the potential mechanisms for human-to-human transmission and pathogenic mechanisms of the SARS-CoV-2 are under extensively studied.

### CLINICAL CHARACTERISTICS

As an emerging acute respiratory infectious disease, COVID-19 primarily spreads through the respiratory tract, by droplets, respiratory secretions, and direct contact [41] for a low infective dose [42]. Otherwise, it has been reported a SARS-CoV-2 was isolated from fecal swabs of a severe pneumonia patient on 10 February 2020 from a critical case in the Fifth Affiliated Hospital, Sun Yat-Sen University, Guangdong, China. Likewise, Zhang et al. [43] have found the presence of SARS-CoV-2 in fecal swabs and blood, indicating the possibility of multiple routes transmission. ACE2 protein presents in abundance on lung alveolar epithelial cells and enterocytes of small intestine remarkably [44], which may help understand the routes of infection and disease manifestations. Based on current epidemiological investigation, the incubation period is 1–14 days, mostly 3–7 days. And the COVID-19 is contagious during the latency period [45]. It is highly transmissible in humans, especially in the elderly and people with underlying diseases. The median age of patients is 47–59 years, and 41.9–45.7% of patients were females [16, 41, 46]. As it is designated SARS-CoV-2, COVID-19 patients presented certainly similar symptoms, such as fever, malaise, and cough [47]. Most adults or children with SARS-CoV-2 infection presented with mild flu-like symptoms and a few patients are in critical condition and rapidly develop acute respiratory distress syndrome,



respiratory failure, multiple organ failure, even deaths [48].

### Diagnostic Criteria

The viral research institution in China has conducted preliminary identification of the SARS-CoV-2 through the classical Koch's postulates and observing its morphology through electron microscopy [49]. So far, the golden clinical diagnosis method of COVID-19 is nucleic acid detection in the nasal and throat swab sampling or other respiratory tract samplings by real-time PCR and further confirmed by next-generation sequencing.

### Clinical Symptoms

A recent study led by Prof. Nan-Shan Zhong's team, by sampling 1099 laboratory-confirmed cases, found that the common clinical manifestations included fever (88.7%), cough (67.8%), fatigue (38.1%), sputum production (33.4%), shortness of breath (18.6%), sore throat (13.9%), and headache (13.6%) [16]. In addition, a part of patients manifested gastrointestinal symptoms, with diarrhea (3.8%) and vomiting (5.0%). The clinical manifestations were in consistence with the previous data of 41, 99, and 138 patients analysis in Hubei province [46, 48, 50]. Fever and cough were the dominant symptoms whereas upper respiratory symptoms and gastrointestinal symptoms were rare, suggesting the differences in viral tropism as compared with SARS-CoV [51], MERS-CoV [52], and influenza [53]. The elderly and those with underlying disorders (i.e., hypertension, chronic obstructive pulmonary disease, diabetes, cardiovascular disease), developed rapidly into acute respiratory distress syndrome, septic shock, metabolic acidosis hard to correct and coagulation dysfunction, even leading to the death [48] (lower panel, Fig. 1).

In laboratory examination results, most patients had normal or decreased white blood cell counts, and lymphocytopenia [16, 54]. But in the severe patients, the neutrophil count, D-dimer, blood urea, and creatinine levels were higher significantly, and the lymphocyte counts continued to decrease. Additionally, inflammatory factors (interleukin (IL)-6, IL-10, tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) increase, indicating the immune status of patients. The data showed that ICU patients had higher plasma levels of IL-2, IL-7, IL-10, granulocyte colony-stimulating factor (G-CSF), 10 kD interferon-gamma-induced protein (IP-10), monocyte chemoattractant protein-1 (MCP-1), macrophage inflammatory protein 1- $\alpha$  (MIP-1 $\alpha$ ), and TNF- $\alpha$  [48].

Moreover, the CT imaging showed that computed tomography on the chest was ground-glass opacity (56.4%) and bilateral patchy shadowing (51.8%) [16], sometimes with a rounded morphology and a peripheral lung distribution, analyzed from the

patients in the Fifth Affiliated Hospital, Sun Yat-Sen University [55]. Clinicians have been aware that, a part of confirmed patients appeared the normal CT image presentations. The diagnostic sensitivity of radiologic is limited, so it is necessary to verify with clinical symptoms and virus RNA detections.

### Complications and Clinical Outcomes

Based on the current information, most patients had a good prognosis, while a few patients were in critical condition, especially the elderly and those with chronic underlying diseases. As of 1 March 2020, a total of 79,968 confirmed cases, including 14,475 (18.1%) with severe illness, and 2873 deaths (3.5%) in mainland China had been reported by WHO [2]. Complications included acute respiratory distress syndrome (ARDS), arrhythmia, shock [46], acute kidney injury, acute cardiac injury, liver dysfunction and secondary infection [48]. The poor clinical outcome was related to disease severity. The disease tends to progress faster in elderly people, with the median number of days from the occurrence of the first symptoms to death shorter among people aged 65 years or more [56, 57]. Similar to H7N9 patients [58], the elderly male with comorbidities and ARDS showed a higher death risk. Additionally, more than 100 children were infected, with the youngest being 30 h after birth [59]. Neonates and the elderly need more attention and care due to their immature or weak immune system.

### HOST IMMUNE RESPONSE AND IMMUNOPATHOLOGY

The immune response is vital for the control and resolution of CoV infections, while it can also lead to immunopathogenesis, associated with the immune response out of control. The S proteins of Coronavirus binds to the host cells by ACE2, fusing to the membrane and release the viral RNA. The viral RNAs, as pathogen-associated molecular patterns (PAMPs), are detected by the pattern recognition receptors (PRRs). Usually, Toll-like receptor (TLR) 3, TLR7, TLR8, and TLR9 sense viral RNA and DNA in the endosome [60, 61]. The viral RNA receptor retinoic-acid inducible gene I (RIG-I) [62], cytosolic receptor melanoma differentiation-associated gene 5 (MDA5) and nucleotidyltransferase cyclic GMP-AMP synthase (cGAS) [63] are responsible for the recognition of viral RNA and DNA in the cytoplasm. These complex signalling recruit adaptors, including TIR-domain-containing adaptor protein including IFN- $\beta$  (TRIF), mitochondrial antiviral-signalling protein (MAVS) [64] and stimulator of interferon genes protein (STING) [65] to trigger downstream cascades molecules, involving adaptor molecule MyD88 and lead to the activation of the transcription factor nuclear factor- $\kappa$ B (NF- $\kappa$ B) and interferon regulatory





factor 3 (IRF3) and the production of type I Interferons (IFN- $\alpha$  / $\beta$ ) and a series of pro-inflammatory cytokines [66]. Hence, virus-cell interactions produce a diverse set of immune mediators against the invading virus [67]. Innate immunity is needed in a precise regulation to eliminate the virus, otherwise will result in immunopathology. A few plasma cytokines and chemokines were observed ascended in COVID-19 patients, including IL-1, IL-2, IL-4, IL-7, IL-10, IL-12, IL-13, IL-17, GCSF, macrophage colony-stimulating factor (MCSF), IP-10, MCP-1, MIP-1 $\alpha$ , hepatocyte growth factor (HGF), IFN- $\gamma$  and TNF- $\alpha$  [48, 68, 69]. Of note, an anatomy report of COVID-19 pneumonia corpse [70] indicated that COVID-19 caused an inflammatory response in the lower airway and led to lung injury. Collectively, the virus particles invade the respiratory mucosa firstly and infect other cells, triggering a series of immune responses and the production of cytokine storm in the body, which may be associated with the critical condition of COVID-19 patients.

## TREATMENT OF COVID-19

### Current Therapies

Given the lack of effective antiviral therapy against COVID-19, current treatments mainly focused on symptomatic and respiratory support according to the Diagnosis and Treatment of Pneumonia Caused by COVID-19 (updated to version 6) issued by National Health Commission of the People's Republic of China [71]. Nearly all patients accepted oxygen therapy, and WHO recommended extracorporeal membrane oxygenation (ECMO) to patients with refractory hypoxemia [72]. Rescue treatment with convalescent plasma and immunoglobulin G [73] are delivered to some critical cases according to their conditions.

### Antiviral Treatments

Based on the experience of fighting the epidemic SARS-CoV and MERS-CoV previously, we may learn some lessons for some treatment strategies against coronavirus [74]. Antiviral drugs and systemic corticosteroid treatment commonly used in clinical practice previously, including neuraminidase inhibitors (oseltamivir, peramivir, zanamivir, etc), ganciclovir, acyclovir, and ribavirin, as well as methylprednisolone [46, 75] for influenza virus, are invalid for COVID-19 and not recommended. Remdesivir (GS-5734) is a 1'-cyano-substituted adenosine nucleotide analog prodrug and shows broad-spectrum antiviral activity against several RNA viruses. Based on the data collected from in vitro cell line and mouse model, remdesivir could interfere with the NSP12 polymerase even in the setting of intact ExoN proofreading activity. Remdesivir has been reported to treat the first US

case of COVID-19 successfully. Chloroquine is a repurposed drug with great potential to treat COVID-19. Chloroquine has been used to treat malaria for many years, with a mechanism that is not well understood against some viral infections. Several possible mechanisms are investigated: Chloroquine can inhibit pH-dependent steps of the replication of several viruses, with a potent effect on SARS-CoV infection and spread. Moreover, chloroquine has immunomodulatory effects, suppressing the production/release of TNF- $\alpha$  and IL-6. It also works as a novel class of autophagy inhibitor, which may interfere with viral infection and replication. Several studies have found that chloroquine interfered with the glycosylation of cellular receptors of SARS-CoV and functioned at both entry and at post-entry stages of the COVID-19 infection in Vero E6 cells. A combination of remdesivir and chloroquine was proven to effectively inhibit the recently emerged SARS-CoV-2 in vitro.

Scientists previously confirmed that the protease inhibitors lopinavir and ritonavir, used to treat infection with human immunodeficiency virus (HIV), could improve the outcome of MERS-CoV and SARS-CoV patients. It has reported that  $\beta$ -coronavirus viral loads of a COVID-19 patient in Korea significantly decreased after lopinavir/ritonavir (Kaletra®, AbbVie, North Chicago, IL, USA) treatment. Additionally, clinicians combined Chinese and Western medicine treatment including lopinavir/ritonavir (Kaletra®), arbidol, and Shufeng Jiedu Capsule (SFJDC, a traditional Chinese medicine) and gained significant improvement in pneumonia associated symptoms in Shanghai Public Health Clinical Center, China.

## CONCLUSIONS

The outbreak of COVID-19 swept across China rapidly and has spread to 85 countries/territories/areas outside of China as of 5 March 2020 [2]. Scientists have made progress in the characterization of the novel coronavirus and are working extensively on the therapies and vaccines against the virus. We have summarized the current knowledge of SARS-CoV-2 as follows: Firstly, the emerging pneumonia, COVID-19, caused by SARS-CoV-2, exhibits strong infectivity but less virulence, compared to SARS and MERS, in terms of morbidity and mortality. Originating from reservoir of bats and unknown intermediate hosts, SARS-CoV-2 binds to ACE2 with high affinity as a virus receptor to infect humans. Secondly, the susceptible population involves the elderly and people with certain underlying medical conditions, which requires more attention and care. Thirdly, so far, the supporting treatments, combined with potent antiviral drugs, such as remdesivir, chloroquine, or lopinavir/ritonavir, have been conducted with definite



effect on treat COVID-19 patients, while solid data from more clinical trials are needed. However, questions remain vague and more studies are urgent to explore the transmission and pathogenicity mechanism of the emerging coronavirus. To make clear the evolutionary path from the original host to cross-species transmission so as to potentially limit the transmission to naïve animals or humans. In addition, to uncover the mystery of the molecular mechanism of viral entry and replication, which provides the basis of future research on developing targeted antiviral drugs and vaccines.

Given more than 80% of patients are confirmed in Hubei province, the hospitals and medical workers in Hubei are facing and bearing enormous pressure and severe challenge, including a high risk of infection and inadequate protection, as well as overwork, frustration and exhaustion. Chinese Government and authorities have launched psychological intervention, and we sincerely hope that Chinese people and other countries overcome the epidemic as fast as possible.

### Availability of Data and Materials

The data and materials used during the current review are all available in this review.

### Abbreviations

<b>ACE2:</b>	Angiotensin-converting enzyme 2
<b>APN:</b>	Aminopeptidase N
<b>ARDS:</b>	Acute respiratory distress syndrome
<b>BALF:</b>	Bronchoalveolar lavage fluid
<b>cGAS:</b>	Cyclic GMP-AMP synthase
<b>CoV:</b>	Coronavirus
<b>COVID-19:</b>	Coronavirus disease 2019
<b>CSG:</b>	Coronavirus Study Group
<b>DPP4:</b>	Dipeptidyl peptidase-4
<b>E protein:</b>	Envelope protein
<b>ECMO:</b>	Extracorporeal membrane oxygenation
<b>ER:</b>	Endoplasmic reticulum
<b>GCSF:</b>	Granulocyte colony-stimulating factor
<b>HGF:</b>	Hepatocyte growth factor
<b>HR1:</b>	Heptad repeats 1
<b>HR2:</b>	Heptad repeats 2
<b>IFN:</b>	Interferon
<b>IL:</b>	Interleukin
<b>IP-10:</b>	10 kD interferon-gamma-induced protein
<b>IRF3:</b>	Interferon regulatory factor 3
<b>M protein:</b>	



	Matrix protein
<b>MAVS:</b>	Mitochondrial antiviral-signalling protein
<b>MCP-1:</b>	Monocyte chemoattractant protein-1
<b>MCSF:</b>	Macrophage colony-stimulating factor
<b>MDA5:</b>	Melanoma differentiation-associated gene 5
<b>MERS-CoV:</b>	Middle East respiratory syndrome coronavirus
<b>MIP-1<math>\alpha</math>:</b>	Macrophage inflammatory protein 1- $\alpha$
<b>N protein:</b>	Nucleocapsid protein
<b>NF-<math>\kappa</math>B:</b>	Nuclear factor- $\kappa$ B
<b>NSP:</b>	Non-structure protein
<b>ORF:</b>	Open reading frame
<b>PAMP:</b>	Pathogen-associated molecular pattern
<b>PRR:</b>	Pattern recognition receptor
<b>RBD:</b>	Receptor-binding domain
<b>RIG-I:</b>	Retinoic-acid inducible gene I
<b>RTC:</b>	Replication-transcription complex
<b>S protein:</b>	Spike glycoprotein
<b>SARS-CoV:</b>	Severe acute respiratory syndrome coronavirus
<b>STING:</b>	Stimulator of interferon genes protein
<b>TLR:</b>	Toll-like receptor
<b>TMPRSS2:</b>	Transmembrane protease serine 2
<b>TNF-<math>\alpha</math>:</b>	Tumor necrosis factor $\alpha$
<b>TRIF:</b>	TIR-domain-containing adaptor protein including IFN- $\beta$
<b>WHCV:</b>	Wuhan-Hu-1 coronavirus
<b>WHO:</b>	World Health Organization

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## VALIDITY AND USABILITY OF RIZAL'S LIFE AND WORKS MODULE OF THE STUDENTS IN THE COLLEGE OF TEACHER EDUCATION

**A/Prof. Rhoniel B. Vibora**  
Faculty,  
Laguna State Polytechnic University,  
Santa Cruz, Laguna,  
Philippines

**Dr. Ray Samuel G. GreCALDA**  
Faculty,  
Laguna State Polytechnic University,  
Santa Cruz, Laguna,  
Philippines

### ABSTRACT

*The researcher aim to determine the validity and usability of module in studying the life of Jose P. Rizal. Furthermore it gives supplemental instructional materials public and private higher institutions on their implementation of new general education core courses in order to attain the effective and quality education for every Filipino.*

*Using the control and experimental group module in chapter 1 to 5 gives data about the significant differences of the result to determine its effectiveness in terms of knowledge, comprehension, and application.*

*Weighted mean and standard deviation was used to describe the mean level of the validation of the workbook in terms of the components on content validity, usability, and effectivity and in terms of the learning process of College of Teacher Education students in terms of knowledge, comprehension, and application. T-test was used to determine the significant effect of the developed workbook to the students of Jose Rizal Life and Works course.*

*The level of performance of the students under control group in answering the module in terms of knowledge with relative frequency of 16.67, 63.33, 16.67, 3.33, 0 and weighted mean of 14.43 computed standard deviation of 2.23 with verbal interpretation of very satisfactory. While the level of performance of the students under control group in answering the module in terms of comprehension that relative frequency of 0, 33.33, 56.67, 10, 0, and weighted mean of 11.37 with standard deviation of 2.28 interpreted satisfactory. The level of performance of the students under control group in answering the module in terms of application revealed in relative frequency of 0, 46.67, 40, 13.33, 0 with weighted mean of 11.67 and standard deviation of 2.50 with verbal interpretation of satisfactory.*

*On other hand the level of performance of the students under experimental group in answering the module in terms of knowledge garnering relative frequency of 96.67, 3.33, 0, 0, with mean score of 18.47 and standard deviation of 1.14 interpreted as outstanding. It also revealed that the level of performance of the students under experimental group in answering the module in terms of comprehension mirrored in relative frequency 50, 50, 0, 0, 0 mean score of 16.93 with standard deviation of 1.60 interpreted outstanding.*

*The level of performance of the students on experimental group in answering the module in terms of application with relative frequency of 0, 46.67, 40, 13.33, 0 garnering weighted mean of 18.47 and standard deviation of 1.28 with a verbal interpretation of outstanding.*

*The test on the significant difference between using module between the control and experimental, it revealed that the knowledge of control and experimental group with mean difference of -4.04 and t-value of -9.12 interpreted significant. While the comprehension of control and experimental group with mean difference of -5.56 and t-value of -10.11 interpreted significant. In terms of application control and experimental group has mean difference of -6.80 and t-value of -13.45 interpreted significant.*

*From the data gathered and discussed the following conclusions were derived. The learning process knowledge, comprehension, and application through the use of the developed module in Rizal's Life showed significantly affect between the control and experimental group. The null hypothesis is supported. It is recommended that the faculty handling Rizal's Life Subject will innovate the module as instructional materials.*

**KEYWORDS:** *Validity, Usability, Module*



## BACKGROUND OF THE STUDY

In accordance with pertinent provisions of the Constitution that: the state “Shall protect and promote the right of all citizens to quality education at all levels...” (Article XIV Section1); “establish, maintain and support a complete, adequate and integrated system of education relevant to the needs of the people and society” and as reiterated in Republic Act 7722 otherwise known as the “Higher Education Act of 1994”, the Commission on Higher education “shall set minimum standards for programs and institutions of higher learning (Section 8d). According to Republic Act 1425 also known as Rizal Law mandates all public and private educational institutions basic and higher education will integrate the teaching of the life and contribution of Dr. Jose P. Rizal in order to ignite the sense of patriotism and nationalism of every young Filipino citizens.

Higher education plays a central role in national life and all sectors of the economy. It produces the teachers at all education level, the bureaucrats of all positions, the professionals in various services and the executives and technical workers in industry. Tertiary education provides courses of studies geared towards degrees in academic-technical disciplines and professions. It covers a wide scope curriculum from technical-vocational to professional degree programs. The technical-vocational program is usually taken between one to three years of schooling while professional degree programs require four to five years in schooling. The production and development of locally produced teaching materials shall be encouraged. In line to this study, this workbook will serve as a guide and can be the teaching material of the teacher.

Teachers play an instrumental role in improving learning outcomes and it is important that they are aware of the impact that their practice has a student learning (Timperely et.’al., 2007). Some research argues that the relationship between teachers and students is most effective when both are willing to engage in an open discussion about the learning process in order to ensure that instructions are clear and goals are met (Higgins,et. al., 2007).

Whether the instruction for a whole class or a student the teacher should be able to plan, organize and develop suitable instructional materials. The basic education curriculum is in need of instructional materials such as workbooks which can be used by the institution to encourage independent study, critical thinking, resourcefulness and cooperation among students.

Appropriate assessment practices and feedback are additional important factors in improving

factors in improving student learning. Assessments are most effective when they are closely aligned to curriculum goals (UNESCO, 2013). When explicit instructions are given, assessments can be used to ensure that there is mutual understanding between teachers and students of the learning tasks and goals (Higgins, et. al., 2007).

The researcher aim to determine the validity and usability of module in studying the life of Jose P. Rizal preparedness of those private higher institutions on their implementation of new general education core course in order to meet the effective and quality education for every Filipino.

## LITERATURE

Frankel and Wallen (2006) define validity as referring to the appropriateness, meaningfulness, correctness and usefulness of the inferences researches make.

They further discuss validity as the most important idea to consider when preparing or selecting an instrument for use. More than anything else, researchers want the information they obtain through the use of an instrument to serve their purposes. Apparently, Mitchell and Jolley (2007) as cited by Samaniego (2016) treat content validity as important. They further argue that the students cannot defend that their measure logically follower from an accepted definition of the concepts; few would accept the measure as valid. However, they must do more than claim that you have sets of questions that measure each important aspect of the constructions, objectives, statistical evidence to that claim.

Wallen, Mitchell et’al agreed that validity is about the content of any instructional materials and its usefulness for every learners, it is measure through objectives and statistical evidence about the module’s validity. Aquino (2011), explained in the summary of their finding in the Effectiveness of the modular work text material in the Basic Integration. Formula in Integral Calculus concluded that programmed instruction such as module. Work text form is a important educational innovation and a teaching instruction for a more efficient mass education and more effective individual instruction and modular instruction was found to be as effective as if not more effective than the traditional method based on the improved performance of the students in respective subject.

Concerning the work text usefulness, one of the external criteria derived from this research, Zulueta, et. al., (2004) as cited by Navia (2015) identified types of power which one is utility power where in followers follow because of the benefits that come to them if they



do something. The followers have something the leader wants (time, money, personal resources, interest, talent and support), and the leader has something they want (information, money, promotions, camaraderie, security and opportunity). It is being acknowledged that the relationship based on the power often leads to individualism rather than to team work and group effectiveness as each individual is reinforced for paying attention to his own perspective and desires. Aquino and Zulueta agree that usefulness is something that brought impact to the person who used workbook with specific objectives and valid content of information. Furthermore effectiveness it also refer where the person perform different competency on the topic included in workbook or any instructional materials.

According to Ornstein (2004) as cited by Garantuzza (2015), usability of such a teaching material is its ability to be understood, to administer and score, within budget limitations, if it has to be purchased, suitable to the test conditions (for example time available), and appropriate in degree of difficulty. This module in Rizal's life works and writing will give help to the instructor in attaining learning objectives and to the students learning. Ornstein enumerated the different factors affecting usability: unclear directions, sentence construction and vocabulary, inappropriate level of difficulty, poorly constructed evaluation, ambiguity, improper arrangement of item, etc. In addition usability also referred to the effectiveness of instructional materials in order to attain the learning objectives.

## OBJECTIVES

This study have the following aim to;

1. Understand deeply the life of Dr. Jose Rizal
2. Appreciate the moral legacies of Dr. Jose Rizal
3. Built personal identity inspired by Dr. Jose Rizal.
4. Further the researchers aim to determine the significant of the use of module in the students of Laguna State Polytechnic University.

The findings will give supplemental instructional materials for the students in course of Rizal's Life Works and Writings. It also helps to the educator to attain their learning competencies of the students.

## Time and place of the Study

This study was conducted at Laguna State Polytechnic University Santa Cruz Main Campus in the College of Teacher Education this second semester academic year 2016-2017 consist of control and uncontrolled group.

## METHODOLOGY

Descriptive method of research will be used in this study. Descriptive method describes the information contained many indices such as the mean and median. It is the survey, as when researchers summarize the characteristics of individuals or groups or physical environments (Fraenkel and Wallen, 2006). Furthermore, Calderon and Gonzales (2010) affirm that one of the advantages of descriptive research contribute much to the establishment or standard norms of conduct behaviour or performance.

The students in the College of Teacher Education are respondent those 30 experimental and 30 control of the formulated module in Rizal's Life Works and Writing subjects to find out the effectiveness of developed module to their learning process. The researcher seek instructors assistance to validate the module in Rizal's Life Works and Writing, after their further readings and give their corrections and suggestions the researcher make corresponding corrections and improvements of the module. The researcher asks permission to conduct the study to College Associate Dean and execute the module to the selected group of students. The adapted questionnaire used by the researcher in order to determined the validity and usability of the module in Rizal's Life Works and Writing course

The researcher guided by the Outcomes-Based Education learning instructions of Jose Rizal's Life Works and Writing course after conducting further readings the researcher formulating objectives and exercises based on the competencies such knowledge, comprehension, and application. Upon the construction of the content of the module the researcher presents to the instructor for validation. At this stage the researcher make necessary revision of the module based on the suggestion of the evaluator. The researcher used the module to the sixty students. To determine the usability and effectiveness of the module the researcher administer assessment test to 30 students used the module and 30 non-user of the module. The following are the statistical tools that the proponent will use in treating the data and information.

Weighted mean and standard deviation was used to describe the mean level of the validation of the workbook in terms of the components on content validity, usability, and effectivity and in terms of the learning process of College of Teacher Education students knowledge, comprehension, and application.

T-test was used to determine the significant effect of the developed workbook to the students of Jose Rizal Life and Works course.



## RESULTS AND DISCUSSIONS

### Level of Performance of the Students (control group) in Answering the Module in terms of Knowledge

**Table 1. Level of Performance of the Students (control group) in Answering the Module in terms of Knowledge**

Scores	Frequency	Relative Frequency (%)	Remarks
17-20	5	16.67	Outstanding
13-16	19	63.33	Very Satisfactory
9-12	5	16.67	Satisfactory
5-8	1	3.33	Fair
0-4	0	0	Poor
<b>Total</b>	<b>30</b>	<b>100 %</b>	
<b>Weighted Mean= 14.43</b> <b>SD= 2.34</b>			<b>Very Satisfactory</b>

Legend:

Scores	Verbal Interpretation
17-20	Outstanding
13-16	Very Satisfactory
9-12	Satisfactory
5-8	Fair
1-4	Poor

Table 1 presents the level of performance of the students under control group in answering the module in terms of knowledge with relative frequency of 16.67,

63.33, 16.67, 3.33, 0 and weighted mean of 14.43 computed standard deviation of 2.23 with verbal interpretation of *very satisfactory*.

**Table 2. Level of Performance of the Students (control group) in Answering the Module in terms of Comprehension**

Scores	Frequency	Relative Frequency (%)	Remarks
17-20	0	0	Outstanding
13-16	10	33.33	Very Satisfactory
9-12	17	56.67	Satisfactory
5-8	3	10	Fair
0-4	0	0	Poor
<b>Total</b>	<b>30</b>	<b>100 %</b>	
<b>Weighted Mean= 11.37</b> <b>SD= 2.28</b>			<b>Satisfactory</b>

Legend:

Scores	Verbal Interpretation
17-20	Outstanding
13-16	Very Satisfactory
9-12	Satisfactory
5-8	Fair
1-4	Poor

Table 2 presents the level of performance of the students under control group in answering the module in terms of comprehension that relative frequency of 0,

33.33, 56.67, 10, 0, and weighted mean of 11.37 with standard deviation of 2.28 interpreted *satisfactory*.





**Table 3. Level of Performance of the Students (control group) in Answering the Module in terms of Application**

Scores	Frequency	Relative Frequency (%)	Remarks
17-20	0	0	Outstanding
13-16	14	46.67	Very Satisfactory
9-12	12	40	Satisfactory
5-8	4	13.33	Fair
0-4	0	0	Poor
<b>Total</b>	<b>30</b>	<b>100 %</b>	
<b>Weighted Mean= 11.67 SD= 2.50</b>			<b>Satisfactory</b>

Legend:

Scores	Verbal Interpretation
17-20	Outstanding
13-16	Very Satisfactory
9-12	Satisfactory
5-8	Fair
1-4	Poor

Table 3 presents the level of performance of the students under control group in answering the module in terms of application revealed in relative frequency of 0, 46.67, 40, 13.33, 0 with weighted mean of 11.67 and

standard deviation of 2.50 with verbal interpretation of *satisfactory*.

**Table 4. Level of Performance of the Students (Experimental group) in Answering the Module in terms of Knowledge**

Scores	Frequency	Relative Frequency (%)	Remarks
17-20	29	96.67	Outstanding
13-16	1	3.33	Very Satisfactory
9-12	0	0	Satisfactory
5-8	0	0	Fair
0-4	0	0	Poor
<b>Total</b>	<b>30</b>	<b>100 %</b>	
<b>Weighted Mean= 18.47 SD= 1.14</b>			<b>Outstanding</b>

Legend:

Scores	Verbal Interpretation
17-20	Outstanding
13-16	Very Satisfactory
9-12	Satisfactory
5-8	Fair
1-4	Poor

On table 4 presents the level of performance of the students under experimental group in answering the module in terms of knowledge garnering relative frequency of 96.67, 3.33, 0, 0, with mean score of 18.47 and standard deviation of 1.14 interpreted as *outstanding*.

On table 5 presents the level of performance of the students under experimental group in answering the module in terms of comprehension mirrored in relative frequency 50, 50, 0, 0, 0 mean score of 16.93 with standard deviation of 1.60 interpreted *outstanding*.



**Table 5. Level of Performance of the Students (Experimental group) in Answering the Module in terms of Comprehension**

Scores	Frequency	Relative Frequency (%)	Remarks
17-20	15	50	Outstanding
13-16	15	50	Very Satisfactory
9-12	0	0	Satisfactory
5-8	0	0	Fair
0-4	0	0	Poor
<b>Total</b>	<b>30</b>	<b>100 %</b>	
<b>Weighted Mean= 16.93</b> <b>SD= 1.60</b>			<b>Outstanding</b>

Legend:

Scores	Verbal Interpretation
17-20	Outstanding
13-16	Very Satisfactory
9-12	Satisfactory
5-8	Fair
1-4	Poor

**Level of Performance of the Students (Experimental group) in Answering the Module in terms of Application**

On table 6 presents the level of performance of the students under experimental group in answering

the module in terms of application with relative frequency of 0, 46.67, 40, 13.33, 0 garnering weighted mean of 18.47 and standard deviation of 1.28 with verbal interpretation of an outstanding.

**Table 6. Level of Performance of the Students (Experimental group) in Answering the Module in terms of Application**

Scores	Frequency	Relative Frequency (%)	Remarks
17-20	28	0	Outstanding
13-16	2	46.67	Very Satisfactory
9-12	0	40	Satisfactory
5-8	0	13.33	Fair
0-4	0	0	Poor
<b>Total</b>	<b>30</b>	<b>100 %</b>	
<b>Weighted Mean= 18.47</b> <b>SD= 1.28</b>			<b>Outstanding</b>

Legend:

Scores	Verbal Interpretation
17-20	Outstanding
13-16	Very Satisfactory
9-12	Satisfactory
5-8	Fair
1-4	Poor

**Table 7. Test on the Significant Difference between Using the Module between the Control and Experimental Group**

Criteria	Group	Mean	Mean Difference	Df	Computed t-value	Critical t-value	Analysis
Knowledge	Control	14.43	-4.04	29	-9.12	2.06	S
	Experimental	18.47					
Comprehension	Control	11.37	-5.56	29	-10.11	2.06	S
	Experimental	16.93					
Application	Control	11.67	-6.80	29	-13.45	2.06	S
	Experimental	18.47					

S- Significant



Table 7 presents the test on the significant difference between using module between the control and experimental, it revealed that the knowledge of control and experimental group with mean difference of -4.04 and t-value of -9.12 interpreted *significant*. While the comprehension of control and experimental group with mean difference of -5.56 and t-value of -10.11 interpreted *significant*. In terms of application control and experimental group has mean difference of -6.80 and t-value of -13.45 interpreted *significant*.

## CONCLUSIONS AND RECOMMENDATIONS

From the data gathered and discussed the following conclusions were derived. The learning process knowledge, comprehension, and application through the use of the developed module in Rizal's Life showed significantly affect between the control and experimental group. The null hypothesis is supported. It is recommended that the faculty handling Rizal's Life Subject will innovate the module as instructional materials.

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## PAREMIOLOGY IN MEDIA TEXT AS A MEANS OF EXPRESSIVENESS

Safarmakhmatova Zarrina Nazrullaevna  
TerSU, Independent Researcher

### ABSTRACT

*The level and characteristics of research devoted to the expressiveness of media language are determined by the state and level of evolution of world linguistics. World linguistics has shown that the study of language should be studied not as a closed system, but as a system in motion, that is, in relation to such areas as society, thought, culture, politics, ideology, religion. The connection of the concept of expressiveness in the media language with different areas opens up a wide range of possibilities in the discovery of its new features. Therefore, the language of the media is studied in conjunction with other fields. The principle of language research in this way opens up new perspectives that lead to a deeper understanding of the specific nature of media language. The emergence of speech linguistics, which studies language as speech, i.e., a dynamic phenomenon, has also led to radical changes in world linguistics.*

**KEYWORDS:** media, newspaper, language and culture, expression, phraseology, massive communication, journalism, linguistic expression.

### DISCUSSION

Mass communication is a new entity that is at the center of modern language processes. It is modeled on the current state of the national language, in which the literary and non-literary spheres are in a state of constant interaction. In such circumstances, it is safe to say that mass communication has become a defining polygon, depending on the interaction of various language tools.

The transformation of the media space currently open as a result of the rapid development of communication technologies has actualized the call of scientists and practitioners to study the field of media and mass communications, information space in the context of modern culture.

The language of the newspaper, as the most important source of linguistic information, records a significant number of changes in the norm, reflecting facts that have not yet been accepted by the literary language. In addition, the language of the modern press is marked by certain processes that develop dialectically contradictory extra linguistic features of the newspaper. Consequently, the newspaper language cannot be described by simply listing the specific and general language means of its expression.

The linguistic and stylistic innovations that shaped the new cultural speech situation in the media immediately aroused the interest of many linguists, who drew attention to the changed language taste of the authors, dictated by a critical attitude to the strict

literary norm, and at the same time to the ultra-cautious newspaper speech of the Soviet period. Of course, the language of the newspaper does not deviate from the norms of the codified language, but the media more quickly than in any other genre display semantic changes, combinations of words that are unusual in their novelty, new stable turns are produced. The language of the newspaper is positioned as a permanent source of presentation of new material for the study of the potential of language, including the passionate expression of information through linguistic signs.

The study of the language of the newspaper is also determined by the fact that knowledge of the rules for adding meanings, based on research: on the one hand, the laws of interaction of grammatical and semantic levels of a word, on the other hand, the laws of combining units, as well as combining phrases and phrases, would contribute to a more adequate display mechanisms of functioning of all linguistic units in the structure of the language and in the situation of speech communication. In addition, in order for the newly formed lexical and syntactic units to be transposed into stable structures in the process of speech-thinking activity, they must stabilize to such an extent that native speakers already perceive them as integral ready-made units. A similar situation is real only after the speech processes, but not in the speech process [1].

Persuasion in the newspaper-journalistic style is carried out through the emotional impact on



the reader or listener. The author not only expresses his attitude to the transmitted information, but also expresses the opinion of a certain social group - party, movement, etc. One of the main aspects of the newspaper-journalistic style is that the emotional-expressive feature is directly related to the function of influencing the student mass. The speed of transmission of socially important information depends on the style standard [2]. V.G. Kostomarov emphasized the constructive principle in which the individuality of the author is manifested regardless of the genre of the newspaper genre. The author describes this principle of journalism as a unit of expression and a standard [3].

The emergence of various degrees of expression is the result of the creative activity of the producer as an individual, correlating the personal view of the world with the generally accepted one [4].

Expressiveness in newspaper texts differs from artistic means of expressing artistic style in that they do not consist only of metaphors, analogies, epithets, as in artistic style, but all language means in newspaper texts serve expressiveness. Even evidence presented in a clear, calm, calm and flowing form can be impressive when presented in that form.

The language of the newspaper is not limited to the expressiveness, imagery inherent in the journalistic style. This is just a manifestation of expressiveness in press speeches.

The results of the professional activities of journalists can form an emotional and evaluative mood in society and encourage large masses of readers to take certain actions, of course, through linguistic signs as tools for creating conditions for manipulating the consciousness of individuals. One of these signs are automated verbal constructions with a stable structure, that is, phraseological units. Moreover, the mechanisms for their implementation are very diverse.

Parimiology in the media text performs primarily an informative function, i.e. are used to express quantitative values, numbering, to indicate a place in a number series. At the same time, the strengthening of the influencing function in modern media predetermines the semantic shift of the exact designations and the appearance of additional connotative senses in their semantics. The analysis of the factual material made it possible to reveal the following features of the use of exact quantitative nominations in the media text: the rethinking of parametric information appears in the use of exact numbers to convey inaccurate quantities, substitution of units of measurement, measurement of the fundamentally unmeasurable, as well as in game techniques [5].

Many disciplines consider them as a subject of research, systematization, selection of proverbs: linguistics, folklore, cultural studies, anthropology,

the history of the literary language as well. Such an all-round interest is explained by the peculiarities of the relationship between the form and content of the puzzle, its functional aspects, and its social status. After all, proverbs are a huge source of cultural values related to the daily life of a nation, which have traditionally been passed down from ancestors to generations for centuries.

Proverbs, as a unit of communication, realizes its communicative and pragmatic potential only in the communicative space [6]. The use of phraseological units on print pages has a specific direction, which is expressed in a variety of characteristic functions performed by stable expressions. They are inherent in being a source of passionate pressure, which is a means of powerful influence on the mass reader (information wars) and the implementation of constructive and stylistic features of newspaper speech.

Phraseological units are inextricably linked with spiritual culture, customs, profession, lifestyle, past, aspirations, attitude to reality of people speaking the language. In world linguistics, a lot of work has been done on the study of phraseological units (hereinafter referred to as phraseological units PU). Although PUs have a very ancient origin, the history of the science of phraseology goes back almost two centuries [7]. The first researcher of phraseological theory was Charles Bally. He included in his scientific works special chapters devoted to the study of PU [8].

Academician V.V. Vinogradov was the first to define the essence of the study of phraseology using the example of Russian linguistics and divided them into three main types. In his opinion, although the essence of phraseological units lies in the stability of the form, the phraseological unit does not appear as a separate word in each case of the speech process, but is reflected in the consciousness of a person in a finished, unchanged form. Part, results in semantic rounding of at least two independent words used in communication, like a natural fusion. Thus, a phraseological unit differs from a simple phrase by a stable semantic structure and a stable grammatical form [9].

According to V.L. Arkhangelsk, PU are a constant combination of linguistic signs, i.e. formed at a certain stage of its historical development, consisting of at least two lexical units, based on the internal subordination of parts, grammatically consistently based on the existing speech model, or phrases. This is the holistic meaning of different words [10].

Analyzing PU, N. Amosova divides them into two different groups depending on whether their components are one or all in a figurative sense. He argues that if one of the components in PU is used figuratively, they are called «phrases», if all the





components are used figuratively; they are called «idioms» [11].

A.I. Smirnitsky equates PU with words and emphasizes that they become part of a sentence in a sentence [12].

Emotional expressiveness is characteristic of phraseological units. They not only name the phenomena of reality, but also convey the speaker's attitude to the named phenomenon. Emotionality and imagery of phraseological units are not always noticed by speakers, but comparison of phraseological units with words and phrases revives their emotionality and imagery.

The nature of phraseological units is such that it requires their conscious use, and the transformed variants need a phased perception (the transformation from the erroneous use of phraseological units is distinguished by a purposeful change in the uses). Newspaper phraseology has its own specifics and even forms a separate layer in the general phraseological system; with all its diversity (origin, structure, semantics, degree of cohesion of components), it is characterized by the use of a certain number and frequency of revolutions, which makes it possible to explain the use of the same phraseological units for the creation on their basis of various transforms in different publications and by different journalists.

The phraseological subsystem of the language, being an integral part of the language system as a whole, is a homogeneous set of units endowed with similar systemic properties.

The process of comprehending phraseological transformations in modern publicistic discourse is represented by the interaction of a number of cumulative aspects: psycholinguistic, axiological, cultural, and philosophical. They are defined by passionarity as a factor that is an internal information layer of knowledge that regulates the positive connections of linguistic signs and meanings given to them by the individual as «effects of the spread of activation» [13]. Many phraseological units are known to be formed according to similar structural and semantic models, which is an important, if not the most striking, expression of the internal systemic character of phraseological units, especially from the point of view of etymology and diachronic [14].

A manifestation of a high degree of emotionality, imagery, evaluativeness of any linguistic sign is passionarity. Regarding the phraseological transformation, this feature is based on the communicant's ability to qualitatively decode the meaning of occasionalism, to determine the direction of language optimization, to reconstruct the information chain, going back from the content of the material to the title and the reason for the changes made in the usual form, as a result of which the motivational side of the nomination is revealed. The

content of a phraseological nominative unit has a block character and is based on the individual's ability to store and accurately reproduce integral verbal constructions.

Emotional assessment, which is expressed in the form of an emotional response in language, is called emotional assessment. Emotivism includes an emotional attitude that has an illocutionary force, that is, it produces certain per locative effect (only in communicative success) through the ability to influence the interlocutor. The nature of the two types of subjective-modal, as well as evaluative-emotional relationships enhances the expressiveness of thinking [15]. Thus, the assessment has a logical and psychological significance. The assessment series consists of a set of methods and means of linguistic expression, reflecting its actual, morphological, syntactic, lexical and other similar elements of the assessment state.

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# PREDICTORS OF EXCLUSIVE BREASTFEEDING AMONG MOTHERS WITH CHILDREN AGED 6 TO 12 MONTHS IN MKURANGA DISTRICT, COAST REGION - TANZANIA

<sup>1</sup>Doris B. Katana

Senior Research Officer Nutrition  
(Tanzania Food and Nutrition Centre)

<sup>2</sup>Abela Z. Tw'inomjuni

Research Officer Nutrition  
(Tanzania Food and Nutrition Centre)

<sup>3</sup>Eliasaph K. Mwana

Research Officer Nutrition  
(Tanzania Food and Nutrition Centre)

<sup>4</sup>Nyamizi Julius

Research Officer Dietetics  
(Tanzania Food and Nutrition Centre)

<sup>5</sup>Josephine Manase

Research Officer Sociology  
(Tanzania Food and Nutrition Centre)

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## ABSTRACT

**Background:** The World Health Organization (WHO) recommends that infants should be exclusively breastfed for the first six months of life to achieve optimal growth and development. Breast milk contains all the nutrients that an infant needs in the first 6 months of life and bioactive factors that augment the infant's immature immune system, providing protection against infection, and other factors that help digestion and absorption of nutrients. Exclusive breastfeeding (EBF) for the first six months of infants' life is a cost effective intervention in saving children's lives especially in developing countries. Despite all the advantages of EBF, in Tanzania many women still do not practice it as recommended. Women's decisions regarding breastfeeding may be influenced by social, environmental, physical and personal factors.

**Main objective:** To explore predictors of exclusive breastfeeding among women with children aged 6 to 12 months in Mkuranga District, Coast Region.

**Methodology:** This was a cross sectional study involving 300 mothers with children aged 6 to 12 months and 10 elderly women residing in selected villages of Mkuranga District. The mothers were selected through multistage cluster sampling while the elderly women were conveniently identified within the households where the postnatal mothers were living. Information from the postnatal mothers and the elderly women was collected using a structured interview schedule and a key informant guide respectively. Data was entered and analyzed using Epi Info version 3.5.4 computer software. Bivariate analysis and multiple logistic regressions were performed to identify statistically significant predictors of exclusive breastfeeding.

**Results:** The highest proportion of mothers (81.3%) initiated breastfeeding within one hour after birth. Knowledge of EBF for the first six months of life was relatively high (86%) compared to the EBF practice (7%). In the multivariate analysis, mothers with knowledge on the duration of EBF (OR 5.56, p-value = 0.02) and the principle of emptying one breast first before shifting to the other (OR 18.34, p-value < 0.00) were significantly more likely to practice EBF compared to mothers who did not use this principle. Elderly women played a major role of caring for both newborns and mothers after delivery, but study findings showed that they had insufficient knowledge on EBF.

**Conclusion:** The predictors of EBF on the study area were knowledge on the duration of EBF and the time spent to empty one breast. Strategies targeting on improving breastfeeding knowledge and skills among mothers as well as elderly women may help to improve EBF in Mkuranga District.



## 1.0 BACKGROUND

Exclusive breastfeeding (EBF) is feeding a child with breast milk only and no other foods or liquids, except drops or syrup of medicines prescribed by medical personnel. EBF is superior to non-exclusive breastfeeding with a protective effect against both morbidity and mortality (Kramer and Kakuma, 2012; León-Cava *et al.*, 2002). According to WHO and UNICEF, exclusive breastfeeding should start within less than one hour of delivery and must continue up to 6 months of infant's age since it is the only source of nutrients for the babies at that age (WHO, 2017).

Children, especially newborns, are at great risk of malnutrition in the first six months of life when breast milk alone is inadequate to meet their nutritional requirements. Exclusively breastfed children are at lower risk of infectious disease such as diarrhoea and acute respiratory infection (ARI) than infants who are not exclusively breastfed in the first six months of life (Kramer and Kakuma, 2012; Kramer and Kakuma, 2004; Arifeen *et al.*, 2001). It has been estimated that exclusive breastfeeding for the first six months could reduce more than 800,000 infant mortality (Black *et al.*, 2013).

Good practice of EBF can prevent 13.8% of all deaths among infants aged less than 2 years and 11.6% of under 5-years children deaths (Rollins *et al.*, 2016; Victora *et al.*, 2016; Black *et al.*, 2013). Despite solid evidence supporting EBF for the first six months of life, its prevalence has remained low worldwide (Diallo *et al.*, 2000; Li *et al.*, 2005). It was estimated that in 2012, only 35% of infants were exclusively breastfed globally (Cai and Brown, 2012). In Sub-Saharan Africa (SSA), the setting with the highest prevalence of infant and child mortality, suboptimal breastfeeding practices are common (WHO and UNICEF, 2012). Only 36% of SSA infants are exclusively breastfed (Yalçın *et al.*, 2016). In Tanzania, the 2015-2016 Demographic Health Survey indicates that only 59% of infants are exclusively breastfed.

A mother can exclusive breastfeed her infant comfortably during the first six months if she is supported in initiating breastfeeding within one hour of delivery (WHO, 2011). She should also understand the correct positioning, how to attach the infant to the breast and when to shift to the second breast after the infant has emptied the first. It is also momentous to assist her to have the knowledge and skills on how to express the breast milk and the importance of breastfeeding the infant frequently during the day and night and to continue to breastfeed even when the infant is sick as well as to increase the breastfeeding regularity during and after illness.

Factors influencing women's decision on EBF differ by demographic factors such as maternal age,

marital status, education, race, socioeconomic status, cultural factors, parity and number of children at home. Social support and socio cultural factors also have a potential influence on woman's decision to breastfeed (Scott *et al.*, 2006; Patil and Yadavannavar, 2011). Maternal attitudes toward breastfeeding and perceptions of infant health benefits of breastfeeding also influence the decision to breastfeed, poor or negative attitudes toward breastfeeding have been shown also to be barriers to initiating and sustaining breastfeeding (Berg and Ball, 2008).

Promoting EBF for the first six months requires involvement of all stakeholders from the national level to community and family level. Tanzania has made some efforts to encourage EBF. These include implementing the National Strategy of infant and young child nutrition, adopting the International Code of Marketing of Breast Milk Substitutes and Designated Products to National Regulations for Marketing of Breast Milk Substitutes and Designated Products. The national regulations provide a legal framework for the provision of safe and adequate nutrition for infants, through the protection, promotion and support of breastfeeding. It also safe guard proper use of breast milk substitutes, when these are necessary on the basis of adequate information through appropriate marketing and distribution.

In these efforts the government enacted the Employment and Labor Relation Act No. 6 of 2004 which provides for 84 paid days maternity leave for an employee who gives birth to one child and 100 days paid maternity leave for an employee giving birth to more than one child without forfeiting annual leave. The employee is also entitled of two hours paid breastfeeding break per day during working hours when she resumes at work.

Although there has been a great deal of research into predictors of EBF in different areas, none has been done in the study area. Since there is limited local data on the predictors of exclusive breastfeeding in the study area, this community based study which explores the predictors of exclusive breastfeeding from mothers with children aged 6 to 12 months in Mkuranga District may help the district in planning community based intervention to promote EBF.

## PROBLEM STATEMENT

Exclusive breastfeeding for the first six months of life is now considered as a global public health goal that is linked to reduction of infant morbidity and mortality, especially in the developing world (WHO, 2009). Despite substantial efforts to promote optimal child feeding practices in Tanzania, the prevalence of EBF in infants of 0-6 months has never reached 90% as recommended by World Health Organization



(Agunbiade and Ogunleye, 2012). The Data available shows that, EBF from 0 to 6 months is 50%. Furthermore, 81% of infants aged less than two months were on exclusive breastfeeding but the proportion declines to 51% among infants between 2-3 months and 23% among those aged 4-5 months. Median duration of EBF is therefore 2.4 months (TDHS, 2010).

Exclusive breastfeeding for the first six months of life is important in developing countries wherein there exists a high burden of disease and low access to clean water and sanitation. Poor EBF practices among mothers in the community is associated with increased infant deaths due to acute respiratory infection and diarrhoea as well as from other infectious diseases (WHO, 2009). Predictors of exclusive breastfeeding vary widely between and within countries. They include urban or rural disparities, age, employment status, higher education, knowledge about breastfeeding techniques, positive attitudes towards EBF and intent to exclusively breastfeed before delivery. Other predictors are partner living with the woman, mode of delivery, birth weight of the infant, health system practices and community beliefs. These factors have all been shown to influence the prevalence of EBF in different areas (Nkala and Msuya, 2011).

Information on the predictors of EBF is, however, limited in different areas in Tanzania including rural settings like Mkuranga District. Thus, this study, aimed at determining the EBF predictors among women with children between 6-12 months of age in this particular district. The study findings provide important information to feed the efforts aimed at promoting EBF in the district.

## 2.0 METHODOLOGY

### Area of study

Mkuranga District is one of the six districts that form the Coast Region. The district is divided into 4 administrative divisions that are further subdivided into 18 wards. It covers an area of 2,432 square kilometers and has an estimated population of 222,921 people (National Bureau of Statistics, 2013). Most of the residents are peasants and are engaged in subsistence agriculture. The cash crops are cashew nuts, coconuts, pineapples and oranges, while the food crops are mainly cassava, rice and beans.

### Study Design

This was across sectional study in design using both quantitative and qualitative methods of data collection. The study included all women with children aged 6 to 12 months in the selected villages. Respondents in the quantitative study were recruited using multi-stage cluster sampling technique. The first stage involved random selection of two divisions

among the four divisions, and then one ward was randomly selected from each of the 2 divisions. Then 3 villages were randomly selected from each of the 2 wards, giving a total of 6 villages. Women who met the inclusion criteria in the households within these 6 villages were eligible to participate in the study. The research team together with local community leaders did a quick household listing exercise of all eligible women. In the respective village households, a maximum of 50 women from each village were randomly selected from the list assuming that the population was more likely the same in each selected village.

The population for qualitative component were the elderly women (women aged 50 years and above) who lived in the same households with mothers who were purposive selected. These women, based on their roles, their infant feeding experiences and knowledge they can exert influence on mothers' decisions to initiate and continue breastfeeding (Grassley *et al.*, 2008).

A total of 10 elderly women were included in the in-depth interview, 6 from Kisiju division and 4 from Mkamba division. The sample size was limited by saturation point of information. During the household quantitative data collection, elderly women aged 50 years and above who were living in the same households with the postnatal mothers were invited to participate in the in-depth interviews. The saturation point was reached after interviewing 6 respondents from Kisiju division and 4 from Mkamba division.

### Inclusion and Exclusion Criteria for Qualitative Study Population

All elderly women aged 50 years and above living in the same households with the postnatal mothers were potential respondents for the study. Women who were not living in the same households with the postnatal mothers regardless of their support to these mothers were not included in the study.

### Study Instruments

A structured interview schedule was used for the quantitative data collection. This instrument had four sections. The first section comprised of questions that elicited respondents' background information such as age, level of education, place of childbirth, occupation and marital status. The second section focused on child information while the third section concentrated on questions on exclusive breastfeeding whereas the last section elicited mothers' knowledge on breastfeeding including questions on importance of breastfeeding, recommended time for initiating breastfeeding, recommended duration for exclusive breastfeeding, pre-lacteal feeding, what helps the mother to increase





the flow of milk and knowledge on how to express breast milk. Also factors perceived as encouraging or discouraging exclusive breastfeeding as well as challenges of breastfeeding were included.

For the qualitative data, an interview guide for in-depth interviews with elderly women was used. The main themes related to initiation of breastfeeding, support given to breastfeeding mothers and what these elderly women do in promoting breastfeeding.

### Data Collection and Procedures

Participants were first informed about the study and its aim, and those who agreed to participate were included in the study. Face-to-face interviews were conducted at participant's home, at a private spot away from other family members for confidentiality. The information was collected using Kiswahili version of a structured interview schedule because Kiswahili is a major language used in the study area.

Using an interview guide, 10 in-depth interviews with key informants (elderly women) were conducted by the researcher. All these interviews were conducted in Kiswahili language as this is the national medium of communication and people in the Coast Region are usually fluent in this language.

### Study Variables

The dependent variable of the study was exclusive breastfeeding. The independent variables for the survey included socio-demographic characteristics such as age, marital status, occupation, level of education and number of children. Others were family influence, knowledge, sources of advice and breastfeeding support. On the other hand, the independent variables for the key informants were breastfeeding experience, knowledge and their roles on support provide to postnatal mothers.

### Data Processing and Analysis

The data was cleaned and entered into Epi Info version 3.5.4 in duplicate on daily basis in order to correct any errors encountered during interviews. The duplicates of data files were validated against each other to further verification.

Data was entered and analyzed using Epi Info version 3.5.4 computer software. Respondents who were housewives, peasants and other (students) were coded as unemployed while respondents who were self employed, employed or doing small business were coded as employed in the bivariate analyses. Furthermore mothers who were single, widowed, divorced and separated were coded as living single.

Odds ratio (OR) and their 95% confidence intervals (CI) were used to assess the strength of association between several predictors of EBF. All of

the predictors with p- value of  $< 0.05$  in the bivariate analysis were included in the regression model. Multiple Logistic regressions have been performed to get independent predictors for exclusive breastfeeding. A p-value of  $< 0.05$  was taken as significant.

Breastfeeding knowledge covers different issues such as knowledge on the importance of breastfeeding, recommended EBF duration, time for initiating breastfeeding, pre-lacteal feeding, knowledge on things which help mothers to increase the flow of breast milk and knowledge on how to express breast milk. The responses on knowledge were coded as "adequate knowledge" if a mother provided a correct response regarding the specific issue or mentioned at least two possible answers among the pre-listed responses regarding the issue in question. The knowledge response was coded as inadequate if a mother provided none or only one correct response regarding that issue.

Pre-lacteal feeds are those foods given to newborns before breast milk or before breastfeeding is established while breastfeeding social support include all types of support mothers receive after birth in their household which influence breastfeeding.

The in depth interview information was analyzed using content analysis approach. Firstly, the information was translated into English by the researcher. Both English and Kiswahili versions were given to a linguist to ensure proper and actual translation. Subsequently, the field notes were used to verify the translation to preserve the meaning of the participants' words. Data has been examined and categorized by respondent opinions. Finally the information under major and sub-categories was presented through summaries and narrative text based on the study objectives. The qualitative information has also been used to clarify and enhance the quantitative results.

### Ethical Considerations

Ethical approval to conduct this study was received from the Research Ethics Committee of the Muhimbili University of Health and Allied Sciences. Permission to conduct the study in the district was provided by the District Medical Officer. At all levels, participants were briefed on the study objectives and their consent was received by giving verbal approval before administering any of the research protocols. In addition, all the participants were informed of their right to withdraw their participation in the study at any stage. All the information was handled confidentially. Feedback of the study results will be provided to the Regional and District Medical Officers, who would be expected to use the findings in designing effective EBF promotion programs in the district.



### Study Limitations

This study was a community-based survey whereby interviews were conducted from house to house. Due to the fact that, infants up to 12 months of age are estimated to be only 4% of the total population, getting 300 mothers with children aged from 6 to 12 months taking into account the limited time was difficult. For this reason a margin of error of 7% was used instead of the commonly used 5% level.

### 3.0 RESULTS

This chapter presents results from interviews of 300 mothers with children aged 6 -12 months and also

in-depth interview from 10 elderly women aged 50 years or more. All respondents who were requested to participate in this study agreed to participate.

### Socio-Demographic Characteristics of the Study Population

A total of 300 women participated in the study, with the mean age of 27 years  $SD \pm 7$ , range between 15-47 years while a tenth of them were teenagers. The highest proportions of the mothers were married/cohabiting (79.6%), had only primary education (55.7%), were peasants (56.0%) and had one to three children (57.0%) as shown on Table 1.

**Table 1: Socio-demographic characteristics of mothers with children aged 6 -12 months**

Variable	Number	Percentage
<b>Age (years)</b>		
15 – 19	32	10.7
20 – 24	84	28.0
25 – 29	72	24.0
30 – 34	60	20.0
≥ 35	52	17.3
<b>Education</b>		
Primary school	167	55.7
None	113	37.7
Secondary school	16	5.3
Adult education	4	1.3
<b>Marital status</b>		
Married/ Cohabiting	239	79.6
Single	47	15.7
Divorced/ Widowed	13	4.7
<b>Number of children</b>		
1-3 children	171	57.0
4 – 6 children	103	34.3
7 and above	26	8.7
<b>Occupation</b>		
Peasant	168	56.0
Housewife	64	21.3
Petty business	61	20.3
Employed and others	7	2.3

\*Others represent students

### Age and sex of respondent's children

The ages and sex of the children of mothers who participated in the survey are displayed on Table 2.

Data showed that more than half of the children (57.7%) were aged between 10-12 months and that there were slightly more female children (53.7%).



Table 2: Distribution of the age and sex of the children

Variable	Number	Percentage
<b>Age (months)</b>		
6 - 7	63	21.0
8 - 9	64	21.3
10-12	173	57.7
<b>Sex</b>		
Female	161	53.7
Male	139	46.3

### Breastfeeding practices among mothers with children aged 6 to 12 months

The highest proportion of mothers 81.3% (244) initiated breastfeeding within one hour after birth; while 23 (7.7%) of them did not remember the time they started breastfeeding their infants. Among the 56 mothers who delayed breastfeeding, the main reasons attributed to this were that the mother was sick (55.4%) followed by 30.4% whose main reason was delayed breast milk secretion.

Pre-lacteal feeding was given to 6.0% of the infants and the most common pre-lacteal feed was plain water as shown on Table 3. The elderly women also emphasized this during the in-depth interview. They insisted that the child should be given warm water for cleansing the throat and remove the dirty in the stomach. Glucose water was another commonly mentioned pre-lacteal feed (33.3%).

*"Normally I give warm water to clear and make the throat wet since breast milk at that time is heavy and may dry the throat. This water also helps to remove the dirty in the stomach. In addition, warm water speeds the removal of the dark stool from the intestines of the infant."* (KI, 2)

With the exemption of 4 mothers, all the others (98.7%) reported to feed their infants colostrums, the initial milk that comes out of their breast. However, only 21 out of 300 mothers (7%) breastfeed their infants exclusively for the first six months. Majority of mothers (45%) exclusively breastfeed their children for 2-3 months; and this was also revealed in the key informant interviews as narrated.

*"No, how can a baby survive for six months with breast milk only? They need some cassava porridge, because, it has smooth particles for a child to swallow."* (KI, 1)

Table 3: Breastfeeding practices among mothers with children aged 6 to 12 months in Mkuranga

Variable	Number	Percentages
<b>Initiation of breastfeeding</b>		
Within one hour	244	81.3
2 -4 hour	33	11.0
Don't know	23	7.7
Total	300	100.0
<b>Reasons for delay initiation</b>		
Delay milk secretion	17	30.4
Sick mother	31	55.4
Sick child	4	7.1
Other	4	7.1
Total	56	100.0
<b>Giving pre-lacteal feeds</b>		
Yes	18	6.0
No	282	94.0
Total	300	100.0
<b>Types of pre-lacteal feeds</b>		
Plain water	11	61.1
Glucose water	6	33.3
Cows' milk	1	5.6
Total	18	100.0
<b>Feeding colostrums</b>		
Yes	296	98.7



No	4	1.3
Total	300	100.0
<b>Exclusive breastfeeding</b>		
Below 2 months	51	17.0
2 -3 months	134	44.7
4 -5 months	94	31.3
At 6 months	21	7.0
Total	300	100.0

### Reasons for mothers' not exclusive breastfeed for the first six months

Among 279 mothers who reported not to have exclusively breastfed their children for the first six months of life, their main reasons included baby crying excessively (67%) followed by insufficient breast milk

(21.9%). Furthermore, 47.3% decided on their own to introduce other foods while 38.7% reported to have been advised by their mothers/mother in law. Slightly over a tenth (11.1%) of them were advised by their partners as shown on Table 4.

**Table 4: Reasons for not exclusively breast feed for the first six months of life and the sources of advice on early complementation (n = 279)**

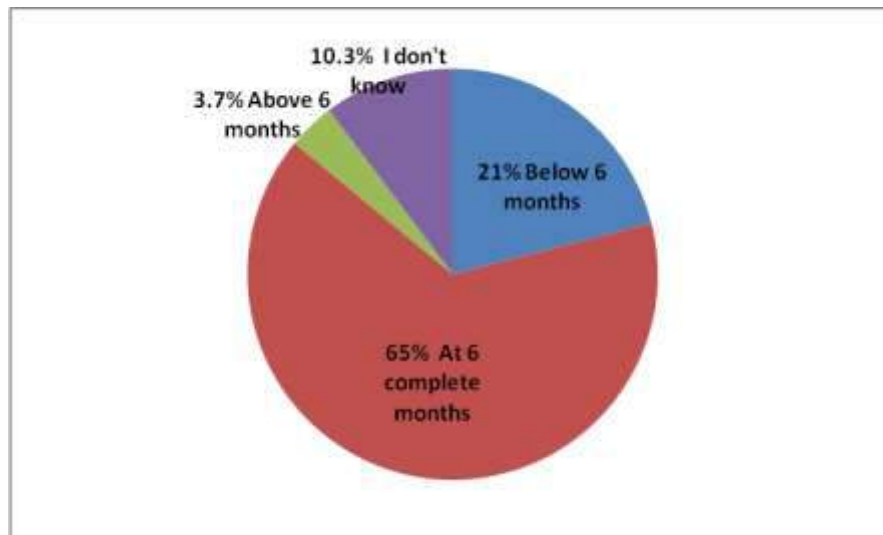
Variable	Number	Percentage
<b>Main reasons</b>		
The baby was crying	187	67.0
Breast milk not sufficient	61	21.9
The baby was growing	25	9.0
Mother/Child was sick and resume to work	6	2.2
Total	279	100.0
<b>Source of advice</b>		
Self	132	47.3
Mother/mother-in-law	108	38.7
Partner	31	11.1
Health workers and others	8	2.8
Total	279	100.0

\*others include mother's sister and her sister in law

### Knowledge on breastfeeding among mothers with children aged 6 to 12 months

Questions on mother's knowledge were asked to elicit the knowledge on specific issues regarding exclusive breastfeeding. Regarding the recommended

time for exclusive breastfeeding, 65% (195) of respondents said that a baby should be exclusively breastfed for the first 6 months of life while a sizeable proportion (10%) was not able to mention the time as shown in Figure 1.



**Figure 1: Knowledge on the duration of exclusive breastfeeding**

Close to a tenth of the mothers (9.9%) had adequate knowledge on the importance of EBF and 8.9%, who had adequate knowledge on the recommended time for breastfeeding initiation, practiced exclusive breastfeeding to their children. Mothers with adequate knowledge on the importance of breastfeeding were 1.7 times more likely to practice EBF for the first six months compared to those with inadequate knowledge. Also mothers with adequate knowledge on the recommended time for breastfeeding initiation were three times more likely to practice exclusive breastfeeding than those with inadequate knowledge (OR = 3.05 and p-value = 0.07).

Respondents were asked a question on how to express breast milk. Results indicate that only one mother was able to explain how to express breast milk and this mother reported to have attended antenatal

clinic in a different district. Expressing breast milk was not a common practice in the study area as was negatively commented by the elderly women:

*“How can the human breast milk be expressed? This is a new thing for me at this age”* (KI, 3)

*“No expression of breast milk in our community. If it happens that a mother gets an emergency and has to leave her infant for some hours, we should feed this baby with other drinks like porridge”* (KI, 4) Another KI lamented: *“If it happens someone expresses her milk, it will be the talk of the day in the mosque, in water sources and in the entire community”* (KI, 6)

On the other hand, only knowledge on the duration of exclusive breastfeeding (p-value = 0.01) was shown to be significantly association with breastfeeding practice (p-value > 0.05) as shown on Table 5.

**Table 5: Knowledge on breastfeeding among the mothers**

Knowledge	EBF Number (%)	Not EBF Number (%)	OR (95%CI)	p-value
<b>Importance of breastfeeding</b>				
Adequate knowledge	8 (9.9)	73 (90.1)	1.74	0.24
Inadequate knowledge	13 (5.9)	206 (94.1)		
<b>Recommended time for breastfeeding initiation</b>				
Adequate knowledge	18 (8.9)	185 (91.9)	3.05	0.07
Inadequate knowledge	3 (3.1)	94 (96.9)		
<b>Pre-lacteal feeds</b>				
Adequate knowledge	0 (0)	15 (100)	0.00	0.28
Inadequate knowledge	21 (7.4)	264 (92.6)		
<b>Duration on EBF</b>				
Adequate knowledge	19 (9.7)	176 (90.3)	0.18	0.01
Inadequate knowledge	2 (1.9)	103 (98.1)		





## The Understanding of Elderly Women on Infant and Young Child Feeding

Breastfeeding is recognized as important nutrient for the infant's growth by grandmothers in the study area. In general they spoke in favour of it and agreed that the breastfeeding should be initiated to the child just after birth and colostrum is very important for the health of the child.

*"Breast milk is very important for baby just after the delivery; the yellowish milk protects the baby against diseases and helps the baby to grow well. A baby cannot contact so many diseases when it is breastfeeding"*. (KI, 5)

However grandmothers appeared to have a negative attitude towards EBF. They admitted that they have heard of the recommendation to exclusively breastfeed for six months from mothers who delivered in the health centers. They argue that the child could not survive on breast milk alone for the first six months and they emphasized that the child should be given warm water at least twice a day from the first day after delivery and continue as the child grows because the warm water will help to remove the dirty in the stomach and smoothen the throat.

*"Normally I give warm water to clear and make the throat wet. The throat would be otherwise dry, because milk at that time is heavy. The water also helps to remove the dirty in the stomach as well as speeding up the infant to remove the dark stool."*(KI, 2)

They believed that the baby is thirsty, the milk is not enough for the baby, and at least they need something heavy to feed their baby that will last much longer. The main complementary food mentioned by all was cassava porridge with the view that the smoothness of this type of porridge is appropriate for the child from first month of birth.

*"No, Breast milk alone? How can a baby survive for the six months with breast milk alone? They need some porridge. We normally give cassava porridge because it has smooth particles that can be easily swallowed by a child"*. (KI, 1)

*"It is impossible for the baby to survive for six months on breast milk only, the baby needs other foods. Let us say that when the baby reaches 2-3 months is able to eat, so why not give the baby food like soft porridge"*. (KI, 9)

*"When I advised my daughter to give her baby porridge after 1 month, she refused; she said that she was told at the clinic not to give the baby any food until 6 months. However when the baby reached 2 months she herself prepared cassava porridge for her baby because the breast milk was not enough at that time"*.(KI, 6)

The elderly women disputed that the problems identified by health workers as malnutrition among children are not really problems caused by poor breastfeeding or feeding practices but rather due to "dirty" breast milk from her/his mother. They argued that nowadays mothers continue with sexual intercourse and breastfeeding their babies at the same time, as opposed to the old past days when breastfeeding mothers completely refrained from sexual intercourse and their babies grew well and healthily.

*"The problem of poor health among the children is not due to infant feeding is caused by the bad habits of the young parents, they prefer sex than the health of their children. Sexual intercourse contaminates the breast milk and makes it bad, so it affects the health of the baby"*. (KI, 5)

They blamed the introduction of family planning as the source of influence of that habit. One elderly woman said that:

*"This is not contributed to women alone but even their partners, as they do not consider the health of the children, because 40 days after delivery they start sleeping together. Only those who use condoms protect the breast milk from that dirty but other methods prevent pregnancy but affect the health of the child. This is the major problem in our community"*

*"The main source of this behavior is the introduction of artificial family planning methods which protect pregnancy without consideration of the young children who feed on their mothers' breasts"*(KI, 5).

The issue of continuing breastfeeding when the mother was pregnant was raised. All key informant interviewees argued that a new pregnancy would turn the milk 'poisonous' and hence it would be dangerous to breastfeed the child. On the other hand, they argued that the child should be taken to the tradition healer if the mother is recognized to have continued breastfeeding when she is pregnant otherwise the child would die.

*"The mother should stop breastfeeding immediately when she identifies that she is pregnant, because the breast milk can affect the health of the child at that time"*(KI, 6)

*"The child who has been breastfeed when her/his mother is pregnant should be taken to the traditional healer for treatment and cleaning otherwise his/her health will deteriorate or even may die"*(KI, 7)



### Role of Elderly Women in Promoting Exclusive Breastfeeding in the Community

As it is shown in the Figure 2, 79.3% of mothers were assisted by elderly women at home after delivery. Even the elderly women admit that the mothers depend

a lot on their support from pregnant up to 2 years of child age, so the elderly women are the most important players in transmitting knowledge about breastfeeding to the mothers.

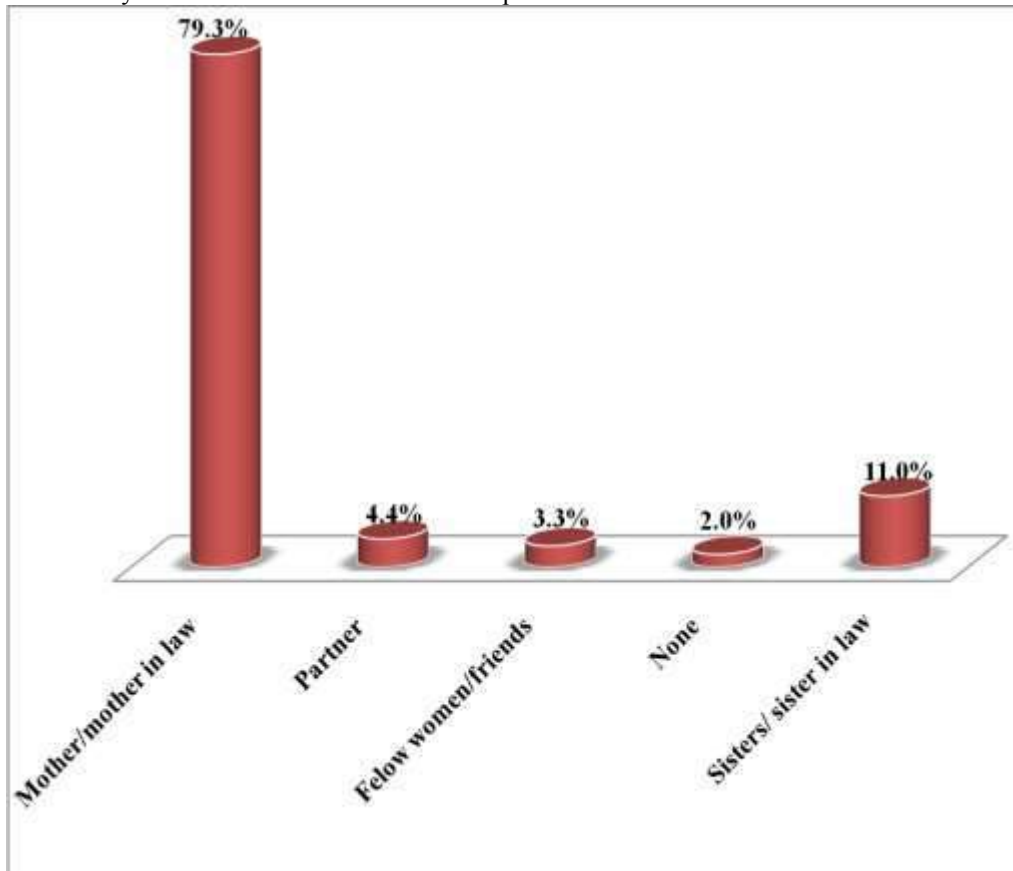


Figure 2: Type of persons assisting mothers after delivery

### Association between socio-demographic characteristics and exclusive breastfeeding among the mothers

Employment status, time spent to breastfeed on one breast before shifting to the other and knowledge on how to express breast milk were found to have significant association with EBF in the bivariate analysis ( $p$ -value = 0.03 and OR 0.36). Other socio-demographic variables such as maternal education level, place of delivery and method of delivery had no significant association with exclusive breastfeeding. However health facilities delivery and increase in

education level decrease the likely to practice of EBF among mothers so remained as protective factors against EBF (OR < 1 but  $p$ -value < 0.5).

On the other hand mothers who were either married/cohabiting and those who were not assisted by their mothers or mother in laws and those with four children or more were slightly more likely to practice EBF than those who were not married, assisted by mother/mother in law in the postnatal period and those with one to three children. However, none of these variables had statistically significant association with EBF practice as shown on Table 6.



**Table 6: Association between socio-demographic and other characteristics with exclusive breastfeeding practices (n = 300)**

Variables	EBF Number (%)	Not EBF Number (%)	OR (95%CI)	p-value
<b>Education level</b>				
None	11 (9.7)	102 (90.3)	0.52	0.14
Educated	10 (5.3)	177 (94.7)		
<b>Marital status</b>				
Married & cohabited	17 (7.1)	222 (92.9)	1.09	0.87
Living single	4 (6.6)	57 (93.4)		
<b>Occupation</b>				
Employed	8 (12.9)	54 (87.1)	0.37	0.03
Not employed	12 (5.2)	220 (94.8)		
<b>Place of delivery</b>				
Health facilities	19 (7.4)	238 (92.6)	0.61	0.51
Home	2 (4.7)	41 (95.3)		
<b>Mode of delivery</b>				
Normal	19 (7.0)	254 (93.0)	0.94	0.93
Caesarean section	2 (7.4)	25 (92.6)		
<b>Time spent to breastfeed on one breast</b>				
Empty one breast before shifting to the other	13 (38.2)	21 (61.8)	0.05	0.00
Shift to the other breast before empty the first	8 (3.0)	258 (97.0)		
<b>Knowledge on the important of breastfeeding</b>				
Adequate knowledge	8 (9.9)	73 (90.1)	0.58	0.23
Inadequate knowledge	13 (5.9)	206 (94.1)		
<b>Knowledge on EBF duration</b>				
Adequate knowledge	19 (9.7)	176 (90.3)	0.18	0.01
Inadequate knowledge	2 (1.9)	103 (98.1)		
<b>Number of children</b>				
1 - 3 children	9(5.3)	162 (94.7)	0.54	0.17
4 and above	12 (9.3)	117(90.7)		
<b>Support at home after delivery</b>				
Mother/mother in law	16 (6.7)	222 (93.3)	0.82	0.71
Others	5 (8.1)	57 (91.9)		

### Predictors of Exclusive Breastfeeding

The multivariate analysis show that, time spent to breastfeed one breast and knowledge on the duration of exclusive breastfeeding was the only significant predictors of exclusive breastfeeding (p-value < 0.01 and 0.02 respectively). Mothers who are emptying one breast before shifting to the other breast are 18 times more likely to practice exclusive breastfeeding than

those who shift the baby to the other breast before empty the first during breastfeed.

Furthermore mother with adequate knowledge on the duration of exclusive breastfeeding are 5.5 times more likely to exclusive breastfeed her baby for the first six months than those with inadequate knowledge on the duration of EBF as shown on Table 7.

**Table 7: Logistic regression for the predictors of exclusive breastfeeding**

Variable	OR	95% CI	p-value
<b>Occupation</b>			
Employed	2.99	(1.20, 7.44)	0.11
Not employed			
<b>Time spent to breastfeed one breast</b>			
Empty one breast before shifting to the other	18.34	(6.76, 49.77)	< 0.01
Shift to the other breast before empty the first			
<b>Knowledge on the duration on EBF</b>			
Adequate knowledge	5.56	(1.27, 24.35)	0.02
Inadequate knowledge			

#### 4.7 Challenges of exclusive breastfeeding among mothers in the community

Lack of correct EBF information/knowledge is the major challenge of exclusive breastfeeding

identified by 86.7% of mothers in the study area followed by poor traditions and customs.

**Table 8: Challenges of exclusive breastfeeding**

Challenges (n = 300)	Yes (%)	No (%)
Lack of correct EBF information/ knowledge	86.7	13.3
Poor tradition and customs on EBF	30.7	69.3
Mother/mother in law influence	13.7	86.3
Partner influence	6.3	97.6
Short maternity leave	0.3	99.7

## 4.0 DISCUSSION

### Breastfeeding practices among mothers with children aged 6 to 12 months in Mkuranga District.

Exclusive breastfeeding for the first six months of the life of a child is now considered a global public health goal that is linked to reduction of infant morbidity and mortality, especially in the developing world (WHO, 2009). In Tanzania breastfeeding is the norm, but exclusive breastfeeding is not widely practiced. Water in addition to breast milk, may be given to quench a baby's thirst or simply by tradition.

The study revealed that only 7% of mothers with children aged 6 to 12 months practiced exclusive breastfeeding for the first six months. The main reasons for early complementation were excessive crying of a child (67%) and insufficient breast milk (21.9%). When a child cried, it was assumed that it was not satisfied with the mother's breast milk and hence crying for more heavy food. Similar findings have also been documented in a study done in Bolivia (McCann and

Bender, 2006). When other foods are introduced, the frequency of breastfeeding is reduced leading to decreasing breast milk production and higher likelihood of early cessation of breastfeeding.

This study shows that majority of children started complementation at the age between 2-3 months, and that the initial food was usually cassava porridge. Such early complementary foods apart from being deficient in important nutrients are also likely to be contaminated during preparation in addition to digestive problems. They also reduce the uptake of breast milk which is the only recommended food for such infants. These finding is consistent with that of Tanzania Demographic and Health Survey which show that eleven percent of children below 2 months of age, 33 percent of children age 2-3 months, and 64 percent of children age 4-5 months are given complementary foods (TDHS, 2010).



### Knowledge on breastfeeding among mothers with children aged 6 to 12 months in the community

The knowledge of EBF for the first six months was relatively higher (65%) compared to the practice. This is because mothers lack knowledge on the technique to practice exclusive breastfeeding. WHO asserts that a mother could carry out exclusive breastfeeding comfortably during the first six months if she is supported in initiating breastfeeding within one hour of delivery. She should also understand the correct positioning and how to attach the infant to the breast and when to shift to the second breast after the infant has emptied the first. It is also momentous to assist her to have the knowledge and skills on how to express the breast milk and the importance of breastfeeding the infant frequently during the day and night and to continue to breastfeed even when the infant is sick as well as to increase the breastfeeding regularity during and after illness (Lewallen, 2006).

The majority of mothers lack adequate breast feeding knowledge such on emptying the first breast before shifting to other breast, how to express breast milk, sign that show that the baby is well positioned while breastfeeding and the important of breastfeeding. The shortage of knowledge among mothers may contribute to low EBF practices in the community. This was also reported by the study done by Shirima *et al* that, adequate and appropriate knowledge about breastfeeding issues has been shown to be associated with high rates and a longer duration of exclusive breastfeeding (Shirima *et al.*, 2001).

### The understanding of elderly women on infant and young child feeding

Grandmothers' own infant feeding experience and knowledge can influence mothers' decisions to initiate and continue breastfeeding or not (Iliff *et al.*, 2005; Grassley and Eschiti, 2008). Family opposition, especially from grandmothers and other elderly women is the major constraint reported by mothers as a deterring factor in practicing EBF (Uchendu *et al.*, 2009).

Result from this study showed that elderly women in Mkuranga District believed that the child should be given water from the first day of birth. Also they report that breast milk alone is not enough for the child for the first six months of birth, that's why they usually advise the mothers to feed their children cassava porridge from first months after birth. This finding is similar to that reported by the Tanzania Demographic and Health Survey which show that, in Tanzania the practice of feeding children with any solid or semi-solid foods starts early in life. Eleven percent of breastfeeding children in the first two months

receive some kind of solid or semi-solid foods (TDHS, 2010).

The study revealed that elderly women believed that breast milk cannot be expressed and were surprised by this "new idea". Also they believed that if a breastfeeding woman is engaged in sexual intercourse the quality of her breast milk will deteriorate and therefore breastfeeding will harm the child. This strong negative belief is the main obstacle leading to the misinterpretation of malnutrition problems in the community. The lack of knowledge among elderly women has contributed a lot in impeding promotion of EBF in different areas. For instance, study done in Cameroon observed that even when women had adequate knowledge about the recommendation to EBF for six months, grandmothers are not actively involved in information, education and communication (IEC) activities on EBF and such initiatives largely target mothers (Kakute *et al.*, 2005). Among grandmothers, lack of information on and support for EBF have been reported as a significant barriers to the continuation of breastfeeding (Omari *et al.*, 2003).

### The roles of elderly women in promoting exclusive breastfeeding in the community

Mother-in-law's support act as modifiers and insulators for a breastfeeding mother from social and psychological points of view (Agunbiade and Ogunleye, 2012). Ekström *et al* (2003) emphasizes the importance of grandparents support in increasing the duration of breastfeeding. In their study done in Sweden they found that, women whose mother told them about their breastfeeding history breastfed longer than women whose mothers did not. The study suggested that providing an opportunity to grandmothers to discuss their breastfeeding perceptions with mothers was a helpful intervention to support breastfeeding (Ekström *et al.*, 2003).

This study revealed that elderly women are the one who provide support to the mother and new child for the first three months after birth. Close to 79% of mothers were assisted by elderly women at home after delivery. Several studies conducted in African countries have documented the importance of elderly women in childcare and infant feeding. Studies in Mozambique and Malawi, for example, show that baby's grandmothers are particularly influential regarding infant feeding. Generally they highlighted the lack of autonomy and decision making power among young mothers, as decisions on infant feeding significantly in extended family (Bezner *et al.*, 2008; Arts *et al.*, 2010). The community believes a lot on elderly women on the issue related to infant and young childcare including infant feeding, so any efforts geared





towards promotion of EBF should also targeting that group.

### **Association Between Socio-Demographic Characteristics and Exclusive Breastfeeding**

Exclusive breastfeeding was not influenced by socio-demographic variables in the study area. These included maternal educational levels, age, occupation and marital status. These findings were similar with earlier findings from Morogoro which reported that mothers background factors has no significant association with exclusive breastfeeding (Shirima *et al.*, 2001). Also other study done on Kigoma Region reported that there was no association between several socio-demographic factors (age, education, income, marital status, parity or employment) and EBF (Nkala and Msuya, 2011).

### **Predictors of Exclusive Breastfeeding Practices Among Mothers**

Knowledge on the duration of EBF, employment and the time spent to breastfeed on one breast before shifting to the other had significant association with exclusive breastfeeding in the bivariate analysis. However employment has no significant association when adjusted in the multivariate analysis. The reason for this is probably that employment may depend on education level. Another predictor of EBF was knowledge on the EBF duration. This findings differ with that obtained from study conducted in Kigoma Municipal whereby knowledge about EBF and place of delivery had strong significant association with EBF in multivariate analysis (Nkala and Msuya, 2011).

Most dependent variables studied had no significant association with exclusive breastfeeding in multivariate analysis. The only predictor with strong significant association with EBF was the time spent to empty one breast, whereby mothers who reported to take adequate time to empty one breast were more likely to practice exclusive breastfeeding ( $p < 0.01$ ) as compared to those who shifts their infants to the other breast before emptying the first one.

### **Challenges of Exclusive Breastfeeding Among Mothers in the community**

The World Health Organization recommends that women throughout the world should provide only breast milk for their children for the first six months of their life and continue to breastfeed, while introducing complementary foods, until children are two years old or longer (WHO, 2011). Despite this recommendation, only 7% of mothers in the study area do breastfeed exclusively for at least six months. Mothers are faced with multiple challenges as they strive to practice EBF,

the major ones relating to lack of correct EBF information/ knowledge and poor tradition and customs on EBF.

Similarly, lack of correct knowledge on EBF was found to be among major challenges of EBF in Turkey, where more than one-third of mothers in the study reported that they stopped exclusive breastfeeding before six months because they believed that their milk would not provide adequate nutrition (Yesildal *et al.*, 2008). In Malawi poor tradition and customs were reported as the challenge of EBF, whereby grandmothers were likely to give supplementary root infusions to infants based on the belief that breast milk alone would not satisfy an infant's hunger (Bezner *et al.*, 2008).

A similar study conducted in Mozambique also found that, lack of knowledge about breastfeeding influenced most women to start practicing mixed feeding, including the introduction of water, traditional medicines and porridge to their babies, before they reached six months of age. Further observations in the same study indicated that women sometimes doubt the feasibility of EBF and lack conviction that a baby can grow healthily until the age of six months on breast milk alone (Arts *et al.*, 2010).

## **5.0 CONCLUSION AND RECOMMENDATION**

Generally majority of mothers in Mkuranga District were not practicing exclusive breastfeeding (EBF) for the first six months. Findings indicate that most mothers had sufficient knowledge on the duration of EBF but they lacked the information on the breastfeeding techniques that promote EBF. The predictors of EBF in the study area were knowledge on the duration of EBF and the time spent to empty one breast, whereby mothers who emptied the first breast before shifting to the other were more likely to practice EBF compared to those who shifted their infants to the other breast before emptying the first one. Elderly women played a major role in caring for the mother and newborn after delivery, but they had insufficient knowledge on EBF.

There is a need to introduce community-based interventions aiming at improving exclusive breastfeeding in the district that will incorporate elderly women. This is because such women play active roles in encouraging or discouraging exclusive breastfeeding practices among mothers.

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# SUPPORT OF FOREIGN COUNTRIES IN THE DEVELOPMENT OF HEALTHCARE IN UZBEKISTAN

**Kholikov G.**

Teacher of Karshi State University

## ANNOTATION

*This article discusses the issues of cooperation with the World Health Organization in the development of medical services in Uzbekistan and social relations with a number of foreign countries.*

**KEYWORDS:** *Uzbekistan, medicine, medical care, technology, modern, dispatcher, emergency medical care, international, communication, motor transport*

## DISCUSSION

The complex and dangerous epidemiological situation in the world requires special attention to health care. Countries around the world are working together to fight the coronavirus, which has spread around the world. The World Health Organization (WHO) is particularly active in this regard. WHO is taking consistent measures to protect the health of the population, to develop health programs with countries, to improve and protect the environment.

In this regard, the organization has also provided close assistance to Uzbekistan. With the support of WHO, the attitude to health in Uzbekistan has changed radically.

WHO has been studying health approaches, knowledge, in particular, medicinal plants, various natural minerals, treatment methods, and experience in diagnosing and preventing disease.

Uzbekistan joined the WHO on May 25, 1992. Since 1993, WHO, as a member of the United Nations, has helped Uzbekistan achieve its international and national health goals, including the 2000 Millennium Development Goals (MDGs) and the Health 2020 Program. has been closely supported in achieving this.

WHO's cooperation with the Republic of Uzbekistan is currently based on the European Health Program signed by Uzbekistan in 2012 and the Bilateral Cooperation Agreement signed with the Ministry of Health of the Republic of Uzbekistan for 2014-2015 under this program. The main goal of the program was to improve the health care system and ensure that all people have access to appropriate medical services.

Important reforms planned in Uzbekistan in the first years of independence have led to consistent

changes in the social sphere. In December 1992, the International Medical Exhibition opened in Tashkent. The exhibition showcased 20 leading pharmaceutical concerns, as well as products from Germany, the United States, Japan, Turkey, Austria and other countries.

The state strategy in the system was supported by the World Bank. In November 1998, the Government of the Republic of Uzbekistan and the International Bank for Reconstruction and Development (IBRD) signed Loan Agreement No. 4396 UZ for the Health Project, aimed at reforming the primary health care system in Fergana, Navoi and Syrdarya regions. The Republic of Karakalpakstan and Khorezm region, which have high water shortages, were included in the project, and international donor organizations (USAID, DRD, WHO) were involved. The project cost \$ 77.3 million, and the Government of Uzbekistan and the World Bank are expected to participate in the project to achieve its goals.

On January 27, 2005, the Cabinet of Ministers of the Republic of Uzbekistan adopted a resolution "On measures to implement the Health-2 program in cooperation with the International Development Association in order to further deepen the reorganization of the primary health care system". The total cost of the project is 118.1 million US dollars. A portion of it in the amount of 40 million US dollars was a loan. This project was implemented as a logical continuation of the Health -1 project.

In order to provide quality education to students under the Health-2 project in Uzbekistan, 9 laboratories in medical universities have been equipped with modern teaching equipment. In order to continuously improve the level of professional





training of doctors working in rural health posts, the Department of General Practitioners was established at the Tashkent Institute of Postgraduate Medical Education. During the project implementation 4638 doctors (including 3770 doctors of QVP), 712 doctors of city polyclinics and 106 university teachers and 652 laboratory assistants and 4533 laboratory assistants were trained.

The following results were achieved during the project implementation:

The number of visits of the population to primary health care facilities in rural areas (average number of visits per person to primary health care facilities per year) increased from 3.8 in 2005 to 4.6 in 2010 per capita. An analysis of QVPs compared to 1998-2005 showed that the number of trips per QVP doubled as of 1998. The number of visits to the doctor by the rural population increased from 7.1 in 2006 to 9.3 in 2010.

«The Health-2 project, like the Health-1 project, has become one of the largest projects between the government and the World Bank, and will play a unique role in the development of Uzbek medicine. In 1998-2011, 3,192 rural medical stations in Uzbekistan were fully equipped with modern medical equipment and laboratory equipment worth \$ 76 million under the Health-1 and Health-2 projects, attracting investments from the World Bank's share in these projects.

On September 7, 2011 the President of the Republic of Uzbekistan adopted Resolution No. 1614 "On measures to implement the project" Health - 3 "to improve the health care system with the financial support of the World Bank International Development Association." On the basis of this decision, the implementation of the project "Health-3" in conjunction with the International Development Association of the World Bank has begun.

In order to increase the effectiveness of the implementation of the project "Health-3", regional project implementation bureaus were established and operated. In 2010, capital repair and reconstruction works were started in Kegeyli, Muynak and Turtkul district medical associations of the Republic of Karakalpakstan, Kushrabad TTB of Samarkand region, Navbahor district TTB of Navoi region, Sherabad TTB of Surkhandarya region, Yangiariq TTB of Khorezm region. As of January 1, 2012, these activities have been completed. In particular, new buildings of the district central hospital were commissioned in Kegeyli, Moynak, Turtkul, Koshrabad, Yangiariq, Kamashi TTBS.

The Ministry of Health of the Republic of Uzbekistan in cooperation with the Dutch company Philips Healthcare has implemented a project to establish an interventional cardiology department at the Fergana Regional Multidisciplinary Medical Center.

The Health projects implemented jointly with the World Bank have made a worthy contribution to the development of medicine in Uzbekistan. In particular, the work on capacity building of medical personnel has yielded positive results. In addition, the role and importance of these projects in the provision and equipping of newly built or renovated medical facilities with medical equipment. The allocation of large sums of money has led to the provision of new medical facilities in rural areas with modern medical equipment, as well as the use of the latest medical equipment by the population in remote areas. During 1996, the Healthy Generation Foundation received \$ 2.0 million from Sanavita, Pfizer, Mayra, Pribori Oy, Bristol Myers Scoob, Rexab and Medical, Medek, and Yan International. It received more than US \$ worth of medicines, sanitary and hygiene items, contraceptives, special dietary drugs, baby food, wheelchairs, hearing aids, and medical equipment. The Lancet, a British medical journal, has published a ranking of the world's countries on indicators of sustainable development related to medicine, life and health. According to him, Uzbekistan ranks 55th out of 188 countries in the world. This was the best performance among the countries of the Commonwealth of Independent States. Criteria included country and infant mortality, traffic deaths, overweight in children, alcohol and tobacco use, human immunodeficiency virus (HIV), tuberculosis and hepatitis B, and suicide. Uzbekistan is one of the top ten countries in the world in the world ranking of children's health, compiled by the world's leading organization "Save the Children". According to a United Nations-sponsored study by Columbia University, Uzbekistan ranks 44th out of 158 countries in the World's Happiest Countries and first in the Commonwealth of Independent States. This high rating of Uzbekistan is another confirmation of the fact that the success of socio-economic reforms in our country is recognized by the world community.

Major measures have been taken to establish the Republican Scientific Center for Emergency Care (RSEMC) and its regional branches, and in this regard, cooperation with international organizations. In particular, RShTYoIM was accepted as a new member of the American International Medical Association and a cooperation agreement was signed with the Sklifosovsky Emergency and Ambulance Research Institute in Russia. Also in 2000, 28 doctors were trained in clinics in the CIS and abroad, and 12 specialists got acquainted with the organization of emergency services in Russia, Germany, Israel and the United States. By this time, work has been carried out to provide RShTYOIM and its regional branches with medical equipment. For example, in the department located in Samarkand alone, an artificial kidney device for 87 thousand US dollars, 1 million. Soft and hard equipment was purchased for \$



700,000. In addition, the regional branches of Germany have 23.4 mln. provided with medical equipment in the size of the German brand.

Equipment donated by developed countries was also distributed to the Republican Scientific Center for Emergency Care and its regional branches. In particular, equipment and medicines worth \$ 6.2 million imported from Germany, the United States and China were donated to the RSE and its regional branches.

The World Bank's project "Improvement of emergency medical services" in Uzbekistan was launched on October 22, 2018. In April 2018, the World Bank's Board of Executive Directors approved a \$ 100 million project.

So, during the years of independence, measures have been taken to expand primary health care, create a modern infrastructure to provide them with qualified, specialized high-tech medical care, strengthen the material and technical base of specialized high-tech medical institutions, and effectively use international experience. In particular, large-scale work is being carried out in this area to reconstruct buildings, overhaul and build new ones, medical and social rehabilitation and rehabilitation of children with disabilities, to create conditions for their participation in society. Explanatory work on the birth of healthy children was carried out among the population, and the formation of healthy lifestyle skills among young people was put on the agenda.

8. <https://daryo.uz/2018/10/22/jahon-bankining-ozbekistonda-shoshilinch-tibbiy-yordam-sifatini-oshirish-boyicha-loyihasi-ish-boshladi>

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## PSYCHOLOGICAL FEATURES OF THE PERSONALITY OF UNIVERSITY STUDENT

**Sagdullaeva Laura Khakimjanovna**  
Teacher of National University of Uzbekistan

### ABSTRACT

*The article presents modern data of psychological characteristics of university students, focused on particular age, interests, their levels and their background influence. The work is focused on the idea of the dynamics of the psychological characteristics of students seems valuable from the standpoint of the optimal choice of the program they study as well as their achievement.*

**KEY WORDS:** *psychology of student, the student's personality typology, level, characteristics, education.*

**Аннотация:** В статье представлены современные данные психологические характеристики студентов вузов, учитывая их возраст, интересы, уровень и их фундаментального знания. Работа ориентирована на представление о динамике психологических характеристик студентов, представляющих ценность с точки зрения оптимального выбора изучаемой ими программы, а также их достижения.

**Ключевые слова:** психология студента, типология личности студента, уровень, характеристики, образование.

Psychological characteristics of students from the position and development as well the psychological skills of the development of different levels of education is revealed through the knowledge of ageology and psychology. The first phenomena describes characteristics of each age period and the second considers the dynamics of psychological properties under individual age, but also the duration and dynamic state of those processes. B.G. Ananyev's reasearches showed that at the age from 18 to 35 years, periods of stagnation in psychological development are noted only in 14.2% of people, and usually last no more than 2-3 years, which determines this age range as a period of intensive development [2]. If we analyze the processes of memory and thinking within this age period, then interesting features reveals by the time. According to Yu.N. Kalyutkina and Ya. I. Petrov at the age of 19, there is a peak in the functional capabilities of memory, at the age of 20 an increase in heuristic (thought) processes, then at 20-22 years old

memorization decreases for some time, and at 21-22 search activity develops. At the age of 23-24, memory grows again, followed by heuristic processes at the age of 25-26. Further, the peak of memory falls on 30 years, and the peak of heuristic processes at 32. Despite the apparent oscillatory dynamics, the functions of memory and thinking in this age period are extremely well expressed. In addition, at the age of 18-20 years (the period of entering the university), it is characterized by a highly intensive development of moral and aesthetic feelings, growing up with the features inherent in this process (inclusion in an independent life, the creation of family relations, mastering initial professional and labor skills, socialization). During this period, a person goes through 4 stages of identity development:

1) Uncertain identity, an individual has not defined his / her beliefs, profession, has not faced an identity crisis. This is usually the situation of a schoolchild who lives in a familiar home environment and does not need changes.



2) Premature identification an individual has defined his beliefs and approaches, but taking into account other people's experience, under the influence of the opinions of strangers. This period is experienced by many in different ways; it can be extended over the time. The choice of an educational trajectory and profession can occur under the influence of parents, friends, acquaintances, without sufficient justification. Looks are often made up of a mixture of fashion trends and a desire to stand out from others.

3) The third Period "Maratoria", the individual begins self-determination, chooses from the available options. Often this period falls on the entire period of study in the bachelor's and specialty programs, sometimes it can take the time of the internship and residency. A number of students go through several educational programs to figure out what is interesting to them. For example, if they are students of Medical university, they graduate from the program in the specialty as "Medical and Preventive Care", and then enter the external program "General Medicine", or complete the "General Medicine", and enter the program "Pharmacy", undergo residency in the specialty "Dermatovenereology", and then suddenly they also decide to graduate with a degree in Urology.

4) Mature identity an individual has gone through an identity crisis, made a choice of beliefs, attitudes and moved on to practical self-realization. This is professionally already a deliberate activity in the formation of a specialist in one specific medical or pharmaceutical direction. In the course of training, the situation with the perception of one's aspirations is constantly changing. Admission to a university, especially such a prestigious one as a medical one, is a significant increase in self-esteem, it is immersion in an elite environment of communication with people who have similar interests and beliefs. However, these are the first difficulties in mastering university program, which each individual experiences in his own way. The process of adaptation to learning in the first year is associated with the following problems:

- a) Negative emotions from changing the usual way of getting education and changing the team;
- b) Reducing parental control, the need for self-control and self-planning;
- c) The need to solve, along with difficulties in the educational process, also household and economic difficulties (housing, transport, food, clothing, distribution of finances, etc.);
- d) Lack of understanding of the goals of obtaining education in relation to their future profession;

The process of adaptation to new learning conditions usually takes 1-1.5 years. By the 3rd year, a mature view of the university, teachers and for

classmates is formed and the most vital issue to the profession. This is due to the formation of the personality in the team, its maturation. By this period, according to experts, about 64% of students claim that they have chosen their future profession correctly. Also, by this time, the student's working capacity, accuracy in completing assignments increases, perseverance in lectures increases and in parallel with this, the mind, intellect, thinking, memory, perception, erudition, logic, etc. develops. In the 4th year (final in undergraduate programs), the sphere of professional interests narrows, which is associated with long periods of practices, there is a crisis of choosing a narrow specialty. As practice shows, when choosing a narrow specialization, 30% of students have difficulties in choosing the programs. However, up to 5% of those who entered the internship and residency programs during the first 2-3 months of training express dissatisfaction with the choice and, for one reason or another, come to the idea of changing their profession. This indicates the presence of not only objective circumstances that impede the development of certain programs, but also the psychological immaturity of the individuals making the choice. Adaptation to the internship, residency, postgraduate program is much easier and takes only 0.5 year, this is due to the fact that the student already has experience in university studies and adapts only to the specifics of these programs.

In the learning process, many students are guided by the acquisition of the competencies they need to master the profession and further work. This motive is natural, important and characteristic of a significant part of students in a particular profession. Students seeking to study disciplines that they like for some reason. Often this interest can be associated with the personality of the teacher, who is very brightly, figuratively, interestingly, kindly expounds the educational material. Students who are not interested in studying, they do not understand the meaning of their stay in university, do not understand the value of the medical profession. Most often, these students entered the university at the insistence of relatives or friends. It will be helpful to divide students by academic performance. It is worth noting that this approach is most widely used among teachers: Excellent mark students, strive to acquire universal and professional competencies, they are usually interested in learning, they clearly understand the goal of the educational process and strive to achieve it. Good mark students, are a special category of middle peasants, among whom there are students with good abilities, but lazy, and there are those with poor abilities, but extremely hardworking. In the future, both of these categories can provide good doctors or average engineer who are having mastered their professional competencies well, will cope with routine activities in their specialty. "Weak" mark





students are a category of persons who study for “satisfactory” and sometimes for “unsatisfactory”. Their appearance may be due to various factors, this is a lack of adaptation to the university system of education (there may be domestic, family problems, peculiarities of intelligence, etc.), the wrong choice of profession, dishonesty in studies, including those caused by pathological addictions (alcohol, drugs etc.). In order to transfer this category of students into one of the two previous ones, you need to understand the reason for their "weakness" and use a whole arsenal of educational techniques to help them. Overcoming communication barriers, understanding the psychological characteristics of students is important from the standpoint of overcoming communication barriers in the "teacher - student" link. Often, an understanding of psychology, awareness of personal difficulties allows you to remove these barriers. The most common mistakes of teachers, leading to the emergence of communication barriers, can be summarized as follows. Among the individual psychological characteristics of students that affect the success of learning, the researchers consider, first of all, the level of development of general abilities (intelligence, creativity, learning), general motivation that extends to many areas of the personality (for example, achievement motivation), and specific learning motivation. The level of achievement motivation among excellent students is not so unambiguously resolved: we did not reveal statistically significant differences between the samples of students with ultra-high and with high and medium learning success. However, if we separately consider the motivation for achievement among students who are excellent students at the university (excluding from the sample of high school students who at the university have lowered their level of academic success), we can conclude that their level of achievement motivation is higher than that of the rest of them. fellow students. The most significant differences are observed in the indicator of achievement motivation in the first year: students who passed their first session with excellent marks are much more motivated to achieve than their less successful classmates.

As a result of our research indicate that students with very high learning success do indeed have a higher level of non-verbal intelligence, are guided mainly by achievement motivation, are highly demanding of themselves and highly value their contribution to learning success and this success itself. As for the implicit theories of learning, according to this criterion, there are significant individual differences in the sample of students with super-high success in educational activities, which can be considered the basis for constructing a typology of excellent students.

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# HISTORY OF DISTRIBUTION AND TRANSFORMATION PROCESSES OF NEW GRAPE VARIETIES IN TURKESTAN

Usmon Tupchiev

Teacher of Jizzakh State Pedagogical Institute

## ABSTRACT

*This article describes the history of the introduction of new grape varieties and transformation processes in the Turkestan region in the late XIX-early XX centuries.*

**KEY WORDS:** *Turkestan, new grape varieties, viticulture, Ati-Vedro, Frank-pino, Merlo, Saperani Muscat, Yakrima, Kristi, Yakrima-Dolche, Black Ptiverdo, Frank-mens, Isabella, Caberno-Savinon, White Champagne, Riesling, Sotern, Oporto, Modern-Malvazi, White Muscat, Filatov, Prokhovskiy, Tolochinov, N.I.Pervushin, N.I.Ivanov.*

## INTRODUCTION

As a result of the occupation of Central Asia by the Russian Empire and the development of trade relations with the Russian state, the demand for domestically grown grapes and grape-made products such as raisins, muesli and molasses increased in the central markets of Russia. This, in turn, led to the gradual development of viticulture and winemaking in the country.

The attention of the colonial government was focused on the favorable natural climatic conditions of the country, the stability of fertile soils and the change of seasons, as well as water resources and the peasant population, the basic principles of traditional agriculture, cotton, fruit, grain, viticulture and animal husbandry.

The government has begun to mobilize leading experts in these areas. He also took control of the country's forests and deserts, distributed seeds of new crops, seedlings of fruit trees, vines, introduced them to the local agricultural culture, and taught them the experience of artificial irrigation.

## MATERIALS AND METHODS

Although the policy of the imperial government in the country was aimed at looting, violence, Russification of the population, turning the country into a raw material base and a market for industrial goods as soon as possible, administrators and naturalists, naturalists and agronomists were mobilized to the country. Regardless of the attitude of the agricultural

specialists to the local population, they have done a good job in studying the nature and climate of the region, improving soil composition and soil fertility, acclimatizing new crops, applying fertilizers, bringing modern equipment to the farm. A number of measures have also been taken to establish the agricultural sector on a scientific basis and to form new branches in this area.

Turkestan has become a place of research and experimentation for scientists from central Russia as an "undiscovered reserve." On February 26, 1896, the State Council and the Ministry of Agriculture of the colonial government approved the proposals for the construction of the "Turkestan Experimental Agricultural Station" and adopted a special resolution to this effect[13:126].

In the autumn of 1897, the Turkestan Experimental Agricultural Station was opened on the Tashkent-Shimkent road, 12 km from Tashkent, to implement a special resolution on the implementation of the special decree for 1895-1897. Professor Garnik-Garnitsky was appointed the first director of this station, which had 66 acres of land, and later, from 1902 onwards, it was headed by R.R. Schroeder. The station operates in three main areas: a) field crop testing; b) dealing with fruit and viticulture issues; c) conducted laboratory observations, experiments on the study of the growing season of plants, etc. The experimental station also has important tasks, such as the introduction of new machinery and equipment in agriculture, tools, identification of the causes of diseases in crops, the creation of an important basis for their prevention and treatment, and experiments



in horticulture and viticulture[13:127-129]. This experimental station also played an important role in bringing new varieties of agricultural crops to the region, including new varieties of grapes, adapting them to natural climatic conditions.

The Turkestan Experimental Agricultural Station has also played an important role in improving such works as the development of agro-technical methods of cultivation of vineyards, the establishment of special nurseries for the cultivation of fruit plants and vine seedlings. Since 1911, this experimental station has developed and implemented programs on agro-technical rules, which are important in the development of viticulture, the cultivation and processing of new vine seedlings, especially in the application of these measures in the vineyards. New, high-yielding and wine-friendly varieties of grapes were brought to Turkestan from Ukraine (mainly Crimea), Moldova, the Caucasus and other places. Later, in 1869, in addition to the Crimea, the Caucasus, Ukraine, European countries such as France, Germany, Hungary, Bulgaria, and even the American continent, new varieties of grapes were brought to Turkestan and localized.

The first new grape varieties were brought to Turkestan from abroad in 1868 in Tashkent district. Later, Samarkand became the main center of the region for the cultivation of new imported grape varieties, the establishment of large grape plantations. One of the oldest gardeners, Mr. Chuenko, noted that new varieties of grapes were first brought to the country from Europe by Colonel NN Raevsky and Mr. Fetisov, one of the leading experts in viticulture and winemaking. Later, Colonel Raevsky hired an experienced specialist, Mr. Chuenko, with the help of which he brought 3,000 European grape branches to Tashkent and planted and cared for them[8:94].

According to the sources, the propagation of new varieties of grapes on a planned basis was initiated by a Russian specialist NI Ivanov, who initially established a vineyard on 3 acres of land in Tashkent district. Along with new grape varieties brought from the Crimea, local (mainly Charos) varieties began to be grown on his grape plantation, and gradually a rich harvest began to be obtained from them. Over time, the work of specialists involved in the field of agriculture and horticulture was revived, and each gardener from Russia had 25-30 acres of experimental-industrial vineyards, where both local and European varieties of grapes were cultivated. For example, NI Ivanov, brothers Pervushin are famous in this regard, their experimental-industrial gardens were established in 1873. Later, in 1876, Prokhovsky, a leading expert in the field, founded the first viticulture and winemaking firm in the country. Dozens of local and new grape varieties have been grown in the vineyards

of these specialists and a rich harvest has been achieved from them [10:59-60; 13:74-75; 14:237-239; 4:234].

Agronomists and breeders from the Russian Empire, amateur farmers, in addition to adapting new grape varieties to the natural climatic conditions of the region, also studied local grape varieties and their specific characteristics. These specialists also conducted scientific research, such as comparing new grape varieties imported with local varieties, creating new varieties by mixing them with each other. The main purpose of this was to establish a continuous system of production of wine and other alcoholic beverages from the lucrative branches of industry on the basis of viticulture, as well as other branches of horticulture that serve the interests of the Russian Empire.

Over time, the owners of experimental plantations, based on the experience gained in this area, expanded the cultivation of new grape varieties in Turkestan since 1888, and now they not only grow new varieties of imported grapes, but also distribute and sell them to hundreds of other gardeners.

Matros, one of the new grape varieties brought to Turkestan from Shirvan (Azerbaijan) at the end of the 19th century, was distinguished from other grape varieties by its cold hardiness, resistance to diseases of grapes, as well as high yield and yield of wine. For example, this variety of grapes surpassed new grape varieties such as Merlo, Grenash, Murved, with features such as the ability to get 600-700 buckets (1 bucket on average 12-15 liters) of quality wine from each tenth of the land of the garden.

Even grape varieties such as Pino-Farn from Southern Crimea, Caberno-Savinon from France, Caberno-Fran, Carmenera, Merlo, Verdo, Molebek, Pino-gray, Nino-Blanc, Aligata could not compete with the Sailor in yield, as well as in the taste and color of wine [7:177-183].

Another leading specialist in the field of viticulture in the country was A.Pullo. This expert compared European and Asian grape varieties such as Kamern, Lafit, Caberno-Savinon, Pedro-Jimmenes, Oporto, Sapperani, Alexandria Muscat, White, Red and Black Muscat with local Charos grape varieties and classified their unique characteristics. In particular, this expert noted that Charos, one of the local grape varieties, produces a stalk in one year and yields in the second year, while some of the new varieties imported from abroad are harvested in five years. He also draws attention to the peculiarities of local grape varieties in comparison with new grape varieties, saying that the branches of Charos grow 7-8 arshin a year, while the branches of new varieties imported from Europe grow slowly [9: 58-59].

This means that Tashkent gardeners NI Ivanov and II Pervushin, as well as Samarkand



gardeners AL Filatov and RS Prokhovsky not only brought new grape varieties to the country, but also adapted these new grape varieties to local conditions. have also made a significant contribution to the development of scientific research on the specific characteristics of local grape varieties.

In addition, experts in this field, such as N.I.Ivanov, I.I.Pervushin, A.L.Filatov and R.S.Prokhovsky, introduced to the country new varieties of grapes, such as Ati-Vedro, Frank-pino, Merlo, Saperani Muscat, Yakrima. , About 20 new varieties of grapes, such as Kristi, Yakrima-Dolche, Isabella, as well as black and red varieties of grapes Sotern, Riesling, Madera, Gro-Risling, as well as about ten new varieties of grapes such as White Muscat, yellow Alexandria, Shosla have done a great service [7:177-183; 16:142; 11:322; 4:281].

In the creation of new grape varieties, along with local varieties, selection work was carried out by mixing new varieties imported from the Crimea, Caucasus, Europe and America, as well as local and European varieties with wild grape varieties. Especially in 1909-1910, attention was paid to this aspect, and even along with ornamental trees, localized varieties of Begnona wild grapes were mixed and new grape varieties were created[6:187-190].

In the early twentieth century in the districts of Samarkand region on 50 acres of land grapes imported from abroad, such as Black Ptiverdo, Frank-mens, Isabella, Caberno-Savinon, White Champagne, Riesling, Sotern, O-Porto, Modern-Malvazi, Lacrima-Christian, White Nutmeg. varieties are cultivated and harvested to the satisfaction of gardeners [3:163; 12:136; 4:326].

Not all amateur gardeners have always achieved the expected results when acclimatizing new varieties of grapes. For example, some imported new grape varieties have not been able to adapt to local conditions, grape grains have become smaller, the taste has become sour, and yields have also dropped significantly. Therefore, these specialists had to constantly research to adapt new grape varieties imported to the country to the natural climatic conditions.

The above-mentioned experts also provided information in their reports on the total expenditures on grape plantations during the year, focusing on the economic aspects of the industry. For example, NI Ivanov notes that he spends an average of 159 rubles a year on the development of his grape plantation. He also developed and implemented agronomic rules for processing grapes on his plantation, which in turn taught local gardeners [13:76].

According to the agro-technical rules developed by NI Ivanov, the vines should be opened from March 15 to April 1 and buried to protect the vines from the cold before November. He also spoke about the wages paid to workers on his vineyards,

noting that he spends an average of up to 15 rubles on workers who cultivate one tenth of the land. It is also worth noting that NI Ivanov for the first time introduced the use of a plow attached to 1 horse instead of manual labor between rows of grapes. This is because this method has increased labor efficiency in the cultivation of vine row spacing in vineyards. NI Ivanov has been engaged in this training for many years, has achieved good results in adapting new varieties of grapes to the natural climatic conditions of the region, distributed new varieties of grapes to other gardeners and exchanged experiences [2:3-5; 5:297].

In the Turkestan region, grape diseases (most common diseases: cholera, fungus, rust) or infertility were frequent due to extreme hot continental climate, dry and cold winters, and rapid changes in air flow. In particular, according to sources, in 1907 the weather was unfavorable for gardeners in Tashkent, and on April 13 and early May it snowed. By this time, Russian gardeners had discovered buried vines on their plantations. Local gardeners, who were well acquainted with the nature of the area, had not yet opened their buried vines at that time. For this reason, Russian gardeners had lower yields this year than local gardeners [2:3-5; 1:65; 15:61].

In solving these problems, gardeners have been provided with theoretical and practical assistance by the staff and specialists of the experimental station established in the country. Indeed, at the experimental station, experiments were carried out on drugs for the protection of fruits and vegetables and cotton from disease (worms, wilt, leaf wilt, garmsel beating, etc.). Twelve species of diseases affecting fruit trees and their causes have been identified, effective work has been done on disease prevention, and sufficient experience has been accumulated in this regard.

In the last decades of the XIX century, the area under grapes in the Samarkand, Syrdarya and Fergana regions of Turkestan sometimes expanded and sometimes decreased. In a ten-year analysis from 1886 to 1896, an average of 5,558,344 pounds of grapes were grown annually in 14,644 acres of vineyards in these provinces. In 1892 alone, the Samarkand region harvested 2 million pounds of grapes. Samarkand had large grape plantations in Siyob, Mahalla, Khoja Ahror, Urgut, Yangi Kurgan, Angor volosts [13:79; 10:58-60; 17:43].

By 1913, horticulture and related crops had developed in Turkestan, with a total yield of 600,000 pounds. The price of grapes in this indicator amounted to 9,221,000 rubles[4:82].

Gardeners of the Turkestan region, who have extensive experience in the field of viticulture, also achieved high yields compared to other regions of the Russian Empire.



As a result of their hard work and successful fight against diseases such as fungi, oidium, anthracnose, mildium, which are found in grapes, gardeners of Samarkand district of Samarkand region have managed to get up to 1500-2000 pounds of grapes from each tenth of the land.

In 1894, Samarkand region harvested 6,261,000 pounds of grapes, 94.7% of which was sold as raw fruit, and the remaining 5.3%, or 334,243 pounds of grapes, was used to make wine. This year, 11 million pounds of grapes have been harvested across Turkestan [10:58-60]. In 1899-1900, there were 4,918 desiatins of vineyards in Samarkand district and 1,772 desiatins in Kattakurgan district. In 1900, the yield from vineyards was 2,320,140 pounds in Samarkand district and 792,330 pounds in Kattakurgan district. The average yield was 485 pounds per acre of land [13:81-82; 9:116-117]. A comparison of these figures shows that Samarkand region is the leader in this area in terms of the share of grape harvest in Turkestan region, which is 52-53%, compared to other regions.

In terms of grape growing and winemaking, Syrdarya and Fergana regions are second only to Samarkand region, and there were specific reasons for this. In particular, in the Fergana region alone, most of the arable land in agriculture is mainly cotton, which in turn has hindered the cultivation of other crops. This is because cotton, which was an important source of raw materials for the colonial government industry, was more profitable than other crops [1:67].

The above figures show that the productivity of grape growing in the country is constantly increasing due to new varieties, and the demand for grapes and raisins in the country's foreign trade has increased. The variety and number of grape varieties in the region has tripled due to new varieties, and their number has exceeded 60 during the period under review.

Russia's colonial policy included plans to reduce the cost of imported and purchased alcoholic beverages (wine, cognac, vodka) by developing the viticulture sector in Turkestan, and in the future to generate large profits through the production and export of high-quality wine.

With this goal in mind, the colonial government has always tried to cultivate new varieties of grapes in the country and get a rich harvest from them, to establish the production of quality wine from the harvest. In particular, in the 1980s, Russian gardeners cultivated new varieties of grapes, such as Matros, Isabella, Sotern, White and Red Muscat, O-Porto and Riesling, each year on private farms, yielding up to 15,000 buckets per hectare. The high-quality "Russian wine" made from the harvest was highly valued at the fairs of Paris in 1893, Antwerp in 1894 and Champagne (1896) and won high awards. At the same time, Russian

entrepreneurs gradually began to produce vodka from grapes [13:169-171].

The country also produces high-quality red wine, including three types of wines imported from Europe: Cabernet Savelon, Soperovki, Matros (Kara Shirvan), as well as local Kara Kishmish, Charos, Chillaki, Kara Hussaini [13:82; 7:177-183; 16:154].

Red and white wines made from fresh grape varieties such as Merlo, Grenaj, Murved are also highly valued. The yield and wine yield of these varieties are also high, with an average of 500 to 700 buckets of grape wine per hectare of land.

The new grape varieties that came to Turkestan also had their own characteristics that differed from the local varieties. For example, while local grape varieties are susceptible to 11 types of these diseases, imported new grape varieties are less prone to such diseases, mainly chlorosis in 3-4 years, and it is easier to treat. Also, the yield of European varieties of grapes was higher than that of local varieties, and in the first year the yield was low, and in the third year it recovered and returned to its original state. In local varieties, the process took five to six years. New varieties of grapes, such as Oport, White, Black and Red Muscat, are resistant to cold weather, and even under the influence of cold, the yield did not decrease to that extent. Most of the local varieties are considered frost-resistant. In addition, high-quality wines and other alcoholic beverages can be obtained from new grape varieties, especially in this regard, wines from White Muscat, Bordeaux, Sotern varieties were superior in quality to wines from local grape varieties such as Buvaki and Charos.

## CONCLUSIONS

The analysis of the above data leads to the following conclusions:

- Ati-Vedro, Frank-Pino, Merlo, Saperani Muscat, Yakrima, Kristi, Yakrima-Dolche, Black Ptiverdo, Frank-mens, Isabella, Caberno-Savinon, White Champagne, Riesling, Sotern, More than thirty new varieties of Oporto, Modern-Malvazi, White Muscat, and other similar grapes have been imported and adapted to the natural climatic conditions of the province;
- Experienced specialists in this field, such as NI Ivanov, II Pervushin, AL Filatov and RS Prokhovsky, have developed and implemented programs on agro-technical rules, which are important for the development and processing of viticulture. reached;
- One of the peculiarities of new grape varieties, which differs from local varieties, is that they have less type of disease, which is easier to fight and treat;
- Although the work on the development of viticulture on a scientific basis, the development of the wine industry in the country has yielded the expected results, but all economic opportunities were subordinated to the interests of the center.





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# ART MANAGEMENT AS A TYPE OF PROJECT ACTIVITY IN THE FIELD OF CULTURE AND ART

**Umarov Abduhamid Sattorovich**

An Associated Professor of the Department Informatics and Management,  
National Institute of fine Arts and Design,  
Named After Kamoliddin Behzod

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## ABSTRACT

*The article examines the main features of art management in the field of art and culture, which regulates and provides a management system in the field of culture, art and education, aimed at solving the problems of preserving and developing artistic creativity; enhancement of aesthetic, educational*

**KEY WORDS:** *culture, arts, art management, visual, performing and performing arts management*

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## DISCUSSION

One of the factors that determine the success and effectiveness of an art manager is the ability to design. The term project itself is of Latin origin, projectus literally means "thrown forward", and the object of management, which can be presented in the form of a project, is distinguished by the possibility of its future deployment, that is, the ability to foresee its state in the future.

Although various sources interpret the concept of a project in different ways, all definitions clearly show the features of the project as an object of management, due to the complexity of tasks and work, a clear orientation of this complex to achieve certain goals and restrictions on time, budget, material and labor resources, and the management process and coordination is called project management. Initially, this concept arose in connection with the management of complex technical projects, now it has moved into the socio-cultural sphere.

Initially, the term management was used exclusively in the sphere of industrial production. When the principles and laws of management began to be applied in other areas of human activity, to distinguish these concepts, the term "art management" was introduced into circulation, indicating the fact that in this case we are talking about the sphere of non-industrial production (service industry, healthcare, art, etc.).

Thus, if management as a process is a function of any organized systems (parties, army,

science, etc.), ensuring the preservation of their certain structure, maintenance of the mode of activity, implementation of programs, then "art management" is interpreted as management socio-economic processes in (non-industrial production) in a market economy, in order to obtain an economic effect.

Also, "management" is called both the management process and administrative and management personnel (a set of managers of various levels who are professionally involved in organization and management).

And the modern concept of "art manager" means that a particular person belongs to professional management activities.

The demand for managers is manifested when, as a result of narrow specialization and division of labor, it becomes necessary to coordinate the activities of individual specialists and parties to the activity. While the production and sale of any product (goods) is carried out by an individual, there is no need for management (since it is carried out by the manufacturer himself). However, as soon as the production process (filmmaking, organizing an exhibition, making jewelry, designing clothes, etc.) requires the combined efforts of various specialists, it becomes necessary to coordinate their activities, that is, management.

Management, as you know, is a management process, carried out by people endowed with a certain power, with specific knowledge and experience, and can only take place within the framework of some



structure that has interconnected subdivisions (hierarchical organization). It follows from this that the work of a manager is decisive in the entire production chain and covers not only internal connections in the organization, but also ensures the interaction of the organization with the outside world. Moreover, the higher the level of the manager, the more internal connections he manages, the greater his responsibility for the organization's relations with external related groups (suppliers, government agencies, customers, etc.).

In relation to the "market of symbolic products", according to Bourdieu's definition, or in relation to the concept of management of the creative industry, it seems to me the most acceptable to single out the functions of an art manager in the activity, role and conceptual aspects.

The ability for projective activity, that is, productive imagination, creative and free transformation of reality based on the "model of the required future" is set by the very essence of culture, which is, first of all, a set of "project" (i.e. ideal, spiritual) methods and results of development and transformation the world - nature, society, man himself.

Technology is a body of knowledge about methods, methods and means of project implementation. The technology of sociocultural design presupposes a certain ideological attitude of the designer, his positional self-determination in relation to the object of project activity, which can be carried out in the space of two alternatives: change (development) or preservation. The setting and nature of the design goals, depending on the value position of the designer, has important consequences - both from the point of view of the success of the project, and from the point of view of the optimality and usefulness of the transformations carried out.

Depending on the position of the designer, there are two types of design strategies:

- - the first type is focused on maximum understanding and consideration of the specifics of the culture that becomes the object of project activities. In this case, the goal of the project is to create conditions that ensure the preservation (conservation) of the cultural area of the region - the object of the project implementation, and only then - the self-development of the subject of culture. The development processes themselves are launched, as it were, "over" the goals of maintaining and stabilizing the situation.

- - in the second type of projects, the dominant task is the export of one's own cultural samples (values, norms, technologies) into an "alien" cultural context, which, thanks to this, is modified, "artificially" transformed.

You can also distinguish two global approaches to project management in culture:

- - Anglo-American (results are measured by the degree of implementation of planned goals), in which the target method (management by objectives) was applied, using system analysis;

- - French (implies the implementation of group projects with a social and cultural purpose).

According to V. A. Lukov's definition, the fact that the theoretical foundations of social design can come from three different, albeit related, approaches: object-oriented, problem-oriented, subject-oriented (thesaurus). All these approaches are based on rationality and construct reality, taking into account the actual needs of society and the individual.

Until recently, the most widespread was the object-oriented approach, enshrined in the theoretical developments of the 70s and 80s of the last century (G.A. Antonyuk, N.A. Aitov, N.I. Lapin, Zh.T. Toshchenko, I. V. Bestuzhev-Lada). The goal of the project, from the standpoint of this approach, is the creation of a new or reconstruction of an existing social or cultural object. The object can be some structure, but also social connections, relationships. The specificity of the object-oriented approach is the idea of the logical nature of the project and its scientific validity as objectivity. This is where the weakness of the concept comes to light. The scientific validity of the designed object, therefore, is provable only in the most general provisions and is controversial in relation to a specific management decision.

Since 1986, on the basis of the Institute of Sociology of the Russian Academy of Sciences, the Interdisciplinary Research Team "Predictive Social Projection: Theory, Method, Technology" has been created under the guidance of the professor. T.M. Dridze, where the concept of predictive social design was developed, which was called the problem-oriented (problem-target, predictive) approach. Researchers adhering to this approach (T.M. Dridze, E.A. Orlova, O.E. Truschenko, O.N. Yanitskiy, G.M. Birzhenyuk., A.P. Markov) postulate that predictive social project activity is a specific social technology focused on the integration of humanitarian knowledge into the process of developing alternative models of solutions to current and prospective socially significant problems, taking into account the data of social diagnostic studies, available resources and the planned development goals of a regulated social situation. The problem-oriented approach is characterized by: consideration of objective and subjective factors of social reproduction as equal; understanding of design as an organic and final stage of socio-diagnostic work; emphasis on the relationship between the diagnostic and constructive stages of the decision-making process. It is these circumstances that make it possible to characterize the specifics of the approach



under consideration - as its problem or target orientation.

The most in demand today, we believe, is the subject-oriented (thesaurus) approach, which is based on the concept of J. Habermas about the need for true communication between people "interaction", which dissolves in the antinomy of the inalienable "life world" and the alienating system of our time. The thesaurus approach to social design, according to V.A.Lukov, is effective in a market economy, where the subject orientation of the project is limited by the freedom to choose other subjects of life.

In modern conditions, the subjective orientation of design reflects new, previously less characteristic of the social structure, features. We would consider three features of the modern social organization of the European type the most important for social-project activity: the fall of the regulating role of tradition according to Jurgen Habermas, the fragmentation of the perceived world (in J. Habermas - "the fragmentation of everyday consciousness") and the speed of the coming changes as a destabilizing factor in social life.

This approach makes it possible to address social and cultural realities, first of all, at the level of everyday life, which forms a picture of the world in accordance with cultural codes. The thesaurus approach to social design allows us to state that social design is one of the leading methods of modern organization of social life, social management and social design (regardless of what kind of objects are designed) bears the features of the subject of project activity, his worldview. The social project is subject-oriented. The same position is taken by VA Dukelskiy, who claims that "the project is a way of transforming cultural reality through the personality of the author".

This concept is also more acceptable from the point of view that the development of subject-subject relations in the socio-cultural sphere became the requirement of the time. Today, the most common target design, which results in projects of 2 types: organizational or problem-oriented projects and subject-oriented projects.

Based on the definition that "socio-cultural design is a technology for solving problems in conditions of maximum uncertainty of tasks and the variability of their possible solutions", it is necessary to highlight those conceptual provisions that determine the general guidelines and ideological framework of project activities.

A socio-cultural project is a target block that is implemented through a system of practical events. At the heart of the generation of a project idea and the development of conditions and methods for its implementation is a system of principles, that is, the main starting points, theoretical and philosophical

foundations and the most general standards of project activity.

The principles of sociocultural design perform a double function: firstly, they determine the worldview of the designer, as well as the style and moral intonation of the concepts, projects, programs, initiatives developed by him, that is, they provide the value-orientated level of design (especially the first four principles). By the degree of their implementation (in the target and substantive part of the project), one can judge the organic nature of the program, the degree of its creativity or destructiveness. Secondly, these principles form the theoretical basis of the technology of sociocultural design.

It is important to note that the technology of the design itself and the practical implementation of the project represent, as it were, two counter vectors of thought activity. In the process of finalizing the design decision, the design subject needs to mentally reproduce not only the "direct" algorithm of design activity, but also the logic of its implementation. That is, the "reverse" sequence of the unfolding system of actions, which will allow simulating the final result of the project, calculating the possibilities and effectiveness of solving problems using the planned methods and taking into account the available (or expected) resources. All 3 approaches are applicable: SMART, SWOT, and PEST analysis at all stages of project support.

It is undeniable that the meaning of cultural activity is its "improving" orientation, creating opportunities for improving and optimizing human life. It is through design, acting as an innovative, creative activity that ideal images of transforming and improving reality can be created. And the very process of sociocultural design is based on logically structured and meaning-forming concepts: values - as a design methodology, as the relationship of the subject to the object; goals are the desired results that the specialist anticipates based on his understanding of the culture and his professional skills and abilities; knowledge and methods are normative prescriptions about the applicable goals and methods of activity to achieve an effective result in art management.

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# THE COMPLEXITY OF THE LANGUAGE LEARNING PROCESS AND THE ERRORS IN THIS PROCESS

**Inomiddinova Dildorkhon Ikramovna**

Senior Lecturer of the Department of Foreign Languages,  
Namangan Engineering-Construction Institute

## ABSTRACT

*This article discusses the complexity of the language learning process and the errors in this process. Effective materials for learning English have been suggested.*

**KEY WORDS:** *practice self-criticism grammar subject problems difficulties grammar*

## DISCUSSION

Today English is one of the most widely spoken and used languages in the world. However, when studying this subject, students very often have various difficulties and problems. Difficulties can arise even where the student least expects it.

In this article, we will try to understand in as much detail as possible what mistakes are most often made when learning English in our time. You will also be able to find out what is a matrix self-study guide for English, and what benefits it provides for students.

Very often, in the process of learning English, difficulties and problems can arise that may be associated with certain mistakes. Difficulties can be caused not only by the student's mistakes, but also by the teacher's mistakes. We will try to tell you about the most common difficulties and difficulties that arise in the learning process for a sufficiently large number of students.

These errors are:

- The first mistake. Too exaggerated self-criticism. Many students add to their own difficulties by setting very high and sometimes unattainable standards for themselves. In practice, teachers often encounter a mistake when a student tries to achieve the highest possible result in a fairly short period of time. For example, he wants to learn how to write completely correctly or speak English fluently, without hesitation and accent. But in practice, this may not only pose difficulties and difficulties, but it may also be simply impracticable. Experiencing difficulties, the student often gives up and quits classes;

- Second error. Thinking in the native language and translating into a foreign language in the mind. This is a very common mistake that nevertheless brings a lot of difficulties and problems in the learning process. Its essence lies in the fact that a person thinks in his native language and only after that in his head translates it into a foreign one. Difficulties also lie in the fact that he simultaneously thinks about the correctness of the grammatical component of his speech, which as a result turns out to be too tiring for the brain. Doing so, if a person communicates, he does it quite slowly, while periodically getting lost. Therefore, it is necessary to learn how to overcome such difficulties. To do this, you need to try to think immediately in English. This is exactly what little children do when they are just learning to speak;

- Third error. Incorrect pronunciation given by the teacher. Today, even many professional educators speak with an accent or incorrect pronunciation. As a result, their students learn from them the incorrect pronunciation from the very beginning, and also speak with a slight accent. This is a rather serious problem in our time. You can avoid such difficulties if you perceive speech by ear, and this must be done on the basis of the speech of native speakers, that is, people for whom English is native from birth;

- The fourth error. Undermining the educational process by teachers. This error is more related to the activities of teachers. Moreover, such difficulties and difficulties can arise not only with the study of English, but also with many other sciences. You have probably heard the phrase from the teacher that this or that student does not have innate ability to





study the subject, so he should not even try, because he still will not succeed. Now, this is not true. For example, the matrix method of learning English completely refutes this opinion, since in practice it has already shown that any person can study a subject without special difficulties and problems;

- Error five. Too much emphasis on grammar. Think back to the approach you were taught about the subject in school and the difficulties and challenges associated with it. The child is given a lot of complex grammatical rules, which the student often does not even understand, but must memorize. As a result, this causes significant difficulties in the learning process, because the student simply gives up and quits because of the unwillingness to learn hundreds of grammar rules. Now think about how a small child learns his native language? That's right, he does it by ear, just imitating his parents and those around him. At the same time, the child does not know any rules, but absorbs new knowledge like a sponge.

Difficulties and problems in learning English today can arise for many people. Nevertheless, there are methods that allow you to avoid making major mistakes and, as a result, problems in terms of learning, and also have extremely high efficiency and effectiveness. In this article, we will talk about what techniques are most often used today, as well as what difficulties and problems are encountered when using them.

This technique is the most widespread, as our children study in it in schools and universities. Despite this, it has shown itself to be one of the most ineffective techniques, with many difficulties and problems associated with it.

The bottom line is that the student is given a certain program, which is overflowing with grammatical rules that are difficult to understand.

Learning is based on memorizing the rules and doing exercises based on them. This technique involves passing tests, tests and exams, as well as doing regular homework. At the same time, the student may experience great difficulties and problems, both in terms of study and in psychological terms. It can also make all five of the most common mistakes that we described above.

The method of learning a foreign language when communicating with its native speakers is also quite common. Its essence lies in the fact that the student communicates with people for whom English is completely native. So, he can avoid some difficulties and problems, in particular, he does not sort out the initially incorrect pronunciation from his teacher, and also does not concentrate too much on grammar.

Nevertheless, such a technique can also provoke various difficulties, since the concentration of attention is on establishing contact with another person, as well as in understanding what is being

pronounced. In addition, it is not always possible for a student to learn to think immediately in the language he needs and to find the right words easily, even if he is communicating with a native Englishman or American, and this is a rather serious problem.

The matrix method of learning English is currently one of the most effective and efficient. By using it, the student can avoid making the basic mistakes that are made when applying other techniques. As practice shows, with it, difficulties and problems characteristic of other methods rarely arise.

The essence of the matrix method is that initially a person must learn to perceive the language he needs by ear. For this, a special program of dialogues and texts in English is listened to, which the creator of this method called the matrix.

The sound program was developed using a special technology and recorded directly by native speakers. Thanks to this, a person gets the opportunity to imitate the correct pronunciation without repeating the common mistakes of his teachers without experiencing other difficulties. The program also includes elements of listening, when the student needs to learn to pronounce what he hears.

The advantage of the matrix method is that the student goes through the learning process on the same principle as a small child who is just learning to speak. That is, in this case, you do not need to strain your mind with complex grammatical rules and memorize the entire Russian-English dictionary. For him, such problems and difficulties simply do not exist.

Many experts call this technique truly revolutionary, since it is based on the abilities of a person's subconscious, and the learning process itself is very easy, without problems and any difficulties and problems. This program has become a real salvation for those who are already desperate because of the difficulties in learning a foreign language. Many of those who experienced difficulties and difficulties in using the standard and most common programs, having tried the matrix method, achieved really high results in their studies.

Today, any person can learn English without difficulties and special difficulties. According to experts, serious difficulties and mistakes when learning English can arise only in the absence of the proper aspiration. All other difficulties and problems can be overcome.

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# LEGAL CULTURE AND THE MAIN FACTORS OF ITS FORMATION

**Nishanova Farida Mamasharifovna**

Senior Lecturer,  
Department of Social Sciences,  
Namangan State University

## ABSTRACT

*This article discusses the legal culture and the key factors in its formation. The author analyzes the impact of legal culture on the development of society in the article.*

**KEYWORDS:** law, legal consciousness, legal culture, ethics, society, personality

## DISCUSSION

Legal culture is a part of human culture, a set of norms, values, legal institutions, processes and forms that perform the function of social and legal orientation of people in a particular society (civilization).

Legal culture does not completely coincide with any kind of culture (material, spiritual, etc.), thereby creating a peculiar, unique combination of material and spiritual components. Legal culture has certain common boundaries with political culture, since the activity of the state, subjects of political relations is included in the sphere of legal relations. It also functions in conjunction with moral, aesthetic, religious and other types of culture.

The role of legal culture in the life of society is multifaceted. Legal culture is a peculiar form of harmonious human development through which general social progress is achieved. This progress implies the creation of proper legal values (methods and means of resolving social conflicts, institutions for ensuring human rights, etc.), enriching the individual, and providing society with the necessary legal conditions for a calm and orderly development. Legal culture is the focus of humanity's accumulated legal values, an organism, all elements of which (norms, legal acts, institutions, processes, regimes, statuses) possess the qualities of products of the human spirit, historical selection, labor, life approbation. This type of culture is practically the only global form through which the value and originality of national legal phenomena - statehood, law and order, and the legal system - are reproduced.

Legal culture is closely related to legal consciousness, relies on it, but it is a relatively independent category, since includes not only the

socio-psychological processes taking place in society, but also the legally significant behavior of members of society, legal activity in the form of lawmaking and its results, the traditions of lawmaking, the practice of functioning of legal institutions in general.

The level of development of legal culture in society is an indicator of the formation of legal statehood. A legal state is impossible without a high level of legal culture of society.

The relationship between legality and legal culture should be noted. The rule of law is unthinkable in a society with a low level of general and legal culture. As part of the general culture, legal culture presupposes the availability of legal knowledge, understanding of the social value of law, assessment of legal requirements as appropriate and fair, respect for laws and voluntary and conscious observance of them. In turn, the rule of law contributes to the formation of the culture of society.

There are other positions in relation to the concept of "legal culture". But, as you can see, in all definitions legal culture acts as a social phenomenon, impossible without a person and his activities, without the progressive direction of this activity and advanced thinking. This concept is a complex and multifaceted phenomenon. It is important to note that the legal culture:

1. Includes a value assessment of legal institutions, processes, forms, activities of a particular society. In other words, it characterizes the legal values of society, progressive achievements in the field of law;

2. Reflects the qualitative state of the legal life of the country. Therefore, each state has its own level of legal culture;



3. Is the highest form of awareness of the interests and needs of society in legal regulation, therefore, law is a social value, a kind of legal wealth;

4. Is part of the general culture. At the same time, it occupies an independent, isolated place in the socio-cultural space;

5. Largely depends on the morality of society and the moral qualities of people carrying out legal activities;

6. Serves as a prerequisite and prerequisite for the formation of the rule of law and the rule of law society as a whole.

Depending on the bearer of legal culture, there are:

- Legal culture of society;
- Legal culture of the individual;
- Legal culture of the professional group.

The legal culture of a society is a part of the general culture, which is a system of values accumulated by humanity in the field of law and related to the legal reality of a given society: the level of legal awareness, the regime of legality and law and order, the state of legislation, legal practice, etc.

Legal culture at every given moment is "present" at every given point of legal reality, does not completely coincide with it, but exists in it as a component that can act as a characteristic of the level of development of this reality.

The culture of society is the result of the social and legal activity of individuals, collectives and other subjects of law. It acts as the starting point, the basis for this kind of activity and, in general, for the legal culture of the individual.

The legal culture of the individual is the degree and nature of the progressive legal development of the individual, conditioned by the legal culture of society, ensuring his legitimate activity.

The legal culture of an individual is made up of:

- Legal awareness and legal thinking;
- Lawful behavior;
- Results of lawful behavior and legal thinking.

The legal culture of the individual (general and special - professional) contributes to the development of a cultural style of lawful behavior, which is formed depending on:

- The degree of assimilation and manifestation of the values of the legal culture of society;
- Specifics of professional activity;
- Individual uniqueness of creativity of each person.

The legal culture of an individual presupposes:

- Availability of legal knowledge, legal information. Awareness was and remains one of the

fundamental channels for the formation of a legally mature personality (intellectual cut);

- Transformation of the accumulated information and legal knowledge into legal convictions, habits of lawful behavior (emotional and psychological cut);

- Willingness to act in accordance with legal knowledge and convictions, ie. to act lawfully - in accordance with the law: to use their rights, fulfill obligations, observe prohibitions, and also be able to defend their rights in the event of their violation (behavioral cut).

The legal culture of an individual characterizes the level of legal socialization of a member of society, the degree of assimilation and use of the legal principles of state and social life, the Constitution and other laws. The legal culture of an individual means not only knowledge and understanding of law, but also legal judgments about it as a social value, and most importantly - active work to implement it, to strengthen the rule of law and the rule of law.

In other words, the legal culture of an individual is a positive legal consciousness in action. The transformation of a person's abilities and social qualities on the basis of legal experience is an important component of it.

The cultural style of lawful behavior is characterized by the constancy of adherence to the principles in lawful behavior, the specifics of solving life problems, expressed in the peculiarities of choosing the option of lawful behavior within the boundaries that are determined by the norms of law.

Professional legal culture is one of the forms of culture inherent in a community of people that is professionally engaged in legal activities that require special education and practical training.

The professional legal culture is characterized by a higher degree of knowledge and understanding of legal phenomena in the respective areas of professional activity. At the same time, each legal profession has its own specifics, which determines the peculiarities of the legal culture of its various representatives (judges, prosecutors, employees of internal affairs bodies, legal advisers, lawyers, etc.). Moreover, the level of professional culture, for example, of police officers is different. Differences are observed in the legal culture of the rank and file and commanding staff, officers of various police departments: criminal, public security, transport, state automobile inspection, security, special police. The professional culture of employees of the automobile inspection differs from the similar culture of employees of the criminal police unit, etc. There is a general pattern: the level of professional culture of police officers, as a rule, is the higher, the closer they are to the activities carried out in the field of law.





The main thing in professional legal culture is the high place of law, its supremacy and the corresponding state of affairs in the legal field of the state: training of legal personnel, the role of legal services in all spheres of public and state life, the position of the court, the legal profession, the prosecutor's office, notaries, and the police; the development of scientific legal institutions, the effectiveness of the work of legal professional public organizations, etc.

Singling out three types of legal culture, it should be remembered that in real life they are closely interconnected: legal culture, as a social phenomenon, is one; the legal culture of a society does not exist outside the legal culture of its members (personality, group); it is a condition, form and result of cultural and legal activities of citizens and their professional groups.

The culture of a lawyer as a specialist is inseparable from the legal culture of a society. The level of legal culture of a society depends significantly on the professional culture of a lawyer. On the other hand, the state of the legal culture of society and a citizen depends on the professional level of a lawyer.

The level of legal culture of a professional group is determined by the degree of development of the culture of each of its members, i.e. the degree of general education, the level of its qualifications. A lawyer in his workplace must be appropriate to his profession and accordingly enhance his prestige and the prestige of the legal community.

A lawyer is a person who is called upon to rise above his habits and desires: he must do his job as required by the highest interests of society. Offenders are often strong, purposeful personalities, with whom it is not easy to fight. Often, work on the disclosure and investigation of crimes is a fight between personalities and characters. A person is formed into a personality in the process of social practice. Legal education is the first step towards establishing oneself as a person in the field of the implementation of law. Legal education should provide the knowledge and understanding of speech and skill required for the practicing lawyer, including an understanding of the legal and ethical responsibilities, rights and fundamental freedoms of the individual recognized by national and international law.

The theoretical level of legal culture is scientific knowledge about the essence, nature and interaction of legal phenomena in general, the mechanism of legal regulation, the legal field of the state, and not just its individual directions.

The legal culture of a lawyer is contained in a critical creative understanding of legal norms, laws, legal phenomena from the point of view of their humanistic, democratic and moral content.

The culture of a lawyer includes knowledge of the state language, the peculiarities of ethical culture and national traditions of the region where the lawyer carries out his professional activities.

The legal culture is subdivided into the legal culture of the individual, group and society as a whole. A special kind of group and individual legal culture is the professional legal culture of lawyers.

The legal culture of an individual implies a respectful attitude towards law, a sufficient level of legal awareness. A person with legal culture is characterized by:

- 1) a certain level of knowledge of legal norms;
- 2) positive sense of justice, i.e. respect for the law;
- 3) behavior based on respect for the law.

Consequently, the legal culture of an individual is a unity of legal knowledge, a positive attitude to law and lawful behavior. Sources of legal knowledge of an individual are practical experience, the environment, the media, etc. They directly depend on the level of education of the individual, age, occupation, etc. Knowledge of the law is an incentive for lawful behavior. A high level of legal culture is inconceivable without high moral qualities of the individual, without the skills of lawful behavior and legal activity.

Group legal culture is characteristic of individual social groups, primarily legal professionals. It depends on the legal consciousness of this group and is directly influenced by the legal values adopted in society, the legal orientations of individuals. An independent and very important part of the group culture is the legal youth culture, which is formed in educational institutions and in such areas as, for example, informal associations. This legal culture is marginal in relation to society, it contains elements of social disorganization, gravitation towards behavior that deviates from generally accepted norms.

Professional legal culture is a deep, voluminous and formalized knowledge of laws and regulations, as well as sources of law, a correct understanding of the principles of law and the tasks of legal regulation, a professional attitude to law and the practice of its application in strict and exact accordance with legal regulations or principles of legality, i.e. a high degree of possession of the law in subject and practical activities. Accordingly, for each lawyer, this is the degree of mastering the profession, the level of special training.

The legal culture of a society is an integral part of the spiritual values created by it. It covers all types of behavior and actions related to legal communication and the use of legal means of regulating public relations. It depends on the level of public consciousness, the state and nature of the legislation and the strength of the existing legal order





in the country. It is directly related to the general cultural level of the population, functions in interaction with the political, moral, aesthetic and other types of culture of the population and is characterized by the completeness, development and security of human and civil rights and freedoms; a real need for law; the state of law and order in the country; the degree of development in society of legal science and legal education, etc.

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## COGNITION AS A SUBJECT OF PHILOSOPHICAL ANALYSIS

**Rakhimbayeva Dilbarkhon**

Candidate of Philosophical Sciences,  
Associate Professor of Social Sciences,  
Namangan State University

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### ABSTRACT

*This article analyzes the category of cognition, which is one of the main issues of philosophy. The types and levels of knowledge are highlighted and explained using examples.*

**KEY WORDS:** *philosophy, worldview, cognition, emotional cognition, cognitive cognition, logical cognition*

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### DISCUSSION

Orientation in the world always presupposes adequate reproduction, reflection of reality. This reproduction is the essence of the cognitive relationship to the world. A person's cognitive attitude to reality is a necessary side of the entire system of his relationship to the world, and the possibility of an adequate reproduction of reality is a worldview problem.

Knowledge, which is the result of human cognitive activity, can be understood as the basis of an ideal plan of activity. It is the realization of ideal plans of activity that allows us to draw a bridge between consciousness and reality, knowledge and being.

The functioning of knowledge as the basis of an ideal plan of activity provides the possibility of feedback from reality to our knowledge about it. In the course of the implementation of such ties, human knowledge about the world is refined, revised, and improved. Knowledge, therefore, is not a product of passive contemplation of reality. It arises, functions and improves in the process of active human activity.

At first, being woven into the fabric of real human life, cognition at a certain stage in the development of society is isolated into specialized spiritual production. A special form of spiritual production (along with art, etc.) is scientific and theoretical activity, the construction of a special scientific picture of the world, which differs from the picture of the world given in everyday consciousness. The cognitive activity of a person, woven into the

fabric of his real life, is always inextricably linked with the work of his consciousness, with emotions, will, memory, it also presupposes conviction, faith, mistakes, illusions, delusions. However, the essence of a person's cognitive attitude to the world, despite all these factors accompanying cognition, is to achieve an adequate reproduction of reality, without which a person's real orientation in the world and the successful transformation of this world are impossible.

Is humanity, man as a subject of cognition, capable of developing knowledge that is such an adequate reproduction of reality, what are the foundations and criteria of cognitive activity, in the process of which such knowledge arises and improves, - this is the worldview nature of the philosophical analysis of cognition. At present, knowledge is studied not only by philosophy. Currently, there is an intensive development of various special sciences that study cognition: cognitive psychology (psychology that studies cognitive processes), logic and methodology of scientific cognition, history of science, science of science, sociology of knowledge, etc. All these sciences make a valuable contribution to the study of knowledge, considering its individual aspects. A qualified, successful philosophical study of knowledge is impossible without relying on their achievements. However, the essence of the cognitive attitude to the world is the subject of precisely philosophical comprehension, for it is associated with the analysis and solution of the fundamental



worldview problems of a person's attitude to reality. Cognition is a necessary aspect of this relationship and itself can be understood only in the context of the latter.

In an effort to understand the specifics and structure of knowledge, we immediately discover that there are different types of knowledge. We know, for example, what a car is, what an algorithm is, we know how to fry a steak, why a dentist needs a drill. In the first two cases, this is knowledge about objects: material - a car and ideal - a mathematical function. In the third case, we are talking about the action of cooking. In the fourth - about the useful property of a thing. A special type of knowledge is made up of problems or tasks, that is, knowledge about the unknown. These are usually expressed in the form of questions and instructions.

Knowledge is necessary for a person to orientate himself in the world around him, to explain and foresee events, to plan and implement activities and to develop other new knowledge. Knowledge is the most important means of transforming reality. They represent a dynamic, rapidly developing system, the growth of which in modern conditions is faster than the growth of any other system. The use of knowledge in the practical transformative activity of people presupposes the presence of a special group of rules showing how, in what situations, by what means and for the achievement of what goals certain knowledge can be applied. So, knowledge about mathematical functions, for example, about logarithmic, or knowledge about the properties of cement and the location of celestial bodies turns out to be useful and can be used by a person only if we know the rules for calculating the logarithmic function, we know the rules for making cement mortars, we are able to plot the route of the ship along the location of the heavenly bodies. The rules showing how to carry out one or another activity on the basis of this knowledge are called the rules of activity. Knowledge, thus, is included in the system of activity and itself acts as special forms on the basis of which the procedures of activity are formulated.

Over the past decades, due to the rapid computerization of all spheres of production, spiritual and cultural activity, interest in the nature and essence of information has sharply increased, since computers are used to transmit, store, encode, decode and transform information. On their basis, special databases and knowledge are created that are used to solve many problems that were previously available only to humans. In this regard, the concepts of "knowledge" and "information" are often identified. At the same time, knowledge is considered as the highest form of reflection of reality. Taking into account that the specificity of reflection has already been considered, we will turn our attention here only to the question of how the concepts "information" and "knowledge" are related to this concept.

When we say that subject A reflects object B, we mean that certain changes in A correspond to certain changes in B and are caused by them. Speaking about information, we mean, first of all, a special method of interaction through which the transfer of change from B to A in the process of reflection is carried out, a method realized through the flow of signals coming from the object to the subject and transformed in a special way in it. The level of complexity and form of information depends, therefore, on the qualitative characteristics of the object and subject, on the type of transmitting signals, which at the highest level are implemented in the form of linguistic sign systems. Finally, speaking of knowledge, we mean precisely the highest level of information that functions in human society.

At the same time, not all information coming from B and perceived by A acts as knowledge, but only that part of it that is transformed and processed by A (in this case, by a person) in a special way. In the process of processing, information must acquire a symbolic form or be expressed in it with the help of other knowledge stored in memory, it must acquire meaning and meaning. Therefore, knowledge is always information, but not all information is knowledge. In the transformation of information into knowledge, a number of laws governing the activity of the brain and various mental processes, as well as various rules that include knowledge in the system of social relations, in the cultural context of a certain era, are involved. Thanks to this, knowledge becomes the property of society, and not just of individual individuals. How is the process of cognition carried out? What links or stages does it consist of? What is their structure?

Most of the philosophical systems that have developed in modern times, distinguished two main stages: sensory and rational cognition. Their role and significance in the process of cognition were determined depending on the position of a particular philosopher. Rationalists, such as Descartes, Spinoza, Leibniz, Kant and Hegel, tended to attribute decisive importance to rational knowledge, without denying the importance of sensory knowledge as a mechanism for connecting the mind with the material world. The supporters of empiricism, on the contrary, recognized sensory perception as the main and even the only source of our knowledge. There is nothing in the intellect, Hobbes argued, that there is nothing in sensory perception. And Locke repeated this idea in an even sharper form. But if all knowledge, rationalists thought, is formed only on the basis of sensory perception with the help of special rules or principles, then where do these rules or principles come from, because they cannot be perceived with the help of the senses. This dispute has not lost its acuteness even today. It acquired particular



importance in connection with the development of research on the creation of “artificial intelligence”.

In the philosophy of modern times, rationality, as a rule, was understood as a special, universal, universal and necessary logical system, a set of special rules that determine the ability of the human mind to comprehend the world and create true knowledge. It seemed to Descartes, Spinoza and Leibniz as a special innate ability. But where does false, untrue knowledge come from in this case? Where do the irrational, that is, not based on generally accepted logic, judgments and views come from? How can there be judgments that contradict logic, that is, irrational judgments leading to the destruction of everything that is considered rational, reasonable? The rationalists of the 17th and 18th centuries answered these questions as follows: in the human soul, in addition to the rational principle, there is also an emotional and volitional principle. Emotions, which were also called affects, or “passions of the soul”: anger, joy, longing, gaiety, love, hatred, likes and dislikes, etc., can make a person consciously or unconsciously abandon reasonable evidence, the requirements of the logic of reasoning and lead to a distortion of truth for the sake of feeling, to subordinate the mind to the “passions of the soul.” The will, depending on the goals set, can contribute to reason and rational action, but it can also come into conflict with it, and this creates the possibility of irrational actions and deeds.

When considering sensory cognition, that is, cognition included in material-objective activity, its dependence on language, on conceptual thinking was shown. What are concepts, how are they formed? In its most general form, the answer is as follows.

In the course of physical impact on specific objects and phenomena, in the course of their use and transformation, in the process of creating and changing social relations, mankind acquires diverse knowledge about relations. The relationships between different types and types of material objects and processes, between different properties of objects, etc. are revealed. The relationships of things, phenomena, processes are diverse and, accordingly, knowledge about relationships is multifarious. This can be, for example, knowledge about the relationship between the properties of iron, from which an ax is made, and wood, which the ax can chop. But it can also be more complex knowledge of the relationship between the mass and acceleration of a body, the relationship between elementary particles inside an atom, etc.

Since knowledge is aimed at identifying relations between the properties of objects, between the objects themselves and the processes in which they are included, these relations become objects of cognition. But what does this mean for understanding the process of cognition, and in particular for

understanding the mechanisms of the emergence of concepts and their role in cognition?

Already in everyday practical life, we are constantly dealing with individual concrete objects that exist in reality and can be directly perceived with the help of sight, hearing, touch. But at the same time, we necessarily reveal the relationship between objects, and also fix our attitude towards them, which, for example, can be seen in the following simple phrases: “This is a house,” “this house is beautiful,” “a red rose,” etc. The words “house”, “beautiful”, “red” can be attributed not only to this particular individual object, which we directly have in mind. The word “house” can be applied to all buildings that are very different from each other, which serve a person as a dwelling. The words “beautiful”, “red” can also be attributed to a variety of objects, different classes of objects: after all, not only houses are beautiful, not only roses are red.

These words already express and reflect the relationship between specific objects and phenomena, and reflect them in a generalized form. When we use them, we mean some certain general properties, characteristic features of various objects and phenomena, in many other dimensions very different from each other. It is the objective community of properties that becomes the main object of cognition. In this case, the process of cognition unfolds as follows: first of all, we rely on the study of real, concrete objects as material objects, their actual, objectively existing qualities and attributes. But at the same time, an active cognitive process takes place: a person purposefully compares different objects, which by no means always directly affect each other. Performing a certain action with these objects and pursuing a particular practical goal, a person compares them, compares them to each other in any particular respect, leaving aside those relationships and connections that are not of interest to him at the moment and in this aspect. A person, as it were, “dissects” with his thought the real integrity of a particular object, which is always included in the most varied relations with other objects and attributes, and therefore potentially represents a collection of the most diverse properties and attributes.

With the help of his thought, a person singles out, as it were, separates from integral concrete objects such relations that objectively, by themselves, and as some special objects do not exist. But they turn out to be important for the life and activity of man and mankind, and therefore become special objects of his cognitive activity. These objects, singled out and cognized by man, are expressed and fixed in words-concepts similar to the words “house”, “man”, “red”, “beauty”, etc.

For example, a red rose and a red cloth are different objects in many respects. But when a person is interested in their color, he is distracted from other





properties of these objects. He compares these objects in terms of their color (while he is often distracted from the shades of color, which can also be very different). Objective connections, relations of these objects, embodied in the commonality of their color, are fixed and reflected in the word-concept "red".

The processes in the course of which the concepts reflecting the general properties of objects and phenomena of the surrounding world are gradually and consistently formed, are measured for many centuries and go back into the depths of centuries. Before knowledge about certain relations acquires a generalized form and due to this acquires a conceptual expression, the processes of comparison, comparison, distinction, mental "dissection" and physical modification of objects must be carried out billions of times. All moments that are insignificant, secondary for a given relationship, for a given connection should be left aside. In the process of human activity, knowledge must also be freed from purely personal, individual moments (feelings, experiences of specific subjects, their purely individual goals). Knowledge must acquire a generalized form both in the sense that general objective relations must be expressed in it, and in the sense that it must, in one way or another, acquire an objective meaning for a multitude of people. In this case, the results of practical activity are not only concrete objects and phenomena, newly created or transformed, but also concepts that have arisen in the course of this process and are inseparable from it at this stage. Then the concepts created in the course of practical activity become an important component and form of this activity. In subsequent processes of use, they are checked, refined and modified due to constant comparison with specific objects and relations belonging to this type.

When we talk about a specific person or groups, communities of people, we habitually and naturally use the word "person". In most cases (more consciously or less consciously) we associate this word with some knowledge of the general properties of all human beings, their differences from other objects of nature, from animals, etc. When a word appears in unity with such (more complete or less complete, more dismembered or less dismembered) knowledge, it just figures as a concept. Concepts are the products of the socio-historical process of cognition, embodied in words, that highlight and fix the general essential properties, relations of objects and phenomena, and thanks to this, they simultaneously summarize the most important knowledge about the methods of action with these groups of objects and phenomena. Without concepts, human knowledge would be impossible. If, in the course of a long historical process of human cognition, such generalized forms of thought had not been developed and consolidated, then every person -

in every generation - would have to again and again describe, compare and express with a separate word every concrete thing, fact, phenomenon. Using words-concepts, we in an abbreviated form accumulate and use the results of the centuries-old practical experience of mankind.

Until now, we have talked mainly about such concepts that fix the general properties of material objects. "Red" is a concept that reflects the general property of some sensually observable things and their difference from other, differently colored material objects. When, further, we fix not only the difference between red, green, yellow, etc. objects, but also their identity, similarity, then their objective property to be colored in one way or another, that is, the property of color, comes to the fore. The concept of "color" is also being formed (along with the concepts of "red" and "green"), which has an even more general character, reflecting an even more general connection. For its formation, obviously, one must already somehow understand the connection and difference between specific red objects and red in general, that is, the difference and connection between the individual and the general. The concept of "color" takes into account not only the general properties of all colored things, but establishes relationships between them and between words-concepts that fix the relationship of different colors: "red", "green", "yellow", etc. Words-concepts of this kind fix the general relations of things and phenomena, but they themselves are no longer concrete material, but ideal, generalized objects of cognition; in this case, the "level" or the degree of abstraction from the concreteness of material objects and their sensibly observable properties can be different.

And yet, in relation to those concepts that arise and are used precisely in the direct process of material and practical activity, it is necessary to re-emphasize their connection with sensory cognition, observation, sensory-figurative reflection of reality. Figurative forms of reflection of the properties of the objective world themselves already contain the first stages and forms of generalization. For example, if we have in consciousness the image of a dog, then this latter is already a rather complex result of sensory experience - in one way or another, the features of various dogs that we could observe are synthesized in it. Our more general, abstract and holistic ideas (about the homeland, about this or that city, country, etc.) always have a figurative form.

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## FACTORS INFLUENCING A PERSON'S WORLDVIEW

**Mirzakholov Nodirbek Tojiboyevich**

Lecturer, Department of Social Sciences,  
Namangan State University

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### ABSTRACT

*This article discusses the factors that influence a person's worldview. The author discusses the role of worldview in human life in the article.*

**KEY WORDS:** *personality, worldview, values, society, social environment, education, upbringing*

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### DISCUSSION

Starting to study philosophy, many already have some idea about this subject: they can, with more or less success, recall the names of famous philosophers, and maybe even explain in a first approximation what philosophy is. In the list of questions - everyday, industrial, political, scientific and others - it is usually possible to single out questions of a philosophical nature even without special preparation, for example: the world is finite or infinite, is there absolute, final knowledge, what is human happiness and what is the nature of evil. Where does this pre-understanding come from? Since childhood, mastering the world, accumulating knowledge, all of us from time to time with excitement think about the secrets of the universe, the fate of mankind, about life and death, grief and happiness of people. This is how a not yet clear, not completely consistent understanding of the issues that have been pondered over by more than one generation of philosophers is taking shape.

How does the world work? How are the material and spiritual correlated in it? Is it chaotic or orderly? What place do regularity and chance, stability and change occupy in the world? What is rest and movement, development, progress, and is it possible to establish the criteria for progress? What is truth and how to distinguish it from delusions or deliberate distortions, lies? What is meant by conscience, honor, duty, responsibility, justice, good and evil, beauty? What is personality and what is its place and role in society? What is the meaning of human life, is there a purpose of history? What do the words mean: God, faith, hope, love?

Today, new, serious and tense ones are added to the old, "eternal" questions of this kind. What is the general picture and development trends

of modern society, our country in the current historical situation? How to assess the modern era as a whole, the social, spiritual, ecological state of the planet Earth? How to prevent mortal threats hanging over humanity? How to defend, defend the great humanistic ideals of mankind? Etc. Reflections on such topics are born of the need for a general orientation, self-determination of a person in the world. Hence the feeling of a long-standing acquaintance with philosophy: from ancient times to the present day, philosophical thought seeks to understand those issues of world outlook that worry people outside of philosophy.

Entering the "theoretical world" of philosophy, assimilating it, a person starts from the ideas that were previously formed in him, from the thought out, experienced. The study of philosophy helps to reconcile spontaneously formed views, to give them a more mature character. But we must also prepare for the fact that philosophical analysis will reveal the naivety, erroneousness of certain positions that seemed to be correct, and will push them to rethink them. And is it important. Much depends on a clear understanding of the world, life, ourselves - both in the personal fate of a person and in the common fate of people.

Representatives of different professions may be interested in philosophy from at least two points of view. It is needed for better orientation in one's specialty, but most importantly, it is necessary for understanding life in all its fullness and complexity. In the first case, philosophical questions of physics, mathematics, biology, history, medical, engineering, pedagogical and other activities, artistic creativity and many others fall into the field of attention. But there are philosophical issues that concern us not only as specialists, but as citizens and people in



general. And this is no less important than the first. In addition to erudition, which helps to solve professional problems, each of us also needs something more - a broad outlook, the ability to understand the essence of what is happening in the world, to see the tendencies of its development. It is also important to realize the meaning and purpose of our own life: why do we do this or that, what we strive for, what will it give to people, will it not lead us ourselves to collapse and bitter disappointment. General ideas about the world and man, on the basis of which people live and act, are called worldview.

This phenomenon is multidimensional, it is formed in various areas of human life, practice, culture. Philosophy is also referred to as spiritual formations that are considered to be a worldview. Its role in understanding the problems of worldview is great. That is why in order to answer the question what philosophy is, it is necessary, at least in general terms, to clarify what a worldview is.

Worldview is a set of views, assessments, principles that determine the most general vision, understanding of the world, a person's place in it, as well as life positions, programs of behavior, and actions of people. Worldview is a necessary component of human consciousness. This is not just one of its elements among many others, but their complex interaction. Diverse "blocks" of knowledge, beliefs, thoughts, feelings, moods, aspirations, hopes, uniting in the worldview, form a more or less holistic understanding of the world by people and themselves. In the worldview, the cognitive, value, behavioral spheres in their relationship are summarized.

The life of people in society is historical in nature. Now slowly, now quickly, intensively all its components change over time: technical means and the nature of labor, relations between people and people themselves, their feelings, thoughts, interests. People's views on the world also change, capturing and refracting the changes in their social life. In the worldview of a particular time, its general intellectual, psychological attitude, the "spirit" of an era, a country, or those or other social forces finds expression. This allows (on the scale of history) sometimes conventionally speaking about the worldview in a summary, impersonal form. However, in reality, beliefs, norms of life, ideals are formed in the experience, consciousness of specific people. And this means that in addition to the typical views that determine the life of the entire society, the worldview of each era lives, operates in a variety of group and individual options. And yet, in the diversity of worldviews, a fairly stable set of their main "components" can be traced. It is clear that we are not talking about their mechanical connection. The worldview is integral: the connection between the components, their "alloy" is fundamentally important in it. And, as in an alloy, various combinations of

elements, their proportions give different results, so something similar happens with the worldview. What are the components, the "components" of the worldview?

Generalized knowledge - practical, professional, scientific - enters into the worldview and plays an important role in it. The degree of cognitive saturation, validity, thoughtfulness, internal consistency of worldviews is different. The more solid the stock of knowledge of this or that nation or person in this or that epoch, the more serious support - in this respect - the worldview can receive. A naive, unenlightened consciousness does not have sufficient intellectual means to clearly substantiate its views, often turning to fantastic inventions, beliefs, and customs.

The need for world orientation makes its own demands on knowledge. What is important here is not just a collection of all kinds of information from different fields or "poly-scholarship", which, as the ancient Greek philosopher Heraclitus explained, does not teach the mind. The English philosopher F. Bacon expressed the conviction that the painstaking acquisition of more and more new facts (reminiscent of the work of an ant) without summing them up and comprehending does not promise success in science. Even less effective is raw, scattered material for the formation or substantiation of a worldview. It requires generalized ideas about the world, attempts to recreate its holistic picture, understanding the interrelation of various areas, identifying general trends and patterns.

Knowledge, for all its importance, does not fill the entire field of the worldview. In addition to a special kind of knowledge about the world (including the human world), the worldview also clarifies the semantic basis of human life. In other words, value systems are formed here (ideas about good, evil, beauty, and others), finally, "images" of the past and "projects" of the future are formed, certain ways of life and behavior are approved (condemned), and action programs are built. All three components of the worldview - knowledge, values, programs of action - are interconnected.

At the same time, knowledge and values are in many ways "polar": they are opposite in their essence. Cognition is driven by the striving for truth - an objective comprehension of the real world. Values characterize that special attitude of people to everything that happens, in which their goals, needs, interests, ideas about the meaning of life are combined. Value consciousness is responsible for moral, aesthetic and other norms and ideals. The most important concepts with which the value consciousness has long been associated were the concepts of good and evil, beautiful and ugly. Assessment of what is happening is carried out through correlation with norms and ideals. The value system plays a very important role both in the



individual and in the group, social worldview. For all their heterogeneity, the cognitive and value ways of mastering the world in human consciousness, action are somehow balanced, brought into agreement. Opposites such as intellect and emotions are also combined in the worldview.

In different forms of worldview, the emotional and intellectual experience of people - feelings and reason - are presented in different ways. The emotional and psychological basis of the worldview is called worldview (or worldview, if visual representations are used), while its cognitive and intellectual side is characterized as worldview.

The level of intelligence and the degree of emotional saturation of worldviews are not the same. But one way or another, both of these "poles" are inherent in them. Even the most thought-mature forms of the worldview are not reducible without a trace only to the intellectual components. A worldview is not just a collection of neutral knowledge, dispassionate assessments, judicious actions. Its formation involves not only the cold-blooded work of the mind, but also human emotions. Hence the worldview - the interaction of both, the combination of the worldview with the worldview.

Life in the world of nature and society gives rise to a complex range of feelings and experiences in people. The worldview is associated with curiosity, surprise, feelings of unity with nature, involvement in human history, awe, admiration, awe and many others. Among the emotions of this kind, there are also those painted in "gloomy" tones: anxiety, tension, fear, despair. These include feelings of insecurity, helplessness, loss, powerlessness, loneliness, sadness, grief, emotional distress. You can fear for your loved ones, worry about your country, people, life on Earth, the fate of culture, the future of humanity. At the same time, people also have a spectrum of "light" emotions: joy, happiness, harmony, fullness of bodily, mental, intellectual strength, satisfaction with life, with their accomplishments.

Combinations of such feelings give variations in the types of human perceptions. The general emotional state can be joyful, optimistic, or gloomy, pessimistic; full of spiritual generosity, caring for others or selfish, etc. Moods are influenced by the circumstances of people's lives, differences in their social status, national characteristics, type of culture, individual fates, temperaments, age, state of health. The outlook of a young person, full of strength, different from the old or sick. Critical, difficult situations in life require great courage and mental strength from people. One of the situations that cause stressful experiences is the meeting with death. Powerful impulses to the worldview are given by moral feelings: shame, repentance, reproaches of

conscience, a sense of duty, moral satisfaction, compassion, mercy, as well as their antipodes.

The emotional world of a person is, as it were, summed up in his perception of the world, but finds expression in the world outlook, including in the philosophical worldview. For example, the famous words of the German philosopher I. Kant can serve as a vivid expression of sublime emotions of this type: "Two things always fill the soul with new and ever stronger surprise and awe, the more often and longer we reflect on them - this is the starry sky above me and the moral law in me".

In the fabric of the worldview, reason and feelings are not isolated, intertwined and, moreover, are connected with the will. This gives the entire composition of the worldview a special character. The worldview, at least its key moments, its basis, tend to become a more or less integral set of beliefs. Beliefs are views that are actively adopted by people, corresponding to the entire make-up of their consciousness, life aspirations. In the name of convictions - so great is their power - people sometimes risk their lives and even go to death.

Thus, being included in the worldview, its various components acquire a new status: they absorb the attitude of people, are colored with emotions, combined with the will to act. Even knowledge in the context of a worldview takes on a special tonality. Growing together with the whole set of views, positions, feelings, they are confidently and actively accepted by people. And then - in tendencies - they become more than just knowledge, turning into cognitive beliefs - into a holistic way of seeing, understanding the world, and orientation in it. The power of persuasion is also acquired by moral, legal, political and other views - values, norms, ideals. In combination with volitional factors, they form the basis of life, behavior, actions of individuals, social groups, nations, peoples, and, in the limit, the entire world community.

With the "melting down" of views into beliefs, the degree of trust in their content and meaning increases. The range of human faith and confidence is wide. It extends from practical, vital cognitive certainty (or obviousness), that is, a completely rational faith, to religious beliefs or even gullible acceptance of absurd fictions, which is also characteristic of human consciousness of a certain type and level.

The important role of beliefs in the composition of a worldview does not exclude provisions that are accepted with less confidence or even distrust.

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# MATHEMATICAL MODELING OF HELIOTHERMAL PROCESSES IN PHYSICO-CHEMICAL INTERACTION WITH LIQUID MEDIA

**Alinazarov Alisher Khaidaralievich**  
Professor

**Atamov Abdullajon Abdukhamidovich**  
Assistant professor

**Khaidarov Sherzod Ergashalievich**  
Senior Lecturer  
Department "Construction and Installation of  
Engineering Communications"  
Namangan Civil Engineering Institute (Nam  
CEI)

**Akramjon Botirzhonovich Nabiev**  
Assistant professor  
Department of "Life Safety"  
Namangan State University (Nam SU)  
Republic of Uzbekistan Namangan

## МАТЕМАТИЧЕСКОЕ МОДЕЛИРОВАНИЕ ГЕЛИОТЕПЛОВЫХ ПРОЦЕССОВ ПРИ ФИЗИКО-ХИМИЧЕСКОМ ВЗАИМОДЕЙСТВИИ С ЖИДКИМИ СРЕДАМИ

**Алиазаров Алишер Хайдаралиевич**  
Профессор

**Атамов Абдуллажон Абдухамидович**  
доцент.

**Хайдаров Шерзод Эргашалиевич**  
старший преподаватель  
кафедры «Строительство и монтаж инженерных коммуникаций»  
Наманганский инженерно-строительный институт (Нам ИСИ)

**Набиев Акрамжон Ботиржонович**  
доцент.  
кафедры «Безопасность жизнедеятельности»  
Наманганский государственный университет (НамГУ)  
Республика Узбекистан г. Наманган

**KEY WORDS:** *building materials, modeling, heat treatment, heat source, hydration, radiation, solar radiation, ash-cement materials, heat transfer, radiation absorption, heat release, heat treatment.*

**Ключевые слова:** строительные материалы, моделирование, тепловая обработка, источник тепла, гидратации, излучения, солнечная радиация, золоцементные материалы, теплоперенос, лучепоглощения, тепловыделение, термообработки.

**Abstract:** A mathematical model of non-stationary temperature fields in multicomponent cement materials is shown.



**Аннотация:** Показана математическая модель нестационарных полей температуры в многокомпонентных цементных материалах.

Анализ используемого в практике производства многокомпонентных цементных материалов теплового воздействия на структурообразующую среду показал, что оно требует усовершенствования, так как одни и те же режимы тепловой обработки применяются без достаточного обоснования для различных материалов, учета их отдельных компонентов, гелиоформ, массивности. К неучтенным параметрам можно отнести такие, как динамика тепловосприятия материала в различные периоды теплового воздействия, влияние химически активных добавок на кинетику тепловыделения, его способность аккумулировать теплоту, обусловленной малой теплопроводностью и большой удельной теплоемкостью и способностью выделять тепло при гидратации вяжущего (микроструктуры), а также учет солнечной радиации при твердении вяжущих материалов и изделий (макроструктуры) [1. стр. 100].

При разработке оптимальных режимов тепломассопереноса с учетом солнечной радиации с целью интенсификации твердения многокомпонентных цементных материалов, наряду с задачей обеспечения высокого качества изделий, существенным является прогнозирование энергетически обоснованных условий технологического процесса при экономически оптимальном расходе энергетических ресурсов. [2. стр. 55]

Поэтому, при разработке режимов теплового воздействия на многокомпонентных цементных материалы необходимо создавать такие температурные режимы и технологические приемы, которые обеспечивали бы оптимальное тепловыделение и эффективное его использование при структурообразовании (твердении) с учетом солнечной радиации.

Одним из способов исследования температурных полей в многокомпонентных цементных материалах при тепловлажностной обработке и проверки ее эффективности является математическое моделирование процесса тепловой обработки [3. стр. 93]. Допустим, что температурный режим обогреваемой среды задается зависимостью  $t(0, r) = Y(\tau)$ , которая чаще всего описывает широко распространенный в практике режим постепенного, с заданной скоростью  $U[\tau^0 C/c]$  набора в камере температуры от первоначальной  $t_0$  до максимальной  $t_{\max}$ . Далее, изотермическая выдержка изделия при температуре  $t_{\max}$ , а затем понижение температуры среды. Большой интерес представляют первые две фазы: подъем температуры и изотермическая выдержка изделия. Установим, что поля температур в изделии описываются уравнением теплопроводности:

$$\frac{\partial t}{\partial \tau} = \frac{\partial}{\partial x} \left( a \frac{\partial t}{\partial x} \right) + \frac{q_v}{c \cdot \rho} \quad (1)$$

где  $a = \frac{\lambda(t, \tau)}{c \rho}$  - коэффициент температуропроводности;

$q_v = m_v \cdot q_{y'}(t, r)$  - объемный источник тепла.

Краевые условия для уравнения (1) принимают вид ( $0 \leq x \leq h$ )

$$t(x,0) = t_0 \quad (2)$$

$$Y(r) = \begin{cases} t_0 + v \pi i \partial \tau \leq \frac{t_m - t_0}{V} \\ t_m i \partial \tau \geq \frac{t_m - t_0}{V} \end{cases} \quad (3)$$

$$a(r)(t_0 - t)(0,r) = -\lambda \frac{\partial(0,r)}{\partial x} \quad (4)$$

$$\frac{\partial(1,r)}{\partial x} = 0, \quad (5)$$

где  $1 = \frac{r}{2}$  - половина толщины изделия (плиты);

$\wp(r)$  - переменный во времени коэффициент теплоотдачи от среды к поверхности бетона;

$t_0$  - температура среды; координата  $X = 0$  соответствует поверхности изделия.

Граничные условия (3) отражают линейный подъем температуры среды до  $t_m$ , а затем поддержание ее на этом уровне; граничное условие (4) характеризует теплообмен между средой и поверхностью изделия по закону Ньютона; условия (5) является условием симметрии поля температуры относительно середины изделия. Задачу (1)-(5) можно с достаточной для практики точностью решать с помощью средств электро моделирования на сетках Либманна в одномерном случае [4. стр. 19]. Приведём вывод схемы замещения для уравнения (1), которое запишем в конечных разностях:

$$2 \left[ \frac{a_1^{n-1} \frac{t_1^n - t_0^n}{h_1} - a_1^{n-1} \frac{t_0^n - t_2^n}{h_2}}{h_1 + h_2} \right] + \frac{t_0^{n-1}}{\delta \tau} + \omega^{n*} = 0, \quad (6)$$

где  $\omega^{n*} = q_v / c \rho = m_v \cdot q_y^{n*} / c \cdot \rho$ ;  $n^*$  - соответствует моменту времени, рассчитанному по методу равных тепловыделений.

Начальное распределение температуры по толщине структурообразующего золоцементного изделия равно  $t_0$ . В начальный момент времени оно помещается в среду с температурой  $t_c > t_0$ , которая поддерживается постоянной на протяжении всего процесса нагрева [5. стр. 50].

Умножая почленно (6) на величину элементарного объема и производя некоторые преобразования, получим:

$$\frac{2a_1^{n-1}}{h_1}(t_1^n - t_0^n) + \frac{2a_1^{n-1}}{h_2}(t_2^n - t_0^n) + (h_1 + h_2) \cdot \frac{(t_1^{n-1} - t_0^n)}{\delta\tau} + \omega(h_1 + h_2) = 0 \quad (7)$$

Индексы 0, 1 и 2 относят соответствующую величину в узлах 0, 1 и 2 к интервалам 0-1, 0-2, т.е. к  $h_{0-1}$ ,  $h_{0-2}$ ,  $a_{0-1}$ ,  $a_{0-2}$ .

Уравнение электрических токов по закону Кирхгофа для сопротивлений, сходящихся в узел 0, имеет вид:

$$\frac{g_1^n - g_0^n}{r_1} + \frac{g_2^n - g_0^n}{r_2} + \frac{g_0^n - g_0^n}{r_r} + \frac{g_m^n - g_{0,n}^n}{r\omega} = 0 \quad (8)$$

Для аналогии, между уравнениями (6), (7) и уравнением (8) величины омических сопротивлений параметры  $r$  - цепочки и  $ra_1$ ,  $ra_2$ ,  $r_r$ ,  $r\lambda\omega$  должны удовлетворять следующим соотношениям:

$$ra_1 = \frac{h_{0-1}}{2a_{0-1}^{n-1}} r_N; \quad ra_2 = \frac{h_{0-2}}{2a_{0-2}^{n-1}} r_N; \quad (9)$$
$$r_r = \frac{\delta\tau}{h_{0-1} + h_{0-2}} r_N; \quad r_w = \frac{(g_M - g_0^n)\delta\tau}{W(h_{0-1} + h_{0-2})} r_N;$$

В случае задания граничных условий III ряда (4),  $r$  - цепочка не изменяется: в поверхностный узел 1 подключается еще один резистор  $r_a$ , моделирующий термическое сопротивление  $1/\alpha$  теплоотдачи от среды к поверхности изделия. При этом

$$r_a = \frac{1}{2a^{n-1}} \cdot r_n. \quad (10)$$

Если на границе раздела среда - поверхность изделия задана плотности теплового потока  $q = q(0, r)$ , тогда в поверхностный узел 1 вместо  $r_a$  подключается переменный резистор, сопротивление которого подбирается в соответствии с  $q(0, r)$

$$r_q = \frac{(g_M - g_0^N)}{2q} r_n; \quad (11)$$



В приведённых зависимостях  $r_N = r_3 / r_T$  (Ом Вт<sup>0</sup>/С); К - масштаб перехода от температур к напряжениям, град, %; максимальное электрическое напряжение;  $V_0$  - напряжение в узле г - цепочки.

Метод Либманна для решения нестационарной задачи на г сетках реализует неявную конечно-разностную схему. Последовательность шагов по определению нестационарного теплового поля на г - сетке следующая. На концы сопротивлений  $r_\lambda$  (в узлы г - цепочки) подаются напряжения, соответствующие температуре поверхности в (n-1)-й момент времени при задании граничных условий 1-го рода; на конец сопротивления  $r_a$  подается напряжение, соответствующее температуре среды в n-й момент времени при задании граничного условия 3-го рода; на конец сопротивления  $r_q$  (граничное условие 2-го рода) и С - подается максимальное напряжение  $V_M$ . Численно  $V_M = 100$  % рабочего напряжения интегратора (10, 15 и 20 В) и если q и  $\omega$  - источники, на конце  $r_q$  и  $r_\omega$  подаётся 100%, напряжения в модели устанавливается в пределах 0-10% [6,7].

Величины  $r_a$ ,  $r_\alpha$ ,  $r_q$  и  $r_\omega$  зависят от значений  $\alpha$ , q и  $\omega$  в n-й момент времени, поэтому при решении задачи организуется интеграционный процесс. Затем в узлах г - цепочки измеряются напряжения, соответствующие температурам в n-й момент; кроме того, рассчитывается момент времени  $n^*$  по методу равных тепловыделений. Напряжения, полученные в n-й момент в узлах, подаются с помощью делителей напряжения на концах  $r_\tau$ . На концы  $r_a$  и поверхностные узлы г- цепочки подается, соответственно, напряжение, отвечающее температурам среды и поверхности в (n ... 1) - й момент времени. Поскольку в (n ... 1)-й момент продолжают действовать источники тепла, то подключается  $r_q$  и  $r_\omega$  (когда наступает изотермическое выдерживание  $r_q = \infty$ , т. е. этот резистор отключается). В узлах г - цепочки снимаются напряжения, соответствующие температурам в (n ... 1) - й момент времени и т.д. Поскольку решение дискретно в пространстве и во времени, то перед каждым новым шагом в величины сопротивлений можно внести поправки, учитывающие зависимости коэффициентов уравнения (1) от координат, времени и температуры, граничных условий (тепловые потоки, коэффициенты теплоотдачи) и источников тепла, переменность теплофизических характеристик многокомпонентных цементных материалов полиструктурного строения [8,9,10].

Конечно, значения всех величин для n-го момента времени определяются по температурам в (n-1)-й момент. Если температура в n-й момент резко отличается от температуры в (n-1)-й и данная величина отличается от принятой по предыдущей температуре более чем на 7-10%, то следует произвести следующие приближения на данном шаге.

Предложенный метод математического моделирования нестационарных полей температуры в многокомпонентных цементных материалах и изделиях на их основе позволяет решать и так называемую псевдообработанную задачу теплопроводности, по заданной температуре в изделии определить необходимую мощность источника теплоты (комбинированной солнечной установки) или плотность теплового потока от ее поверхности. Действительно, зная распределение температуры в изделии (в том числе и на его поверхности), полученной при реализации неявной конечно - разностной схемы для уравнения (1) при граничном условии III-го рода на г- цепочке (схема а), можно, заменив переменный резистор  $r_a$  на переменный резистор  $r_q$ , моделирующий плотность теплового потока



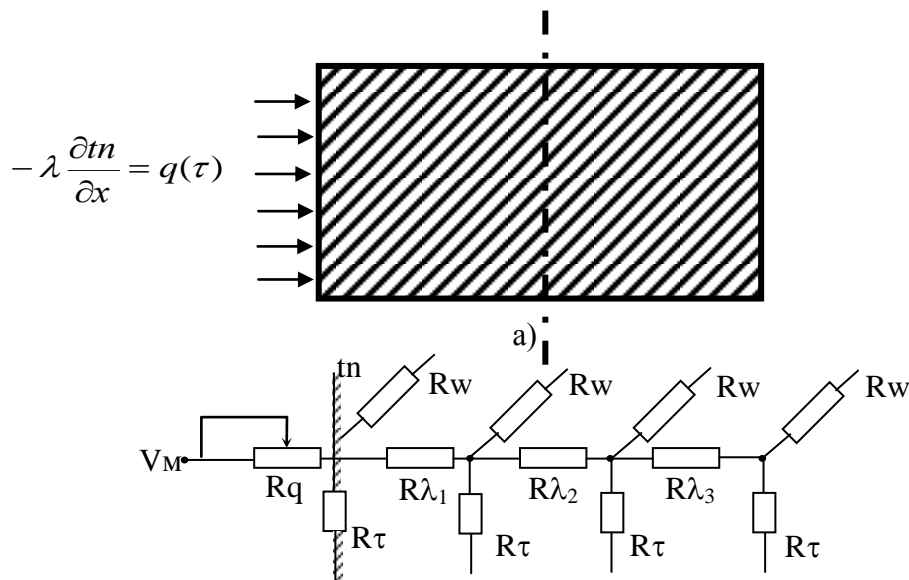


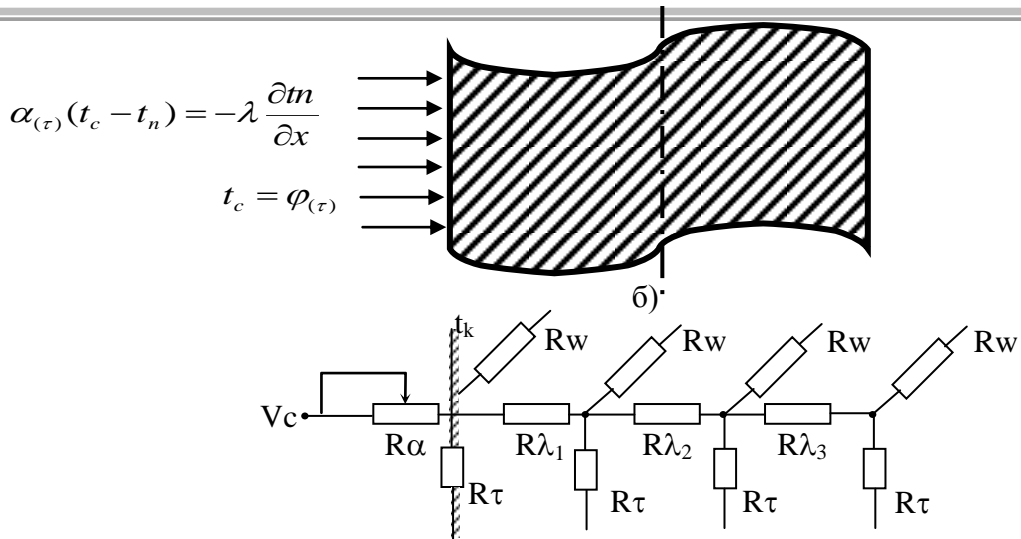
$q_n = -\lambda \frac{\partial t_n}{\partial x}$  (закон Фурье), на каждом временном шаге  $\delta_\tau$  подбирать величину сопротивления  $r_q$

так, чтобы сохранялась заданная температура поверхности изделия. В этом случае прогнозная плотность теплового потока от поверхности в глубь изделия будет определяться по формуле

$$q_n = \frac{(\vartheta_M - \vartheta_n^n) \cdot h \cdot r_N}{r_q} \cdot 0,5 = 0,5(\vartheta_M - \vartheta_n^n) \cdot h \cdot r_N / r_q \quad (12)$$

На рис. 1 и рис. 2 приведены некоторые результаты, полученные с применением метода моделирования.

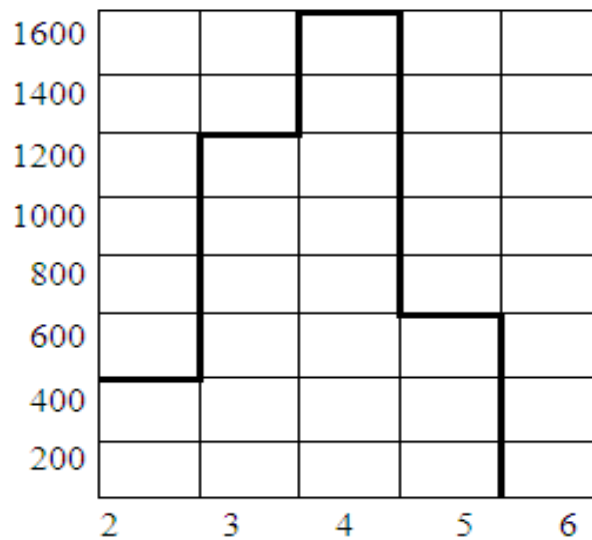


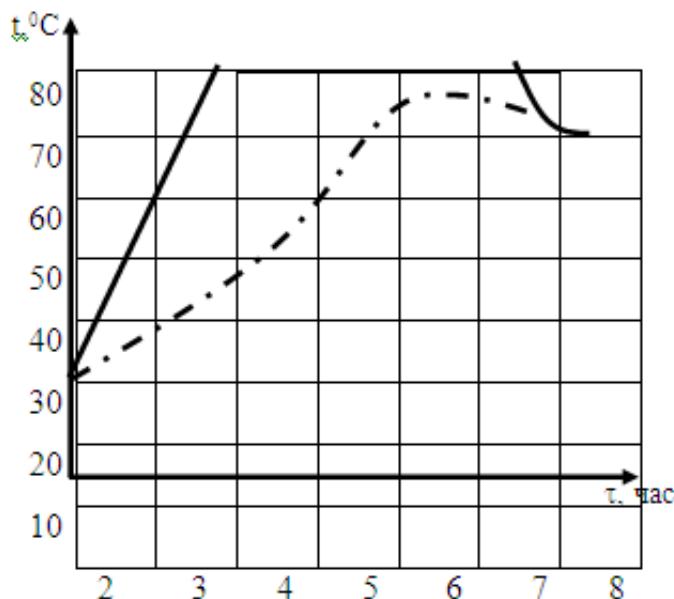


Исследование температурных полей в многокомпонентных цементных материалах при тепловой обработке велось также на базе решения следующего уравнения:  
 Рис. 1. Схемы обогрева изделия при граничном условии II-рода (а) и III-го рода (б), а также соответствующие им моделирующие R-цепочки сопротивлений.

$$c\rho \frac{\partial t}{\partial x} = \frac{t}{\alpha x} \left( \lambda \frac{\partial t}{\partial x} \right) + m_g \cdot q_y \cdot (t, r) + K_f \cdot a(t - t_{g\delta}) + K_l \cdot a(t_n^4 - t_{N_2}^4) \quad (13)$$

где -  $K_f$  - коэффициент гелиоформы золоцементного изделия полиструктурного строения;  $K_l$  - коэффициент лучепоглощения изделия из золоцементного материала при 80% -ном наполнении золой, 5 % извести и 0,30% добавки МПД1.





## 2. Динамика расчетной тепловой нагрузки $q_p$ и прогнозных температур на поверхности (1) и по середине (2) изделия

Таким образом, на основе принципов системного анализа разработано математическое описание тепловых процессов и предложен метод математического моделирования нестационарных полей температуры в многокомпонентных цементных материалах и изделиях из них.

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## DEVELOPMENT OF RADICAL RECLAMATION OF CONTAMINATED LANDS NAMANGAN ADYRS

**Dadahodzhaev Anvarjon**

Candidate of Agricultural Sciences,  
Associate Professor.  
Namangan Civil Engineering Institute  
(Nam CEI).  
Republic of Uzbekistan Namangan.

**Mamadzhanov Maruf Mahmudzhanovich**

Senior Lecturer.  
Namangan Civil Engineering Institute  
(Nam CEI).  
Republic of Uzbekistan Namangan.

**Khaidarov Sherzod Ergashalievich**

Senior Lecturer.  
Namangan Civil Engineering Institute (Nam CEI).  
Republic of Uzbekistan Namangan.

### Освоение коренная мелиорация заовраженных земель Наманганских адыров

**Дадаходжаев Анваржон**

Кандидат сельскохозяйственных наук, доцент.  
Наманганский инженерно-строительный институт (Нам ИСИ).  
Республика Узбекистан г. Наманган.

**Мамаджанов Маъруф Махмуджанович**

Кандидат сельскохозяйственных наук, доцент.  
Наманганский инженерно-строительный институт (Нам ИСИ).  
Республика Узбекистан г. Наманган.

**Хайдаров Шерзод Эргашалиевич**

Кандидат сельскохозяйственных наук, доцент.  
Наманганский инженерно-строительный институт (Нам ИСИ).  
Республика Узбекистан г. Наманган.

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#### ABSTRACT

*In the article how to conduct a radical reclamation of contaminated lands. We investigated the totality of agro-forest, land reclamation and irrigation and land reclamation measures for the indigenous reclamation of contaminated lands.*

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#### Аннотация

В статье как вести коренной мелиорации заовраженных земель. Исследовали совокупность мероприятия агро-леса, мелиоративный а также гидромелиоративные мероприятия для коренного мелиорации заовраженных земель.

**Keywords:** Adyr, protective soil, against the ravine, event, agro-forest reclamation, economic, hydro reclamation measures.





**Ключевые слова**

Адыр, почва охранного, против овражной, мероприятие, агро-лесо мелиоративной, хозяйственных, гидро мелиоративных мероприятий.

При освоении и коренного мелиорации заовраженных земель почво-водоохранное земледелие на площади мелиорируемой поверхности должно быть комплексным, сочетающим агро- лесо- и гидромелиоративные приемы защиты почв от эрозии. Согласно закону прямолинейного движения концентрированного стока временных водных потоков на сильно заовраженных землях, количество удлиненных оврагов с истечением времени уменьшается до 9% [1, стр. 236].

На овраг опасных территориях Наманганских адыров из организационно – хозяйственных мер в практику агропромышленного комплекса нами были внедрены комплекс систем почв охранного земледелия [2, стр. 93].

Освоение оврагов и создание на них культурного фона требуют научно-обоснованного подхода к технологическим этапам почва-водоохранного земледелия [2, стр. 93].

Нам известно что овражная эрозия – размыв почв и подстилающих пород временными водными потоками в современный верх не антропогенный период. В результате этого процесса происходит образование линейных форм размыва оврага в различных стадиях его развития [3, стр. 95].

Освоение и коренного мелиорация заовраженных земель изучать. Важным критерием оценки овражной эрозии является определение территории по категориям овраг опасности земель, которое должно лежать в основе проектирования противоэрозионных мероприятий. Овраг опасность земель – территория, где сочетание природных условий создает опасность развития овражной эрозии при хозяйственном использовании. [4, стр. 4]

**Таблица 1**  
**Группировка оврагов по степени пораженности территории**

Категория овраг опасности Природные факторы, определяющие овраг опасность	I. Опасность отсутствует	II. Слабая	III. Средняя	IV. Сильная	V. катастрофи ческая
1.Эрозионных индекс жидких осадков	менее 1,0	1,1-2,0	2,1-4,0	4,1-6,0	более 6,0
2.Эродирруемость почв, т/га	менее 2,0	2,1-3,0	3,1-5,0	5,1-10,0	более 10,0
3.ДНС горных пород, м/с	более 3,5	1,76-3,50	0,76-1,75	0,40-0,75	более 0,40
4.Глубина местного базиса эрозии, м	менее 5	5,1-10,0	10,0-50,0	50,1-100,0	более 100,0
5. Форма склона	горизонтально ровная	вогнутая	сложная	прямая	выпуклая
6. Почвозащитная способность растений	Более 60	31-60	21-30	11-20	Менее 11

А также составить овражно – мелиоративного районирования должны быть положены следующие основные составляющие 1) карты заовраженности и оврагоопасности земель.; 2) районирование территории по типам рельефа; 3) районирование территории по типам сельскохозяйственного использования; 4) комплексы и типы мелиоративных противоэрозионных мероприятий [5, стр. 35].

В целом, вся спланированная поверхность почва-субстрат обладает низким плодородием и минимальной противоэрозионной устойчивостью.

Поэтому в освоении оврагов для сельскохозяйственного использования возникает необходимость решения этих неотделимых друг от друга задач: предупреждения проявления эрозионных процессов и интенсивное наращивание плодородия спланированных земель [6, стр. 99].

Почва-водоохранное земледелие на площади мелиорируемой поверхности должно быть комплексным, сочетающим агро-лесо-и гидромелиоративные приемы защиты почв от эрозии [6, стр. 99].



Для разработки методов коренной мелиорации заовраженных земель на адырах был выбран ключевой участок на территории фермерского хозяйства “Карачукки” агрофирмы “Чартак”. Типичность ключевого участка определялась: высокой плотностью овражной сети, районом массового сельскохозяйственного освоения оврагов для сельскохозяйственного производства, пестротой подстилки лессовидных суглинков прослойками щебня и песка, а также их засоленностью. Задачами при

коренной мелиорации оврагов были характеристика почв и подстилающих пород заовраженных земель, расчет земляных работ, выбор системы агро- гидромелиоративных приемов освоения, изучение эрозийных процессов на спланированной поверхности и разработка научно - обоснованных приемов повышения производительности техногенных почв. Характеристика овражного расчленения адыров Карачукки “Агрофирме Чартак” ниже указанных таблица 2.

Таблица 2

№	Плотность шт/кв.км	Густота кв/км	Частота, м	Площадь Тыс. га.
1	0,61 - 1,5	0,31 - 1,0	500 - 201	0,9
2	1,51 - 5,0	1,01 - 3,0	200 - 101	1,5
3	5,01 - 10,0	3,01 - 5,0	100 - 51	3,3
4	Более 10,01	Более 5,01	Менее 51	1,1

Крупно масштабная почвенной - геоморфологическая съемка показана о возможном трансплантате приовражных почв и выбора способа засылки и выколаживания оврагов местным почвогрунтом. т.к. степень эрозийного расчленения ключевого участка не превышало 0,7 кв/км, преобладающая крутизна имела 5 - 7 градусов. Объем земляных работ был равен 1864,8 куб.м. Из - за близкого залегания гипсо-кислого и засоленного слоя подстилающих пород и невозможностью заполнения оврагов привозным грунтом возникало необходимость сохранения почвенного горизонта с менее 1 процентным содержанием гумуса.

В процессе засылки и планировки оврагов на мелиорируемой поверхности образовались техногенные почвы, которые состояли из обнаженных и насыпных почва

грунтах. Они в целом отражали особенности материнских лессовидных суглинков, которым свойственна высокая пыловатос (содержание фракций размером 0,05 - 0,01 мм от 59 до 65 %), легкость механического состава (содержание физической глины 21-32 %). В отличие от приовражных почв, (рис.1) техногенные почвы имели менее уплотненную (1,1-1,3 г/см. куб) и соответственно, большую фильтрационную способность насыпного участка. Исходя водопроницаемости почвы данных участков, которой принятых вариантов по завершении исследование контур смачивания типичных сероземах на богаре и техногенных почв на заовраженных землях (А-Б - сильное смытое типичных сероземы Б - техногенных нарушенных почвы) рис. [1].

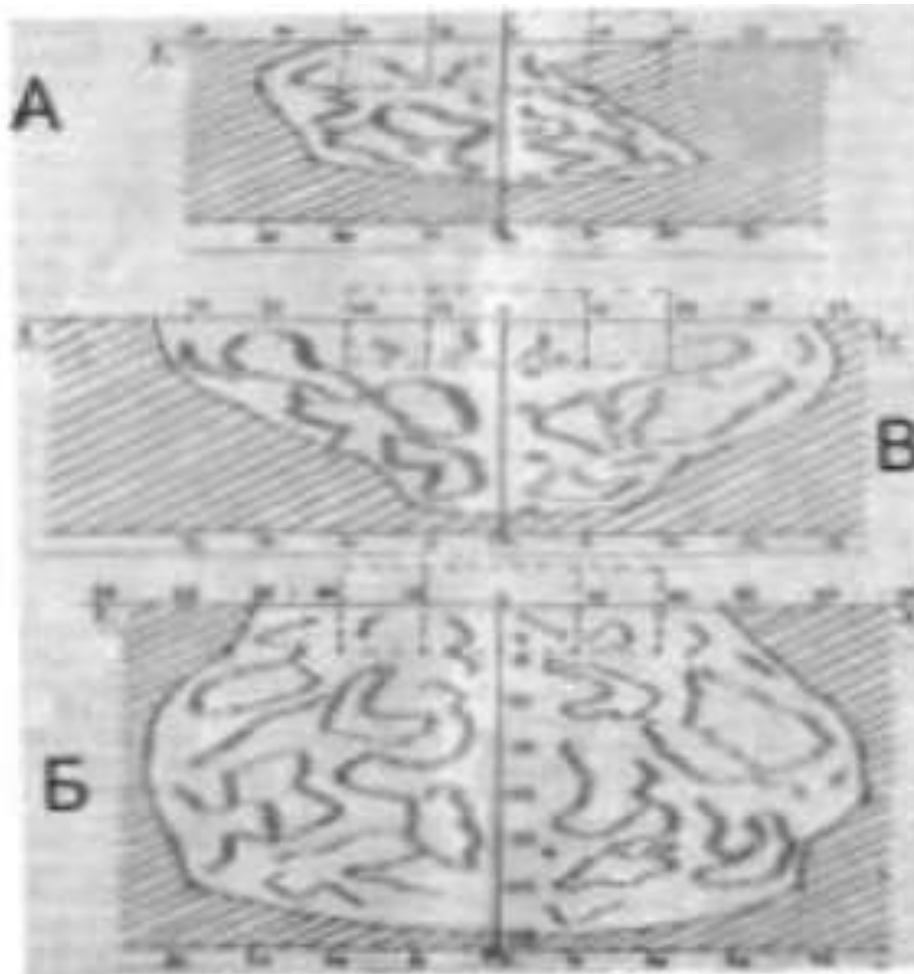


Рис.1. Контур смачивания типичных сероземов и техногенных почв на заовраженных землях (А - Б - сильно смытые типичные сероземы, В - техногенное-нарушенные почвы)

Высокий коэффициент фильтрации (1,42) и наличие легко размывающихся солей (0,460 - 0,528 %сухого остатка) создавали благоприятные условия развития суффозионных воронок. Выровненная пологая поверхность (не более 5-7 градусов) дала возможность проведению агромелиоративных работ без создания специальных площадок и террас. Но низкое содержание гумуса в техногенной почве (0,3 - 0,6%), слабо обеспеченность верхних корнеобитаемых горизонтов доступными для растения формами азота, калия и фосфора диктовали необходимость. В следующий повышение, плодородие техногенных почв что складирование приовражных почв и последующее внесение трансплантата на мелиорируемую поверхность, а также внесение органа - мелиоративных удобрений в различных сочетаниях [7, стр. 8].

Схема опыта.

1. Спланированная овражная поверхность + N200 P130 K60 (контроль)
2. Контроль +30 т / га органического удобрения (фон)

3. Фон +10 см. почвенного трансплантата
4. Фон +20 см. Почвенного трансплантата

Способствовали интенсивному наращиванию плодородия техногенных почв. Из водно- физических свойств в период освоения наибольшему изменению подвергалась объемная масса техногенных почв по всем вариантам опыта. Интенсивность уплотнения зависела от слоя внесенного трансплантата и органического удобрения. Так на вариантах 2-4 сильному уплотнению (0,5-0,1 г/куб см) подвергался 30-50 см, слой почвы, тогда как на контроле оно доходило до 70 см. Динамика влажности техногенных почв после полива также различалась по вариантам опыта. Если на вариантах с органическими удобрениями естественная водоудерживающая способность сероземов держалась в течении 4-5 дней, тогда как на контроле 2-3 дня. На 10-й день после полива на контроле верхний корнеобитаемый горизонт (0 - 30см.) содержал влаги меньше показателя заведения (до 14 %), что требовало проведения дополнительного полива. На третий год мелиорации на вариантах с 10 и 20 см слоем



трансплантата содержание физической глины было больше в 1,5 - 3,0%, чем на контроле и фоне. В целом же за три года орошения по всем вариантам опыта наблюдается постепенное уменьшение в верхних слоях техногенных почв тонких фракций с менее 0,01 мм, из - за смыва и иллювирирования подпахотного горизонта.

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# PHARMACEUTICAL APPLICATIONS OF LIQUID CRYSTAL WITH SPECIAL EMPHASIZED ON ADVANCED DRUG DELIVERY SYSTEM: AN OVERVIEW

<sup>1</sup>Faizan Ahmed Md Israeel, <sup>2</sup>Shivam Patil, <sup>3</sup>Shaikh Ashmeena, <sup>4</sup>Khan Naziya, <sup>5</sup>Charushila Suryawanshi, <sup>6</sup>Rahmani Taskeen

Department of Pharmaceutics, Royal College of Pharmaceutical education and research  
Malegaon, Savitribai Phule Pune University, Maharashtra, India.

## ABSTRACT

*Liquid crystals are substances that flow like liquid but maintain some of the ordered structure characteristic of crystalline solid. Liquid crystal can be divided into thermotropic and lyotropic phase. The thermotropic is generated by temperature variation in the liquid state, whereas lyotropic is formed by dissolving the compound in certain solvents. The liquid crystal systems have some advantages such as drug solubilization level, drug degradation, biological and chemical sensing, stability of drug, control drug release, light, thin, sustained and controlled release pharmaceutical properties. Liquid crystal technology has had a major effect in many areas of science pharmacy and engineering, as well as device technology. The drug delivery to site of target can be achieved by using liquid crystal systems. Objective of this review is to provide information in development of targeted drug delivery system, depth information of pharmaceutical liquid crystal technology, its classification and application in the pharmaceutical field.*

**KEYWORDS:** *Liquid crystalline system, history, display, classification, patent with liquid crystal application*

## 1. INTRODUCTION

Liquid crystals are the materials that are in many ways intermediate between the liquid and solid states. Liquid crystals exhibit different molecular arrangements than the liquid and solid states [1]. Based on the ways that LCs is generated, they can be classified as thermotropic LCs and lyotropic LCs. The thermotropic is generated by temperature variation in the liquid state, while the lyotropic is formed by dissolving the compound in certain solvents [2]. The liquid crystal systems have approach towards physical and chemical properties. Now a day's liquid crystal are becoming a choice for the research and development process in the pharmaceutical field. The liquid crystal systems have some advantages such as drug solubilization level, drug degradation, and control drug release; light, thin, sustained and controlled release pharmaceutical properties [3]. LC'S are influenced by number of factors such as concentration, temperature, pH, and presence of salt. As new properties and types of liquid crystals are investigated and researched, these materials are sure to gain increasing importance in industrial and scientific applications such as optical imaging [4, 5].

Liquid crystals are thermodynamically stable and possess long shelf life. Liquid crystals show bio adhesive properties and sustained release effects [6, 7]. Liquid crystal name was given by Lehmann (1899) to characterize the state of matter. It is also known as mesophase which explains a state of matter that is intermediate between the crystalline solid and the amorphous liquid. They have properties in between liquid and solids, which makes a new form of state [3, 8]. Liquid crystals (LCs) are matter in a state which has properties between those of conventional liquids and those of solid crystals. For example, a liquid crystal may flow like a liquid, but its molecules may be oriented in a crystal-like way [9, 10]. Some liquid crystal may even flow like liquid, but its atoms or molecules are oriented in a crystal-like way, the liquid crystal state of matter is obtained from orientation-dependent noncovalent interaction between molecules within condensed phases. Because, the balance of intermolecular forces which govern formation of liquid crystals is delicate, this state of matter can, in general, be easily affected by external stimuli [1, 11].

Liquid crystals are anisotropic; which means they have different chemical and physical properties





in different axes. It is important to note that [12, 13] not all anisotropic materials are liquid crystals but all liquid crystals are anisotropic compounds. Due to anisotropy of liquid crystals, they also exhibit birefringent i.e. having two refractive indices. Having an anisotropic molecular shape associated with polarizability is the basic requirement for liquid crystals [1, 14]. The liquid crystals are of thermotropic and lyotropic types, lyotropic liquid crystals are prepared by the presence of solvent, and have been extensively described in the context of emulsion technology; however, other pharmaceutical examples are developing. Thermotropic liquid crystals are induced by a change in temperature and are free of solvent, where more pharmaceutical applications appear in the context [2] LCs (mesophases) show structural, mechanical and optical properties intermediate to those of crystalline solids, amorphous and liquid state of matter. LCs, however, are not a mixture of solids and liquids, but indeed a separate state of matter [3, 15]. They have many properties of liquid e.g. formation of droplets, fluidity is high, inability to shear.

### It has various properties.

- (a) Comparative energy of intermolecular forces in the liquid crystal.
- (b) Less intermolecular interaction in liquid crystal. It has properties of cubic and hexagonal phases which make them important to deliver for the scientists through various routes such as buccal, gastrointestinal, rectal, vaginal, lung. The liquid crystal has strong adhesion molecule in liquid crystal and it was weak [8] Now days liquid crystals have played vital role in the transdermal approach to drug delivery, they are useful to enhance both permeability and retention of the drug in skin as stratum corneum is strong barrier and drug with adequate property can cross it. Whether we talk about novel lecithin based liquid crystals or cremophor based cubical cubosomes all have changed and help to make local drug delivery better [16].

### A typical LC molecule is represented by two parts:

- i) The central rigid part known to be as mesogen and
- ii) The other flexible side chains known to be as spacer. The liquid crystal molecules for stability make each other align parallel to them because of the strong intermolecular attraction. The energy required for interaction between the liquid crystal and bearing surface can be: (a) comparable with the energy of intermolecular interaction in the liquid crystal; (b) much less than the intermolecular interaction energy in the crystal [1,17]. In this review, we will look about them, their earlier history, their types, will study different phases involved in liquid crystals and application of liquid crystals in pharmaceutical industry.

## 2. HISTORY

The discovery of an intermediately, liquid crystal, state of matter is credited to Friedrich Reinitzer [7]. In 1888, Austrian botanical physiologist Friedrich Reinitzer, working at the Karl-Ferdinands-Universität, examined the physicochemical properties of various derivatives of cholesterol which now belong to the class of materials known as cholesteric liquid crystals.

Previously, other researchers had observed distinct color effects when cooling cholesterol derivatives just above the freezing point, but had not associated it with a new phenomenon. Reinitzer perceived that color changes in a derivative cholesteryl benzoate were not the most peculiar feature. He found that cholesteryl benzoate does not melt in the same manner as other compounds, but has two melting points. At 145.5 °C (293.9 °F) it melts into a cloudy liquid, and at 178.5 °C (353.3 °F) it melts again and the cloudy liquid becomes clear. The phenomenon is reversible. Seeking help from a physicist, on March 14, 1888, he wrote to Otto Lehmann, at that time a Privatdozent in Aachen. They exchanged letters and samples. Lehmann examined the intermediate cloudy fluid, and reported seeing crystallites. Reinitzer's Viennese colleague von Zepharovich also indicated that the intermediate "fluid" was crystalline. The exchange of letters with Lehmann ended on April 24, with many questions unanswered [5,18]. After this accidental discovery, Reinitzer did not continue studying liquid crystals further. The research was later carried forward by Lehmann, who realized that he had been encountering entirely new phenomenon and was in a position to investigate on it. In his postdoctoral years he had become expert in crystallography and microscopical studies. Lehmann started a systematic study, first of chemical cholesteryl benzoate, and then of its related compounds which exhibits same the double-melting phenomenon. He was then able to make observations in prepolarized light, and his microscope was provided with a hot stage (sample holder equipped with a heater) which enabled high temperature observations. The intermediate cloudy phase may clearly sustained flow, but other features, particularly the signature under a microscope, convinced Lehmann that he was dealing with a solid one. After Lehmann's, his work was continued and scientifically expanded by the German chemist Daniel Vorländer, by whom from the beginning of 20th century until his retirement in 1935, had prepared many of the liquid crystals known. However, liquid crystals were not popular among scientists at that time and the material remained as a pure scientific curiosity for more than 80 years [1,19].

**1888:** Reinitzer observed the two phenomenon, birefringence and the occurrence of iridescent colors between the two melting points in a material that we now were cholesteryl benzole.

**1889:** Lehmann carried out detail tail investigation and reasoned that the birefringent portions of the liquid must be crystals. He previously referred to these materials as liquid crystals.

**1890:** Gattermann blended the principal fluid precious crystals of azoxy-benzene, with fully known structures. **1908:** D. Vorlaender, the first to integrate a thermotropic smectic compound, related liquid crystallinity to chemical structures, detected polymorphism of liquid crystal state. **1922:** Freidel identified and named the different microscopic textures (nematic, smectic, and cholesteric), observed the impacts of electric and magnetic fields.

**1930:** Freedericksz studied the transition from a homogeneous structure at some critical value of applied field strength.

**1965:** the global liquid crystal society by late Glenn Brown at Kent state university. Lehmann and Reinitzer are known as the grandfathers of LCs science [9, 20, 21].

### 3. DEFINATION AND DISPLAY

A liquid crystal is a thermodynamic stable phase characterized by anisotropy of properties without the existence of a three-dimensional crystal lattice, generally laying in the temperature range between the solid and isotropic liquid phase, hence the term mesophase. Liquid crystals are a class of molecules that, under some conditions, inhabit a phase in which they exhibit isotropic, fluid-like behavior – that is, with little longrange ordering – but which under other conditions inhabit one or more phases with significant anisotropic structure and longrange ordering while still having an ability to flow [4,5,22]. A liquid crystal display (LCD) is a flat –panel display or other electronically regulated optical device that uses the light tweaking properties of liquid crystals. Liquid crystals do not emit light display, instead using a backlight or reflector to produce image in color or monochrome [9, 23, 24].

LCs consists of an array of tiny segments (called pixels) that can be manipulated to present information LCD consist primary of two glass plates with some liquid crystals material between them [9,25].

Plates are usually manufactured with transparent electrodes (ITO) that make it possible to apply an electric field across small areas of the film of liquid crystal LCDs consume much less power cathodes -ray tube (CRT) counterparts Most usually utilized are the twisted nematic (TN) Displays[9,26].



Fig. 1: Liquid crystal display [1]

### IDEAL CHARACTERISTICS OF LIQUID CRYSTAL

1. There are two types of liquid crystal such as lyotropic and thermotropic liquid crystal.
2. The liquid crystal can flow similar to liquid due to transition phase.
3. Discotics phases are flat having disc-like molecules which has core adjacent to aromatic rings.
4. A large number of chemical compounds are known which can exhibit one or several liquid crystal phases.
5. Liquid crystal phases are mostly cloudy in appearance that they scatter light in same way as colloids. [3]

### 4. CLASSIFICATION

LCs are differentiated on the basis of positional order (i.e. molecule are arranged in randomly structure lattice) and orientational order (i.e. molecule are mostly pointed in the same direction). Moreover order can be either short-range (only between the molecule to each other) or long-range (extending to larger, sometimes macroscopic). LCs mainly classified as Lyotropic (LLCs) and Thermotropic (TLCs), physicochemical parameters responsible for the phase transitions [27, 28, 29].

#### 4.1 Lyotropic Liquid Crystal

It is also called as lyomesophases or lyotropics which is mixture of amphiphilic molecules in solvent at given temperature and concentration. It can be classified as lamellar, cubic and hexagonal. In this solvent molecules will fill space around the compound to have fluidity in system. A compound which has two immiscible hydrophilic and hydrophobic within molecule is called amphiphilic molecule. Those molecules show lyotropic liquid crystalline property which depend on hydrophilic and hydrophobic part. These structures formed through micro-phase segregation of two incompatible components [3].

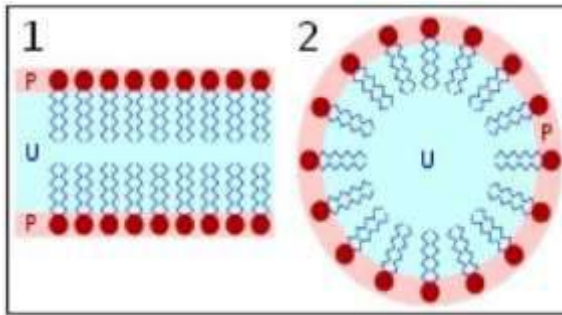


Fig. 2: (1) & (2): Structure of lyotropic liquid crystal [5]

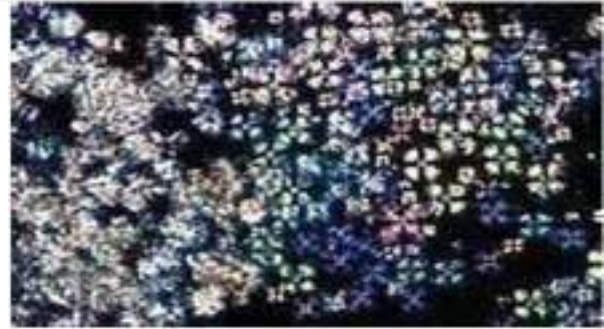


Fig. 3: Phase transition between a nematic (left) and smectic A (right) phases observed between crossed polarizer and the black colour corresponds to isotropic medium [5].

**4.1.1 Lamellar LCs Lamellar:** LCs neat phase is generally having bilayered structure as repetition unit, and which shows long-range positional order in one dimension and long-range orientational order within the layer. They can also be termed as layered packing of indefinitely extended disc like micelles [12, 30, 31].

**4.1.2 Hexagonal LCs Hexagonal:** LCs shows long-range positional order in two dimensions. Both the lamellar and hexagonal LCs can be identified using polarized light microscopy as they exhibit a range of textures that are typical for the corresponding LCs. They are also known as middle phase [12, 32, 33].

#### 4.1.3 Cubic LCs:

Cubic LCs shows long-range positional order in three dimensions. Generally these LCs having cubic packing of the micelles and cannot identified using polarized light microscopy. They are highly viscous and have poured flowing property as compare to lamellar and hexagonal LCs [12, 34, 35, 36].

#### 4.2 Thermo tropic liquid crystals:

A liquid crystal (LC) is thermotropic in nature if the order of its components is dependent or changed by temperature. Like if temperature is too high, results in rise of energy and therefore motion of the components will show a phase transition. The LCs will become an isotropic liquid. In case, on the contrary, if temperature is too low for supporting a thermotropic phase, the LC will change to glass phase. There is therefore a range of temperatures at which we observe thermotropic LCs; and most of these have several "sub phases" (nematic, smectic. Etc.), which we may observe by modifying the temperature [1,37].

#### Nematic Phase

One of the most common LC phases is the nematic. The word nematic comes from the Greek  $\nu\eta\mu\alpha$  (nema), which means "thread". This term originates from the thread-like topological defects observed in nematics, which are formally called 'disclinations'. Nematics also exhibit so called "hedgehog" topological defects. In a nematic phase, the calamitic or rod-shaped organic molecules have no positional order, but they self-align to have long range directional order with their long axes roughly parallel [5,38].

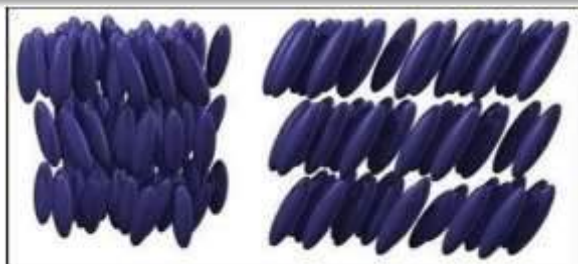


Fig. 4: Alignment in a nematic phase [5]

#### Smectic Phase

These are found at even lower temperatures than nematic phase. The word smectics means cleaning or rather having soap like properties [39, 40]. The long axes of all the molecules in a particular layer are parallel to one another and perpendicular to the plane of layer. True to its name, the layer slides over one another similar to that of soap's. This phase is viscous, fluid and ordered [40,41].





**Fig. 5: Schematic of alignment in the smectic phases [5] Chiral phases:**

The chiral nematic phase expresses chirality (handedness). This phase is popularly known to be as cholesteric phase because it was first found for the cholesterol derivatives. While only chiral molecules (i.e. others which have no internal planes of symmetry) may give rise to such a phase. This phase exhibits a twisting of the molecules perpendicular to its director, with the molecular axis parallel its director [1,42].



**Fig. 6: Schematic of ordering in chiral liquid crystal phases [5]**

**Blue phases:** Blue phases are liquid crystal phases that appear in the temperature range between a chiral nematic phase and an isotropic liquid phase. Blue phases have a regular three-dimensional cubic structure of defects with lattice periods of several hundred nanometers, and thus they exhibit selective Bragg reflections in the wavelength range of visible light corresponding to the cubic lattice. It was theoretically predicted in 1981 that these phases can possess icosahedral symmetry similar to quasicrystals [5,43,44].

**Discotic phase:** Discotic phase is having disc-shaped compound of liquid crystal which get involve in fashion which is layer-like. The discotic phase is the disks which is pack into stacks. Discotic columnar is called as chiral a discotic phase which is similar to chiral nematic phase. Rectangular or hexagonal arrays both of them get involved in the column [3].

**Bowlic phases:** They are Bowl-shaped LCs molecules, like we found in discotics, and can form columnar phases. Other phases, includes polar nematic, nonpolar nematic, string bean, onion and donut phases, have also been found. Bowlic phases, except nonpolar nematic one, are polar phases of LCs [1, 42].

## 5. APPLICATION OF LIQUID CRYSTALS

**5.1 Solubility enhancement of poorly soluble drugs:** Many substances are more soluble in lyotropic liquid crystals. One example is hydrocortisone. It is often taken in topical applications, but its uses have been limited because highest concentration possible has been only 1%. When hydrocortisone went up to 4%. In time, liquid crystals may become a primary solvent for topical medications [5,45].

**5.2 Biological and Chemical sensing:** LCs have been successfully demonstrated to sense and analyze bacteria various and viruses. Additionally, some nontoxic LCs have been figured out and utilized for supporting the growth of mammalian cells and for reporting the interfacial cell/protein interaction [1, 46]. Polyelectrolyte-coated LCs droplets are useful to detect charged macromolecules in a solution. Adsorption of these positively charged dendrimers on negative charged polyelectrolyte-coated droplets results bipolar-to-radial ordering transitions, which were mainly dependent on both the size and number of droplets present in solution [1, 46].

**5.3 Drug delivery utilizing liquid crystal structure:** Vitamin E TPGS/drug compositions and methods are provided which aviate the need for surfactants or nonevaporated co solvents because the active drug component is dissolved directly onto vitamin E TPGs to form a true molecular solution -not an emulsion or a micro emulsion. The innovation gives a gradually dissolving TPGS/sedate framework that ingests gastrointestinal liquid into the grid at the measurement shape/liquid interface, where a gel like liquid crystal is formed [9, 47]. This gel front structures a liquid crystal limit where tranquilize disintegration is most. At this liquid crystal/GI fluid boundary, synchronization takes place in which the rare of formation of liquid crystal equal the dissolution rate of liquid crystals at the water interface, thereby giving controlled order release of the drug into the GI tract [9,48].

**5.4 Stability of drug:** Lyotropic liquid crystals have been used to make stable hydrocarbon foam. Hydrocarbon foams have been difficult to produce in the past because surface tension of hydrocarbon is low enough that adsorption to an oil soluble surfactant would have no significant effect. Without adsorption, hydrocarbon simply behaves as liquid. The hydrocarbon and surfactant can dissolve in each other, and surfactant cannot dissolve in water, although water can dissolve in the surfactant and mix into the liquid crystal [5, 49].

**5.5 Ophthalmic delivery** is also a topic of interest for which LLC NPs are also being considered



as effective drug vehicles [50, 51]. Recent studies reported by Gan *et al.* show that aspects such as improved precorneal retention, reduction of ocular irritancy and enhanced bioavailability can be attained using cubosomes as nanocarriers for ocular drugs. The trans-corneal permeation of dexamethasone (DEX) [50, 52] and flurbiprofen [49, 52] is enhanced when these drugs are formulated in cubosomes. Indeed, the drug-loaded cubosomes are retained in the pre-ocular region much longer than that of the corresponding solutions administered through eye drops, and this enhances their ocular bioavailability. Moreover, the DEX-cubosomes formulation is confirmed not to affect the corneal structure and tissue integrity. For flurbiprofen, cubosomes formulation reduces its inherent irritancy.

**5.6 Dermal Application:** Drug molecules and pharmaceutical excipients with amphiphilic character can easily form lyotropic mesophases that is particularly for surfactants and are commonly used as emulsifiers in dermal formulations and associate to form micelles after solubilizing in a solvent. Increasing with concentration the probability of interaction between the micelles also increases, hence liquid crystals are formed. Liquid crystal formulations have been used in cosmetics and pharmaceutical controlled release dosage forms. These formulations get enhanced penetration of biologically active materials like vitamin A) through the skin. The delivery systems consist of cholesteric liquid crystals in which the active material is retained inside the lamellar molecular structure (between the molecular sheets) of the cholesteric liquid crystalline phase [1, 53].

**5.7 Cancer Therapeutics:** Is the most widely reported application of cubosome (liquid crystals) systems. In vitro cubosomes have been loaded with cancer drugs including Doxorubicin, [43,56] Sorafenib [40,54] 5Fluorouracil, [40,55] and Quercetin [40,56] and delivered to cell lines, including human hepatocellular carcinoma (HepG2) cells, glioblastoma T98G cells, and mouse 3T3 fibroblasts [40,57]. Tumor cells have more acidic environments making pH stimuli useful for the payload delivery of chemotherapeutics.

Significantly more in vivo work is needed to establish cubosomes as viable options in cancer therapeutics although early indications are promising.

**5.8 Liquid crystals in emulsions: LCs (mesophases) provides the following Advantages to emulsion:**

1. Increased stability
2. Prolonged hydration
3. Controlled drug delivery

**Stability:** Emulsion stability of the multilayers around the oil droplets act as a barrier to coalescence. If oil droplets coalesce emulsion breaks. This barrier

for coalescence acts as increased stability property of the emulsion **Prolonged hydration:** Lamellar liquid crystalline and gel network contain water layer, which shows that 50% of the water of oil in water (o/w) emulsion can be bound to such structures. Such water is less prone to evaporation when applied to the skin and permits a long lasting moisturisation / hydrating effect, necessary for drug entry.

**Controlled Drug Delivery:** Liquid crystals prevent the fast release of the drug dissolved in the oil phase of an emulsion. This is attributed to the lamellar liquid crystalline multilayer, which reduces the interfacial transport of a drug dissolved within the oil droplets. Microscopic observations under polarized light show the exceptional thickness of liquid crystalline lamellar layer around the oil droplets [57, 58].

**5.9 Photo polymerization of lyotropic liquid crystalline systems:** A new route to nano structured materials: A novel route to fabricating such materials is through the use of lyotropic liquid crystals (LLCs) that possess highly ordered nano structures. However, LLC phases lack necessary physical robustness. So, templating LLC phase morphology onto other materials such as organic polymers would give a nanostructure retained as part of a robust polymeric matrix. This study focuses on photo polymerization behavior and structure retention of hydroxyethyl acrylate (HEA)/dodecyltrimethyl ammonium bromide (DTAB)/water system in a select liquid crystal phase. [5,59].

### 5.10 Topical Treatment

In transdermal delivery of active molecules, the skin penetration of the drug is limited as a result of the barrier function of the highly organized structure of the stratum corneum, the most external layer of the skin. Several approaches have been presented to improve the skin permeation such as chemical modification of the active molecule, applying a skin permeation enhancer and iontophoresis. The crucial issue in topical formulations is to increase the thermodynamic activity of the active molecule in the vehicle while decreasing it in skin, which results in increasing the partition of the molecule from vehicle to skin and decreasing the barrier function of the skin [40,60]. Cubosomes(liquid crystals) have been investigated as topical delivery agents in part because of their ability to influence permeability. Silver sulfadiazine is one of the gold standard topical treatments for burns but a delivery agent is needed. Cubosomes formed from monoolein and stabilized with F127 and polyvinyl alcohol were loaded with silver sulfadiazine and incorporated into hydrogels (cubogels) as a potential treatment for burns. In vivo study showed that the cubic nano-structured vehicle was successful in treatment of deep second degree burns, which could result in better patient compliance





and excellent healing results with fewer side effects in comparison with the commercially available product [40,61].

**5.11 Colloidal Dispersions:** The bulk liquid crystalline structure can be found to disperse in water in the presence of additional stabilizer or emulsifier which forms submicrometer soft particles (100-500 nm size) that retains the internal structure of the liquid crystal molecular phase. In the case of lamellar, cubical and hexagonal phases, these soft particles have been termed liposomes, hexosomes, and cubosomes, respectively. They have very good advantages in comparison to the bulk phase as these have very high interfacial area (as compare to their volume) and low viscosities, thus increasing its scope of application [1,62].

**5.12 Temperature Modulated** drug permeation through liquid crystal embedded cellulose membranes. Stimulisensitive membranes may act as “on-off switches” or “permeability valves”, producing patterns of pulsatile release, where the period and rate of mass transfer can be controlled by external or environmental triggers. Cellulose nitrate (CN) and cellulose acetate (CA) monolayer membranes containing thermotropic liquid crystals (LC) were developed as thermo-responsive barriers for drug permeation. A low molecular thermotropic liquid crystal, nheptyl-cyano bi phenyl, with nematic to isotropic phase transition temperature of 41.50C was chosen to modulate drug permeation.

It was found that upon changing temperature, both cellulose membrane without liquid crystal showed no temperature sensitivity to drug permeation, whereas the results for liquid crystal entrapped membranes exhibited a distinct jump in

permeability when temperature was raised to above transition temperature of liquid crystal for drug [39,63].

**5.13 Vaccines**

Apart from cancer therapeutics, another key application of cubosomes is as agents in vaccines. Cubosomes can be loaded with antigens and/or adjuvant and subsequently delivered appropriately by incorporating the immunostimulants such as polysaccharides into the cubosome membrane. In a study, phytantriol cubosomes containing polysaccharides were co delivered with inactivated viruses in a subcutaneous injection. It was found that cubosomes containing polysaccharides were able to potentiate the immune properties of immunostimulants by promoting antigen transport into lymph nodes and enhancing the immune response [40,64].

**5.14 Effect of base and salts from different liquid crystalline structures on drug release profile:**

This study was done for investigate the influence of two types of chlorhexidine species, chlorhexidine base and its salts, on physicochemical features of liquid crystalline systems and on drug transport through liophilic membranes. For this non-ionic surfactant, Synperonic A7(PEG7-C1315) was selected for the liquid crystal formulation. Chlorhexidine species was modified liquid crystalline system. As a result of changes of liquid crystalline structures, drug release of various types of chlorhexidine could be also modified [39,65].

**Table 1a : Patents on Liquid Crystal Applications**

Sr. No	Title of Patent	Patent No /Date	Abstract
1.	Liquid crystals containing cosmetic and pharmaceutical Compositions and methods for utilizing such compositions	US 4,999,348 / Mar.12, 1991	Cosmetic and pharmaceutical compositions and methods comprising delivery systems for the controlled release and enhanced penetration of biologically active material (e.g. Vitamin A) to the skin. The delivery systems comprise cholesteric liquid crystals wherein the active material is retained within the lamellar molecular structure (i.e. between the molecular sheets) of the cholesteric liquid crystals[57,66]



2.	Liquid crystals emulsion type pharmaceutical composition containing cyclosporine and therapeutic method of treating cutaneous disease therewith	US 2010/190695 A1/July 29,2010	A dermal external pharmaceutical composition that excels in feeling at application or after application and that by enhancing of the transdermal absorption of cyclosporine exerts medicinal benefits at low concentration. There is provided a liquid crystals emulsion-type pharmaceutical composition comprising cyclosporine a hydrophilic nonionic surfactant, a lipophilic nonionic surfactant, an oil a fatty acid that is insoluble in the oil at room temperature, a solid fatty alcohol that is insoluble in the oil at room temperature and a water soluble polyhydric alcohol that is immiscible with the oil at room temperature, and a method of testing cutaneous diseases with the use of the pharmaceutical composition [57,67].
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**Table 1b : Patents on Liquid Crystal Applications**

3.	Drug delivery system utilizing liquid crystal structure	US 5,891,845/ April 6,1999	Vitamin E TPGS/drug composition and method are provided which obviate the need for surfactants or non evaporated co solvents because the active drug component is dissolved directly into vitamin E TPGS to form a true molecular solution -not an emulsion or a micro emulsion the invention provides a slowly dissolving TPGS/Drug matrix that absorbs gastrointestinal fluid into the matrix at crystal is formed. This gel front forms a liquid crystals boundary where drug dissolution is highest. At this liquid crystals/GI fluid boundary, synchronization takes place in which the rate of formation of liquid crystals equals the dissolution rate of liquid crystals at the water interface thereby giving controlled order release of the drug into the GI tract. The rate of dissolution is also controlled by the geometry of the dosage form. The solid vitamin E TPGS/ drug matrices of the inventions can be solidified and compressed into tablets or filled into capsules, with other excipients, binder and /or fillers. The solid TPGS/drug solution of the invention also can be made into an immediate release liquid formulation upon addition of water or into a controlled release system solid tablet by the use of impermeable or semi permeable barriers or coating surroundings portions of the tablet.[57,68]
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4.	Transdermal pharmaceutical composition	10/575,145/June 1, 2010	The invention relates to a liquid crystal gel containing polyoxyethylene-glyceryl-trioleate, propylene-glycol, isopropyl myristate and a hyaluronic acid salt or complex for use in the manufacture of transdermal pharmaceutical compositions and healing cosmetics. The invention also relates to transdermal pharmaceutical composition consists of an estrogen and a progestin component as well as a liquid crystal gel containing polyoxyethylene glyceryl-trioleate, propylene-glycol, isopropyl myristate and a hyaluronic acid salt or complex. The invention can be applied for transdermal hormone replacement therapy and for other transdermal depending on the active principles included.[57,69]
5.	Imine Based Liquid Crystals For The Controlled Release of Bioactive Materials	20090306196	The present invention relates to a delivery system based on a film of an imine forming liquid crystalline phase, mixed with at least with one biologically active substance, to which a constant or variable electric field can be applied. The delivery system can be used as a delivery system for biologically active substances such as flavors, fragrances, bactericides, fungicides, insecticides, insect attractants or repellents, agrochemicals or pharmaceuticals[57]

## CONCLUSION

Liquid crystal technology has had a major effect in many areas of science pharmacy and engineering, as well as device technology. The drug delivery to site of target can be achieved by using liquid crystal systems. Objective of this review is to provide information in development of targeted drug delivery system, depth information of pharmaceutical liquid crystal technology, its classification and application in the pharmaceutical field.

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# THE CODIFICATION AND RANKING OF DEVELOPMENT STRATEGIES OF IRON AND STEEL INDUSTRIES IN AFGHANISTAN, WITH REGARDS TO INPUTS REQUIREMENTS AND USE OF THE SWOT TECHNIQUE, COMBINING SHANNON ENTROPY AND PROMETHEE METHODS

**Salehy S.M.**

Mining Engineering Department,  
Faculty of Engineering,  
Baghlan University, Baghlan,  
Afghanistan

**Aimaq M.B.**

Mining Engineering Department,  
Faculty of Engineering,  
Baghlan University, Baghlan,  
Afghanistan

**Sakaye A.Q**

Mining Engineering Department,  
Faculty of Engineering,  
Baghlan University, Baghlan,  
Afghanistan

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## ABSTRACT

*Considering the growth of iron and steel industry in the world, existence of iron ore rich resources, abundance of inputs required by the steel industries and higher demands for steel in Afghanistan, the idea of analyzing the strategy of iron and steel industries for codifying and defining of a development strategy in field of respective industries has been created in Afghanistan. Due to, the first strategy of iron and steel industries in the world and in selected countries (China, Iran, India and Pakistan) has been analyzed and evaluated. With the help of library studies, bylaw appraisal and interviews with experts, the effective internal and environmental factors for establishment of iron and steel industries in Afghanistan has been analyzed and determined. Based on the weaknesses and threats of selected countries regarding steel and iron industries and the current internal and environmental factors in Afghanistan, eight bold categories of strategy in respective of development projects in Afghanistan has been defined and codified by using SWOT technique. The Ranking of strategies have been done by using Shannon entropy and Promethee methods. As the result ST<sub>2</sub> Strategy placed on first and SO<sub>2</sub> Strategy placed on last position.*

**KEYWORDS:** Strategic Analysis, SWOT, Shannon entropy method and Promethee method.

## 1. INTRODUCTION

The iron and steel industry were with more than 5,000 years history in the world, and in the present age, its due to many needs to that, in the field of the industrial and constructional activities, it is considered as a comprehensive and infrastructure industry. Iron and steel are a major part of the world's commodity[1]. The iron and steel industry in Afghanistan have not been a good situation, in field of iron and steel industry since yet it has not been made large investment for private and governmental in this country. Only a few small and iron plants started to their activity with private investments in the province of Kabul, it has been involved with the internal needs of the country, Thatcannot supply internal needs. Therefore, in this research, it has been trying to arrange a scientific development strategy for the plan to plan these programs.



China is one of the large industrialized countries in the world, and in 2018, produced about 51.3% of the world's raw steel production[2]. neighborhood with the industrial country, that was also one of the largest countries in importer of iron ore, it has been a good opportunity for Afghanistan to build the iron ore processing industry and the market demand for the region. The iron and steel industry have grown dramatically in global trade transactions, and Afghanistan has been a developmental country, most of its iron ore reserves in high mountains. Comment on research on the natural and mineral resources of Afghanistan, this country has a better future in the iron and steel industry sector[3]. Afghanistan is still an imported country that is unable to provide their domestic needs and about 4,500 tons of steel products import from different countries[4]. On this purpose, the idea of the development plan of the industry has been made in the field of industry. In this research, the analysis and evaluation of the strategy of iron industry and the world steel and the selected countries, at the first landscape and mission, and then the development strategies have been codification and defined for Afghanistan.

## 2. MATERIALS AND METHODS

The first research process begins with a general evaluation and review of the strategy of the world iron and steel industry. Then the iron and steel industry in selected countries (China, India, Iran and Pakistan) is analyzed and evaluated. The vision, mission and internal and environmental factors affecting the construction of Afghanistan's iron and steel industry are determined by distributing questionnaires and interviewing experts. According to the studies and analysis, first the vision and mission and then the development strategies for Afghanistan are defined and formulated. The general structure of the realization performance process is expressed in Figure 1.

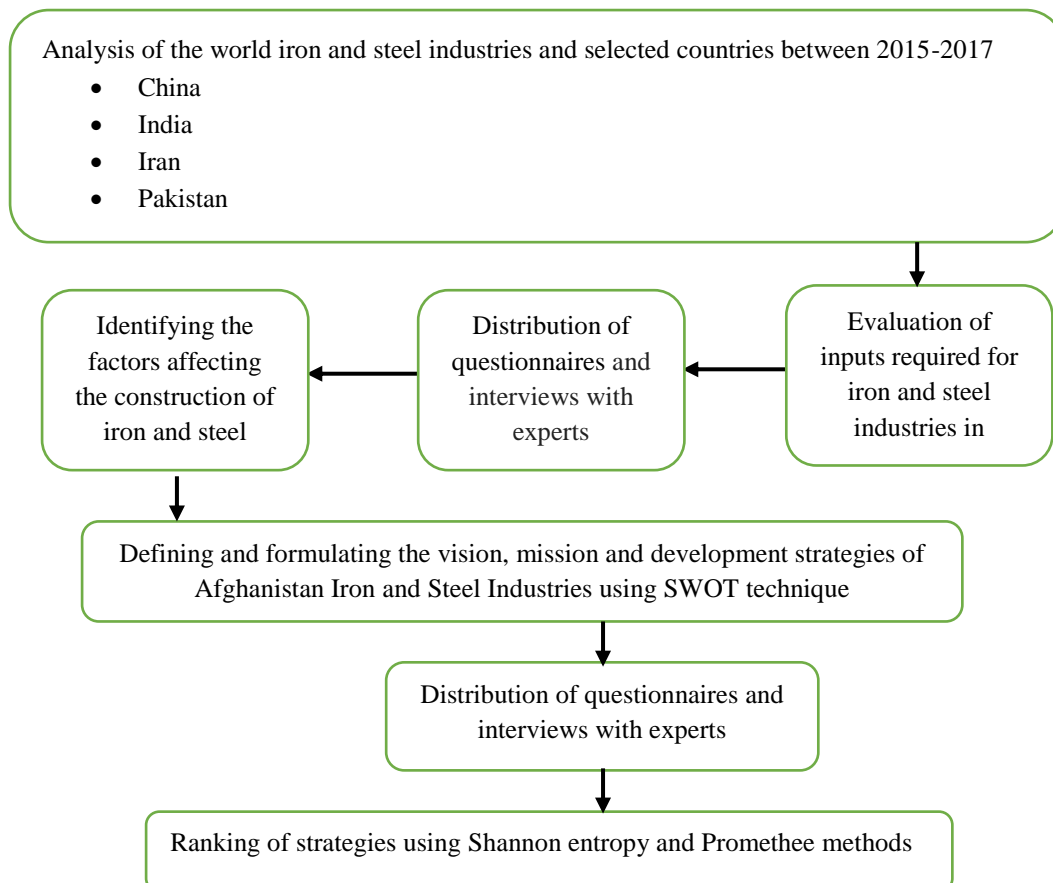


Figure 1: The General Structure of the Research Rotation

### 2-1. Analysis of the strategy of iron ore and steel industry in selected countries (China, India, Iran and Pakistan)

According to the analysis process, the first step is to analyze the strategy of the iron and steel industry in selected countries. Including the analysis and evaluation of the iron and steel industry chain in China, India, Iran and Pakistan.

### 2-1-1. China Iron and Steel Industry

Efforts have been existed to the diversify China's steel supply. And Chinese policymakers do encourage direct investment. The Continuous exploration and extraction of iron ore in outside China has been supported by Chinese companies without any break until today, Many Chinese companies which they have large mineral resources in South Africa, America, Central Asia, Russia, Australia and Canada. They have invested[5].

- Vision

An Acceptable Perspective for China, Companies Specializing in Global Classification of Natural Resources Committed to following from international standard, in the field of the Mining operations and Environmental Protection brings and raises the tremendous value for Communities, Investors, Employees and Brings Other Stakeholders[6].

- Mission

The mining sector is responsible for the exploration and exploitation of minerals, the mining operations, the processing of extracted minerals and the provision of comprehensive energy requirements[6].

Finally, the overall evaluation and analysis of China's iron and steel industry, the severe fluctuations observed in various fields of the iron and steel industry. It summarized as the ups and downs of the years 2015 to 2017 and Ithas shown in Table 1.

**Table 1: Comparison of the performance of the Chinese iron and steel industry between 2015 up to 2017[2].**

Indicators		2015	2016	2017
Crude steel production (mt)		803.8	807.6	831.7
Steel products (mt)	Manufacturing	1683.1	1679.7	1694.0
	Demand	672.3	665.6	672.3
	Importation	26.2	27.1	27.7
	Exports	64.4	62.3	33.8
Iron ore (mt)	Manufacturing	1381.3	1150	1229.4
	Exports	-	-	-
	Importation	953.4	1024.7	1075.4
Scrap (mt)	Exports	0.001	0.001	2.230
	Importation	2.3	2.2	2.3
Per capita consumption of raw steel per kilogram		501.3	505.5	544.5
Per capita consumption of steel used in kilograms		481.3	485.2	522.8
Estimated population in 2019 to million			1395.41	

### 2-1-2. Indian Iron and Steel Industry

India has vast resources of metallic and industrial minerals and mining is an important part of India's economy. Minerals product is forming for 1.91 percent of India's GDP. Economic Growth and Demand Levels in india national steel policy has increased steel consumption by 12.5 percent over the past three years, that is faring above from the predicated percent 6.9. It is in the national steel policy of India[7].

- Vision

Optimizing the use of Indian mineral resources have been through scientific, sustainable and transparent mining, with geographical research, exploration and preparation, with accompanied by the construction of new factories, the development of previous factories and the supply of domestic and foreign demand[8]

- Mission

For maintain India's position as a major producer of iron and steel, while it is as a quality steel producer Providing and expanding Businesses with Income and Exploitation of Iron ore, Coal and Other Mineral Resources in India and Abroad. It is desirable offer services for investors to be part of the mission[8].



After the general evaluation and analysis of the Indian iron and steel industry, sharp fluctuations in various fields of the iron and steel industry have been observed, including the ups and downs from 2015 to 2017 and are summarized in Table 2.

**Table 2: Comparison of Indian Steel and Steel Industry Performance between 2015 to 2017[2].**

Indicators		2015	2016	2017
Crude steel production (mt)		89.0	95.4	101.4
Steel products (mt)	Manufacturing	194.7	211.5	251.8
	Demand	80.1	84.4	89.1
	Importation	26.5	19.8	17.7
	Exports	12.3	15.9	23.6
Iron ore (mt)	Manufacturing	142.500	184.511	201.815
	Exports	4.211	21.697	28.057
	Importation	9.515	3.597	2.358
Scrap (mt)	Exports	-	-	-
	Importation	6.710	6.380	5.365
Per capita consumption of raw steel per kilogram		68.2	71.4	75.3
Per capita consumption of steel used in kilograms		61.2	63.2	66.2
Estimated population in 2019 to million			1346.95	

**2-1-3. Iran Iron and Steel Industry**

Demand in the steel products market, like some other markets, is divided into two categories, consumer demand and investment demand. Most of the consumer demand is related to infrastructure and construction projects, construction of various machines and vehicles, and the oil and gas industry. Apparent consumption of steel in 2001 was equal to 10.4 million tons, which reached 19.5 million tons in 2013, and thus apparent consumption of steel during this period has experienced an average annual growth of 4.9 percent[9].

- Vision

Vision to horizon 2025, It is one of the leading groups in international trade, domestic industry and global markets, development and Technology transfer[10].

- Mission

The Mining Division is responsible for producing the National Geosciences Database, identifying resources, exploring reserves, optimizing extractions and maintaining mines, developing of the processing industry, supplying raw materials to the industries mineral and other related industries, as well as expanding Iran's mining activities inglobally level, and It is for increase of the national wealth and public welfare[10].

Iran's iron and steel industry has experienced ups and downs in recent years, including the production, consumption and exports have adopted the upward and imports downward. In this study the fluctuations summarizes which has begun in the Iranian iron and steel industry from 2015 to 2017 and presented in Table3.

**Table 3: Compares the performance of the Iranian iron and steel industry between 2015 to 2017[2].**

Indicators		2015	2016	2017
Crude steel production (mt)		16.146	17.895	21.236
Steel products (mt)	Manufacturing	30.3	30.9	31.8
	Importation	9.7	9.4	6.2
	Exports	5.8	10.2	14.7
Iron ore	Manufacturing	39.370	43.280	55.087



	Exports	13.125	17.869	21.783
	Importation	0.492	0.065	-
Scrap (mt)	Exports	0	0.002	0.001
	Importation	0.001	0.015	0.013
Per capita consumption of raw steel per kilogram		276.1	264.4	273.2
Per capita consumption of steel used in kilograms		284.5	238.0	245.9
Estimated population in 2019 to million			82.428	

#### 2-1-4. Iron and steel Industry of Pakistan

Increasing demand for steel for construction will triple overall demand for steel. The costs of housing demand are higher due to the high level of income, which with the development of infrastructure, the demand for construction, including steel, will continue to improve[11].

- Vision

Pakistan's vision for a strong, comprehensive iron and steel industry is attractive for investment and motivated for the sustainable growth of the private sector mining industry that significantly contributes to economic development[12].

- Mission

The Ministry of Petroleum and Natural Resources has responsible for establishing policy structures, providing policy guidance in the States, and coordinating the development of Pakistan's mines with the attraction and retention of private sector investment in the steel industry[12].

Pakistan's iron and steel industry has experienced severe fluctuations this decade. But still, its crude steel output measure had been upward with slightly deference. Due to its ups and downs which had in the iron and steel industry, it has not provided complete and accurate figures to the World Steel Association. In this part of the study, the volatility and fluctuations of Pakistan's iron and steel industry from 2015 to 2017 is summarized in Table 4.

**Table 4: Comparison of Performance of Pakistani Iron and Steel Industry between 2015 to 2017[2].**

Indicators		2015	2016	2017
Crude steel production (mt)		2.892	3.553	4.966
Steel products (mt)	Manufacturing	-	-	-
	Demand	8.2	10.4	11.8
	Importation	6.8	8.7	7.8
	Exports	1.2	1.4	0.7
Iron ore (mt)	Manufacturing	-	-	-
	Exports	-	-	-
	Importation	-	-	-
Scrap (mt)	Exports	-	-	-
	Importation	2.119	2.388	2.830
Per capita consumption of raw steel per kilogram		34.1	42.0	45.7
Per capita consumption of steel used in kilograms		32.1	39.5	43.0
Estimated population in 2019 to million			204.578	





## 2-2. A Look at the Performance of the Iron and Steel Industry in Afghanistan

One of the most influential criteria in dividing different countries in the world is the average per capita consumption steel of them. In 2004, the World Bank, in a report, divided the world countries into four groups in terms of steel consumption per capita:

1. Countries are with a maximum per capita income of 735 \$ with an average steel consumption of about 15 kg. These countries are in this group include India, Indonesia, Bangladesh, Azerbaijan, Pakistan, Sudan and Kenya. Since Afghanistan is one of the developing countries and terms of economically is poor and also doesn't have good condition, unemployment level and poverty are high, and with an average per capita income is less than 528 \$ and stand including part of the countries in this group, Per capita of steel consumption is about 15 kg in Afghanistan. But with attention of the economic growth measure, population growth and the level of development, the per capita consumption of steel is estimated to be 25kg for next calculation[13].
2. Countries with a per capita income of between 736 \$ and 2935 \$ with an average steel consumption is about 115 kg. Algeria, Bulgaria, China, Turkey and Russia are present in this category[13].
3. Countries with a per capita income of 2936 \$ to 9075 \$ with an average per capita consumption of steel in these countries are about 254 kg. Many countries are such as Argentina, Hungary, Mexico, Venezuela, Saudi Arabia, Lebanon and Malaysia fall into this category. Countries with a per capita income above 9075 \$ with an average steel consumption is about 514 kg. Industrialized and developed countries fall into this category[13].

With attention of the economic growth rate and population growth, Afghanistan's steel consumption per capita is based on three scenarios (realistic, optimistic and pessimistic) and the required steel demand estimate by the horizon of 2030. According to the Afghan Census Bureau, population growth in 2018 has reached 2.3 percent and economic growth is 2.5 percent. On the other hand, the average per capita income in Afghanistan in 2018 has defined at less than 528 \$ in per[14]. Then, according to the economic growth of per capita income up to the horizon of 2030, it has calculated in different scenarios and has presented in Table 5.

**Table 5: Estimates of per capita income in terms of economic growth to 2030 horizon in different scenarios per dollar per year**

Average per capita income (dollars per year)	Per capita income in different scenarios up to 2030 horizon			Year
	Pessimistic	Optimistic	Realistic	
	0.015	0.030	0.025	
	528			2018
541	536	544	541	2019
554	544	560	555	2020
567	552	577	569	2021
581	560	594	583	2022
595	569	612	597	2023
612	577	630	612	2024
624	586	649	628	2025
639	595	669	643	2026
655	604	689	695	2027
671	613	709	676	2028
687	622	731	693	2029
704	631	753	710	2030
<b>619</b>	<b>582</b>	<b>643</b>	<b>612</b>	<b>Average</b>

With attention of per capita income in different years and the World Bank's approach, per capita income in all scenarios is less than 735 \$ by the horizon of 2030, and in the other hand steel consumption per capita is



less than 15 kg. Therefore, the per capita consumption of steel to attention of the important effective ingredients has assumed to be 25 kg in per year, as shown in Table 6.

**Table 6: Estimates of per capita steel consumption in different scenarios up to 2030 horizon**

Per capita consumption of steel in different scenarios per kg per year			Indices
Pessimistic	Optimistic	Realistic	
582	643	622	Average per capita income in dollars per year
25			Forecast average consumption per capita by 2030 horizon in kg

### 2-3. Define and formulate a vision and mission

Definition of Vision and Mission for Development Plans in Afghanistan's Iron and Steel Industry has done According to studies, reviews of selected countries' bylaws and interviews with experts.

#### 2-3.1. Vision

Sustainable growth of mining, attractive for investment, active in global value chain of minerals, employment with environmental protection will be acceptable vision.

#### 2-3.2. Mission

Trace and discovery of minerals, The processing of extraction minerals and creation of revenue, Attracting Private Investment, Developing the Processing Industry and Supplying Iron and Steel Raw Materials with Employment will be part of mission.

### 2-4. Identifying Effective Factors on codification in Development Strategies for Afghanistan Based on Neighborhood Policy Analysis

In order to formulate development strategies in the field of iron and steel industries in Afghanistan, first, according to the current situation in Afghanistan and the factors affecting the iron and steel industries in neighboring countries, threats and opportunities have been received and include Tables 7 and 8. then, by arranging and distributing questionnaires and interviewing experts, the factors that have the most impact on the definition and formulation of strategies are obtained and the results are listed in Table 9.

**Table 7: Afghanistan's Threats in Iron and Steel Industry Development Plans on According to the Strengths Neighbors' countries**

Afghanistan threats	Strengths of countries		
	Pakistan	Iran	China
<ul style="list-style-type: none"> <li>• High investment risk despite the groups of terrorist and political tensions</li> <li>• access to global markets for the lack of blue boundary</li> <li>• The existence of industrial rivals in the region</li> <li>• The lack of energy enough to power and gas</li> <li>• The lack of investment in private and government sections</li> </ul>	<ul style="list-style-type: none"> <li>• The probability of increasing domestic demand by starting underlying projects</li> <li>• Resume activity factory (PSMCL)</li> <li>• Access to regional markets and the world</li> </ul>	<ul style="list-style-type: none"> <li>• The specialized organizations and associations</li> <li>• The potential of potential ability to exploit exploration technologies, processing and production in the mineral industry</li> <li>• Existence of specialist forces</li> <li>• Existential Great Festivals</li> </ul>	<ul style="list-style-type: none"> <li>• Competitive product production checked force</li> <li>• Having more expensive and</li> <li>• Impressive growth of industries</li> <li>• More investment in science and technology</li> <li>• The existence of full geological information from resources</li> </ul>



**Table 8: Afghanistan's Opportunities in Iron and Steel Industry Development Planson According to the Weaknesses Neighbors'countries**

Afghanistan Opportunities	The weaknesses of countries		
	Pakistan	Iran	China
<ul style="list-style-type: none"> <li>World support from different sections</li> <li>Geographic location suitable for access to the market area</li> <li>The desire to external investment in different parts of Afghanistan</li> <li>Boundary with China, the largest iron ore importer</li> <li>Increasing the internal demand of iron and Palwald</li> </ul>	<ul style="list-style-type: none"> <li>of sufficient The lack mineral resources of iron ore</li> <li>The lack of coal coke resources</li> <li>The lack of sufficient infrastructure</li> <li>Reduce domestic and external investment</li> <li>Weakness in government policies</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate Specialist Force and Equipment</li> <li>Inadequate Paying to Optimal Management of Minerals Production</li> <li>Many mineral schemes, especially large mines</li> <li>Low productivity in the mining department</li> </ul>	<ul style="list-style-type: none"> <li>Dependence on iron ore imports</li> <li>Not launching global standards in the mineral industry</li> <li>The probability of shortage of workforce in the future</li> </ul>

**Table 9: Affecting Internal and environmental factors the definition and formulation of development strategies**

Total Score	Factors	Total score	Factors
Strengths		weaknesses	
93	The existence of rich and small mineral resources	90	Lack of the Geological Information update
89	Cheap force	87	The shortages in law and government rules
88	Existence of geological base information	83	The lack of adequate infrastructure existence
85	The existence of abundant water resources	78	weaknesses in government policy making
76	Having enough resid coal resources		
Opportunities		Threats	
97	Global support from different sectors	89	High risk investment despite of the terrorist groups and political tensions difficult
94	The adequate geological location for access to the region markets	85	Difficult Access to the global markets than the lack of blue border
88	A tendency to foreign investment in different parts of Afghanistan	76	The existence of industrial rivals in the region
79	Having Boundary with China, the largest iron ore importer	71	Lack of power and gas energy
77	Increasing the internal demand to the iron and steel	65	Lack of investment in private and government sectors

### 3. RESULTS AND DISCUSSION

#### 3-1. Define and formulate development strategies by SWOT technique

After identifying the effective internal factors (strengths and weaknesses) and environmental factors (opportunities and threats) that have the greatest impact on Afghanistan's iron and steel industry, Using the SWOT technique, Afghanistan's iron and steel industry development strategies are defined in four forms (offensive, competitive, conservative and defensive) and eight categories, including Table 10.

**Table 10:SWOT matrix and predicted development strategies in the field of iron and steel industry in Afghanistan**

Description of the strategies	Type of strategies	Description of the factors	Factors	Strategies
Construction and development of iron ore processing factories and steel production	SO <sub>1</sub>	The existence of abundant water resources	S <sub>4</sub>	Strategy1
		Adequate geographical location for access to the region market	O <sub>2</sub>	
		A tendency to foreign investment in different parts of Afghanistan	O <sub>3</sub>	
		Increasing the internal demand for iron and steel	O <sub>5</sub>	
Investing in the field of mineral deposits and supply internal and external needs	SO <sub>2</sub>	The existence of rich and small mineral resources	S <sub>1</sub>	Strategy2
		Global support from different sectors	O <sub>1</sub>	
		A tendency to foreign investment in different parts of Afghanistan	O <sub>3</sub>	
		Having Boundary with China, the largest iron ore importer	O <sub>4</sub>	
Exploiting of small mines and supply the internal needs iron ore and market area	SO <sub>3</sub>	The existence of rich and small mineral resources	S <sub>1</sub>	Strategy3
		The presence of geological bases	S <sub>3</sub>	
		Adequate geographical location for access to the region market	O <sub>2</sub>	
Compilation of appropriate rules for exploration and standardization of mining law with global support	WO <sub>1</sub>	Lack of the Geological Information update	W <sub>1</sub>	Strategy4
		Shortages in the law and regulations of the government	W <sub>2</sub>	
		Global support from different sectors	O <sub>1</sub>	
Government support from foreign investment in the development of infrastructure	WO <sub>2</sub>	The lack of sufficient infrastructure existence	W <sub>3</sub>	Strategy 5
		Weakness in government policy making	W <sub>4</sub>	
		Global support from different sectors	O <sub>1</sub>	
Improving human resources and development of manufacturing industries	ST <sub>1</sub>	Cheap labor force	S <sub>2</sub>	Strategy6
		Having enough residual coal resources	S <sub>5</sub>	
		The existence of industrial rivals in the region	T <sub>3</sub>	
Use of natural and mineral resources with the support of investment to provide energy needed	ST <sub>2</sub>	resources The existence of abundant water	S <sub>4</sub>	Strategy7
		Having enough residual coal resources	S <sub>5</sub>	
		Lack of enough power and gas energy	T <sub>4</sub>	
		Lack of investment in private and government sectors	T <sub>5</sub>	
The planning of geological development and infrastructure development and investment support to access the global markets	WT <sub>1</sub>	Lack of the Geological Information update	W <sub>1</sub>	Strategy8
		The lack of sufficient infrastructure	W <sub>3</sub>	
		despite High investment risk of the terrorist groups and political tensions	T <sub>1</sub>	
		Difficult Access to the global markets than the lack of blue border	T <sub>2</sub>	

According to the research conducted in the field of internal and environmental factors on the analysis of the strategy of Afghanistan Iron and Steel Industries, Eight sets of macro strategies have been identified for Afghanistan's iron and steel industry development plans, Which are as follows:

1. Construction and Development of Iron Ore Processing Plant and Steel Production (SO<sub>1</sub>)
2. Investing in field of Mining Resources extraction and Supplying Internal and External Needs (SO<sub>2</sub>)
3. Exploitation of Small Mines and Supply of the needs Iron Ore Required Within or internal and Market Area (SO<sub>3</sub>)
4. Codification of Appropriate Laws to Explore and Standardize Mining Law with Global Support (WO<sub>1</sub>)
5. Government Support from Foreign Investment in Infrastructure Development (WO<sub>2</sub>)
6. Promotion of Human Resources and Development of Product Manufacturing Industries (ST<sub>1</sub>)
7. Use of natural and mineral resources with the support of investment to supply needed energy (ST<sub>2</sub>)
8. Design the Developing Geological programs and Infrastructure Development Plans and Supporting from Investment to Access World Markets (WT<sub>1</sub>)

### 3-2. Ranking Strategies

In order to rank development strategies, first, internal and environmental factors affecting the definition and formulation of strategies are selected as criteria and defined strategies as candidate options. The weights of the criteria are calculated using the Entropy Shannon method and the results are entered into the Promethee method for ranking. Finally, the options (strategies) are ranked according to the prices of net flows

#### 3-2-1. Computing of criteria weights using the Entropy Shannon method

Shannon entropy method in multi-criteria decision Issues and especially multi-criteria decision Issues, to have and know the relative weights of existing indicators, is an effective method in the Issues solving process[15]. In this case, according to the steps of the method, first, quantitative numbers are defined to recognize the importance of the criteria relative to the option, which includes Table 11. Then, the order and distribution of questionnaires and interviews with experts were performed, based on the results of which the decision matrix was formed according to Equation 1 and includes Table 1 of Appendix 1. In the decision matrix, columns are selected as criteria and rows are selected as options. Example  $X_{12}$  shows the score of the first option compared to the second criterion. Then the decision matrix is normalized based on Equation 2 and the results are listed in Table 2 of Appendix 1.

$$X = [X_{ij}]_{n \times m} = \begin{bmatrix} X_{11} & X_{12} & \dots & X_{1m} \\ X_{21} & X_{22} & \dots & X_{2m} \\ \vdots & \vdots & \vdots & \vdots \\ X_{n1} & X_{n2} & \dots & X_{nm} \end{bmatrix} \quad (1)$$

$$P_{ij} = \frac{X_{ij}}{\sum_{i=1}^n X_{ij}} \quad (2)$$

The entropy of each criterion ( $E_j$ ) is calculated based on Equation 3, and  $k$  is taken as the constant value of  $E_j$  for all criteria from Equation 4.

$$E_j = -K \sum_{i=1}^m P_{ij} \times \ln P_{ij} \quad i = 1, 2, \dots, m \quad (3)$$

$$k = \frac{1}{\ln(n_i)} \quad (4)$$

The degree of deviation of each criterion ( $d_j$ ) is calculated based on Equation 5 and indicates how much useful information the relevant index provides to the decision maker. As close as the measured values of the index ( $d_j$ ), Indicates that competing options are not significantly different from each other in terms of that index.

$$d_j = 1 - E_j \quad (5)$$

Next, the normalized weight of the criteria ( $W_j$ ) is calculated based on Equation 6, the results of which are included in Table 3 of Appendix 1. Finally, the final weight of the criteria ( $W_j^0$ ) is calculated based on the



degree of deviation and the relative weight of the criteria based on Equation 7, and the results are included in Table 12. In this relation,  $\lambda_j$  is a specific weight that is predefined for each criterion.

$$W_j = \frac{d_j}{\sum_{i=1}^m d_j} \quad (6)$$

$$W^0_j = \frac{\lambda_j W_j}{\sum_{j=1}^m \lambda_j W_j} \quad (7)$$

**Table 11: Quantitative Numbers to Evaluate the Importance of Criteria to Options**

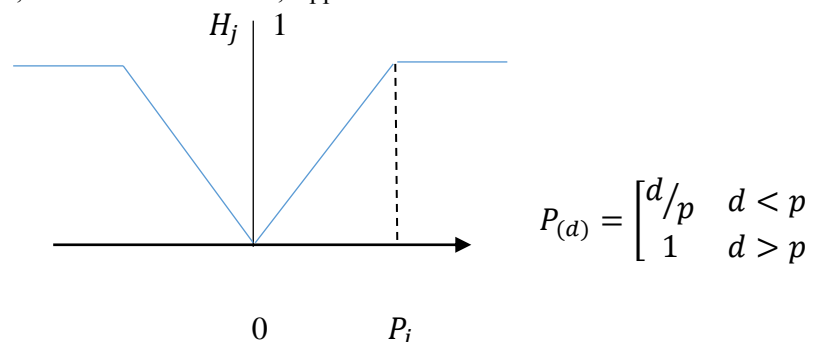
The degree of importance	Verbal phrases
0.00	Very much nonsignificant
0.50	Relatively low importance
1.00	significance The same
1.50	Relatively preference
2.00	Very much preference

**Table 12: Final Weights of Criteria**

Criteria	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>	W <sub>1</sub>	W <sub>2</sub>	W <sub>3</sub>	W <sub>4</sub>	
Ultimate weight of criteria	0.04	0.06	0.02	0.14	0.11	0.09	0.04	0.03	0.03	
Criteria	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>	O <sub>4</sub>	O <sub>5</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>
Ultimate weight of criteria	0.03	0.13	0.03	0.06	0.06	0.01	0.07	0.02	0.04	0.02

### 3-2-2. Prioritizing options (strategies) with using the Promethee method

This method is one of the multi-criteria decision making methods that aims to rank the options[16]. According to the steps of the perimeter method, first the questionnaires were arranged and distributed and interviews were conducted with experts. In this case, the experts, considering the effect of factors on the strategies and the type of function, which is expressed in Figure 2, Express the fluctuation of scores in the range of zero to p. If the difference is greater than p, the first option has a full score. According to the results of the questionnaires, the decision matrix is based on Equation 1, which includes Table 4, Appendix 1.



**Figure 2: Preference function[16].**

Indifference threshold ( $q$ ) and preference ( $p$ ) The criteria are determined according to the type of preference function and options. The difference ( $d_j$ ) and the preference function ( $p_j$ ) of each option over the other options are based on relationships 8 and 9 according to the criteria.

$$d_{j(a,b)} = f_{j(a)} - f_{j(b)} \quad (8)$$

$$P_{j(a,b)} = \frac{p}{d_{j(a,b)}} \quad (9)$$

The degree of preference ( $\pi_j$ ) of each option over the other options is calculated based on the final weights of the criteria using Equation 10.

$$\pi_{j(a,b)} = \sum_{j=1}^k P_{j(a,b)} \times w_j \quad (10)$$

The positive preference flow ( $Q_j^+$ ) and negative preference flow ( $Q_j^-$ ) of each option are calculated based on Equations 11 and 12. Finally, according to the positive and negative preference flows, the net preference flow ( $Q_{(a)}$ ) of each option is received based on Equation 13, based on which the options are ranked and the results are listed in Table 13.

$$Q_j^+ = \frac{1}{(n-1) \sum \pi_{(a,x)}} \quad (11)$$

$$Q_j^- = \frac{1}{(n-1) \sum \pi_{(x,a)}} \quad (12)$$

$$Q_{(a)} = Q_{(a)}^+ - Q_{(a)}^- \quad (13)$$

**Table 13: Ranking Strategies based on Net preference flow**

Options	Positive preference flow	Negative preference flow	Net preference flow	Ranking
SO <sub>1</sub>	0.19	0.06	0.13	3
SO <sub>2</sub>	0.07	0.07	0.00	8
SO <sub>3</sub>	0.17	0.04	0.13	2
WO <sub>1</sub>	0.07	0.06	0.01	7
WO <sub>2</sub>	0.07	0.03	0.04	4
ST <sub>1</sub>	0.09	0.06	0.03	5
ST <sub>2</sub>	0.18	0.04	0.14	1
WT <sub>1</sub>	0.04	0.01	0.03	6

#### 4. CONCLUSION

According to the studies conducted in the field of analysis of Afghanistan iron and steel industry and the use of internal and environmental factors affecting strategic analysis, The results and summary of this part of the research include the definition and formulation of eight categories of macro strategies for the quantitative and qualitative development of the iron and steel industry in Afghanistan, which are as follows:

1. Construction and Development of Iron Ore Processing Plants and development of the procreation iron stone factories and Steel Production (SO<sub>1</sub>)
2. Investing in field of the Mining Resources extraction and Supplying of the Internal and External Needs (SO<sub>2</sub>)
3. Exploitation of Small Mines and Supply of Iron Ore needs Required Within and Market Area (SO<sub>3</sub>)
4. Codification of the Appropriate Laws to Explore and Standardize Mining Law with Global Support (WO<sub>1</sub>)
5. Government Support from Foreign Investment in Infrastructure Development (WO<sub>2</sub>)
6. Promotion of Human Resources and Development of Product Manufacturing Industries (ST<sub>1</sub>)
7. The Use of natural and mineral resources with the support of investment to supply needed energy (ST<sub>2</sub>)



8. Design the Developing Geological programs and Infrastructure Development Plans and Supporting from Investment to Access to the World Markets (WT<sub>1</sub>)

Also according to the figures obtained from the calculations of the Promethee method, The options are ranked as a result of which the ST<sub>2</sub> strategy is the priority of the development plans and the SO<sub>2</sub> strategy is at the end of the development plans. And the rest of the strategies have taken different positions according to the amount of their Net preference flow.

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Appendix 1:

Table 1: Decision Matrix

Criteria / Options	The existence of rich and small mineral resources(S <sub>1</sub> )	Cheap curry force(S <sub>2</sub> )	The existence of the base geological information(S <sub>3</sub> )	The existence of lots water resources(S <sub>4</sub> )	Existence of sufficient coke(S <sub>5</sub> )	Lack of the Geological Information update(W <sub>1</sub> )	Shortages in the law and regulations of the government (W <sub>2</sub> )	Lack of sufficient infrastructure(W <sub>3</sub> )	Weakness in government policy making(W <sub>4</sub> )	Global support from different sectors(O <sub>1</sub> )	Adequate geographical location for access to the region market(O <sub>2</sub> )	A tendency to foreign investment in different parts of Afghanistan(O <sub>3</sub> )	Having Boundary with China, argest iron ore the l importer(O <sub>4</sub> )	Increasing the internal demand for iron and steel(O <sub>5</sub> )	Highness investment risk despite of the terrorist groups and political tensions(T <sub>1</sub> )	Difficult Access to the global markets than the lack of blue(T <sub>2</sub> )	industrial The existence of rivals in the region(T <sub>3</sub> )	Lack of enough power and gas energy(T <sub>4</sub> )	Lack of investment in private and government sectors(T <sub>5</sub> )
SO <sub>1</sub>	1.28	0.94	1.28	2.00	2.00	0.66	0.57	1.38	0.66	1.28	2.00	2.00	1.08	2.00	0.66	0.57	1.50	1.28	0.76
SO <sub>2</sub>	2.00	0.50	1.08	0.57	0.57	1.50	1.00	1.08	0.50	2.00	0.50	2.00	2.00	0.50	1.50	0.76	1.18	1.08	1.38
SO <sub>3</sub>	2.00	1.28	2.00	0.57	0.66	1.00	0.50	0.50	1.00	0.50	2.00	1.00	0.50	1.00	1.00	0.50	1.08	1.00	1.50
WO <sub>1</sub>	0.94	0.76	0.94	0.66	0.50	2.00	2.00	1.00	1.50	2.00	0.50	0.50	0.66	1.00	1.50	0.66	1.50	0.50	0.50
WO <sub>2</sub>	0.57	0.50	1.08	0.76	1.00	0.50	1.08	2.00	2.00	2.00	0.76	1.38	0.66	0.50	0.94	0.66	0.66	1.08	1.08
ST <sub>1</sub>	0.57	2.00	0.50	0.50	2.00	0.57	1.00	1.38	1.50	1.00	0.57	1.00	0.66	0.57	0.87	0.57	0.57	0.50	1.08
ST <sub>2</sub>	1.38	1.38	1.08	2.00	2.00	0.57	0.50	0.87	0.87	1.02	0.57	1.50	0.57	0.57	1.38	0.66	0.66	2.00	2.00
WT <sub>1</sub>	1.08	0.57	1.38	0.57	0.66	2.00	1.08	2.00	1.38	0.94	1.00	1.00	1.18	1.00	2.00	2.00	1.38	1.38	1.28
$\sum P_{ij}$	9.84	7.93	9.36	7.64	9.39	8.81	7.74	10.22	9.41	10.74	7.91	10.38	7.31	7.15	9.86	6.39	8.54	8.83	9.59



**Table 2: Normalized Matrix**

Criteria / Options	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>	W <sub>1</sub>	W <sub>2</sub>	W <sub>3</sub>	W <sub>4</sub>	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>	O <sub>4</sub>	O <sub>5</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>
SO <sub>1</sub>	0.13	0.12	0.14	0.26	0.21	0.07	0.07	0.14	0.07	0.12	0.25	0.19	0.15	0.28	0.07	0.09	0.18	0.14	0.08
SO <sub>2</sub>	0.20	0.06	0.12	0.08	0.06	0.17	0.13	0.11	0.05	0.19	0.06	0.19	0.27	0.07	0.15	0.12	0.14	0.12	0.14
SO <sub>3</sub>	0.20	0.16	0.21	0.08	0.07	0.11	0.06	0.05	0.11	0.05	0.25	0.10	0.07	0.14	0.10	0.08	0.13	0.11	0.16
WO <sub>1</sub>	0.10	0.10	0.10	0.09	0.05	0.23	0.26	0.10	0.16	0.19	0.06	0.05	0.09	0.14	0.15	0.10	0.18	0.06	0.05
WO <sub>2</sub>	0.06	0.06	0.12	0.10	0.11	0.06	0.14	0.20	0.21	0.19	0.10	0.13	0.09	0.07	0.10	0.10	0.08	0.12	0.11
ST <sub>1</sub>	0.06	0.25	0.05	0.07	0.21	0.07	0.13	0.14	0.16	0.09	0.07	0.10	0.09	0.08	0.09	0.09	0.07	0.06	0.11
ST <sub>2</sub>	0.14	0.17	0.12	0.26	0.21	0.07	0.06	0.09	0.09	0.10	0.07	0.14	0.08	0.08	0.14	0.10	0.08	0.23	0.21
WT <sub>1</sub>	0.11	0.07	0.15	0.08	0.07	0.23	0.14	0.20	0.15	0.09	0.13	0.10	0.16	0.14	0.20	0.31	0.16	0.16	0.13

**Table 3: Entropy indices, degree of deviation and normalized weights of criteria**

Criteria	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>	W <sub>1</sub>	W <sub>2</sub>	W <sub>3</sub>	W <sub>4</sub>	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>	O <sub>4</sub>	O <sub>5</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>
Entropy of criteria (E <sub>j</sub> )	0.96	0.94	0.97	0.92	0.93	0.93	0.95	0.96	0.96	0.96	0.92	0.96	0.95	0.94	0.97	0.94	0.97	0.96	0.97
Degree of deviation of criteria (d <sub>j</sub> )	0.04	0.06	0.03	0.08	0.07	0.07	0.05	0.04	0.04	0.04	0.08	0.04	0.05	0.06	0.03	0.06	0.03	0.04	0.03
Normalized weight of criteria (W <sub>j</sub> )	0.05	0.06	0.03	0.09	0.08	0.07	0.05	0.04	0.04	0.04	0.09	0.04	0.06	0.06	0.03	0.06	0.03	0.04	0.03





**Table 4: Decision matrix in Promethee method**

Criteria	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>	W <sub>1</sub>	W <sub>2</sub>	W <sub>3</sub>	W <sub>4</sub>	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>	O <sub>4</sub>	O <sub>5</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>
Function type	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
max/min	max	max	max	max	max	min	min	min	min	Max	max	max	max	max	min	min	min	min	min
SO <sub>1</sub>	8.65	6.95	7.65	7.32	7.65	1.26	1.82	1.82	1.82	6.95	8.32	9.00	6.65	9.00	1.00	1.82	2.88	2.62	2.88
SO <sub>2</sub>	8.65	7.32	4.93	5.65	1.00	1.82	1.59	2.62	1.82	8.32	4.93	9.00	8.32	4.31	1.00	1.26	1.82	1.82	1.26
SO <sub>3</sub>	8.65	8.65	8.65	6.95	6.65	5.94	3.91	1.82	1.00	7.65	8.32	4.93	5.94	2.88	2.00	2.62	1.82	2.62	3.91
WO <sub>1</sub>	7.65	4.64	7.96	3.91	5.94	8.65	8.65	1.59	2.29	8.65	2.29	4.64	1.26	3.30	2.29	1.00	1.26	1.00	1.82
WO <sub>2</sub>	1.82	5.94	1.82	6.95	1.82	4.00	3.30	1.00	8.32	9.00	1.82	6.95	3.63	2.62	1.00	4.31	3.00	2.00	3.91
ST <sub>1</sub>	6.95	9.00	1.82	2.00	8.32	1.59	2.00	2.29	2.62	7.65	3.30	5.94	3.30	2.00	1.00	3.30	2.00	2.29	1.26
ST <sub>2</sub>	6.65	7.96	5.94	8.65	8.65	3.00	1.00	2.00	2.00	6.95	4.93	3.63	4.93	3.91	1.82	2.29	1.59	8.32	9.00
WT <sub>1</sub>	7.96	6.95	5.94	3.91	1.59	8.65	3.91	8.65	2.88	7.65	5.94	7.65	7.00	6.95	9.00	8.32	2.88	1.82	6.95



# LEARNERS' PERCEPTIONS ON TEACHERS' CODE-MIXING DURING ENGLISH CLASSES: BASIS FOR AN ENHANCED SCHOOL ENGLISH PROGRAM

Eryl A. Garantuza

PhD Student,

Emilio Aguinaldo College- Manila

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## INTRODUCTION

In Executive Order No. 210, s 2003 titled "ESTABLISHING THE POLICY TO STRENGTHEN THE USE OF THE ENGLISH LANGUAGE AS A MEDIUM OF INSTRUCTION IN THE EDUCATIONAL SYSTEM", it was ordered by then President Gloria Macapagal Arroyo to develop the aptitude, competence and proficiency of students in the English language to maintain and improve their competitive edge in emerging and fast-growing local and international industries, particularly in the area of Information and Communications Technology [ICT] as well as to strengthen the use of the English language as a medium of instruction which will depend on the improvement of the entire educational system, particularly in the training of educators and the provision of learning materials and resources. One of the policies in the said Executive Order states that (as provided for in the 2002 Basic Education Curriculum), English shall be used as the medium of instruction for English, Mathematics and Science from at least the Third Grade level.

According to the article "State of English in the Philippines: Should We Be Concerned?" written by Mike Cabigon (2015), the Philippines is recognized globally as one of the largest English-speaking nations with majority of its population having at least some degree of fluency in the language. English has always been one of the official languages of the Philippines and is spoken by more than 14 million Filipinos. It is the language of commerce and law, as well as the primary medium of instruction in education. Proficiency in the language is also one of the

country's strengths that has helped drive the economy and even made the Philippines the top voice outsourcing destination in the world, surpassing India in 2012. The influx of foreign learners of English is also on the rise due to the relatively more affordable but quality English as a Second Language (ESL) programs being offered locally.

Though the teaching and learning of English has been strengthened in the country, still there are some concerns revolving around it. One of which is code-mixing. Blom and Gumperz (1972) say that code mixing is behavior element from one code become to some extent integrated into another. One code, the base code, is normally dominant, and speakers use the second code in additive fashion. Elements from the latter code tend to be some extent assimilated and consequently are used less consciously. In that context, this current study will explore learners' perceptions towards code-mixing of teachers during their classes in English. It will explore whether the learners find it beneficial or detrimental when their English teachers code-mix in class which can serve as basis for an enhanced school English program.

Specifically, this study will seek answers to the following questions:

1. What are the perceptions of Grades 7-10 learners on teachers' code-mixing in their English classes in terms of:
  - a. Vocabulary Development;
  - b. Grammar Awareness; and
  - c. Reading Comprehension
2. What is the over-all perception of Grades 7-10 learners on teachers' code-mixing?



3. What proposed school English program can be crafted based on the perceptions of the learners?

This study can lead to the improvement of the English teaching-learning process. The results of the study are expected to be significant and of help to both teachers and students to look at code-mixing as an opportunity to improve the teaching and learning of English especially now in the New Normal Education setup and be taken into consideration in the crafting of the school English program. This study is confined to explore the learners' perceptions towards code-mixing of teachers in their English classes. The respondents are selected learners from Grades 7-10 in Lumban National High School in the Division of Laguna. Ten (10) Grade 7 learners, ten (10) Grade 8 learners, ten (10) Grade 9 learners and ten (10) Grade 10 learners with a total of 40 learners are the subjects of this study. Their perceptions will be asked and utilized in crafting the English program of Lumban National High School.

The following terms will be used by the researcher in the duration and completion of the study. These serve as key words in the attainment of the desired results by the researcher.

**Perceptions.** In this study, perceptions refers to the mental impressions of the respondents.

**Enhanced.** It means improved the quality, value or extent of.

**School English Program.** In this study, school English program refers to the crafted program of Lumban National High School focusing on the teaching of English.

**Vocabulary Development.** It is defined as a process by which learners acquire words and learn how to use them.

**Grammar Awareness.** It is defined as the ability to reflect on and intentionally manipulate the grammatical structure of the language.

**Reading Comprehension.** It is the ability to process text, understand its meaning, and to integrate with what the reader already knows.

## REVIEW OF RELATED LITERATURE AND STUDIES

The following related literature and related studies are reviewed to gain some insights on the conduct of the study to be able to enrich its content.

According to Wikipedia.org, Code-mixing is the mixing of two or more languages or language

varieties in speech. Some scholars use the terms "code-mixing" and "code-switching" interchangeably, especially in studies of syntax, morphology, and other formal aspects of language. Others assume more specific definitions of code-mixing, but these specific definitions may be different in different subfields of linguistics, education theory, communications etc.

Code-mixing is similar to the use or creation of pidgins; but while a pidgin is created across groups that do not share a common language, code-mixing may occur within a multilingual setting where speakers share more than one language.

Code mixing Code mixing is defined as a symptom mixing of language usage due to changing speech situation. According to Kridaklaksana (1982), the code mix is:

- a. The use of a language unit from one language to another foretend the style of the language or the variety of languages, the use of words, clauses, Idioms, greetings, and so on; and
- b. Interference.

According to Nababan (1994:32), Code Mixing is the situation where the speakers mix the language or kind of language in a speech act without a situation or condition that need a mixing of language. Holmes (1982:32) explained that code mixing is the use of two languages in a speaking. Code mixing talks about the situation where one language mixes with another language. The mixing of language can be in word, phase, clause and sentences form.

Subyakto (1992) said that code mixing in the use of two language or more, language varieties in relax situation between the speaker with other people who has a close relationship to each other. Wardough (1986:103) assert that code mixing occurs when conversation use both languages together to the extent that they key change from one language to the other in the course of a single utterance. It correlates positively with the educational attainment of individuals.

Kachru in Suwito's book stated that code mixing is using two languages or more by inserting one language particle to other language particle in one expression.

According to Ansar (2017) in her study titled "Code Switching and Code Mixing in Teaching-Learning Process" Code-mixing is the other phenomenon closely related to code-switching. Code mixing takes place without a change of topic and can involve various levels of language such as phonology, morphology, grammatical structures or lexical items. We could not avoid that the first language is a big effect in second language. Interaction and mixing between languages result in various languages. Most of



the people in the society mix their language with other language by borrowing or using pieces of foreign languages even sometimes they are still influenced by first language.

Kachru in Nursjam (2004) defines code mixing as the term refers to the use of one or more languages for consistent transfer of linguistic units from one language into another, and by such a language mixture developing a new restricted or not so restricted code of linguistic interaction.

Related to Kachru defines above, it can be seen the reality in the class, when students saying something in English, they mix some language in the sentence that they combine the language between English and their first language.

According to Ansar (2017) in her study titled "Code Switching and Code Mixing in Teaching-Learning Process" Many teachers make code mixing and code switching in different level of students. It depends on situation, topic and participant, but in reality teacher dominantly makes code switching in advance of student than in low level. The teacher should know and understand when they should emphasize the language in order the students understand what he/she means by code switching and code mixing. Finally, code-switching and mixing is as a strategy to support the students to develop their ability in foreign language learning.

As claimed by Waris (2012) in his study titled "Code Switching and Mixing (Communication in Learning Language), teachers' use of code switching or code mixing is not always performed consciously, which means that the teacher is not always aware of the

functions and outcomes of the code switching or code mixing processes. Therefore, in some cases these may be regarded as automatic and unconscious behavior. Nevertheless, either conscious or not, these processes necessarily serve some basic functions which may be beneficial in language learning environments.

## METHODOLOGY

The descriptive method of research will be used in this study. According to Gay (1992: 217), descriptive research involves collecting data in order to test hypotheses or to answer questions concerning the current status of the subject of the study. A descriptive study determines and reports the way things are. Descriptive research is scientific research that describes about event, phenomena or fact systematically dealing with certain area or population. Data for this study will be collected through 5-point Likert scale questionnaires which will be consisted of five (5) statements per skill (vocabulary development, grammar awareness and reading comprehension) with a total of fifteen (15) statements. The online questionnaire will be developed by the researcher.

## RESULTS AND DISCUSSION

1. What are the perceptions of Grades 7-10 learners on teachers' code-mixing in their English classes in terms of:
  - a. Vocabulary Development;
  - b. Grammar Awareness; and
  - c. Reading Comprehension

### Learners' Perceptions on Teachers' Code-Mixing During English Classes

- 5 Strongly Agree  
4 Agree  
3 Neutral  
2 Disagree  
1 Strongly Disagree

	5	4	3	2	1
<b>I. Vocabulary Development</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>
1. I can learn new words when my teacher defines them using English and Tagalog.	24 60%	15 37.5%	1 2.5%	0 0%	0 0%
2. I can understand the meanings of words when my teacher gives examples in English and Tagalog.	23 57.5%	14 35%	3 7.5%	0 0%	0 0%
3. I can use new words in sentences when my teacher discusses them using English and Tagalog.	21 52.5%	18 45%	1 2.5%	0 0%	0 0%
4. I can recognize synonyms of words when my teacher explains them using English and Tagalog.	12 30%	24 60%	4 10%	0 0%	0 0%
5. I can recognize antonyms of words when my teacher explains them using English and Tagalog.	12 30%	26 65%	2 5%	0 0%	0 0%
	<b>46%</b>	<b>48.5%</b>	<b>5.5%</b>	<b>0%</b>	<b>0%</b>



As reflected on the table of responses, when it comes to Vocabulary Development, 46% of the respondents gave a Strongly Agree response, 48.5% Agree, 5.5% Neutral, 0% Disagree and 0% Strongly Disagree, respectively.

	5	4	3	2	1
<b>II. Grammar Awareness</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>
1. I can understand grammatical rules when my teacher discusses them using English and Tagalog.	11 27.5%	25 62.5%	4 10%	0 0%	0 0%
2. I can construct grammatically correct sentences when my teacher discusses the rule or format using English and Tagalog.	9 22.5%	27 67.5%	4 10%	0 0%	0 0%
3. I can identify different parts of speech when my teacher discusses them using English and Tagalog.	13 32.5%	21 52.5%	6 15%	0 0%	0 0%
4. I can proofread sentences when my teacher explains the rules using English and Tagalog.	12 30%	24 60%	4 10%	0 0%	0 0%
5. I can identify sentence structure and the elements of it when my teachers explains the rules using English and Tagalog.	14 35%	22 55%	3 7.5%	1 2.5%	0 0%
	<b>29.5%</b>	<b>59.5%</b>	<b>10.5%</b>	<b>0.5%</b>	<b>0%</b>

As reflected on the table of responses, when it comes to Grammar Awareness, 29.5% of the respondents gave a Strongly Agree response, 59.5% Agree, 10.5% Neutral, 0.5% Disagree and 0% Strongly Disagree, respectively.

	5	4	3	2	1
<b>III. Reading Comprehension</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>
1. I can link literary texts to personal experiences when my teacher explains the texts using English and Tagalog.	12 30%	19 47.5%	8 20%	1 2.5%	0 0%
2. I can identify the characters in a story when my teacher discusses the story using English and Tagalog.	19 47.5%	19 47.5%	2 5%	0 0%	0 0%
3. I can get the theme or central idea of a story when my teacher explains it using English and Tagalog.	19 47.5%	18 45%	3 7.5%	0 0%	0 0%
4. I can summarize a story when my teacher discusses it using English and Tagalog.	14 35%	21 52.5%	5 12.5%	0 0%	0 0%
5. I can visualize literary texts when my teachers discusses them using English and Tagalog.	13 32.5%	22 55%	5 12.5%	0 0%	0 0%
	<b>38.5%</b>	<b>49.5%</b>	<b>11.5%</b>	<b>0.5%</b>	<b>0%</b>

As reflected on the table of responses, when it comes to Reading Comprehension, 38.5% of the respondents gave a Strongly Agree response, 49.5% Agree, 11.5% Neutral, 0.5% Disagree and 0% Strongly Disagree, respectively.

2. What is the over-all perception of Grades 7-10 learners on teachers' code-mixing?

	5	4	3	2	1
	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>
Vocabulary Development	<b>46%</b>	<b>48.5%</b>	<b>5.5%</b>	<b>0%</b>	<b>0%</b>
Grammar Awareness	<b>29.5%</b>	<b>59.5%</b>	<b>10.5%</b>	<b>0.5%</b>	<b>0%</b>
Reading Comprehension	<b>38.5%</b>	<b>49.5%</b>	<b>11.5%</b>	<b>0.5%</b>	<b>0%</b>
	<b>38%</b>	<b>52.5%</b>	<b>9.17%</b>	<b>0.33%</b>	<b>0.0%</b>





The table above shows the summary of responses in all the skills. Thirty-eight (38%) of the respondents gave a Strongly Agree response, 52.5% Agree, 9.17% Neutral, 0.33% Disagree and 0% Strongly Disagree, respectively.

The results above are supported by the results of the study of Al-Khawaldeh et.al. (2016) titled "Mechatronics Engineers' Perception of Code Mixing: Philadelphia University and Hashemite University as a Case Study". The participants in their study found code mixing fascinating and believed that code mixing might have a positive impact on their learning as it helps them better understand the topic. The instructors revealed that code mixing fulfill a set of functions that serve the educational process.

3. What proposed school English program can be crafted based on the perceptions of the learners?

Based on the results of the study, the researcher proposes to consider code-mixing in the medium of instruction of English teachers in Lumban National High School during the conduct of their classes. Learners find code-mixing as an opportunity to better understand and comprehend lessons in English. They do not mind their English teachers code-mixing in their classes as long as they understand the lessons. In the crafting of the school English program, English teachers should not be obliged to speak in straight English for some learners may not be able to comprehend. English teachers may code-mix as long as the competencies of the lessons are not sacrificed and the target objectives are met.

## CONCLUSIONS

In view of the aforementioned results, the research has drawn the following conclusions:

1. Most of the learners gave a response of Agree to their English teachers' code-mixing when it comes to Vocabulary Development, Agree when it comes to Grammar Awareness and Agree when it comes to Reading Comprehension.
2. Over-all, the learner-respondents Agree to their English teachers' code-mixing in their classes.
3. English teachers may code-mix as long as the competencies of the lessons are not sacrificed and the target objectives are met. This policy can be included in the School English Program.

## RECOMMENDATIONS

In the light of the foregoing conclusions of this study, the following recommendations are offered:

1. A study about teachers' perceptions on learners' code-mixing in their English classes may be conducted.

2. Code-mixing should be allowed in English classes as long as the competencies and objectives of the lessons are taken into consideration.

3. Learners' perceptions should be considered in crafting and developing the school English program.

These recommendations are supported by the study of Gürleyik and Akdemir (2018) in their study titled "Guiding Curriculum Development: Student Perceptions for the Second Language Learning in Technology-Enhanced Learning Environments". As reflected in the results of their study, understanding the perceptions of students is important to develop the curriculum or program.

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# THE EFFECTIVENESS OF COMPOST, HUMIC ACID AND PURE FULVATE ON IMPROVEMENT OF ULTISOL SOIL CHEMICAL PROPERTIES

**Resman<sup>1</sup>**

<sup>1</sup>Agricultural Doctoral Student, Postgraduate,  
Universitas Halu Oleo,  
Kampus Kemaraya, Kendari,  
Southeast Sulawesi, 93121, Indonesia

**Sahta Ginting<sup>2</sup>**

Department of Soil Science,  
Faculty of Agriculture Universitas Halu Oleo,  
Kampus Bumi Tridharma Anduonohu,  
Kendari Southeast Sulawesi, 93232, Indonesia

**Muhammad Tufaila<sup>3</sup>**

Department of Soil Science,  
Faculty of Agriculture Universitas Halu Oleo,  
Kampus Bumi Tridharma Anduonohu,  
Kendari Southeast Sulawesi, 93232, Indonesia

**Fransiscus Suramas Rembon<sup>4</sup>**

Department of Soil Science,  
Faculty of Agriculture Universitas Halu Oleo,  
Kampus Bumi Tridharma Anduonohu,  
Kendari, Southeast Sulawesi, 93232,  
Indonesia

**Halim<sup>5</sup>**

Department of Agrotechnology,  
Faculty of Agriculture Universitas Halu Oleo,  
Kampus Bumi Tridharma Anduonohu,  
Kendari Southeast Sulawesi, Kendari, 93232, Indonesia

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## ABSTRACT

*The research aimed to determine the effectiveness of compost containing humic and fulvic acids, and pure humic and fulvic acids in increasing of Ultisol soil chemical properties. The research design used a randomized block design (RBD), consisting of 10 treatments, namely K0: 0 g polybag<sup>-1</sup>, K01: 500 g polybag<sup>-1</sup>, K02: 500 g polybag<sup>-1</sup>, K03: 500 g polybag<sup>-1</sup>, K04: 500 g polybag<sup>-1</sup>, K05: 500 g polybag<sup>-1</sup>, K06: 500 g polybag<sup>-1</sup>, K07: 500 g of polybags<sup>-1</sup>, H: 50 g of polybag<sup>-1</sup>, A: 500 g polybag<sup>-1</sup>. Each treatment was repeated three times and obtained 30 treatment units. The results showed that pH H<sub>2</sub>O (K0: 4.49, K01: 5.64, K02: 5.47, K03: 5.43, K04: 5.51, K05: 5.39, K06: 5.48, K07: 6.17, H: 5.06, F: 5.15), total-N (%) (K0: 0.13, K01: 0.17, K02: 0.18, K03: 0.30, K04: 0.25, K05: 0.24, K06: 0.29, K07: 0.36, H: 0.16, F: 0.14), organic-C (%) (K0: 1.85, K01: 2.30, K02: 2.24, K03: 2.33, K04: 2.62, K05: 2.25, K06: 2.27, K07: 2.95, H: 2.32, F: 2.26), available-P (%) (K0: 2.75, K01: 3.24, K02: 3.16, K03: 3.27, K04: 3.57, K05: 3.31, K06: 3.37, K07: 3.89, H: 3.10, F: 3.12), exchangeable-Al (me100g<sup>-1</sup>) (K0: 2.51, K01: 2.11, K02: 2.13, K03: 2.15, K04: 1.88, K05: 2.14, K06: 2.12, K07: 1.75, H: 2.16, F: 2.17), base saturation (%) (K0: 30.91, K01: 63.48, K02: 52.63, K03: 53.76, K04: 56.13, K05: 54.96, K06: 56.71, K07: 65.53, H: 39.11, F: 42.76), cation exchange capacity (me100g<sup>-1</sup>) (K0: 12.76, K01: 15.64, K02: 14.86, K03: 14.35, K04: 14.13, K05: 15.01, K06: 15.50, K07: 17.94, H: 14.19, F: 13.73). The combined compost treatment of three types of organic matter (*Imperata cylindrica* + Rice straw + *Glincidia sepium*) is more effective in increasing the pH, H<sub>2</sub>O as 37.42%, total-N as 176.92%, Organic-C as 59.46%, available-P as 41.45%, base saturation as 65.53%, cation exchange capacity as 17.94% and exchangeable -Al, Alreduction as 30.28% of ultisol soil.*

**KEY WORDS:** *compost, humic acid, fulvate, soil chemical, ultisol*



## INTRODUCTION

Dry land in Indonesia is more than half of the land area or 78% of the land area, one of them is land with the Ultisol order. Ultisols are the largest suboptimal dry lands in Indonesia (45,794,000 ha) or about 25% of the total land area of Indonesia. Scattered in Kalimantan (21,938,000 ha), Sumatra (9,469,000 ha), Maluku and Papua (8,859,000 ha), Sulawesi (4,303,000 ha), Java (1,172,000 ha), and Nusa Tenggara (53,000 ha) [1].

In Southeast Sulawesi, Ultisol land area reaches 22,997.29 has the low level of soil fertility so that they are grouped into types of marginal soil with the characteristics: high acidity  $\text{pH H}_2\text{O} < 5.0$ , low nutrient content, high aluminum (Al) toxicity, high phosphorus fixation, low cation exchange capacity, low organic matter and sensitive to erosion [2]. Al is mostly dissolved at  $\text{pH H}_2\text{O} < 5.0$  so that it is toxic to plant roots and in these conditions, Al binds to the nutrients Phosphorus which makes Phosphorus unavailable to plants. According to Ginting et al. [3], all toxicity and phosphorus fixation in ultisols are urgent problems that must be addressed to increase nutrient availability for plants. Phosphorus deficiency can negatively impact crop yields and, in conditions of severe deficiency, can lead to plant death [4]. The dissolution of Al in acidic soils can lead to Al toxicity towards plants depending on the species of Al present and can decrease crop yield [5].

To overcome this problem, it can be done by providing organic materials such as *Imperata cylindrica*, rice straw, and *Gliricidia sepium*. According to Zhao et al. [5], the application of different organic matter can be used to reduce Al toxicity, increase soil fertility and also increase crop yields. *Imperata cylindrica* organic matter contains 17.85% of lignin, 1.38% of total-N, 0.16%, total-P, and 0.54%, total-K, while rice straw contains 14.67% of lignin, 0.34% of total-N, 0.07% of total-P, and 1.39% total-K), and *Gliricidia sepium* contains 7.9% of lignin, 2.81% total-N, 0.26% total-P, and 0.94% total-K.

However, in the process of decomposition of organic matter that occurs naturally, it takes a long time. So that in this study we used Orgadec bio activator to accelerate the decomposition process. In addition to accelerating the composting process, the use of Orgadec bio activator can increase the quality of compost. The Orgadec dosage is 12.5 kg for every 1 ton of ingredients [6]. This bio activator is formulated with active ingredients use indigenous microbial such as fungi *Trichoderma pseudokoningii* and bacteria *Cytophaga* sp. which can rapidly reduce the C/N ratio and are antagonistic to several types of root fungal diseases. They also have a high ability to produce lignin and cellulose-degrading enzymes simultaneously, so that the carbon content will decrease and the nitrogen content will increase and the C/N become low.

The principle of composting is to reduce the

C/N ratio of organic matter to or close to the soil C/N ratio ( $< 20$ ). Composting is an aerobic process, which requires optimal oxygen, moisture content, and porosity to stabilize organic matter, and is influenced by temperature, oxygen, and humidity [7]. Besides, microbial activity through complex metabolic processes are responsible for the fractional decomposition and humification (biological oxidative transformation) of organic matter, which turns it into a nutritious soil amendment, i.e. compost, a valuable stable, mature and contamination-free product for crop cultivation, and increases of soil fertility [8]. Microorganisms utilize carbon and nitrogen which are contained in organic matter as a source of energy in carrying out decomposition activities. The decomposition of organic matter in the soil will eventually leave humus. Humus or soil humus is an important part of organic matter content, which can be effectively increased with the application of straws [9]. Soil humus is mainly composed of soil humic acid (HA) and soil fulvic acid (FA). It is highly available in the soil, easily decomposed and mineralized by soil microbes, and directly affects nutrient supply in plants. It plays a key role in maintaining soil fertility, improving soil quality, and maintaining soil carbon pool balance [10].

The novelty of this research is the use of a combination of three types of organic matter such as reeds, rice straw, and gamal leaves as a basic material for composting which produces higher levels of nutrients, humic acid, and fulvic acid compared to other types of organic matter.

## MATERIALS AND METHODS

### Research Location and Time

The research was done in Kambu Village, Kendari City, Southeast Sulawesi Indonesia was conducted for five months from May to September 2019.

### Experimental Setup

The tools used in this study were hoes, machetes, scales, knives, cameras, polybags 30 x 40 cm in size, tarpaulin, sacks, plastic bags, laboratory equipment, and writing instruments. The materials used were Ultisol soil 5 kg polybag<sup>-1</sup>, compost 500 g polybag<sup>-1</sup>, water, and chemicals. The research design used a randomized block design (RBD), consisting of 10 treatments, namely; control (0) 0 g polybags<sup>-1</sup>, Orgadec compost + *Imperata cylindrica* (KO1), Orgadec compost + Rice straw (KO2), Orgadec compost + *Gliricidia sepium* (KO3), Orgadec compost + *Imperata cylindrica* + Rice straw (KO4), Orgadec compost + *Imperata cylindrica* + *Gliricidia sepium* (KO5), Orgadec compost + Rice straw + *Gliricidia sepium* (KO6), Orgadec compost + *Imperata cylindrica* + Rice straw + *Gliricidia sepium* (KO7), humic acid (AH) and pure fulvic acid (AF). Each treatment was repeated three times to obtain 30 treatment units. Compost, pure humic acid, and pure



fulvic acid for each treatment were mixed on the soil of the incubation media, then put into the polybags that had been labeled, then doused with water until moist then incubated for 30 days.

### Research Variable

The variable observed in Analysis compost of Humic Acid, Fulvic Acid, Compost pH and total-P, total-N, organic-C, C/N Ratio, Water Content Orgadec Bioactivator Treatment on Three Types of Organic Materials. So to Results of Analysis of the Effect of Compost, Humic Acid and Pure Fulvic of pH of H<sub>2</sub>O, total-N, organic-C, Humic Acid and Pure

Fulvic on available-P, exchangeable-Al, Base saturation and Cation Exchange Capacity in Ultisol soil incubated for 30 days.

### RESULTS

Results of Analysis of Humic Acid, Fulvic Acid, compost pH, total-P, total-N, organic-C, C/N Ratio and Water Content Orgadec Bioactivator Treatment on Three Types of Organic Materials Table 1.

**Table 1. Results of Analysis of Humic Acid, Fulvic Acid, compost pH, total-P, total-N, organic-C, C/N Ratio and Water Content Orgadec Bioactivator Treatment on Three Types of Organic Materials**

Treatment	AH (mg g <sup>-1</sup> )	AF (mg g <sup>-1</sup> )	Compost pH	total-P (%)	total-N (%)	organic-C (%)	C/N ratio	Water Content (%)
K01	46.34	199.38	7.14	1.60	0.99	20.05	20.25	15.23
K02	43.00	194.09	7.17	0.93	0.97	20.11	20.73	15.19
K03	35.76	175.45	7.24	1.51	1.43	20.96	14.65	15.65
K04	44.80	187.32	7.14	0.97	1.17	19.09	16.32	16.15
K05	39.26	180.95	7.23	1.49	1.24	22.49	18.14	16.46
K06	37.62	185.03	7.16	0.98	1.35	19.05	14.11	15.45
K07	43.76	197.06	7.45	1.73	2.10	21.79	10.38	16.56

Source: Criteria (SNI) for organic fertilizers [11]

compost pH; min. = 6.80; max. = 7.49

total-P; min. = 0.10%; max. > 0.10%

total-N; min. = 0.10%; max. > 0.10%

organic-C; min. = 9.80%; max. = 32%

C/N ratio; min. = 10; max. = 20

Max water content = 50%

Results of Analysis of the Effect of Compost, Humic Acid and Pure Fulvic of pH of H<sub>2</sub>O, total-N, organic-C in Ultisol Soil Incubated for 30 Days (Tables 2 and 3).

**Table 2. Results of Analysis of the Effect of Compost, Humic Acid and Pure Fulvic of pH of H<sub>2</sub>O, total-N, organic-C in Ultisol Soil Incubated for 30 Days**

Treatment	pH (H <sub>2</sub> O)	Criteria*)	total-N (%)	Criteria*)	organic-C (%)	Criteria*)
K0	4.49	M	0.13	R	1.85	R
K01	5.64	AM	0.17	R	2.30	S
K02	5.47	M	0.18	R	2.24	S
K03	5.43	M	0.30	S	2.23	S
K04	5.51	M	0.25	S	2.62	S
K05	5.39	M	0.24	S	2.25	S
K06	5.48	M	0.29	S	2.27	S
K07	6.17	AM	0.36	S	2.95	S
H	5.06	M	0.16	R	2.32	S
F	5.15	M	0.14	R	2.26	S

Source: Criteria \*) According to [12]

AM: Sour, M: It's a little sour, S: Moderate, R: Low, H: Humic acid (50 g polybag<sup>-1</sup>), F: Fulvic acid (50 g polybag<sup>-1</sup>).





**Table 3. The Effect of Compost, Humic Acid, and Pure Fulvic on the Increase in pH of H<sub>2</sub>O, total-N and organic-C in Ultisol Soil Incubated for 30 Days**

Treatment	Changes in pH H <sub>2</sub> O, total-N, and organic-C (%) on the control		
	pH H <sub>2</sub> O	total-N	organic-C
K01	25.61 (+)	30.77 (+)	24.32 (+)
K02	21.83 (+)	38.46 (+)	21.08 (+)
K03	20.94 (+)	130.76 (+)	20.54 (+)
K04	22.72 (+)	92.31 (+)	41.62 (+)
K05	20.04 (+)	84.62 (+)	21.62 (+)
K06	22.05 (+)	123.08 (+)	22.70 (+)
K07	37.42 (+)	176.92 (+)	59.46 (+)
H	12.69 (+)	23.08 (+)	25.41 (+)
F	14.70 (+)	7.69 (+)	22.16 (+)

(+): Increase in pH H<sub>2</sub>O (+): Increase in total-N (+): Increase organic-C

The results of the analysis of the effect of compost, humic acid, and pure fulvic against available-P, base saturation, cation exchange capacity, and exchangeable-Al on Ultisols incubated for 30 days are presented in Tables 4 and 5.

**Table 4. Results of Analysis of the Effect of Compost, Humic Acid and Pure Fulvic on available-P, exchangeable-Al, Base Saturation and Cation Exchange Capacity in Ultisol Soil Incubated for 30 Days**

Treatment	available-P (%)	K*)	exchangeabl e-Al (me 100 g <sup>-1</sup> )	Base Saturation (%)	K*)	CEC (me100 g <sup>-1</sup> )	K*)
K0	2.75	SR	2.51	30.91	SR	12.76	SR
K01	3.24	SR	2.11	63.48	T	15.64	R
K02	3.16	SR	2.13	52.63	S	14.86	R
K03	3.27	SR	2.15	53.76	S	14.35	R
K04	3.57	SR	1.88	56.13	S	14.13	R
K05	3.31	SR	2.14	54.95	S	15.01	R
K06	3.37	SR	2.12	56.71	S	15.50	R
K07	3.89	SR	1.75	65.53	T	17.94	R
H	3.10	SR	2.16	39.11	SR	14.19	R
F	3.12	SR	2.17	42.76	R	13.73	R

Source: Criteria \*) According to [12]

Note: T: High, S: Moderate, R: Low, and SR: Very low

**Table 5. The Effect of Compost, Humic Acid and Pure Fulvic on the Increase of available-P, Base Saturation, CEC and exchangeable-Al Decrease of, on Ultisol Soil Incubated for 30 Days**

Treatment	Changes in levels of available-P, exchangeable-Al, Base Saturatio, and CEC (%) on control			
	available-P	exchangeable-Al	Base Saturation	CEC
K01	17.82 (+)	15.94 (-)	105.37 (+)	22.57 (+)
K02	14.91 (+)	15.14 (-)	70.27 (+)	16.46 (+)
K03	18.91 (+)	14.34 (-)	73.92 (+)	12.46 (+)
K04	29.82 (+)	25.1 (-)	81.59 (+)	10.74 (+)
K05	20.36 (+)	14.74 (-)	77.77 (+)	17.63 (+)
K06	22.55 (+)	15.54 (-)	83.47 (+)	21.47 (+)



K07	41.45 (+)	30.28 (-)	112.00 (+)	40.59 (+)
H	12.73 (+)	13.94 (-)	26.53 (+)	11.21 (+)
F	13.45 (+)	13.54 (-)	38.34 (+)	7.60 (+)

Notes: (+): Increased available-P, (+): Increased Base Saturation, (+): Increased CEC improvement, (-): exchangeable -Al drop

## DISCUSSION

### 1. Compost

#### a. Compost pH

The average pH of compost (Table 1) shows that the pH is neutral in the range (7.14 to 7.45). The pH is following the ideal compost pH based on Indonesian National Standard (SNI) No. 19.7030.2004 [11]. Ideally, the pH of the compost is due to the microorganisms in the Orgadec bio activator having the ability to perform renovations. The pH of the compost material is acidic at the beginning of ferments this is because acid-forming bacteria will lower the pH so that the compost is more acidic. Furthermore, microorganisms begin to convert inorganic nitrogen into ammonium so that the pH increases rapidly to become alkaline. Some of the ammonia is released or converted to nitrate and nitrate is denitrified by bacteria so that the pH of the bokashi becomes neutral [13].

#### b. Compost Humic acid and fulvic acid

The average humic acid and fulvic acid (Table 1) show that the Orgadec bio activator treatment with *Imperata cylindrica* organic matter had the highest humic acid (46.34 mg/g) and fulvic acid (199.38 mg/g). The high content of humic acid and fulvic acid is since the organic material used in composting is reeds leaves which contain high cellulose and lignin. According to Minardi [14], the more cellulose and lignin content in organic material, the more humic acid, and fulvic acid content are in line with the decomposition process of the organic material.

#### c. Compost total-P

The average total-P (Table 1) shows the treatment (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) had the highest total-P content (1.73%). The increase in total-P content is caused by the microorganisms in the Orgadec bio activator work faster so that the microorganism's metabolic process produced phosphate minerals. Kurniawan et al. [15], stated that the increase in phosphorus levels is thought to be the influence of the activity of microorganisms that convert glucose in organic matter into lactic acid so that the environment becomes acidic which causes phosphate bound in long chains to dissolve in organic acids produced by microorganisms.

#### d. Compost total-N

The average of total-N (Table 1) shows treatment (*Imperata cylindrica* + *Rice straw* +

*Glincidia sepium*) had a high total-N content of approximately (2.1%). This is due to the faster the process of refurbishing, the total value of inorganic nitrogen in  $\text{NH}_4^+$  and  $\text{NO}_3^-$  compounds as a result of the decomposition process of organic matter will also increase. The organic material source of nitrogen such as protein will first undergo the breakdown by microorganisms into amino acids known as the aminization process [15].

#### e. Compost C-organic

The average of organic-C (Table 1), showed that the average value of organic-C ranges from 19.09% - 22.49%. This value indicates the optimum compost range based on the Indonesian National Standard (SNI) No. 19-7030-2004 [11]. The optimal content of organic-C is due to the maximum work of the bio activator so that it can quickly reform the organic material. According to Kurniawan et al. [15], microorganisms break down carbon compounds as an energy source in carrying out the renovation process.

#### f. Compost C/N ratio

The average C/N ratio (Table 1) shows the values ranged from 10.38-20.73. The ideal range is based on the Indonesian National Standard (SNI) No. 19-7030-2004 [11]. The decrease in the C/N ratio of the Orgadec bio activator is due to the microorganisms working optimally so that they quickly reformed the organic material, resulting in carbon loss due to  $\text{CO}_2$  evaporation as a result of overhauling the organic material in the compost pile. In general the total concentration of organic-C decreases gradually during the fermentation process, this is due to the release of carbon dioxide through the respiration of microorganisms [15].

#### g. Compost Water content

The average water content (Table 1) shows that the water content ranged from 15.19%-16.56%. This range includes the minimum moisture content based on Indonesian National Standard (SNI) No. 19-7030-2004 [11]. The low water content is due to the microorganisms in the compost pile working effectively, causing high evaporation so that the water content in the compost will decrease. The decrease in water content in aerobic composting occurs because the water content in the compost material evaporates due to heat, stirring, and consumption of microorganisms to convert protein into nutrients needed by plants [16].

The nutrient content in pure humic acid (H) is  $\text{P}_2\text{O}_5$  (0.2-3.7%),  $\text{K}_2\text{SO}_4$  (0.6%), Na (0.05-0.15%), S



(0.6-11%), Fe<sub>2</sub>O (5.6%). The nutrient content of pure fulvic acid (F) is P<sub>2</sub>O<sub>5</sub> (0.37%), K<sub>2</sub>O (1.2%), C-organic (22-41%), S (1.9%), Fe (3947%), Mn (57 ppm), Cu (16 ppm).

## 2. Soil chemical

### a. pH H<sub>2</sub>O

Tables 3 and 4 show that the treatment of compost, humic acid, and pure fulvic increased the pH of H<sub>2</sub>O by (12.69% to 37.42%), with pH values ranging from (5.06 to 6.17). The high increase in pH H<sub>2</sub>O in the combined compost treatment of three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) is due to the organic matter that has been incubated in the decomposition process will release organic compounds, both in the form of organic acids and base cations, so that can suppress the activity of Al. The nutrient content given from organic matter in the soil is correlated with the length of the mineralization process required by organic matter to provide nutrients for the soil. Organic acids as a result of decomposition can bind H<sup>+</sup> ions as a cause of acidity in the soil so make the soil pH increases. Organic acids can bind H<sup>+</sup> ions through carboxyl groups which have a negative charge [17]. Furthermore, Bayer et al. [18], stated that the rise and fall of soil pH is a function of H<sup>+</sup> and OH<sup>-</sup> ions, if the concentration of H<sup>+</sup> ions in the soil solution increases, the soil pH will decrease, and if the OH<sup>-</sup> ion concentration increases, the soil pH will increase. Also, the increase in pH H<sub>2</sub>O in the combined compost treatment of three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) had a C/N ratio of 10.38 which was lower than the other treatments. The low C/N ratio value will easily decompose which in turn will release the bases contained by the organic material.

### b. total-N

Tables 3 and 4 show that the treatment of compost, humic acid, and pure fulvic increased the total-N value by (7.69 % to 176.92%), with total-N-values ranging from (0.14% to 0.36%). Compost treatment from a combination of three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) can increase the N-total by 176.92%. Meanwhile, fulvic acid treatment increased the lowest N-total of about 7.69% with a total N-value of 0.14%. The increase in total-N in the combined compost treatment of three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) but still in the criteria (moderate). This is due to the lack of incubation time so that the organic matter has not been completely decomposed into soil organic matter (humus), besides that the total-N in the compost is partially lost due to evaporation (volatilization) and leaching (leaching) because total-N is easily transformed. In addition to the addition of soil nitrogen through the biological fixation of N<sub>2</sub> (gas) from ammonia (NH<sub>3</sub>) and nitrate

(NO<sub>3</sub>), nitrogen compounds can also be lost through washing and volatilization [19].

### c. organic-C

Tables 3 and 4 show that the treatment of compost, humic acid, and pure fulvic increased the organic-C value by (20.54% to 59.46%), with organic-C values ranging from (1.85% to 2.95%). Compost treatment of three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) increased organic-C by about 50.46% compared to the control with a organic-C value of 2.95%. While the compost treatment of gamal leaf organic matter increased the organic-C around 20.54% lower than other treatments with a organic-C value of 2.23%. Lack of incubation time so that the compost that is applied in the soil becomes very slow to decompose so that the organic-C is still high. Organic matter content is influenced by the accumulation of native organic matter, decomposition, and humification. The decomposition of organic matter is much more important than the amount of organic matter added. Also, the increase in organic-C is the result of further decomposition of the given organic matter which can add to the organic matter in the soil.

### d. available-P

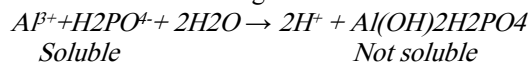
Tables 3a and 3b show that the treatment of compost, humic acid, and pure fulvic increased the available-P value by (12.73% to 41.45%), with the available-P values ranging from (3.10 ppm to 3.89 ppm). Compost treatment of three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) can increase the available-P by about 41.55% compared to the control, with a available-P value of 3.89 ppm. Meanwhile, humic acid treatment increased the available-P -12.73% lower. The high increase in available available-P compost treatment of combined three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) was due to the compost treatment of combined organic matter containing a total-P of 1.73% (Table 1). The high total- content in the compost will contribute more to the total P-content in the soil. The increase in available-P is also due to the decomposition of organic matter which produces organic acids which play a role in chelating Al, thereby increasing the availability of Phosphorus in the soil. According to Gusnidar et al. [20], the incubation process of organic matter treatment will undergo a decomposition process, so that it will produce organic acids. Siregar et al. [17], also states that the increase in Phosphorus occurs due to the formation of complex Al compounds by decomposition of organic acids which can reduce the exchangeable-Al content and reduce the absorption of Phosphorus by Al so that the availability of Phosphorus increases. The increase in available-P due to the application of compost because of the effect of compost as an organic material on the



availability of soil phosphorus that can occur directly through the mineralization process or indirectly with the help of the release of fixed phosphorus.

#### e. exchangeable-Al

Tables 3a and 3b show that the treatment of compost, humic acid, and pure fulvic decreased the exchangeable-Al value by (13.54% to 30.28%). exchangeable-Al values ranged from (1.75 me 100g<sup>-1</sup> to 2.17 me 100g<sup>-1</sup>). Compost treatment of three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) can reduce exchangeable-Al by about 30.28% compared to control, with the exchangeable-Al value reaching 1.75 me 100g<sup>-1</sup>. Meanwhile, the fulvic acid treatment decreased exchangeable-Al by 13.54% at the lowest. The high reduction of exchangeable-Al in the compost treatment of the combination of three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) was due to the compost treatment of a combination of organic matter (*Imperata cylindrical* + *Rice straw* + *Glincidia sepium*) in compost having a C/N ratio. the lowest is around 10.71 in (Table 1), so that organic matter will decompose more quickly in the soil and produce organic acids that form chelate compounds with free Al<sup>3+</sup> in the soil so that Al<sup>3+</sup> can be exchanged and there is a relationship between exchangeable-Al against pH of H<sub>2</sub>O and available-P soil. This is because Al<sup>3+</sup> is a metal that can bind the element Phosphorus and make the soil pH acidic, this can be seen from the following reaction:



The more Al<sup>3+</sup> ions that undergo hydrolysis, the more H<sup>+</sup> ions are donated and the more acidic the soil becomes. The decrease in the amount of exchangeable-Al due to the addition of compost, humic acid, and pure fulvic in the soil can increase the amount of phosphorus available and the soil pH will rise. [17] states that with an increase in humic acid dosage, there is also an increase in humic acid functional groups so that they can form complexes through carboxyl (COOH) and phenolic (OH) functional groups with Al<sup>3+</sup> in amounts. which is quite a lot. As a result, the Al<sup>3+</sup> that can be exchanged is reduced.

#### Base Saturation

Tables 4 and 5 show that the treatment of compost, humic acid, and pure fulvic increased the base saturation value by (26.53% to 112%), with base saturation values ranging from (39.11% to 65.53%). Combined compost treatment of three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) can increase base saturation by about 112% compared to control with base saturation value reaching 65.53% criteria (high) higher when compared to other treatments. Meanwhile, humic acid treatment increased base saturation by 26.54%.

The high value of base saturation in the combined compost treatment of three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) is due to the cation exchange which is dominated by alkaline cations, besides the compost applied to the soil produces a soil pH of 6.17 which is slightly acidic, so Basic cations are more dominant than acid cations. With the increase in base cations in the soil, the uptake complex in the soil is filled with base cations so that the base saturation increases. Sembiring et al. [21], stated that in soils with low alkaline saturation, the uptake complex is more dominant filled with acid cations such as H<sup>+</sup> and Al<sup>3+</sup> cations. Providing compost can increase alkaline saturation. This is because the compost contains -COOH (carboxylate), -OH (phenolic), and -C=O (carbonyl) which can give an additional negative charge to the soil. The -COOH (carboxylate) group will release H<sup>+</sup> which then H<sup>+</sup> will bind with other anions so that it can increase the base saturation.

#### Cation exchange capacity

Tables 4 and 5 show that the treatment of compost, humic acid, and pure fulvic increases the value of cation exchange capacity by (7.60% to 40.59%), with cation exchange capacity values ranging from 13.73 me 100g<sup>-1</sup> to 17.94 me 100g<sup>-1</sup>. Compost treatment of three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) can increase the cation exchange capacity by around 40.59% with a value of 17.94 me 100g<sup>-1</sup> criteria (moderate), this value is higher when compared to treatment other. While the fulvic acid treatment increased the cation exchange capacity to the lowest about 7.60%. The high increase in the value of cation exchange capacity in the combined compost treatment of three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*), contains humic acid (36.76 mg g<sup>-1</sup>) and fulvic acid (190.06 mg g<sup>-1</sup>) (Table 1), thereby causing an increase in the negative charge on soil colloids. This negative charge comes from the carboxyl (COOH) and hydroxyl (OH) groups present in organic compounds. The presence of functional groups of organic compounds can produce several negative charges in soil colloids [17]. The (COOH) and (OH) group dissociation of organic compounds can increase the negative charge in the soil so that the soil cation exchange capacity increases [22].

#### CONCLUSION

Combined compost treatment of three types of organic matter (*Imperata cylindrica* + *Rice straw* + *Glincidia sepium*) is more effective in increasing the pH of H<sub>2</sub>O by 37.42%, total-N of 176.92%, organic-C by 59.46%, available-P at 41.45%, base saturation of 65.53%, cation exchange capacity of 17.94% and exchangeable-Al reduction of 30.28% on Ultisol soil.





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# IMPROVING THE QUALITY OF ORNAMENTAL BULBOUS WITH PLANT GROWTH-PROMOTING RHIZOBACTERIA (PGPR)

Domenico Prisa<sup>1</sup>, Alessandra Benati<sup>2</sup>

<sup>1</sup>CREA Research Centre for Vegetable and Ornamental Crops, Council for Agricultural Research and Economics, Via dei Fiori 8, 51012 Pescia, PT, Italy

<sup>2</sup>Associazione P.A.C.M.E. Le Tribù della Terra ONG

<sup>1</sup>Corresponding author: Domenico Prisa

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## ABSTRACT

*The aim of this work was to use Plant growth promoting rhizobacteria (PGPR) for the improvement of cultivation and agronomic and pathogen protection characteristics of ornamental bulbous plants such as Tulip (fam. Liliaceae), Iris (fam. Iridaceae), Freesia (fam. Iridaceae) and Narcissus (fam. Amarillidaceae). The experiments, started in November 2020, were conducted in the greenhouses of CREA-OF in Pescia (Pt), Tuscany, Italy. The experimental groups were: i) group control irrigated with water and substrate previously fertilized; ii) group with Effective microorganisms irrigated with water and substrate previously fertilized; iii) group with beneficial bacteria (TNC Bactorr<sup>13</sup>) irrigated with water and substrate previously fertilized; iv) group with beneficial bacteria (Tarantula powder Advanced nutrients) irrigated with water and substrate previously fertilized. The trial showed a significant improvement in the agronomic parameters analysed on plants obtained from Narcissus, Iris, Tulip and Freesia bulbs treated with microorganisms. In particular, there was an increase in plant height, vegetative and root weight, bulb weight and diameter, and flower duration. In addition, the use of microorganisms in the growing medium showed a significant increase in the biocontrol of Botrytis cinerea. The treatment with Effective microorganisms (EM) showed the most significant results for all agronomic parameters analysed. The improvement in plant growth brought about by the activity of bacteria is a key aspect of achieving sustainable agricultural goals in the future. More research is needed in this field to identify new soil microbial strains that can be used for the formulation of new products applicable for improving the quality and resistance to biotic and abiotic stresses of potted plants.*

**KEY-WORDS:** Ornamental bulbs; Microorganisms; Sustainable agriculture; Flowers; Pot plants

## INTRODUCTION

### The Bulbous Plants

The history of the introduction of bulbous plants into cultivation is long and adventurous. The saffron crocus (*Crocus sativus*) was already cultivated 4000 years ago in Crete, where the edible, healing and dyeing stigmas of this small autumn flower were the focus of a flourishing international trade. Half a millennium later, Pharaoh Tutmosi III launched the fashion of perfuming linen and people with powdered Iris rhizomes - a successful idea that has survived to this day. Two thousand years ago, among the early Christians, the white-flowered St Anthony's lily (*Lilium candidum*), which the Romans had introduced from Asia Minor, became the symbol of the Virgin Mary and purity [1]. On the other side of the world, more than a thousand years ago the

Aztecs cultivated *Tigridia pavonia* as a tribute to the gods. This species grows wild in Peru and Brazil and has large, almost triangular flowers, coloured red, pink, yellow or white, with a hollow centre like a small cup, white and darkly speckled. In Europe, however, until the Renaissance the choice of flowering bulbous plants was far from vast; ladies could grow clumps of fragrant lilies of the valley, blue Florentine irises and little more, or what the local wild flora had to offer. Traditionally, the beginning of a new course dates back to 1554. Bulbous plants are inexpensive, easy to grow and with such a choice that they tempt anyone to become a collector [1].

### Main Bulbous Families

The lily (*Liliaceae*), amaryllis (*Amarillidaceae*) and iris (*Iridaceae*) families

compete for first place in terms of the number of species offered to the garden cause. Among the most popular bulbous plants, tulips, hyacinths, muscari, fritillaries, scillaria and lilies of the valley are spring lilies, while Agapanthus, Allium and Eremurus brighten up summer beds. Snowdrops, narcissus, bellflowers and clivia are amaryllis-like plants, while the very early crocus, freesia and gladiolus belong to the iridaceae, as well as irises of course.

The Araceae (Arum, Caladium, Zantedeschia) and Ranunculaceae (Anemone, Ranunculus, Eranthis) families make a significant contribution to bulb gardens. Other families offer a single genus, such as Begoniaceae (Begonia), Oxalidaceae (Oxalis), Cannaceae (Canna) and Alstroemeriaceae (Alstroemeria).

Some families are surprising because there are very few species that originate from a bulb or other enlarged underground organ. This is the case, for example, with the Primulaceae, which contribute cyclamens (Cyclamen), and the Asteraceae, the endless daisy family, represented by the genus Dahlia. Finally, the aristocratic Orchidaceae family, one of the most evolved in the plant kingdom, also contributes with some terrestrial species with underground pseudobulbs (Bletilla, Pleione) [2].

### Plant-Microorganisms Interaction

Plants have the ability to influence soil bacterial communities by producing root exudates specific to the plant species grown. Microorganisms are able to use these substances for their multiplication and are crucial for plant biology by producing substances with a similar action to plant hormones that induce cell differentiation, root development and changes in root hair growth. Root colonization by microorganisms can initiate a symbiosis as the beginning of a disease [3].

The micro-organisms in the rhizosphere are decisive in the growth and defence of plants.

Rhizobacteria can be classified into extracellular (ePGPR) organisms that live mainly in the rhizosphere and intracellular (iPGPR) organisms that colonize the internal structures of the root. Several Plant Growth Promoting Rhizobacteria can be present in the soil, the most important of which include *Nitrotobacter*, *Bacillus*, *Pseudomonas*, *Azospirillum*, *Agrobacterium*, *Burkholderia*, *Bradyrhizobium*, *Rhizobium*, *Frankia*, *Erwinia*, *Flavobacterium*, *Chromobacterium*, *Caulobacter*, *Arthrobacter*, *Allorhizobium*, *Mesorhizobium* [4]. They have the capacity to improve the characteristics and fertility of the soil, thus favouring the cultivation of plants. The colonization of the roots takes place through various mechanisms such as the formation of siderophores, the solubilization of mineral phosphates and potassium, nitrogen fixation, and the production of phytophorons. In order to improve the quality of crops it is certainly necessary today to use microbial inoculants able to promote plant growth, control diseases and stimulate soil fertility [5].

In order to improve the quality and quantity of agricultural production without adversely affecting the biodiversity of the agro-system, there is an increasing need to use microbial inoculants that promote plant growth, disease control agents and soil health enhancers. PGPRs also play an important role in improving plant health, resistance to environmental stress, and soil bioremediation [6]; [7].

The aim of this work was to use Plant growth promoting rhizobacteria (PGPR) for the improvement of cultivation and agronomic and pathogen protection characteristics of ornamental bulbous plants such as tulip (fam. Liliacee), Iris (fam. Iridacee), freesia (fam. Iridacee) and narcissus (fam. Amarillidacee) (Figure 1).



Figure 1 – Particulars of Narcissus (A), Iris (B), Tulip (C) and Freesia (D) flowers



## MATERIAL AND METHODS

The experiments, started in November 2020, were conducted in the greenhouses of CREA-OF in Pescia (Pt), Tuscany, Italy (43°54'N 10°41'E) on *Narcissus*, *Iris*, *Tulip* and *Freesia bulbs*. The plants were placed in plateau with 54 holes; 162 bulbs per thesis, divided into 3 replicas of 54 plants each. All plants were fertilized with a controlled release fertilizer (3 kg m<sup>-3</sup> Osmocote Pro®, 9-12 months with 190 g/kg N, 39 g/kg P, 83 g/kg K) mixed with the growing medium before transplanting. The experimental groups were:

- group control (CTRL) (peat 60% + pumice 40%), irrigated with water and substrate previously fertilized;
- group with Effective microorganisms (EM) (peat 60% + pumice 40%) irrigated with water and substrate previously fertilized, dilution 1:100 (1L of EM inoculum dilution 1:100 was used for each 10L of peat) (EM activated with molasses: Lactic acid bacteria – *Lactobacillus plantarum*, *L. casei*, *Streptococcus lactis*, Photosynthetic bacteria – *Rhodospseudomonas palustris*, *Rhodobacter spaeroides*; Yeast – *Saccharomyces cerevisiae*, *Candida utilis*; Actinomycetes – *Streptomyces albus*, *S. griseus*; fermenting fungi – *Aspergillus oryzae*, *Mucor hiemalis*; EM is a fermented mixed culture of naturally occurring species of microorganisms coexisting in an acid environment (pH less than 3,5). Micro-organisms in EM improve crop health and yield by increasing photosynthesis, producing bioactive substances such as hormones and enzymes, accelerating the decomposition of organic materials and controlling soil diseases. Effective micro-organisms can be used as herbal insecticides to control insects and pathogenic microorganisms and can also be used as plant growth inducers;
- group with beneficial bacteria (BAC1) (peat 60% + pumice 40%) irrigated with water and substrate previously fertilized, (TNC Bactorr<sup>s13</sup>: *Bacillus amyloliquefaciens*, *B. brevis*, *B. cirulans*, *B. coagulans*, *B. firmus*, *B. halodenitrificans*, *B. laterosporus*, *B. licheniformis*, *B. megaterium*, *B. mycoides*, *B. pasteurii*, *B. polymyxa*, *B. Subtilis* (1.3×10<sup>11</sup> cfu/kg); Mix 1.5g (approx 1/2 tsp) with every litre of soil;
- group with beneficial bacteria (BAC2) (peat 60% + pumice 40%) irrigated with water and substrate previously fertilized, Tarantula powder Advanced nutrients: *A. Globiformis* 25,000 cfu/ml, *B. Brevis* 2,000,000 cfu/ml, *B. Coagulans* 500,000 cfu/ml, *B. Licheniformis* 5,000,000 cfu/ml, *B. Megaterium* 500,000 cfu/ml, *B. Polymyxa*

50,000 cfu/ml, *B. Pumilis* 50,000 cfu/ml, *B. Subtilis* 1,000,000 cfu/ml, *B. Thuringiensis* 100,000 cfu/ml, *B. Thuringiensis Canadiensis* 50,000 cfu/ml, *P. Polymyxa* 300,000 cfu/ml. Mix 2gr every litre of water.

The plants were watered 2 times a week and grown for 6 months. The plants were irrigated with drip irrigation. The irrigation was activated by a timer whose program was adjusted weekly according to climatic conditions and the fraction of leaching. On April 20, 2021, plant height, vegetative weight, roots weight, bulbs weight and diameter, flowers duration, were analysed. In addition, the mortality of bulbs caused by *Botrytis cinerea* was evaluated.

## Statistical Analysis

The experiment was carried out in a randomized complete block design. Collected data were analysed by one-way ANOVA, using GLM univariate procedure, to assess significant ( $P \leq 0.05$ , 0.01 and 0.001) differences among treatments. Mean values were then separated by LSD multiple-range test ( $P = 0.05$ ). Statistics and graphics were supported by the programs Costat (version 6.451) and Excel (Office 2010).

## RESULTS AND DISCUSSION

The trial showed a significant improvement in the agronomic parameters analysed on plants obtained from *Narcissus*, *Iris*, *Tulip* and *Freesia bulbs* treated with microorganisms. In particular, there was an increase in plant height, vegetative and root weight, bulb weight and diameter, and flower duration. In addition, the use of microorganisms in the growing medium showed a significant increase in the biocontrol of *Botrytis cinerea*. The treatment with Effective microorganisms (EM) showed the most significant results for all agronomic parameters analysed.

In (Table 1), in *Narcissus* there was a significant increase in plant height in (EM) with 35.78 cm compared to 35.00 cm in (BAC2), 34.04 cm in (BAC1) and 32.10 cm in (CTRL). Regarding vegetative weight, thesis (EM) was the best with 30.51 g, followed by (BAC2) with 26.07 g, (BAC1) 25.95 g and (CTRL) with 25.37 g (Figure 2). The same trend for root weight where (EM) showed a weight of 25.11 g, (BAC1) 24.64 g, (BAC2) 24.03 g and (CTRL) 21.53 g. In terms of bulb weight, (EM) was the best thesis with 17.12 g, followed by (BAC1) with 14.99 g and (BAC2) with 14.84 g, finally (CTRL) with 13.77g. In terms of bulb diameter, (EM) was also the best performing thesis with 5.60 cm, compared to (BAC1) and (BAC2) with 4.40 cm and (CTRL) with 4.40 cm. The Effective microorganisms (EM) thesis was also the one where flowers lasted the longest with 8 days, compared to 6.20 in (BAC1) and 5.41 in (BAC2) and (CTRL)





5.22. The (CTRL) thesis was the most affected by *Botrytis cinerea* with 2.80 plants.

In (Table 2), Iris shows a significant increase in plant height in the thesis (EM) with 40.38 cm followed by (BAC1) with 38.08 cm and (BAC2) with 37.84 cm, finally the untreated control with 35.86 cm. For vegetative weight, thesis (EM) was the best with 27.75 g, followed by (BAC1) with 24.71 g, (BAC2) 24.35 g and (CTRL) with 22.62 g. Also for root weight the (EM) showed a weight of 27.59 g, (BAC1) 26.27 g, (BAC2) 25.76 g and (CTRL) 23.20 g. Concerning bulb weight, (EM) was the best thesis with 18.21 g, succeeded by (BAC1) with 16.29 g and (BAC2) with 16.35 g, finally (CTRL) with 15.35 g. Also in terms of bulb diameter (EM) was the best thesis with 4.81 cm, compared to 4.00 cm of (BAC1) and (BAC2) and (CTRL) with 3.83 cm. The thesis with (EM) was also the one where flowers lasted the longest with 12.02 days, compared to 11.10 in (BAC1) and 9.83 (BAC2) and (CTRL) 8.42. The (CTRL) thesis on Iris was also the most affected by *Botrytis cinerea* with 1.28 plants.

In (Table 3), in Tulip, significant plant height of the thesis (EM) with 28.78 cm is noted followed by (BAC1) with 27.31 cm and (BAC2) with 26.52 cm, finally the untreated control with 25.94 cm. For vegetative weight, thesis (EM) was the best with 36.58 g, followed by (BAC2) with 33.96 g, (BAC1) 32.10 g and (CTRL) with 31.13 g. In roots, all the theses treated with microorganisms showed a significant increase in weight compared to the control (Figure 3). For bulb weight, (EM) was the best thesis with 38.25 g, followed by (BAC1) with 35.71 g and (BAC2) with 35.27 g, and finally (CTRL) with 32.93 g. For bulb diameter, (EM) was the best thesis with 7.21 cm, compared to 6.04 cm of (BAC2), 5.83 cm (BAC1) and 5.66 cm (CTRL). The thesis with (EM) was also the one where flowers lasted the longest with 10.81 days, compared to 8.64 in (BAC2) and 5.83 in (BAC1) and (CTRL) 6.83. Thesis (CTRL) also on Tulip was the one most affected by *Botrytis cinerea* with 2.00 plants.

In (Table 4), in Freesia the effect of Effective microorganisms on plant height is evident with 35.71 cm followed by (BAC2) with 34.71 cm and (BAC1) with 34.34 cm, finally the untreated control with 30.96 cm. For vegetative and root weight, thesis (EM) was the best with 27.66 cm and 25.89 cm respectively (Figure 4). Moreover, a significant improvement in bulb weight is shown in (EM) with 16.36 g, compared to 15.47 g of (BAC1) and 14.84 g

(BAC2) and 14.54 g of (CTRL) (Figure 5). There were no significant differences between the various theses with regard to flowering time, while again the control thesis was the worst with regard to *Botrytis cinerea* attack.

Microbial inoculants are generally products that contain microorganisms, usually selected from plant roots and root zones. Research shows that they can improve plant growth by up to 40% by colonising the rhizosphere or plant roots, promoting seed germination or plant development. It is evident how microorganisms can improve soil fertility and crop production by solubilising soil nutrients and making them more available to the roots [8]. In addition, due to their ability to biocontrol, they can protect plants from pests and diseases. Plant growth promoting rhizobacteria (PGPR), for example, can improve root development, prolong plant and flower life, degrade harmful substances, and increase the resistance of young plants to biotic and abiotic stresses [9]; [10]. Another interesting aspect is that normally the use of microbial inoculants can be reduced over the years, because they slowly colonise surfaces and are able to multiply independently. Some micro-organisms commonly used as biofertilizers can fix atmospheric nitrogen and solubilise phosphate. Many phytohormones are produced as a result of the stimulation of bacteria on plants and are used as biofertilizers [11].

They can provide the plant with growth-enhancing substances such as indol acetic acid (IAA), amino acids and vitamins, leading to improved productivity, soil fertility and increased crop yields [12]. In this trial, it was evident how the use of microorganisms colonizing the rhizosphere, in particular Effective microorganisms (EM), succeeded in improving the productive quality of bulb plants, increasing vegetative and root parameters, flowers life and defence against pathogens like *Botrytis cinerea*. Aspects and results also recurred in other experiments [13]; [14]; [15], but not too frequently on ornamental bulb plants. The use of biofertilizers can be useful in improving crop yields, as microorganisms can convert the insoluble form of nutrients to the soluble form, improving soil characteristics and facilitating plant growth [16]. Biofertilizers are an alternative to chemical fertilizers, as they contain natural components that do not harm plants. They can protect crops from disease development, fungal attack and protect the plant from other diseases, fungal attack and free pollutants [17].



**Table 1 - Evaluation of PGPR on agronomic characters and pathogen protection on Narcissus**

Groups	Plant height (cm)	Vegetative weight (g)	Roots weight (g)	Bulb weight (g)	Bulb diameter (cm)	Flowers duration (days)	Plants affected by <i>Botrytis cinerea</i> (n°)
CTRL	32,10 c	25,37 b	21,53 c	13,77 c	4,20 b	5,22 c	2,80 a
EM	35,78 a	30,51 a	25,11 a	17,12 a	5,60 a	8,00 a	0,00 b
BAC1	34,04 b	25,95 b	24,64 ab	14,99 b	4,40 b	6,20 b	0,41 b
BAC2	35,00 ab	26,07 b	24,03 b	14,84 b	4,40 b	5,41 c	0,23 b
<b>ANOVA</b>	***	***	***	***	**	***	***

One-way ANOVA; n.s. – non significant; \*, \*\*, \*\*\* – significant at  $P \leq 0.05$ , 0.01 and 0.001, respectively; different letters for the same element indicate significant differences according to Tukey's (HSD)

multiple-range test ( $P = 0.05$ ).Legend: (CTRL): control; (EM): Effective microorganisms; (BAC1): TNC Bactorr<sup>s13</sup>; (BAC2): Tarantula powder Advanced nutrients

**Table 2 - Evaluation of PGPR on agronomic characters and pathogen protection on Iris**

Groups	Plant height (cm)	Vegetative weight (g)	Roots weight (g)	Bulb weight (g)	Bulb diameter (cm)	Flowers duration (days)	Plants affected by <i>Botrytis cinerea</i> (n°)
CTRL	35,86 c	22,62 c	23,20 c	15,35 c	3,83 b	8,42 d	1,28 a
EM	40,38 a	27,75 a	27,59 a	18,21 a	4,81 a	12,02 a	0,00 b
BAC1	38,08 b	24,71 b	26,27 b	16,29 b	4,00 b	11,10 b	0,00 b
BAC2	37,84 b	24,35 b	25,76 b	16,35 b	4,00 b	9,83 c	0,46 b
<b>ANOVA</b>	***	***	***	***	***	***	**

One-way ANOVA; n.s. – non significant; \*, \*\*, \*\*\* – significant at  $P \leq 0.05$ , 0.01 and 0.001, respectively; different letters for the same element indicate significant differences according to Tukey's (HSD) multiple-range test ( $P = 0.05$ ).Legend: (CTRL):

control; (EM): Effective microorganisms; (BAC1): TNC Bactorr<sup>s13</sup>; (BAC2): Tarantula powder Advanced nutrients

**Table 3 - Evaluation of PGPR on agronomic characters and pathogen protection on Tulip**

Groups	Plant height (cm)	Vegetative weight (g)	Roots weight (g)	Bulb weight (g)	Bulb diameter (cm)	Flowers duration (days)	Plants affected by <i>Botrytis cinerea</i> (n°)
CTRL	25,94 c	31,13 c	27,62 b	32,93 c	5,66 b	6,83 c	2,00 a
EM	28,78 a	36,58 a	33,02 a	38,25 a	7,21 a	10,81 a	0,20 b
BAC1	27,31 b	32,10 c	32,51 a	35,71 b	5,83 b	7,62 c	0,42 b
BAC2	26,52 c	33,96 b	31,82 a	35,27 b	6,04 b	8,64 b	0,44 b
<b>ANOVA</b>	***	***	***	***	***	***	***

One-way ANOVA; n.s. – non significant; \*, \*\*, \*\*\* – significant at  $P \leq 0.05$ , 0.01 and 0.001, respectively; different letters for the same element indicate significant differences according to Tukey's (HSD)

multiple-range test ( $P = 0.05$ ).Legend: (CTRL): control; (EM): Effective microorganisms; (BAC1): TNC Bactorr<sup>s13</sup>; (BAC2): Tarantula powder Advanced nutrients



Table 4 - Evaluation of PGPR on agronomic characters and pathogen protection on Freesia

Groups	Plant height (cm)	Vegetative weight (g)	Roots weight (g)	Bulb weight (g)	Bulb diameter (cm)	Flowers duration (days)	Plants affected by <i>Botrytis cinerea</i> (n°)
CTRL	30,96 c	24,96 b	22,58 c	14,54 c	4,00 a	5,23 c	2,00 a
EM	35,71 a	27,66 a	25,89 a	16,36 a	4,20 a	7,41 a	0,00 b
BAC1	34,34 b	25,07 b	24,36 b	15,47 b	4,20 a	6,43 b	0,63 b
BAC2	34,71 b	25,00 b	24,69 b	14,84 c	4,20 a	6,62 b	0,21 b
<b>ANOVA</b>	***	***	***	***	ns	***	***

One-way ANOVA; n.s. – non significant; \*, \*\*, \*\*\* – significant at  $P \leq 0.05$ , 0.01 and 0.001, respectively; different letters for the same element indicate significant differences according to Tukey's (HSD)

multiple-range test ( $P = 0.05$ ). Legend: (CTRL): control; (EM): Effective microorganisms; (BAC1): TNC Bactorr<sup>s13</sup>; (BAC2): Tarantula powder Advanced nutrients



Figure 2 - Comparison between Effective microorganisms (EM) and control on vegetative and roots growth of Narcissus



Figure 3 - Effect of beneficial bacteria (BAC2) on roots growth of Tulip



Figure 4 - Comparison between of Effective microorganisms (EM) and beneficial microorganisms (BAC1) on vegetative and roots growth of Freesia





**Figure 5 - Effect of Effective microorganisms (EM) on vegetative growth and bulbs diameter of Freesia**

## CONCLUSION

The physical and chemical properties of the soil, organic matter and phosphorus content influence the presence of bacteria. The improvement in plant growth brought about by the activity of bacteria is a key aspect of achieving sustainable agricultural goals in the future. Microbes are the basis of nutrient cycles in the ecosystem. Knowledge of the composition of the biofertilisers used is essential to exploit the synergistic action of various microbes. Often the microorganisms are strain-specific, so you need to assess whether they are actually functional on the plant you want to cultivate. The development of sustainable farming techniques is driven by the growing demand for microbial-based products. Knowledge of soil characteristics and host specificity of microorganisms is the basis for successful production and application of microbial products. Biofertilizers can maintain crop productivity with a low environmental impact and can be an effective substitute for fertilizers, in particular improving the quality of ornamental flowering species. More research is needed in this field to identify new soil microbial strains that can be used for the formulation of new products applicable for improving the quality and resistance to biotic and abiotic stresses of potted plants.

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# INTEGRATED SOLID WASTE MANAGEMENT: A CASE STUDY OF A HOTEL IN KATHMANDU, NEPAL

Suja Giri

Environment Education and Sustainable Development, Kathmandu University, Lalitpur, Nepal

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## ABSTRACT

*The amount of solid waste is rapidly increasing due to urbanization. Kathmandu, the capital city of Nepal is facing the bigger challenges day by day which are usually caused by rapid urbanization and modernization of the city. Cities around the world are playing an ever-increasing role in creating wealth, enhancing social development, attracting investment and harnessing both human and technical resources for achieving unprecedented gains in productivity and competitiveness. This study explored the solid waste management practices of a hotel in Kathmandu. I used ethnographic research design in doing this study. The discussion was done with hotel staffs, waste management company staffs and an expert of the solid waste management field. Hotel has been highly benefitted from the integrated solid waste management system. There is proper system and record of waste generated, recyclables recovered and the amount of waste transferred to the landfill site.*

**KEYWORDS:** Solid waste, hotel waste, green hotel, Nepal

## 1. INTRODUCTION

Solid waste has become a burning problem of this contemporary world. The amount of solid waste is rapidly increasing due to urbanization (Khanal & Giri, 2016). The waste stream of our households consists of over 66% biodegradable component (ADB, 2013). If the source of waste generation does not make any effort, then all wastes are either disposed or incinerated leading to land wastage, air, water and land pollution, wastage of materials and energy, growth of unwanted animals, plants and microorganism etc (Agarwal, 2010). The solid waste can be sustainably managed in local level through the contribution and participation by the local people. For this reason, modern waste management strategy puts emphasis on the waste handling at the source of generation, so that reduce, reuse and recycling (3Rs) principle can be applied in various levels for material recovery and waste minimization.

The sustainable management of solid waste has become a strategic issue in most of the developing countries due to low budget and poor administrative practices (Ouda, Raza, Nizami & Rehan, 2016). Worldwide, increasing population density along with population migration from rural to urban areas and industrial expansion lead to great amounts of waste generation resulting in socio-economic and environmental issues (Vitorino, Gonzalez, Faceli & Casadei, 2017).

An efficient way to manage the solid waste is to produce energy and value-added products from waste (Rehan et al., 2016). The recycling could be categorized as the most positively received type of solid waste management practice and as an essential part of solid waste management (Renbi & Sutanto, 2002). In developed countries, solid waste is often viewed as an asset of recyclable materials, energy, and revenue, if wisely managed (Rehan et al., 2016).

Integrated solid waste management (ISWM) is a comprehensive waste prevention, recycling, composting, and disposal program focusing on how to prevent, recycle, and manage solid waste in ways that most effectively protect human health and the environment (Sridevi, Modi, Chandana & Kesavarao, 2012). ISWM involves a series of complementary actions to reduce and recover value from wastes, and to dispose in an environmentally sound manner of those wastes that for technical and economic reasons cannot be eliminated or recovered (SWANA, 2003). It is seen that the final disposal of wastes at sanitary landfills is given the lowest priority in an Integrated Waste Management approach.

Solid waste generation and disposal is one of the most negative impacts of hotels on the environment (Zorpas, Lasaridi, Voukkali, Loizia & Inglezakis, 2012). If the hotels make an attempt on managing their waste themselves, they will benefit economically as well as fulfill their environmental responsibility (Cingoski &





Petrevska, 2017). Waste reduction and recycling are coming to be recognized as the basic premises of all waste management (WEDC, 1990).

Waste reduction provides a number of long-term benefits to tourism facilities and their host communities such as cost savings, greater operational efficiency, environmental protection, improved image and customer satisfaction (Ezeahu, Fazakerley & Byrne, 2010). The mindset of the employees needs to be changed through conscious effort and constant training to make them understand the value of their contribution towards sustainability (Dongre & Joshi, 2012). It is essential to educate and train staff about waste minimization practices, along with providing incentives to enhance their commitment to the programme (Radwan, Jones & Minoli, 2009). If the organic wastes and dry wastes can be segregated properly, the value from the wastes can be obtained easily.

The hidden costs of waste include unnecessary time spent on waste handling, storage, and clean-up as well as the expense of disposing of materials that are not used and have to be written off as waste. These costs can represent a significant drain on a hotel's resources. Sometimes focusing on waste can lead to unexpected savings in other areas (Sustainability Victoria, 2006).

The tourism industry currently faces increasing demands from consumers to achieve levels of environmental responsiveness. Thus, companies strive to implement environmentally friendly and socially responsible practices to gain competitive advantage, while still maintaining commercial success (Anuwichanont, Mechinda, Serirat & Popaijit, 2011). Though the room, parking, open space and even sewerage canal are properly built, it is difficult to find a hotel that even looks after the proper management of solid wastes within its premises.

## 2. RELEVANT LITERATURES

Hotel generates large amount of food wastes, followed by dry wastes and hazardous waste. It is known that of all the different types of waste, food waste is one of the most important materials to divert from landfills due to the fact that it decomposes to create methane, a potent greenhouse gas which significantly contributes to climate change (Pirani & Arafat, 2014). Not much literature is available on waste management in the hospitality industry. For example, a 2012 review of environment-related research articles published in major hospitality journals accounted for only 58 articles in the period from 2000 to 2010 (Myung, McClaren & Li, 2012). Most of the literatures explain the food waste to be of huge volume waste produced from the hotels.

A study done in 120 different hotels of Vietnam found that the waste recycling and composting potential of the hotel's SWM should be analyzed, assessed in detail and planned explicitly for deployment, aiming to minimise waste generation (Phu, Hoang & Fujiwara, 2018). A study on SWM practice of five-star hotels in Cairo, Egypt indicated that, although these hotels sorted waste at source successfully, reduce, reuse and recycle practices were not effective (Phul, Hoang & Fujiwara, 2006). Another study

carried out in 52 different hotels of the United Kingdom found that recycling was the most widely adopted waste management strategy, with waste prevention and reuse methods being considerably underutilized (Lazareva, 2016).

A survey conducted in 349 hotels found the two major directions that need to be followed when introducing environmental sustainability into the hotel industry. The first involves incorporating responsible technical and behavioural practices in the sector. The second highlights the necessity of initiating greater demand for "green" practices from the customers (Paulina, 2006).

A case study done in hotels of Zimbabwe and South Africa found that some hotel managers do not implement green management initiatives to mitigate the environmental problems emanating from their hotel operations (Mbasera, Plessis, Saayman & Kruger, 2016). The subject of environmental sustainability in hotels is relevant, and it is directly related to the global concerns with the survival of the planet itself (Rosa & Silva, 2016).

In most tourism facilities guest rooms, kitchens, restaurants, laundries, offices, gardens and conference rooms generate large volumes of solid waste which can result in negative ecological, disease and aesthetic impacts (UNEP, 2013). These wastes could be hazardous and should be managed in proper way.

A study conducted to know the practices of hotels in Vietnam regarding energy, water and SWM, 60% of surveyed hotels were found to be selling food waste to local collectors to be used for feeding animals, 10-30% of solid waste was separated and sold to local collectors for recycling and 10-30% of reusable items (e.g. plastic bottles and cans) were sold to local scrap collectors (Trung & Kumar, 2005). A study conducted in Zimbabwe revealed that there is no existing legislation for environmentally-friendly initiatives to be mandatory in hotels (Mbasera, Plessis, Saayman & Kruger, 2016).

Taiwan has a successful waste management system due to the combination of integration technologies with strong government enforcement for appropriate policies. The food waste (FW) management model of Taiwan could probably be applied to address the FW issue in developing countries (Chang, Liu, Hung, Allen & Chen, 2008). In 2002, Taiwan executed a program called "Total Recycling for Kitchen Garbage," which targeted segregating and collecting FW from residential areas, restaurants, and hotels. The 80% of collected FW was used for animal feeding and rest 20% for producing fertilizer (Chen & Geng, 2008).

A study conducted in Zimbabwe revealed that there is no existing legislation for environmentally-friendly initiatives to be mandatory in hotels (Mbasera, Plessis, Saayman & Kruger, 2016). Government regulations, consumer demands, professional ethics, and the initiatives of professional associations, international organizations, and non-governmental organizations are the key forces in the hotel industry worldwide (Erdogan & Baris, 2017).

The hidden cost of waste includes unnecessary time spent on waste handling, storage, and clean-up, as well as the expense of disposing of materials that are not used and



have to be written off as waste. These costs can represent a significant drain on a hotel's resources. Sometimes focusing on waste can lead to unexpected savings in other areas (Sustainability Victoria, 2006). If the wastes are properly managed at source, the storage and transportation time and cost are reduced.

The hotel industry is undergoing a quite transformation. An increasing number of hotels are demonstrating that by taking a few simple steps, they can save money and resources by reducing their waste while also making a positive difference for the environment. In addition, more and more travelers expect that the places they stay are environmentally conscious, and are favoring hotels that demonstrate this awareness in their everyday practices. One of the simplest and most effective ways that hotels can lessen their environmental impact is to reduce the amount of waste that they produce (Sustainability Victoria, 2006). Since tourism activities are linked to the characteristics of the setting, businesses in the tourism industry (such as hotels) depend on the sustainability of a high-quality environment and therefore, have a role to play in the enhancement of natural and cultural resources (WTTC, 1996). Hotels often generate large quantities of solid waste, in the form of packaging materials, kitchen and garden waste, old furniture and equipment, and potentially hazardous waste such as asbestos and solvents.

### 3. RESEARCH QUESTIONS

Below were the research questions for this study.

1. How is the solid waste management practices adopted by Hotel Namaste?
2. How do hotel management people find the level of difficulty in ISWM?
3. How do hotel management people find ISWM in practice?

### 4. METHODOLOGY

My study has incorporated a vivid dimension of waste management aligned to the Ontology query such as, "how they are and what they do (Shrestha, 2015)." I have used a case study for carrying out this study which is often described as qualitative inquiry (Creswell, 2014). I have used purposive sampling method to choose a hotel as I wanted to select a unique case that is especially informative (Ishak & Bakar, 2014). I studied hotel Namaste (pseudo name) that has been practicing ISWM in Nepal. For gathering information, I had interviews with the staffs from kitchen and stewarding and housekeeping as well. The interviews were also carried out with the waste management company, working staffs and waste buying vendor. Along with this, the perception of waste management expert was also drawn to capture the overall scenario of waste management in Nepal.

### 5. DISCUSSION

Earlier the waste was collected by private vendors on daily basis. All the wastes generated from hotel were collected in bins in different departments of hotel. Then the bins were bought to the cold room for storage of waste material. So, from there the waste was directly loaded in

the truck. The segregation was done in the truck itself and rest of the material were transferred to landfill site directly for dumping. Hotel had no exact data of how much waste was generated, recycled and dumped. Hotel simply paid monthly for their waste disposal to the earlier vendors. This was the scenario of the waste management of the hotel Namaste around two years ago.

Currently a private company has been involved in the process of waste management system of the hotel which is practicing integrated solid waste management system within the premises of hotel. They have been practicing waste segregating at the source in every departments of the hotel. For this, they have separate bins in blue and green color. Blue bin is for dry waste and green bin is for wet waste. The collected waste is carried to the material recovery facility (MRF) for further processing. Wet wastes that are edible or that comes from kitchen are sold as a feed for animal farm where other remaining wet waste are processed by machine and made into compost that is sold in the market. The remaining dry wastes are further segregated into different categories and stored separately for selling to different vendors. Lately, they have also been practicing for the processing of rejected waste for its recovery. In this process, they have tried recycling tetra pack and thermacol. However, during my observation and discussion with the food collector, I came to know the source segregation is not fully practiced by the hotel. Integrated solid waste management (ISWM) has been introduced to streamline all the stages of waste management viz. source separation, collection and transportation, transfer stations and material recovery, treatment and resource recovery and final disposal (Memon, 2010). During the study, I found that there is no proper source segregation of the waste. The waste collection by the vendor is also not satisfactory as food leftover is properly ensured taking out recyclables before transportation. There is no full treatment of all the wastes collected.

The hotel confirms that the waste segregation gets mixed during the big events and program. The hotel has limited staffs and all are busy in other works. The bin placement and waste storage portion are not properly handled by staffs during the rush period. According to the Integrated Sustainable Waste Management framework' structured by Van de Klundert, member of the Dutch NGO WASTE, stakeholder is one major dimension of ISWM (Garcia, 2017). It includes the waste workers roles and responsibility for effective solid waste management. The voice representation is a also major part of integrating waste workers into the channel. The company which is managing the waste of the hotel should not shadow this issue.

The hotel management and the waste collection company both face several difficulties with the ISWM practice at the hotel. The major challenge faced by the hotel is the late pick up of the collected waste. If the waste remains unpicked for longer day the environment of the hotel is affected. It gives the poor hygiene remarks and gives negative influence to guests.



Landfill often remains closed time to time due to conflict with locals at Okharpauwa i.e. where landfill is located this becomes the major challenge for the company that manages waste. Compared to previous scenario the waste that goes to landfill is much lesser in quantity even though piling the waste and storing it for many days does create problem. The other difficulty seen is that, when there are big event in the hotel it is tough for hotel staff to follow segregation in rush hours so they throw the waste randomly which further makes difficulty in final segregation. The other issue they often faced is to search the staff for waste segregation department. As it is a tough job and is not considered as white color job it is difficult to get a staff for this section. The other challenge they frequently face is the interference from earlier vendors. They come to waste company time to time and disturb them in their functioning.

Hotel highly benefits from the integrated solid waste management system being followed because it gives positive message towards guest as they are fulfilling their environmental responsibility by less polluting their surroundings. The systematic management of waste helps them record the total waste generated, recovered and sent to landfill. From this, the hotel can minimize their loss on excessive wastage that can be controlled. Main problems associated with waste management in most developing countries are low waste collection rates, low recycling levels (recycling limited to informal recyclers) littering, and inappropriate final disposal. Due to the implementation of ISWM at this hotel, there are positive changes experienced by the hotel management. The waste collection and disposal frequency is comparatively higher than earlier waste collectors. Apart from that, the company has been able to obtain maximum recyclables by segregation of waste at its MRF.

## 6. CONCLUSION

My three research questions were about the practices of waste management at Hotel Namaste, views of hotel management regarding the implementation of ISWM and difficulties faced in the implementation of ISWM at the hotel.

From the study, I came to know that the current waste management system of the hotel has changed since the implementation of integrated model of solid waste management. The waste collection frequency has increased as the waste workers have been deployed at the site for regular waste collection.

There was no proper source segregation of waste mainly in the kitchen areas. Though there are different roles and responsibilities assigned to both the parties (hotel and company). I found the lack of proper coordination between Hotel Namaste and Jagaran Nepal. Due to this, the impact has been seen over the food waste collecting vendors. The vendors need to re-segregate the food waste to remove recyclables before transferring it to the farm.

The hotel confirms that the waste segregation gets mixed with them during the big events and program. The hotel has limited staffs and all are busy in other works so

there is less time for proper segregation. The bin placement and waste storage portion are not properly handled by staffs during the rush period. Apart from that the landfill obstruction has also caused problem to the company. One of the main challenges of ISWM is coordinating the stakeholders and getting them to work together for a common goal (Anschutz, 2004). Due to the lack of coordination between hotel, company and related stakeholders, there is problem in the implementation of ISWM in the hotel.

The waste segregation at the source is not satisfactory. The waste transportation to the MRF is also time consuming. Though the recovery of items is better, still the manual process of re-segregating waste is time consuming. Apart from this, the hazardous waste are not properly treated and transferred to the landfill site. Thus, the hotel fails to implement the fullest ISWM system.

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# FOREIGN DIRECT INVESTMENT IN INDIA-AN INVINCIBLE WAY FOR ECONOMIC DEVELOPMENT

CMA Sandip Basak<sup>1</sup>, Rohan Prasad Gupta<sup>2</sup>, Priyajit Kumar Ghosh<sup>3</sup>

<sup>1</sup>State Aided College Teacher (Category – I), Department of Commerce, Surendranath College for Women Kolkata, West Bengal, India

<sup>2</sup>M.Phil. Research Scholar, JRF, Department of Commerce, University of Calcutta

<sup>3</sup>NET, M. Com., University of Calcutta

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## ABSTRACT

*Foreign direct investment plays a vital role in the development of a nation. The present research work aims to analyse the impact of FDI inflows on annual GDP and per capita GDP, that is, to understand the impact of FDI on Indian economy since the implication of LPG policy in India. Simple linear regression models has been used for analysis purpose and based on the results, suitable implications has been drawn.*

## I. BACKGROUND OF THE STUDY

India is emerging as a preferred destination for Foreign Direct Investment (FDI), half of which is in the manufacturing sector in market value terms, as per the latest census on Foreign Liabilities and Assets (FLA) of Indian Direct Investment companies. India's FDI stock was nearly four times its outward direct investment. With strong cross-border trade linkages, both Indian and foreign cross-border subsidiaries recorded good business growth during 2016-17. The effects of FDI are found to be diversified but dependent on recipient economy's absorptive conditions, including its institutional set-up, and the degree of complementarity and substitution between domestic and foreign investment. It promotes economic growth by supporting industrial activity and employment through transfer of technology and physical capital while also stimulating domestic investment. It also fosters global trade and facilitates integration into the global economy more successfully than other modes of capital flows. The market value of the FDI stock (including investment flows and valuation changes) increased by 9.7% during 2016-17 and stood at Rs. 23,387 billion in March, 2017 of which nearly 94%

was held as equity. On the other hand, the stock of Outward Direct Investment declined by 9.8% during the year to Rs. 5411 billion. Inward FDI has witnessed average annual growth of 14.3% since 2012-13. In this study, the researchers have taken an attempt to identify the impact of FDI on the annual Gross Domestic Product of India.

## II. REVIEW OF LITERATURE

Azhar & Marimuthu (2012) has identified different determinants of FDI. India's stable economic policies, availability of cheap and skilled labour, availability of required infrastructure, sound legal system, availability of large volume of natural resources and existence of unexplored markets has attracted foreign investors to invest in India. Malhotra (2014) has stated FDI policy of India has been gradually liberalised to make the market more invest friendly. It has also supplements domestic capital, technology and skills of existing companies and also helps to established new companies. Vyas (2015) stated that there is a 34% growth in FDI inflow in 2015 over 2014. Countries like Mauritius (34%), Singapore (14%), U.K (9%), Japan (7%), Netherland (6%) having highest FDI investments in India. Researcher stated that FDI has an important stimulus for the economic growth in India.



Duggal (2017) has found that percentage share of FDI's inflow is more than 44 percentage of total foreign investment throughout the study period of 17 years (i.e. 2005-2017) except the year 2005 & 2006. Researcher also identified that FDI has increased 9.92 times from 2005 to 2017 (i.e. USD 60082 million). Singh (2019) stated that higher volumes of FDI have come in service sector, computer software & hardware sector, telecommunication sector, construction development, automobile industries etc. service sector has able to attract maximum FDI followed by manufacturing sector. Make in India programme has high potential for making India a global hub for manufacturing, research & innovation.

### III. OBJECTIVE OF THE STUDY

The main objective of the present study is to analyse the impact of FDI inflows on GDP, that is, to understand the impact of FDI on Indian economy since the implementation of LPG policy in India.

### IV. ANALYSIS AND FINDINGS

FDI as an essential part of investment is required by India for its sustainable financial development and improvement. FDI is vital for creation extension and of manufacturing units, medical care facilities, education, R&D, infrastructure, retailing and in long-term sustainability.

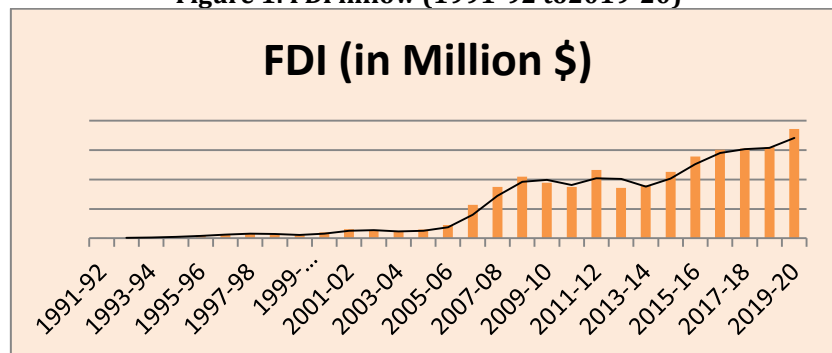
The current study is empirical in nature and looks at what FDI means for the Indian economy by portraying FDI inflows and development elements of Indian economy. To analyse the relationship between them, annual as well as per capita GDP figures and FDI inflow figures has been taken under consideration. The study period is from 1991-92 to 2019-20, that is, from the year of implementation of LPG policy in India. Under this study linear regression model has been used to test the research hypothesis.

*Research Hypothesis:*

*H<sub>01</sub>: There is no significant relationship between FDI and Annual GDP, that is, they are independent of each other.*

*H<sub>02</sub>: There is no significant relationship between FDI and Per Capita GDP, that is, they are independent of each other.*

Figure 1: FDI inflow (1991-92 to 2019-20)



Source: Data collected from and compiled by the researchers

The above table shows that FDI inflows in India through various routes have grown tremendously post the 1991 reforms significantly. To the extent that growth pattern of FDI is witnessed, there has been very amazing development of FDI inflow into the

Indian economy during this post-liberalization period starting from 1991-92 to 2019-20. However, India is a long way behind in contrast other developing nations like China.

Table 1: Regression - Model Summary <sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F Sig.
1	.970(a)	.941	.938	216603.10575	.000(a)

a Predictors: (Constant), Foreign Direct Investment

b Dependent Variable: Annual Gross Domestic Product

Source: Computed by the researchers through IBM SPSS 15.

Here, the dependent variable is Annual Gross Domestic Product and independent variable is Foreign Direct Investment with a constant. The Adjusted R Square value is 0.938 which implies that

93.8% variation in Annual Gross Domestic Product is predicted from the independent variable Foreign Direct Investment.



The F test is statistically significant as p value is less than 0.05 and hence the model is a good predictor. We can assume that the model explains a significant amount of the variance in Annual Gross

Domestic Product and hence it can be concluded that there is significant relationship between FDI and Annual GDP, that is, they are not independent of each other.

**Table 2: Regression - Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F Sig.
1	.969(a)	.939	.936	153.41213	.000(a)

a Predictors: (Constant), Foreign Direct Investment

b Dependent Variable: Per Capita Gross Domestic Product

Source: Computed by the researchers through IBM SPSS 15.

Here, the dependent variable is Per capita Gross Domestic Product and independent variable is Foreign Direct Investment with a constant. The Adjusted R Square value is 0.936 which implies that 93.6% variation in Gross Domestic Product is predicted from the independent variable Foreign Direct Investment.

The F test is statistically significant as p value is less than 0.05 and hence the model is a good predictor. We can assume that the model explains a significant amount of the variance in Per Capita Gross Domestic Product and hence it can be concluded that there is significant relationship between FDI and Per Capita GDP, that is, they are not independent of each other.

Expanded FDI inflow in India in on-going period can be bantered to be supported by the genuinely steady Gross domestic product development rate, where it proceeded as a significant lift towards a legitimate high domestic investment. As both the null hypothesis has been statistically rejected, there is significant impact of FDI inflows in both total annual GDP and Per Capita GDP, signifying a positive impact on the Indian economy.

Increase in FDI inflows in Indian economy shows that there is a decent pattern of investment which eventually brings about expanding the Gross domestic product and development of the country, which we have found in our study that increasing trend of FDI additionally builds the Gross domestic product of the nation.

## V. CONCLUSION

On the basis of above analysis, researchers conclude that FDI inflow has a positive impact on the GDP of the nation and in plays a significant role in overall economic development. Capital, both physical and human capital that is being moved to the host country by the FDI route, subsequently adds to the value creation of the host country, which is also evident in case of India, as supported by our analysis. Henceforth, the inflow of FDI into the economy leads to increase in per capita GDP, that is, per capita income and enhancement of purchasing power of the masses. This in turn leads to improvement of

standard of living and holistic development of the nation.

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# THE ENGAGE MODEL: A FACILITATOR'S FRAMEWORK FOR LEARNER ENGAGEMENT

**Dr Sheela Philip**

*Associate Professor, St Teresa's Institute of Education, Mumbai*

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## ABSTRACT

*Give the pupils something to do, not something to learn; and the doing is of such nature as to demand thinking; learning naturally results. John Dewey*

*Teachers, as facilitators of learning, are constantly soul searching, looking for sound transaction styles that are known to raise teacher efficiency. Making classrooms spaces that are joyful, learner-centric and engaging requires enormous portions of ingenuity on the part of a teacher. 'Learning-by-Doing' is a psychologically robust way of learning. It not only etches lasting memory but also makes the process of learning a meaningful experience. Self-learning within groups instils lessons on collaborative and social discipline and thus prepares the learner to face adversity in preparation for life. An effective curriculum should provide for multiple intelligences to fruition, thus raising correlation between subjects, providing scope for every student to engage in the act of discovery. Unplugged education, outdoors education, learning through engagement are all hands-on strategies that are novel and significant in holding attention levels in an era that is overwhelmed by technology and digitisation. The 'STEAM Curriculum' holds great relevance in contemporary education and it stems from learning engagements advocated by this model, permitting multidisciplinary correlation and reflection on action.*

*This paper provides the framework of a lesson that is transacted hands-on through inquiry and reflection. It provides a prospective teacher of this model with the syntax and the pathway of deliberation. This is a general prototype that bears a multidisciplinary essence and thus can be extrapolated in varied situations, levels and academic disciplines of learning.*

**KEYWORDS:** *Discovery Method, ENGAGE Model, Experiential Learning, Pragmatism, STEAM curriculum*

## INTRODUCTION

In Europe and the United States of America, the 19th century was regarded as an age of creative dynamism. The Industrial Revolution heralded the entry of nascent concepts such as Democracy and Industrialisation into the educational deliberations as they were understood to be significant precursors of economic progress. Embracing science and technology in the arena of industry ushered in newfound prosperity, raising standards of living among the mushrooming societies. This triggered a new wave of human immigrants into the continent of America, impacting the transaction style of education within the emerging plural and diverse communities.

The nineteenth century saw the crystallisation of several sublime ideologies put forward by European

thinkers and scholars, questioning the creditworthiness of Western education. Philosophers and psychologists frowned upon the schooling system that certified the learner as academically potent who in reality seemed unenlightened. Productivity reflected an upward economic trend; however the lives of people were impoverished. Unanimous collective wisdom among the scholarly pointed to the fact that instruction at school failed to cater to individual differences among heterogeneous groups of people, pedagogy was constructed on a framework that was ill-researched and rigid, that it failed to generate the desirable outcomes of schooling.

John Dewey, an American philosopher, embracing the Pragmatic school of thought, advocated experiential learning, which endorses learning by



doing, where the role of a teacher is to curate an environment that nurtures self-learning through engagement. This in turn leads to discovery learning. He is heralded as the most influential educator and philosopher of the twentieth century for his views on progressive education.

The Laboratory School established by Dewey in 1896 at the University of Chicago bears testimony to his strong belief in the Discovery Method. His ideology pivoted on democratic education that was collaborative: where conjoint, cooperative activity among learners would enable them with social skills and efficiency that would lead to self-reliance. This premise was hailed by Dewey's student, Professor William Kilpatrick, who reposed great trust in 'learning by doing'. Kilpatrick propounded the Project Method, practiced in experimental schools that are student-driven and where 'inquiry and reflection' are rewarded. Such education is understood to empower the learner in his socialisation process, thus preparing for life.

This model that I have curated is structured on Dewey's Discovery Model of learning. It is a versatile learning model framework for facilitators and mentors across disciplines. The syntax of the model highlights the subtle yet responsible role that a teacher plays in reaching out to each student in the learning cohort.

### The ENGAGE Model

The syntax of learning through experiential learning and discovery has been elaborated upon below, using the acronym ENGAGE.

#### Phase 1:

**EXPOSURE:** This model strives to provide the learner with contrived experiences and thus the educator must pay heed to providing the learner with a panoramic canvas that can showcase variables of learning that are distinct. It is important that we take into consideration the learning styles, attitudes, aptitudes, interests, passions, levels of curiosity, intellectual states of mind, and so on in a learner. The wider the flexibility the engagement permits, greater is the funneling of learning. The educator should ensure that the task at hand is novel; this will then provide the external stimulus that can spark internal curiosity and motivation, which will goad the learner to proceed with complete immersion in the task at hand. This model will fruition into an abundance of positive outcomes when the learners are placed in a conducive learning environment or group. Needless to say that the task at hand should be meaningful to the learner. The outcome of the task paves way to an eclectic collage of ideations, deriving its essence from multiple designs of learning. The model is best practiced as a group activity and it exalts team spirit and collective wisdom.

Completion of the task entails experiential learning, cooperative learning, collaborative learning, discovery learning... all well-integrated into a trans-disciplinary learning style.

#### Phase 2:

**NAVIGATE:** This phase does the spadework of scaffolding the group with instructions and guidelines, illuminating the group regarding the task at hand. The scope of the activity is defined by streamlining the limitations, setting delimitations, and charting geographic jurisdictions within which the task should navigate. Interaction during this stage is initiated by dialogue and it encourages a free flow of ideas and queries. No question that comes up is considered insignificant and the group is empowered with the motivation that would see them through the activity. This is also considered a warm-up stage, where roadblocks are cleared and the facilitator prods the group dynamics to set rolling. At this stage care is taken to ensure that the group is emotionally bound cohesively with right relationships that would help in facing challenges and gaining self-knowledge. This mentoring is considered vital as it aims to guide students to navigate through dialogue, enquiry and critical thinking. The group is taught to nurture consideration within groups and to curate creative intelligence. This is an exercise that demands self-discipline.

#### Phase 3:

##### GATHER DATA:

At this stage, the peers work in tandem engaged in self-reflection. This promotes an insightful surge of collective wisdom and prudence; thus the group collectively pursues a common goal. It is at this stage that emotions of we-feeling are best experienced within the group. To each member the task seems light as the yoke rests on several shoulders. Garnering of individual strengths to pool in the best data comes to the fore. Each task demands a set of multiple intelligences that enables every member of the group to have a contributory role in the attainment of the task. The satisfactory completion of this instils a feeling of self-empowerment. Division of labour and raised self-esteem surface within groups. The transparency in the group interaction raises the accountability of its members. The educator's subtle and unarticulated presence within the group ensures credibility to the work in progress. The focus here is on creating a heap of authentic, researched epistemology.

#### Phase 4:

##### AUGMENT:

During this phase, the group converges to assimilate



the theoretical elaborations gathered as data. Valuable pertinent information derived is then augmented contextually to offer social relevance. Intellectual deliberations within the group are used to provide an analysis, causing a systematic unfurling of understanding. This stage is significant as it enables members of the group to offer justifications as personal insights. The analysis initiates and sustains dialogue, leading to comprehension. This in turn raises the self-worth of the group as the assigned task is rendered lucid and emerges with refinement. The work is now ready for projection. This is the most significant as it directly impacts the purpose of the activity.

### Phase 5:

#### GUSH:

It is at this stage that the members of the group actually bask in the glory of their endeavour. Members are given a chance to enlighten with exaggerated enthusiasm their personal learning insights. Stress should be paid to ensure that the outcome of this learning engagement is ready for extrapolation in new and unseen situations. Personal testimonies, recounts are voiced within one's small group and then broadcast as outcomes of the engagement to the larger cohort. This phase showcases the worthiness of the discovery made through collaboration and the accomplishment of this cooperative exercise.

### Phase 6:

#### ENVISAGE:

It is the windup stage; however, it is a significant step as the experiences are etched as outcomes of the task assigned. The report handed in by the cohort is valuable as it would throw light on the deliberations made by the group. The effectiveness of this activity is immortalised as a research finding and the epistemology envisaged by the group is shared for the larger good. To members of the group, practical engagement would probably be the first and often the right step in the pursuit of their passion.

### Prototype ENGAGE Model (A Learning Engagement Plan)

**Level:** Higher Education

**Objective of the Task:** To carry out a 'Green Audit' of your educational campus

**Methodology / Design:** Experiential learning (hands-

on), Collaborative Learning, Cooperative learning, Correlational learning, Discovery Method

**Approach:** Multi-disciplinary. Use of the educational apps, Self-directed learning, Spiritual reflections

**Pedagogy Correlations:** Literature, Technology, Science, Environmental Studies, History, Geography, Mathematics, Holy Scriptures

### Expected Outcomes of the Task:

- 1) The student collates data from the assigned geographical region (college campus) assigned for the task.
- 2) The student comprehends the use of the technological app (e.g., Plant Finder)
- 3) The student gathers authentic counts of the vegetation in the campus.
- 4) The student compiles a green audit of his / her campus.
- 5) The student reflects on his / her role as a responsible environmental steward and draws up a personal narrative on environment conservation through environment consciousness (not less than 700 words)
- 6) The student engages in self authenticating and documenting the 'work-in-progress' using Geo-tagged pictures
- 7) The student engages in collating comparative insights on the indigenous green cover of the region along a timeline.
- 8) The student is introduced to a healthy outdoors leisure activity that is of critical importance to the learner's immediate future.

### Instructions to Learners:

- 1) Download the apps of your choice that would enable you to identify vegetation e.g., 'Plant Finder' and geo-tag the pictures that you take e.g., with 'Geotag Camera' from 'Play Store'.
- 2) Identify vegetation growing in the region allocated to you using the app e.g., 'Plant Finder'.
- 3) Tag the plant in the campus once it has been numerically accounted for to ensure accuracy of count.
- 4) Classify data gathered on the green cover (vegetation) into a spreadsheet.
- 5) Authenticate your role in this engagement using geo-tagged pictures.
- 6) Create a reflective text on the relevance of this exercise.





Name of Campus Site: College Backyard											
Serial Number	Name of Plant	Vegetation			Number of Plants	Origin		Type		Life in Years	
		Tree	Shrub	Herb		Indigenous/ Native	Cultivated	Deciduous	Evergreen	Perennial	Annual
1	Mangifera indica (Mango)	Y	N	N	1	Y	N	N	Y	Y	N
2	Musseanda	Y	N	N	2	N	Y	Y	N	Y	N

### Operational Definitions of terms related to the task:

1. Trees : Woody perennial plants, typically having a single stem or trunk and bearing lateral branches and leaves. Their stems are more than 2 inches in diameter and have attained a height of more than 3 feet.
2. Shrub : A woody plant, smaller than a tree and having several main stems arising at or near the ground. Their stems are less than 2 inches in diameter and have attained a height of less than 3 feet.
3. Herb : Any plant bearing leaves, seeds or flowers. That does not have a woody stem and that dies down to the ground after blooming.
4. Deciduous : Vegetation that sheds leaves seasonally or annually.
5. Evergreen Trees : Vegetation that are non-deciduous. Those that do not shed leaves.

### Discussion of the Model

**Premise:** This model takes into account that learners are highly motivated to engage in activities within groups. Peer learning strengthens cohesive bonds among learners, resulting in positive learning outcomes. Learners today are digitally savvy and the incorporation of technology in education eases the demands made by traditional teaching. Outdoors education and unplugged education is a welcome shift from education that is heavily dependent on technology, right through the stages of instruction. Responsible decision making skills can stem from 'Reflection-in-Action' and 'Reflection-on-Action'.

Mentoring here demands an in-depth understanding of each student's strengths and weaknesses. Teachers deliberate differently with each ward, judiciously raising insightful advances in the arena of learning. Teachers should also be aware of individual learner capacities and augment it with the help that can be garnered from peer mentors. Here, it is of importance that teachers understand the 80 : 20 ratio of the Pareto Principle and use it to one's advantage. This implies that the teacher is not the only instructor in the learning group. Such practices demand great ingenuity and resilience from teachers. However, the dynamic sociometry such engagements initiate and sustain are a

source of gratification to a teacher who dares to venture into the style propagated by the discovery method.

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# A CASE STUDY ON YOUTH PERCEPTION TOWARD MOBILE BANKING USAGE-WITH REFERENCE TO STUDENTS OF MANGALORE CITY

Mrs. Divya M P<sup>1</sup>, Dr. C.K. Hebbar<sup>2</sup>

<sup>1</sup>Assistant Professor, Government First Grade College for Women, Balmatta, Mangalore-575002, India

<sup>2</sup>Reseach Guide, Srinivas University, Mangalore, India

## ABSTRACT

*Banking plays an important role in economic development. Information technology (IT) has evolved and has changed the way the business conducted. Banks are offering innovative technology-based services to their customers. As technology changes banking sectors introduced Digital Banking, which facilitates their customers to use banking services from any place at any time. The banks are connected to their customers using internet. Digital banking is the fastest growing channel of banking. A rapid increase in the usage of smartphones among youths in India with banking applications in mobile device has a development in Mobile banking. Mobile banking usage is increasing in recent days is due to the easy to operate and convenient way of banking. Digital banking allows customers to check account balances, funds transfer, and payment of bills and access to many other banking products and services from anywhere and at any time. Youth plays an important role in building our nation stronger. This paper analyses the key factors attracting youths toward E-banking and problems in adopting E- banking among youths in Mangalore Region.*

**KEY WORDS:** Information Technology (IT), Digital Banking, E- banking

## 1. INTRODUCTION

The latest innovations in technology are dramatically shifting our economic system as well as society into a different world. These innovations will be further multiplied by emerging technologies in fields such as machine learning, nanotechnology, robotics, energy storage and quantum computing.

RBI (2014) reported that mobile banking transactions are economically compared to traditional banking and therefore there is need for banks to encourage the mobile banking channel in a better way to encourage mobile banking channel keeping in mind long-term economic gains. Mobile banking allows customers to conduct banking activities using mobile phones sitting in remote places. That means customers need not to visit banks.

Youths play an important role in the development of nation. With rapid growth of technology youths are more using the latest technology. They are becoming more digitally literate in a faster rate and they are more exposed to usage of digitalization. Smart phone usage among youths rapidly increased. The study is mainly conducted toward mobile banking usage in the youth group of customers. This paper analyses the key factors attracting youths toward Mobile banking and

problems in adopting Mobile banking among youths in the Mangalore Region.

## 2. LITERATURE REVIEW

(Ganesan, 2009) E-banking is a generic term that includes internet banking, phone banking, mobile banking, etc. It is a process of delivery of banking services and products through electronic channels such as telephone, Internet, mobile. E-banking has improved efficiency and convenience of banking services, but it still has several problems and challenges in front of it that must be solved.

(Pria, 2009) RBI and government of India have taken several initiatives for developing E-banking in India. RBI has made considerable progress in consolidating existing payment and settlement system and in upgrading technology for establishing efficient, integrated and secure system functioning in a real-time environment. Indian Government has passed the IT Act 2000, which provides legal recognition to electronic transactions.

(Dehaballalaa E I Badrawy, 2012) In study it was found that there was resistance to accept Mobile Banking. Resistance leads consumer's response into three forms. It may take the form of



direct rejection; it may be the postponement of acceptance or opposition.

(Bansar march 2016) it was found that Mobile Banking adoption was a complex and multifaceted process, and considering customer's risk along with it is also important than analysing adoption alone. It was necessary for bankers to study the factors that are suitable and adoptable for customers, which will help them in designing mobile services.

(Aithal, 2016) (Q, 2006) (I, 2003) In this study, a model of an ideal banking system was proposed by considering the ideal characteristics expected under input conditions, output conditions, system requirements, and environmental conditions. Some of the possible technology supported models that support the concept of Ideal banking were identified and analyzed. It was found in a study ubiquitous banking system based on mobile banking technology is a perfect model to realize the ideal-banking system.

### 3. OBJECTIVES OF THE STUDY

1. To know the demographic profile of customers who use Mobile Banking
2. To know there is no significant relationship between demographic characteristics and mobile banking usage.
3. To study the perception of youth toward Mobile Banking
4. To study the problem faced during Mobile Banking

### 4. RESEARCH METHODOLOGY

The study is descriptive and empirical in nature. Both Primary and secondary data collected for the study. Primary data are collected from 100 respondents through a structured questionnaire. The structured questionnaire is prepared in Google form and is mainly in the form of five point Likert scale. Respondents were selected based on a random sampling technique. Secondary data are collected from various journals, articles, websites of RBI & other banks.

### 5. SAMPLE DESIGN

Primary data are collected from 100 respondents through a structured questionnaire. The structured questionnaire is prepared in Google form and is mainly in the form of five point Likert scale. Respondents were selected based on a random sampling technique.

### 6. STATISTICAL DESIGN

Descriptive statistical tool –Percentage method is used to know findings of the study. SPSS software was used to find the mean and standard deviation of study variable factors.

### 7. GEOGRAPHICAL AREA

Respondents for the study has been selected from youth group of mobile banking users of Mangalore city.

### 8. RESULTS

- Table 1 shows demographic profile of respondents. Most respondents are male, majority respondents are graduated and 33% Majority of respondents family income level is between Rs.50000 to Rs.1 Lakh. From the above table, there is no significant relationship between demographic characteristics and mobile banking usage.
- Table 2 shows 43% of respondents using Mobile Banking for 2–5 years and 38% of respondents using Mobile Banking less than 2 years and 19% respondents using more than 5 years.
- Table 3 shows that 45% of respondents are at high level usage of Mobile Banking, 35% respondents at a moderate level of usage and 20% respondents are at low level usage of Mobile Banking.
- Table 4 shows that, the mean for factors were from (4.62) to (2.95). In which 24/7 banking got the highest mean (4.62) and SD (.693), easy to operate (4.56) mean and SD (.756), quick transaction got mean (4.33) and SD (.995), user friendly (4.18) mean and SD (1.038). Lowest mean is for Reliable and safe factor with mean (2.95) and SD (1.417). The data were interpreted using Likert's scale with 5 point scale ranging from strongly agree (5) to strongly disagree (1).
- Table 5 shows the mean for the study variables was high from (4.71) to (3.84). To recharge mobile majority of respondents use Mobile banking with highest mean (4.71) and S.D is (0.461), online shopping with mean (4.46) and S.D (0.846) and to check balance moderate mean (3.84) and SD (1.161). The data were interpreted using Likert's scale with 5 point scale ranging from strongly agree (5) to strongly disagree (1).
- Table 6 shows that most 20% of respondents agree to a great extent Mobile Banking is secured and 7% have opinion of not at all secured.
- Table 7 shows the highest mean (4.65) and S.D (.479) for a complicated procedure, which shows that most of them are selected not at all. With lowest mean (2.22) and S.D (1.151) shows most respondents facing



network issues during Mobile Banking. The data were interpreted using Likert's scale with 5 point scale ranging from very much (1), somewhat (2), a little (3) very little (4) and not at all (5).

### 9. SUGGESTION

1. Banks should charge less transaction fees to encourage more usage.
2. Transparent service is important in Mobile Banking.
3. To develop enhanced security in transactions.
4. Introduce the preferred language of consumers while operating Mobile Banking.
5. Enable self-service options with clear instructions to solve problems by themselves.

### 10. CONCLUSION

Mobile banking are most convenient mode of banking, which allows customers to conduct transaction from anywhere at any time using their smartphone with provided internet facilities. Youths are more effective ways to reach digitalization. They are more compatible with using smartphone with the latest technology. The younger consumers are increased in Mobile Banking Usage and they prefer to continue mobile banking services than Branch banking. Therefore, banks should encourage more usage of mobile banking among youths for all types of transactions. In turn youths can create more awareness among their family members and surrounding people.

### 11. TABLES

**Table-1: Demographic characteristics of sample with frequency distribution**

Variables	Frequency	Percentage
<b>Gender</b>		
Male	60	60%
Female	40	40%
Total	100	100%
<b>Education</b>		
SSLC	00	0%
P.U.C	05	5%
Graduation	66	66%
P.G	29	29%
Total	100	100%
<b>Family Income</b>		
Less than Rs. 25000	10	10%
25000-50000	29	29%
50000-100000	33	33%
Above 100000	28	28%
Total	100	100

**Table 2: Mobile banking usage for the years**

Variables	Frequency	Percentage
Less than 2 years	38	38%
2 to 5 years	43	43%
More than 5 years	19	19%
Total	100	100%

**Table 3: Level of usage of Mobile Banking**

Variables	Frequency	Percentage
Low level	20	20%
Moderate level	35	35%
High level	45	45%
Total	100	100%



**Table 4: Mean and Standard deviation for the study variables**

variables	Mean	Std. Deviation
easy to operate	4.56	.756
less cost	3.61	1.205
quick transaction	4.33	.995
24/7 banking	4.62	.693
anywhere banking	3.91	1.272
user friendly	4.18	1.038
status	3.06	1.530
reliable and safe	2.95	1.417
Valid N (listwise)		

Source: The above table was developed using SPSS software.

**Table 5: Purpose of Mobile Banking Usage**

variables	Mean	Std. Deviation
Bill payment	3.99	.835
online shopping	4.46	.846
fund transfer	4.21	.988
Check balance	3.84	1.161
Recharge mobile	4.71	.461

Source: The above table was developed using SPSS software.

**Table 6: Do you think Mobile Banking is secured**

Variables	Frequency	Percentage
To a great extent	20	20%
Somewhat	13	13%
Very little	14	14%
Not at all	07	7%
Total	100	100%

**Table 7: Problems faced during Mobile Banking**

variables	Mean	Std. Deviation
Network issues	2.22	1.151
Security problem	2.30	1.185
complicated procedure	4.65	.479
other problems	3.70	1.185
Valid N (listwise)		

Source: The above table was developed using SPSS software.





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# ***IQBALUNNISA HUSSAIN'S PURDAH AND POLYGAMY: LIFE IN AN INDIAN MUSLIM HOUSEHOLD: A STUDY***

**Dr. Shameemunnisa Begum**

Post-Doctoral Research Scholar, Kakatiya University, Warangal, Telangana.

## **ABSTRACT**

*Women were rarely seen in public in a typical Muslim culture. Outsiders, with the exception of husbands, seldom saw them. As if they were slaves, Muslim women were held inside the four walls of their homes. They were also subjected to cruel treatment. There were plenty of items to irritate them. Iqbalunnisa Hussain revolted against the aforementioned activities. She railed against the purdah system, polygamy, and mistreatment of women. Muslim women writers mostly defend their sex as they lift their voices. Female characters predominate in Hussain's novels, despite the fact that male characters play an important role in the novels of men authors. That is, their novels are more focused on heroines. These female novelists, in reality, round out the image of pre-independence Muslim literature. This paper is a study of Iqbalunnisa Hussain's Purdah and Polygamy: Life in an Indian Muslim Household interms of women point of view and in comparison to other novels.*

**KEY WORDS:** *Muslim women, purdah, polygamy, suppression, patriarchy*

## **INTRODUCTION**

Women's cultivation of literature, especially in English, is an important part of the history of pre-independence Indian writing in English. The idea of Indian writing in English has been enriched by many female authors. Muslim women authors, while not as numerous or as impressive as Hindu women writers such as Kamala Das, Kamala Markandaya, Ruth Praver Jhabvala, Anita Desai, and others, do exist. Iqbalunnisa Hussain is a pioneer of pre-independence Indian women's literature.

We all know that Indian Muslim English writers such as Ahmed Ali, K. A. Abbas, Aamir Ali, and other male writers wrote about contemporary hot topics such as the fight for independence, Hindu-Muslim riots, imperialism, and partition. Muslim women novelists such as Iqbalunnisa Hussain, on the other hand, did not cover as many topics as their male counterparts. Rather, they portrayed the circumstances of Muslim women in their families and in society, depicting her as a caged pigeon. Women's domestic issues, relationships with men, purdah, and polygamy all find a spot in their works to be proud of.

## **Iqbalunnisa Hussain:**

Iqbalunnisa Hussain, a pre-independence Indian English Muslim scholar, is Bangladesh's Taslima Nasreen. Iqbalunnisa Hussain, a Bangladeshi journalist, revolted against the Indian Muslim community's evil practises. Purdah and Polygamy is her most well-known book, in which she vehemently condemns the evil rituals of purdah and polygamy. These activities, she believes, are inhumane. Iqbalunnisa Hussain was the first pre-Independence south Indian Muslim woman to write in English.

Iqbalunnisa Hussain was a Karnataka native. She was born in Chikkaballapur, near Bangalore, on January 21, 1900. She came from a good family and followed the Sunni cult of Islam. Gulam Mohinuddin Khan, her father was a well-educated gentleman. He served as a police inspector. As a result of his service as a police officer, his daughter felt secure. The father of Iqbalunnisa Hussain was a fan of the western way of life. Iqbalunnisa Hussain inherited a sense of liberty from her maternal side, and he was a European in outlook. Her mother, Zaibunnisa, was a descendant of Tippu Sultan, a freedom fighter in India.

Iqbalunnisa Hussain was born into a family of patriots. They pushed their daughter to learn as many



languages as she could. She was fascinated by the English language since she was a child. Her parents even assigned a female teacher to instruct her in English literature.

In 1914, Iqbalunnisa Hussain married Sayed Ahmed Hussain. She was only fourteen years old at the time. Sayed Ahmed Hussain was a young man as well. In Bombay, he was a student of engineering. The wife, of course, resided in Bangalore. Iqbalunnisa Hussain's academic activities were boosted as a result of this. In 1922, Iqbalunnisa Hussain passed her Intermediate Exam. She was admitted to Maharani College in Mysore for B.A. studies with her elder son Bashiruzaman. Both the son and the mother received gold medals at graduation. She was also excited to continue her education in England. In 1933, her husband sent her to Leeds University in England with his eldest son. She was the first Muslim woman from Karnataka to receive a bachelor's degree from Leeds University.

Iqbalunnisa Hussain gained a unique perspective on the female sex in the Muslim culture as a result of these experiments and accomplishments. She devoted herself to the cause of social service and advocated for widows and divorcees to be included in society. She was a strong supporter of women's education and campaigned for parents to send their daughters to school. The rigid Muslims, on the other hand, did not react appropriately. Their response was a bit of a mixed bag. Iqbalunnisa Hussain was widely regarded as a degenerate in her culture.

Iqbalunnisa Hussain worked as an assistant teacher at Vani Vilas High School in Bangalore after completing her education at Leeds. She went on to become the Head Mistress of an Urdu school in the city. She travelled across the country with Kamamma and Nanjamma, social activists from Bangalore's Mahila Seva Samaj, promoting women's education and welfare schemes. She dressed up as a Hindu woman and travelled to Hindu pilgrimage sites such as Banaras and Haridwar.

Iqbalunnisa Hussain's life changed in 1931 when she stopped wearing purdah. It was a valiant effort. Iqbalunnisa Hussain's daredevilry was opposed by the entire Muslim community. People wrote articles about her, slandered her reputation, and considered burning her alive. She, on the other hand, did not budge. As a friend and philosopher, her husband defended her and directed her. He agreed with her. Both were content with their lives and believed in intellectual enjoyment.

Iqbalunnisa Hussain was a social reformer and a talented journalist. She had a large number of intellectual acquaintances. In 1931, she established a

handicraft school for widows and orphans, and she enrolled her first daughter Malika Hussain there to keep her safe from evil people. Sir Mirza Ismail, the then Divan of Mysore, and Iqbalunnisa Hussain had a strong relationship. Pearl S. Buck, Yusuf Ali, Aamir Ah, Humayun Kabir, R. K. Narayan, and others were among the great contemporary authors and thinkers with whom she corresponded.

*Purdah and Polygamy: Life in an Indian Muslim Household* (1914) by Iqbalunnisa Hussain is a document of evil social practises in the Muslim culture. Iqbalunnisa Hussain has only written one book, but her work has its own weight and validity in the tradition of Indo-Anglian literature in the 1940s and 1950s. Iqbalunnisa Hussain is forthright and honest in her assessment of contemporary Muslim culture. She raises concerns about fundamentalism, fanaticism, and unsanitary practises.

*Purdah and polygamy*, as we all know, reflect the orthodoxy of the Muslim faith. A conservative society is defined by a strong desire to maintain the status quo, and such societies are resistant to change. Traditions, rituals, and religious traditions that further human development have no place in this world. Religious groups are typically divided into two camps: liberal and conservative. The second group includes Islam. Women are not able to stand up to purdah and polygamy because they are treated like animals. It has the appearance of an octopus. Attia Hosain and Iqbalunnisa Hussain, two Indian women writers, had progressive ideas and wanted to rebel against patriarchy. This is a subtly anti-Islamic revolution. *Purdah and Polygamy* is a play about such cases, with a heroine who has a lot of radical ideas. In this way, it looks a lot like Taslima Nasreen's Lajja.

The Muslim community was not prepared to accept such a work when Iqbalunnisa Hussain published *Purdah and Polygamy* in 1944. As a result, her culture viewed her with malice, as though she would be excommunicated. Naturally, not everyone shared her social values and activities. As a result, "Iqbalunnisa Hussain is our last serious social writer," as the saying goes. <sup>1</sup> She is also the first Muslim feminist. The first critical Muslim social novel is *Her Purdah and Polygamy*. *Purdah and polygamy* represent Muslim faith, domestic, and sociocultural observations.

Women, as we all know, are not given the respect and status they deserve in the Indian Muslim community. She is handled as if she were a toy. According to a young Muslim researcher from India,

The Quran grants liberty and equality to woman, but the clergy curtails them. Clergy exists in every religion. Then, how could the Hindu woman be liberal? It is not only the



clergy but the entire society is responsible in making woman, what she is today. Having said all this, a mute question still remains to be answered. How long the Muslim woman should wait for her liberation? The question is rather absurd. Why should Muslim woman wait for a Messiah to come from somewhere to liberate her? Ahalya waited for Rama's touch to regain her human form or legendary flower Nargis waited for a man with an eye to appreciate its beauty. However, no miracle of this kind can happen in the case of Muslim woman. She must have to start the movement of her liberation by herself. That is what the Bhagavad Geeta says, 'One must uplift oneself.' She should have to venture herself to get liberated from the essential other tag that she has borne so far.<sup>2</sup>

As a result, women are mistreated in every aspect of life, including marriage, divorce, property rights, access to education, purdah, and polygamy. Purdah and polygamy are erroneously regarded as central Islamic institutions. The Quran, on the other hand, states,

*Fa wahidatan* (then marry only one) that is you cannot treat your wives equitably, then marry only one. The Quran permits polygamy under extraordinary circumstances, but does not enjoin it. In ordinary course, it is not a matter of right for a Muslim male to marry four wives.<sup>3</sup>

Many religious groups and countries around the world practise purdah. Many people have misunderstood it, and its practitioners are baffled as to why. They simply state that purdah must be followed. According to studies,

Purdah is a Persian word which connotes, guarding one against others' evil eyes or it is a sign of respect shown to elderly persons. However, Purdah cannot be used as an instrument of segregation. Other Islamic countries have started using Purdah as a dress item. In a landmark judgment on 15th July 1999, the Supreme Court of Egypt ruled that the women going to colleges and universities should not be compelled to wear Burqah, because any type of segregation of woman from the rest of the society is unIslamic.<sup>4</sup>

Similarly Taslima Nasreen observes,

The disease of religious fundamentalism is not restricted to Bangladesh alone and it must be fought at every turn. For myself, I am not afraid of any challenge or threat to my life. I will continue to write and protest persecution and discrimination. I am convinced that the

only way the fundamental forces can be stopped is if all of us who are secular and humanistic join together and fight their malignant influence. I, for one, will not be silenced.<sup>5</sup>

Lajja by Taslima Nasreen tackles the universal issue of fanaticism and fundamentalism. The issue does, in fact, necessitate immediate attention.

Women were treated with great reverence and consideration by the founders of Christianity, Hinduism, and Islam. They couldn't imagine keeping her apart from the rest of society. As a result, they regarded women as equal to men. However, during the socialisation period, misinterpretations occurred, and lawmakers misinterpreted it for their own selfish purposes.

So, during the Indian independence movement, when the entire Indian society was experiencing a sea shift, writers like Iqbalunnisa Hussain saw the need to change women's attitudes in Muslim society. *Purdah and Polygamy*, by Iqbalunnisa Hussain, satisfies this need of the time. Hussain's thoughts, when compared to those of contemporary novelists, are a sincere and genuine presentation of truth. Iqbalunnisa Hussain also believed that non-Muslim novelists were unable to portray what had actually occurred in the case of Muslim women. To put it another way, Hindu writers' portrayals of purdah and polygamy are not accurate.

*Purdah and Polygamy* by Iqbalunnisa Hussain tells the tale of three Muslim generations of a business family. Not to mention the fact that the family is totally orthodox and traditional and resides in one of India's cities. Umar, the novel's protagonist, is wealthy and traditional. He's still a businessman. He has rented out six of his large home's rooms. In such a congested place, four families live. They lack adequate lighting and ventilation. Umar, on the other hand, succumbs to cancer one day. His son, Kabir, succeeds him as the family's head. Kabir, on the other hand, is uneducated and clumsy.

As a result, the family expands. It now utilises all eight of the rooms. Kabir marries a girl from a wealthy family without informing his mother, of course. He has a lot of faith in his wife because she is honest. His mother, on the other hand, despises the newlywed because she was not chosen by her. When the lady is about to give birth, Kabir appoints a doctor, a measure that his mother dislikes. The delivery continues, and the doctor tells her to rest fully. Kabir's mother, on the other hand, torments his wife by advising her son to remarry. This demonstrates that Muslim culture is not just when it comes to women. That is to say, the woman is not armed. She is powerless in the face of gender issues. As a result,





Kabir's wife becomes a survivor and a bystander to all of his life's upcoming events. Following that, Kabir's mother arranges for his marriage to a girl of her choosing. His first wife later becomes ill and travels to Kashmir to regain her health.

What's more surprising is that Kabir marries for the third time after his first wife goes to Kashmir and his second wife goes to her mother's home. His third wife is attractive, intelligent, and straightforward. Her parents are by her side. Any superstition is used in this case. The third wife is her parents' third daughter, and Muslims believe that having a third child is unlucky. As a result, the girl was forced to marry Kabir.

Kabir's first wife returns home one day. She is taken aback when she discovers her husband's third wife. Furthermore, the novice is arrogant. She is a poet who publishes her work in magazines. She prefers books to her husband. Kabir is a poet, good or bad. He naturally encourages her to write. Kabir's mother, on the other hand, sees it as a pointless pursuit that is degenerating the family.

Iqbalunnisa Hussain continues to tell the tale. Kabir grows old as time passes. His first wife's eldest son is now an adult. It's no surprise that he's a relic of the past. He's having an affair with a widow and is licentious. Surprisingly, Kabir marries for fourth time. His three wives, on the other hand, refuse to acknowledge his new wife.

In Muslim culture, women are looked down upon. Polygamy is an inhumane and unjust phenomenon that has resulted in the deaths of thousands of young Muslim women. Despite the fact that Kabir's third wife is a sensible writer with a certain amount of guts, she is unable to confront the problem. Iqbalunnisa Hussain vividly portrays her defeat.

Iqbalunnisa Hussain is a believer in hope. She criticises society's evil activities in the hopes that things will change. In his book *Nationalism in Indo-Anglian Fiction*, Gobind Prasad Sarma writes,

...attack on the society, so that a better, happier society may evolve. The author however has not neglected the art of her work. Though the story is structured with a specific purpose in view, and though it is long, winding and complex, it is never boring or dull. The main characters have also been vividly drawn so that they come alive. The novel is thus successful both in the execution of its theme and as a work of art...It is an analysis which is intellectually convincing as well as emotionally stirring.<sup>6</sup>

Iqbalunnisa Hussain's writing is stronger in its contribution to feminism than Attia Hosain's work.

Purdah and Polygamy, on the other hand, aren't as varied in terms of theme as *Sunlight on a Broken Column*. Even so, there are several parallels between the two. Both books, for example, are about Muslim culture, with the novelists pushing for social change. *Sunlight on a Broken Column* by Attia Hosain is a four-part tale about two generations, while *Purdah and Polygamy* by Iqbalunnisa Hussain is about four women and two men. The novel *Iqbalunnisa Hussain* is about two generations of women revolting against patriarchal practises.

As previously mentioned, Iqbalunnisa Hussain's novel is strikingly similar to Taslima Nasreen's *Lajja*. *Lajja* is a powerful critique of fanaticism and fundamentalism. According to S. P. Swain,

*Lajja* is a moving story of protest, passion, principle and persecution. It is the story of humanity's struggle to assert its innate and inherent rights in a society torn asunder by the forces of religious fundamentalism and blind fanaticism. Taslima Nasreen raises her voice against the draconian rulers of Bangladesh who are ideologically allied with Pakistan in treating the Hindus in their country as a slave race. Under the rubric of Islamic fundamentalism the mullahs and the deranged lumpens of Bangladesh have been meting out all sorts of physical and mental torture to the Hindus.<sup>7</sup>

Indeed, as a humanist writer Taslima Nasreen observes, I detest fundamentalism and communalism. This was the reason I wrote *Lajja* soon after the demolition of the Babri Masjid in Ayodhya on 6th December 1992...It is disgraceful that the Hindus in my country were hunted by the Muslims after the destruction of the Babri Masjid. All of us who love Bangladesh should feel ashamed that such a terrible thing could happen in our beautiful county...*Lajja* is a document of our collective defeat.<sup>8</sup>

Iqbalunnisa Hussain reveals life's double standards. She claims that men worship women as goddesses despite the fact that they mistreat them in truth. Her novel does an excellent job of developing the theme. In the name of the Quran, the author believes that Muslim fundamentalists exploit women.

Iqbalunnisa Hussain uses a pleasant narrative approach to convey her themes. She uses the instrument of dialogue to carry out the ethos inherent in the storey on occasion. This is done to increase the ideological effect. She avoids turning her characters into a jumble of memories. She is able to consider it as part of a larger whole, transforming the entire





landscape of transformation into a symbolic and meaningful whole. Finally, one of the distinguishing features of Iqbalunnisa Hussain's novel is the effortless ease with which she has created an excellent Indian English style.

In India, there are very few female novelists who write in English. In the pre-independence era, there were only two Muslim female novelists working in English. Their contribution is insignificant as well. However, in terms of content and strength, their novels make major contributions to the field of Indian English literature. These authors aren't pretend novelists in the first place. In fact, without these two female novelists, any analysis of pre-independence Indian Muslim writers would be incomplete.

To summarise, Indian English Muslim female novelists have portrayed women in relation to culture, current politics, rituals, and customs. Finally, the authors acknowledge that Muslim society is highly patriarchal, with women being mistreated. Their aim is to solve social issues as well as portray the current state of society through their fiction. They work to improve the status of Muslim women. As a result, many critics believe *Purdah* and *Polygamy* is more than a novel; it is a tool against male tyranny.

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# BIO EDIBLE COATING ON CUCUMBER BY USING LEMON PEEL, COCONUT MILK AND CHINA GRASS

Dr. G.Sakthi\*<sup>1</sup>, Mr. M. Siva Ganesh<sup>2</sup>, Ms. Shahla Nargees.K<sup>3</sup> Ms. Karthika .M<sup>4</sup>

<sup>1</sup>Assistant Professor, Department of Biochemistry, Rathnavel Subramaniam College of Arts & Science

<sup>2</sup>Associate Professor, Department of Biochemistry, Rathnavel Subramaniam college of Arts & Science

<sup>3</sup>Scholar, Department of Biochemistry, Rathnavel Subramaniam College of Arts & Science

<sup>4</sup>Scholar, Department of Biochemistry, Rathnavel Subramaniam College of Arts & Science

Corresponding Author-Dr. G.Sakthi\*

## ABSTRACT

*The bio edible films or coatings could be a remarkable growth in recent decades. it's a very important impact on the standard of food products within the coming years. This growth is to extend the knowledge of edible films or edible coating technologies and also advances within the material of science and processing technology. The film is employed to safeguard them from bacterial infections and also from spoilage of fruits and vegetables. It play a important role as an eco-friendly biodegradable coating, it can eaten with the fruit. A large amount of bio-based polymers are to be employed in the assembly of edible films and coatings. The materials that wont to make the bio edible film is China grass, coconut milk and peel. The coating on surface of vegetables have the sensation of freshness, that increases the period moreover because the product quality. This paper presents the concept and potential for the applying of bio edible film materials and management of food wastes from the fruit and vegetable in industry, which might prevented by bio edible coating. As well because the secondary metabolites present in citrus peel. It summarizes the extensive knowledge about the bio edible film like lemon rind, China grass and coconut milk to point out their protective effectiveness and suitability in cucumber.*

**KEYWORDS:** bio edible coatings; shelf life; food quality, antimicrobial activity.

## 1.INTRODUCTION

An bioedible coating may be a thin layer of edible material, which is created as a protective coating on fruits and vegetables. This can be consumed together with the products. The film are in liquid form, applied onto surface of cucumber. Edible films are self-standing structures in nature [1]. Various biopolymers utilized in the assembly of edible materials like ramee, coconut milk and lemon rind. These are the sources obtained from plants. The biopolymers have the capacity to regenerate the tissue and even have medical properties [2]. So differing kinds of oils are incorporated into a colloid matrix to

boost the barrier properties. the foremost popular are waxes, triglycerides, acetylated monoglycerides, free fatty acids, and vegetable oils [3].

Application and Benefits of bioedible Coating  
The uses of bioedible coatings is extended for a good range of food products including fresh and also for minimally processed fruits and vegetables. the explanations behind this is often to increase product period and quality of products. As well as control the degradative oxidation and respiration reactions, add texture and sensory characteristics and are ecofriendly [4].



Edible coatings will be applied by dipping the products and so allowing coating to dry and solidifies. These edible materials have different barrier properties against gases, physico-chemical and mechanical characteristics then, it can protect mechanically likewise as prevent the contamination from microorganism and quality loss of vegetables (e.g. moisture, flavours etc.).

Importance of Edible Coating It may be a natural protective waxy coatings and supply a barrier to moisture, oxygen and solute movement for the food. they're applied directly on surface of cucumber by dipping, spraying or brushing to form a modified atmosphere. An bioedible coating extends the storage lifetime of fresh vegetables without causing any spoilage and reduces decaying without affecting the standard of the vegetable. Coatings usually used on citrus, apples (shellac and carnauba wax), tomatoes (mineral oil) and cucumbers (various waxes). which has proven by many beneficial effects within the context of import addition and time period extension of fresh produce[5].

Food preservation includes food processing which prevent the expansion of micro organisms. It increase the shelf-life of foods thus increasing the availability. such a large amount of foods may be preserved for an extended time. Adding variety to the diet. Saving time by reducing preparation time and energy, because the food has already been partially processed. Stabilising prices of food, as there's less scope of shortage of supply to demand. Decreasing wastage of food by preventing decaying of food(6).

Agar agar(chinagrass) may be a mixture of two components: the linear polysaccharide agarose, and a heterogeneous mixture of smaller molecules called agaropectin. It forms the structure within the cell walls of certain species of algae (red algae) and is released on boiling. Agar is employed as solid substrate to contain culture media for microbiological work. Agar is used as a laxative, an suppressant, a vegetarian substitute for gelatin, a thickener for soups, in fruit preserves, frozen dessert etc (7).

Coconut milk is an opaque, milky-white liquid extracted from the grated pulp of mature coconuts. The opacity and rich taste of coconut milk thanks to its high oil content. it's a standard food ingredient Coconut tin can even be accustomed produce milk products. These products aren't the identical as regular (8). coconut milk products which are meant for cooking, not drinking. It is utilized in many desserts and beverages (9).

## 2. MATERIALS AND METHODS

### 2.1 Collection of Source

The chinagrass, cucumber, coconut milk and lemon rind extract powder were collected from different regions of villages and malappuram district of Kerala. The materials were boiled in water for getting the extraction of every and skin dried for grinding. After drying, the peel material were ground well using mechanical blender into fine powder and transferred into airtight container with proper labelling for future use(10).

### 2.2 Qualitative Phytochemical Analysis

Standard procedures were followed for the qualitative screening of phytochemicals like amino acids, saponins, proteins, phenols, alkaloids, carbohydrates, tannins, flavonoids, phytosterols and glycosides

### 2.3 HPTLC Analysis

Before beginning an HPTLC experiment, we must recognize the assorted components essential to perform the method. A tool suitable for sampling as bands to watch the scale and position of the test, furthermore because the sample volume applied. An appropriate chromatographic chamber which provides developing distance and control of saturation. A device appropriate for controlling stationary phase behavior through ratio. A tool appropriate for reproducible drying of the developed plate. Appropriate equipment for reagent transfer and heating. A Tool for electronic documentation of chromatograms.

### 2.4 Preparation of Bioedible Film

10g of Chinagraass, 10ml of coconut milk and 10ml of lemon peel extract was taken in a conical flask and heated continuously for dissolving the chinagrass properly with them. And stirring properly using a stick for avoiding the solidification. And apply thin layer on the vegetable in proper manner. and kept it in a room temperature for the observation(12).

### 2.5 Antimicrobial activity

The medium was prepared by dissolving 3.8g of commercially available nutrient Agar Medium in 100ml of distilled water. The dissolved medium was autoclaved at 15lbs pressure at 121 degree celcius for 15mins. The autoclaved medium of nutrient Agar was mixed well and poured on to petriplates (20 to 25ml/plate) while still molton. The plates were seeded with 24 hours culture of bacterial strains. Wells were cut and 20µl of the plant extracts (methanol extract) were added. The plates were

then incubated at 37 degree Celsius for 24 hours. The antibacterial activity was measured by the zone of inhibition formed around the well(13).

Cultures used for antimicrobial activity: The microorganisms used were as follows, Escherichia coli and Staphylococcus aureus. Culture medium: Nutrient agar medium were used in all further studies.

## RESULT AND DISCUSSION

### 3.1 Collection of source

The sources were collected from local shops and their extracts were made by standard procedures.

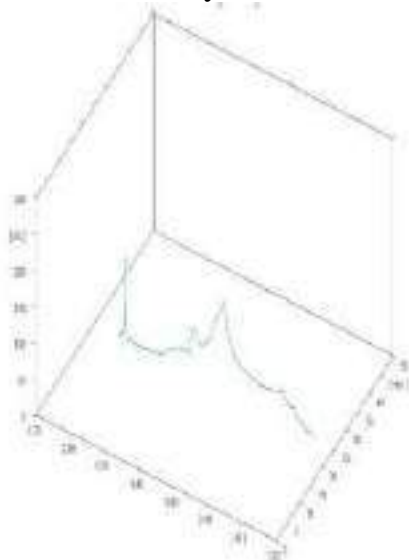


### 3.2 Qualitative phytochemical analysis

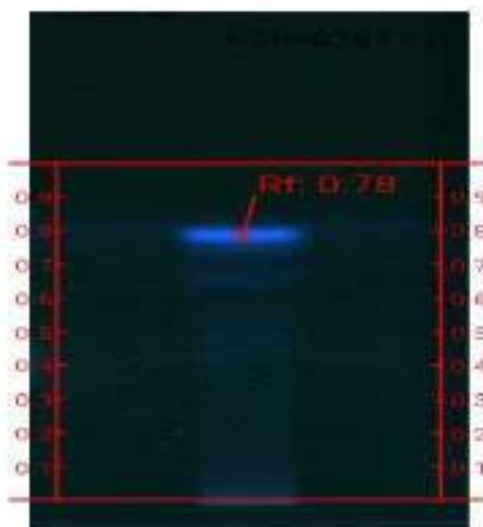
Phytochemical analysis for the lemon peel extract was done which was the main ingredient that protects

the activity of bioedible coating. It showed the presence of Flavonoids, phenols and tannins which was rich in the lemon peel extract.

### 3.3 HPTLC Analysis

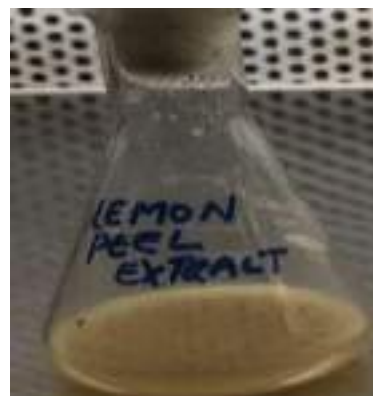


The graph contains 8 peaks, the highest peak value shown in the figure is 200nm & the lowest peak point is



50nm, i.e., the sample contains a rich amount of flavanoids. And the Rf value 0.78 shown above

### 3.4 Preparation of lemon peel extract



### 3.5 Preparation of bioedible film

10g of Chinagraass, 10ml of coconut milk and 10ml of lemon peel extract was taken in a conical flask and heated continuously for dissolving the chinagraass

properly with them. And stirring properly using a stick for avoiding the solidification. And apply thin layer on the vegetable in proper manner. and kept it in a room temperature for the observation



### 3.6 Antimicrobial Activity

Antibacterial antibiotics is a type of Antimicrobial used in treatment and prevention of bacterial infections. They

kill the bacteria. In the given methanol bio edible compound was done and the results are shown

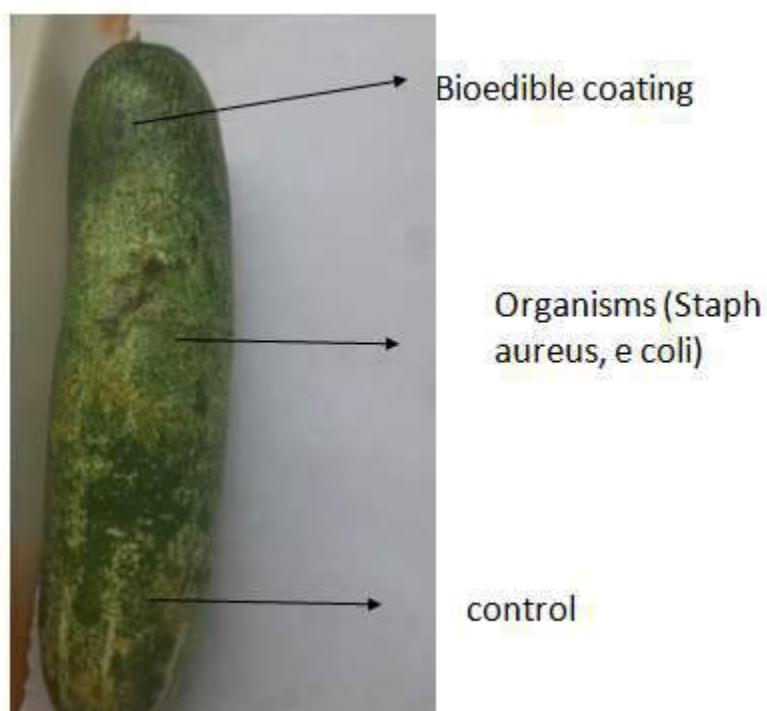






MICRO ORGANISM	ZONE OF INHIBITION
<i>Escherichia coli</i>	50µg - 0.8cm
	100µg -1.4 cm
	Penicillin -2.3 cm
	DMSO - 0.9cm
<i>Staphylococcus aureus</i>	50µg - 0.8cm
	100µg - 0.85cm
	Penicillin - 2.8cm
	DMSO - 0.8cm

### 3.7 Acitivity of Bio edible coating on cucumber



## RESULT:

### Bioedible film coated cucumber



Thus bioedible coating was done on cucumber which was proved to be a good antimicrobial property thus prevented the cucumber from spoilage for 15 days.

## CONCLUSION

An bioedible coatings can prevent the spoilage of fruits and vegetables and it enhances the product quality and shelf life of the product. Almost All phytochemicals are present in the citrus fruits. Because they Are Good source of antioxidant supplements that helps to our body. So the flavanoids is rich in citrus lemon peel. It's is estimated by hptlc method.

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## A SEARCH ON THE INTEGER SOLUTIONS TO TERNARY QUADRATIC DIOPHANTINE EQUATION

$$z^2 = Dx^2 + y^2, D = \text{odd prime}$$

**K.Meena<sup>1</sup>, S.Vidhyalakshmi<sup>2</sup>, M.A. Gopalan<sup>3</sup>**

<sup>1</sup> Former VC, Bharathidasan University, Trichy-620 002, Tamil Nadu, India.

<sup>2</sup> Assistant Professor, Department of Mathematics, Shrimati Indira Gandhi College, Affiliated to Bharathidasan University, Trichy-620 002, Tamil Nadu, India.

<sup>3</sup> Professor, Department of Mathematics, Shrimati Indira Gandhi College, Affiliated to Bharathidasan University, Trichy-620 002, Tamil Nadu, India.

### ABSTRACT

*The homogeneous ternary quadratic diophantine equation given by  $z^2 = Dx^2 + y^2, D = \text{odd prime}$  is analyzed for its non-zero distinct integer solutions through different methods. Also, formulae for generating sequence of integer solutions based on the given solutions are presented.*

**KEYWORDS:** Ternary quadratic, Integer solutions, Homogeneous cone.

### INTRODUCTION

It is well known that the quadratic diophantine equations with three unknowns (homogenous (or) non-homogenous) are rich in variety [1,2]. In particular, the ternary quadratic diophantine equations of the form  $z^2 = Dx^2 + y^2$  are analyzed for values of  $D = 29, 41, 43, 47, 55, 61, 63, 67$  in [3-10]. These results motivated us to obtain non-zero distinct integer solutions to the homogeneous ternary quadratic diophantine equation given by  $z^2 = Dx^2 + y^2, D = \text{odd prime}$  through different methods. Also, formulas for generating sequence of integer solutions based on the given solutions are presented.

### METHOD OF ANALYSIS

The ternary quadratic diophantine equation to be solved for its integer solutions is  $z^2 = Dx^2 + y^2, D = \text{odd prime}$  (1)

We present below different methods of solving (1)

#### Method: 1

(1) is written in the form of ratio as

$$\frac{z+y}{x} = \frac{Dx}{z-y} = \frac{\alpha}{\beta}, \beta \neq 0 \quad (2)$$



which is equivalent to the system of double equations

$$\begin{aligned} \alpha x - \beta y - \beta z &= 0 \\ Dx\beta + \alpha y - \alpha z &= 0 \end{aligned}$$

Applying the method of cross-multiplication to the above system of equations, one obtains

$$\begin{aligned} x &= x(\alpha, \beta) = 2\alpha\beta \\ y &= y(\alpha, \beta) = \alpha^2 - D\beta^2 \\ z &= z(\alpha, \beta) = \alpha^2 + D\beta^2 \end{aligned}$$

which satisfy (1).

**Note: 1**

It is observed that (1) may also be represented as below:

$$\frac{z+y}{Dx} = \frac{x}{z-y} = \frac{\alpha}{\beta}, \beta \neq 0$$

Employing the procedure as above, the corresponding solutions to (1) are given by :

$$x = 2\alpha\beta, y = D\alpha^2 - \beta^2, z = D\alpha^2 + \beta^2$$

**Method: 2**

(1) is written as the system of double equations in Table 1 as follows:

**Table: 1 System of Double Equations**

System	I	II	III
$z + y =$	$Dx$	$x^2$	$Dx^2$
$z - y =$	$x$	$D$	$1$

Solving each of the above system of double equations, the values of  $x, y$  &  $z$  satisfying (1) are obtained. For simplicity and brevity, in what follows, the integer solutions thus obtained are exhibited.

**Solutions for system: I**

$$x = k, y = \frac{(D-1)}{2}k, z = \frac{(D+1)}{2}k$$



**Solutions for system: II**

$$x = 2k + 1, \quad y = 2k^2 + 2k - \frac{(D-1)}{2} \quad z = 2k^2 + 2k + \frac{(D+1)}{2}$$

**Solutions for system: III**

$$x = 2k + 1, \quad y = D(2k^2 + 2k) + \frac{(D-1)}{2}, \quad z = D(2k^2 + 2k) + \frac{(D+1)}{2},$$

**Method: 3**

Let  $z = y + k, \quad k \neq 0$  (3)

$$\therefore (1) \Rightarrow 2ky = Dx^2 - k^2$$

Assume

$$x = k(2\alpha + 1) \tag{4}$$

$$\therefore y = D(2k\alpha^2 + 2k\alpha) + \frac{(D-1)}{2}k \tag{5}$$

In view of (3),

$$z = D(2k\alpha^2 + 2k\alpha) + \frac{(D+1)}{2}k \tag{6}$$

Note that (4), (5), (6) satisfy (1).

**Method: 4**

(1) is written as

$$y^2 + Dx^2 = z^2 = z^2 * 1 \tag{7}$$

Assume  $z$  as

$$z = a^2 + Db^2 \tag{8}$$

Write 1 as

$$1 = \frac{[D-1+i2\sqrt{D}][D-1-i2\sqrt{D}]}{(D+1)^2} \tag{9}$$

Using (8) & (9) in (7) and employing the method of factorization, consider

$$(y + i\sqrt{D}x) = (a + i\sqrt{D}b)^2 \cdot \frac{[D-1+i2\sqrt{D}]}{(D+1)}$$



Equating the real&imaginary parts, it is seen that

$$\left. \begin{aligned} x &= \frac{1}{(D+1)} \left[ 2(D-1)ab + 2[a^2 - Db^2] \right] \\ y &= \frac{1}{(D+1)} \left[ (D-1)[a^2 - Db^2] - 4Dab \right] \end{aligned} \right\} \quad (10)$$

Since our interest is to find the integer solutions, replacing  $a$  by  $(D+1)A$  &  $b$  by  $(D+1)B$  in (10) & (8), the corresponding integer solutions to (1) are given by

$$\begin{aligned} x &= x(A, B) = (D+1) \left[ 2(D-1)AB + 2[A^2 - DB^2] \right], \\ y &= y(A, B) = (D+1) \left[ (D-1)[A^2 - DB^2] - 4DAB \right], \\ z &= z(A, B) = (D+1)^2 [A^2 + DB^2] \end{aligned}$$

**Note 2:**

It is worth to observe that, one may write 1 as follows:

$$\begin{aligned} 1 &= \frac{[(Dr^2 - s^2) + i\sqrt{D} \cdot 2rs][ (Dr^2 - s^2) - i\sqrt{D} \cdot 2rs ]}{(Dr^2 + s^2)^2} \\ 1 &= \frac{\left[ \left( 2k^2 + 2k - \frac{(D-1)}{2} \right) + i\sqrt{D} \cdot (2k+1) \right] \left[ \left( 2k^2 + 2k - \frac{(D-1)}{2} \right) - i\sqrt{D} \cdot (2k+1) \right]}{\left( 2k^2 + 2k + \frac{(D+1)}{2} \right)^2} \\ 1 &= \frac{\left[ (2k^2 + 2k)D + \frac{(D-1)}{2} + i\sqrt{D} \cdot (2k+1) \right] \left[ (2k^2 + 2k)D + \frac{(D-1)}{2} - i\sqrt{D} \cdot (2k+1) \right]}{\left| (2k^2 + 2k)D + \frac{(D+1)}{2} \right|^2} \end{aligned}$$

Following the above procedure, one may obtain difference sets of integer solutions to (1).

**Method 5:**

(1) is also written as

$$z^2 - Dx^2 = y^2 = y^2 * 1$$

Assume  $y$  as

$$y = a^2 - Db^2$$

Note that 1 may be represented as follows:



$$\text{Choice (i): } 1 = \frac{(D+1+2\sqrt{D})(D+1-2\sqrt{D})}{(D-1)^2}$$

$$\text{Choice (ii): } 1 = \frac{[(Dr^2+s^2)+\sqrt{D}\cdot 2rs][(Dr^2+s^2)-\sqrt{D}\cdot 2rs]}{(Dr^2-s^2)^2}$$

Choice (iii):

$$1 = \frac{\left[ \left( 2k^2 + 2k + \frac{(D+1)}{2} \right) + \sqrt{D} \cdot (2k+1) \right] \left[ \left( 2k^2 + 2k + \frac{(D+1)}{2} \right) - \sqrt{D} \cdot (2k+1) \right]}{\left( 2k^2 + 2k - \frac{(D-1)}{2} \right)^2}$$

Choice(iv):

$$1 = \frac{\left[ (2k^2 + 2k)D + \frac{(D+1)}{2} + \sqrt{D} \cdot (2k+1) \right] \left[ (2k^2 + 2k)D + \frac{(D+1)}{2} - \sqrt{D} \cdot (2k+1) \right]}{\left| (2k^2 + 2k)D + \frac{(D-1)}{2} \right|^2}$$

It is worth mentioning that the repetition of the process as in method 4 for each of the above choices leads to different set of solutions to (1).

### GENERATION OF SOLUTIONS

Different formulas for generating sequence of integer solutions based on the given solution are presented below:

Let  $(x_0, y_0, z_0)$  be any given solution to (1)

#### Formula: 1

Let  $(x_1, y_1, z_1)$  given by

$$x_1 = -(D-1)x_0 + h, \quad y_1 = (D-1)y_0, \quad z_1 = (D-1)z_0 + h, \quad (11)$$

be the 2<sup>nd</sup> solution to (1). Using (11) in (1) and simplifying, one obtains

$$h = 2Dx_0 + 2z_0$$

In view of (11), the values of  $x_1$  and  $z_1$  is written in the matrix form as

$$(x_1, z_1)^t = M(x_0, z_0)^t$$

where

$$M = \begin{pmatrix} D+1 & 2 \\ 2D & D+1 \end{pmatrix} \text{ and } t \text{ is the transpose}$$

The repetition of the above process leads to the  $n^{\text{th}}$  solutions  $x_n, z_n$  given by

$$(x_n, z_n)^t = M^n(x_0, z_0)^t$$

If  $\alpha, \beta$  are the distinct eigen values of  $M$ , then

$$\alpha = D+1+2\sqrt{D}, \quad \beta = D+1-2\sqrt{D}$$

We know that

$$M^n = \frac{\alpha^n}{(\alpha - \beta)}(M - \beta I) + \frac{\beta^n}{(\beta - \alpha)}(M - \alpha I), I = 2 \times 2 \text{ identity matrix}$$

Thus, the general formulas for integer solutions to (1) are given by

$$\begin{aligned} x_n &= \left( \frac{\alpha^n + \beta^n}{2} \right) x_0 + \left( \frac{\alpha^n - \beta^n}{2\sqrt{D}} \right) z_0, \\ y_n &= (D-1)^n y_0, \\ z_n &= \frac{\sqrt{D}}{2} (\alpha^n - \beta^n) x_0 + \left( \frac{\alpha^n + \beta^n}{2} \right) z_0 \end{aligned}$$

### Formula: 2

Let  $(x_1, y_1, z_1)$  given by

$$x_1 = 3x_0, \quad y_1 = 3y_0 + h, \quad z_1 = 2h - 3z_0, \tag{12}$$

be the  $2^{\text{nd}}$  solution to (1). Using (12) in (1) and simplifying, one obtains

$$h = 2y_0 + 4z_0$$

In view of (12), the values of  $y_1$  and  $z_1$  is written in the matrix form as

$$(y_1, z_1)^t = M^n(y_0, z_0)^t$$

where



$$M = \begin{pmatrix} 5 & 4 \\ 4 & 5 \end{pmatrix} \text{ and } t \text{ is the transpose}$$

The repetition of the above process leads to the  $n^{th}$  solutions  $y_n, z_n$  given by

$$(y_n, z_n)^t = M^n (y_0, z_0)^t$$

If  $\alpha, \beta$  are the distinct eigen values of  $M$ , then

$$\alpha = 1, \beta = 9$$

Thus, the general formulas for integer solutions to (1) are given by

$$\begin{aligned} x_n &= 3^n x_0, \\ y_n &= \left( \frac{9^n + 1}{2} \right) y_0 + \left( \frac{9^n - 1}{2} \right) z_0, \\ z_n &= \left( \frac{9^n - 1}{2} \right) y_0 + \left( \frac{9^n + 1}{2} \right) z_0 \end{aligned}$$

**Formula: 3**

Let  $(x_1, y_1, z_1)$  given by

$$x_1 = -(D+1)x_0 + h, y_1 = -(D+1)y_0 + h, z_1 = (D+1)z_0, \tag{13}$$

be the  $2^{nd}$  solution to (1). Using (13) in (1) and simplifying, one obtains

$$h = 2Dx_0 + 2y_0$$

In view of (13), the values of  $x_1$  and  $y_1$  is written in the matrix form as

$$(x_1, y_1)^t = M^n (x_0, y_0)^t$$

where

$$M = \begin{pmatrix} D-1 & 2 \\ 2D & -D+1 \end{pmatrix} \text{ and } t \text{ is the transpose}$$

The repetition of the above process leads to the  $n^{th}$  solutions  $x_n, y_n$  given by

$$(x_n, y_n)^t = M^n (x_0, y_0)^t$$

If  $\alpha, \beta$  are the distinct eigen values of  $M$ , then



$$\alpha = D + 1 \quad \beta = -(D + 1)$$

Thus, the general formulas for integer solutions to (1) are given by

$$x_n = \frac{\alpha^n D + \beta^n}{D + 1} x_0 + \frac{\alpha^n - \beta^n}{D + 1} y_0,$$

$$y_n = \frac{D(\alpha^n - \beta^n)}{D + 1} x_0 + \frac{\alpha^n + \beta^n D}{D + 1} y_0,$$

$$z_n = (D + 1)^n z_0$$

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# INFLUENCE OF PLYOMETRIC TRAINING PROGRAMME ON SELECTED PHYSIOLOGICAL VARIABLES AMONG VOLLEYBALL PLAYERS

S. Rajesh<sup>1</sup>, Dr. S. Veeramani<sup>2\*</sup>

<sup>1</sup> PhD, Research Scholar, Department of Physical Education, Annamalai University, Chidambaram, Tamilnadu, India.

<sup>2</sup> Associate Professor, Department of Physical Education, Annamalai University, Chidambaram, Tamilnadu, India.

## ABSTRACT

The rationale of this study was to discover the influence of plyometric training programme on selected physiological variables among inter-collegiate level men volleyball players. To realize this purpose of the study thirty various colleges of virudhunagar district, Tamil Nadu state, India. The subject had past experience of at least three years in volleyball and was randomly selected as subjects. Their age ranged in between 19 and 22 years. The subjects were divided into two groups namely plyometric group and control group. The plyometric group was subjected to plyometric training (for weekly three days monday, wednesday, friday) at evening session for six weeks. Breath holding time, vital capacity and resting pulse rate was selected as dependent variable. After the collection of appropriate data, it was statistically analyzed by using paired 't' test. The level of significance was set at 0.05. The result of the present study showed that the plyometric training has significant improvement on breath holding time, vital capacity and resting pulse rate of inter-collegiate level men volleyball players.

**KEYWORDS:** Plyometric Training, Physiological Variables, Volleyball Players.

## INTRODUCTION

Plyometric (in any case called "ploys") is such a movement planning proposed to convey fast, amazing turns of events, and improve the components of the tactile framework, all things considered to improve execution in sports. Plyometric advancements, in which a muscle is stacked and subsequently contracted in speedy game plan, use the strength, adaptability and innervations of muscle and enveloping tissues to 23 bob higher, run faster, throw further, or hit all the more energetically, dependent upon the ideal planning objective. Plyometric is used to accelerate or force of strong tightening influences, offering sensitivity to a variety of game express activities. Plyometric has been showed up across the composition to be helpful to a grouping of contenders. Benefits range from injury expectation, power improvement and run execution among others. Plyometric practice insinuates those activities that enable a muscle to show up at maximal force in the briefest possible time. "Plyometric" is a blend of Greek words that from a genuine perspective expects to extend assessment plyometric practice is an expedient, inconceivable improvement using a pre-stretch or

counter turn of events, which incorporates the stretch-shortening cycle (SSC). The justification plyometric practice is to assemble the power of coming about improvements by using both the typical adaptable pieces of muscle and tendon and the stretch reflex. To effectively use plyometric as a component of an arrangement program, it is fundamental to get: the mechanics and physiology of plyometric work out norms of plyometric program plan and techniques for safely and sufficiently performing unequivocal plyometric works out. Plyometric incorporate force bouncing, dull hopping and quick force creation. Exactly when your muscles unusually contract, or curtail, by then rapidly expand and stretch, they produce maximal power ideal for athletic conditions. It is a fast improvement that happens over a concise period. Plyometric are ideal for contenders or people wanting to improve solid power, speed and strength (Baechle, 2008). Volleyball is a gathering action where two gatherings of six players are secluded by a net. Each gathering endeavours to score centres by building up a ball in the other gathering's court under composed rules. It has been a piece of the power program of the Summer Olympic Games since 1964. The all out guidelines are expansive. In any case, just, play



proceeds as follows: a major part in one of the gatherings begins a 'rally' by serving the ball (tossing or conveying it and a while later hitting it with a hand or arm), from behind as far as possible line of the court, over the net, and into the tolerating gathering's court. As volleyball coordinate incorporates a more noteworthy measure of aptitude execution. Which build the parts for the game, as an investigation specialist unprecedented masterminded plyometric getting ready program for the school level young fellows volleyball players (Holyoke, 1985).

**METHODOLOGY**

The rationale of this study was to discover the influence of plyometric training programme on selected physiological variables among inter-

collegiate level men volleyball players. To realize this purpose of the study thirty various colleges of virudhunagar district, Tamil Nadu state, India. The subject had past experience of at least three years in volleyball and was randomly selected as subjects. Their age ranged in between 19 and 22 years. The subjects were divided into two groups namely plyometric group and control group. The plyometric group was subjected to plyometric training (for weekly three days monday, wednesday, friday) at evening session for six weeks. Breath holding time, vital capacity and resting pulse rate was selected as dependent variable. After the collection of appropriate data, it was statistically analyzed by using paired 't' test. The level of significance was set at 0.05.

**Table-I  
 Criterion Measures  
 Physiological Variables**

Variables	Test items	Unit of measurement
Breath Holding Time	Stopwatch	In Seconds
Vital Capacity	Spiro meter	In Liters
Resting Pulse Rate	Manuel Method	Beats / minute

**TRAINING PROCEDURE**

For plyometric group underwent their training programme as three days per week for six weeks. Training was given in the evening session. The training session includes warming up and cool down. Every day the workout lasted for 45 to 60 minutes approximately. The subjects underwent their

training programmes as per the schedules such as side to side ankle hops, double leg hops, split jumps, lateral cone hops and single leg bounding under the strict supervision of the investigator. During experimental period control group did not participate in any of the special training.

**RESULTS**

**Table-II  
 Comparison of Mean, and 't'-Values of Physiological Variables between  
 Pre & Post Test among Plyometric and Control Groups**

S. No	Physiological Variables	Groups	Test	Mean	't' Values	
1.	Breath Holding Time	Plyometric group	Pre Test	0.45	4.06*	
			Post Test	0.69		
		Control group	Pre Test	0.45		0.38
			Post Test	0.45		
2.	Vital Capacity	Plyometric group	Pre Test	3.82	5.96*	
			Post Test	3.88		
		Control group	Pre Test	3.83		0.75
			Post Test	3.82		
3.	Resting Pulse Rate	Plyometric group	Pre Test	65.43	10.84*	
			Post Test	58.32		
		Control group	Pre Test	64.33		1.53
			Post Test	63.26		

\*Significant at 0.05 level of confidence

Table-II reveals that the obtained mean values of pre test and post test of plyometric group for breath holding time, vital capacity and resting pulse rate were 0.45 and 0.69, 3.82 and 3.88, 65.43 and 58.32 respectively; the obtained 't' ratio were 4.06, 5.96 and 10.84 respectively. The tabulated 't' value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The calculated 't' ratio was greater than the table value. It is found to be significant change in breath holding time, vital capacity and resting pulse rate of the volleyball players. The obtained mean values of pre test and post test scores of control group were

0.45 and 0.45, 3.83 and 3.82, 64.33 and 63.26 respectively, the obtained 't' ratio was 0.38, 0.75 and 1.53. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The calculated 't' ratio was lesser than the table value. It is found to be insignificant changes in breath holding time, vital capacity and resting pulse rate of the volleyball players. The mean values of selected physiological variables among plyometric group and control group are graphically represented in figure-1.

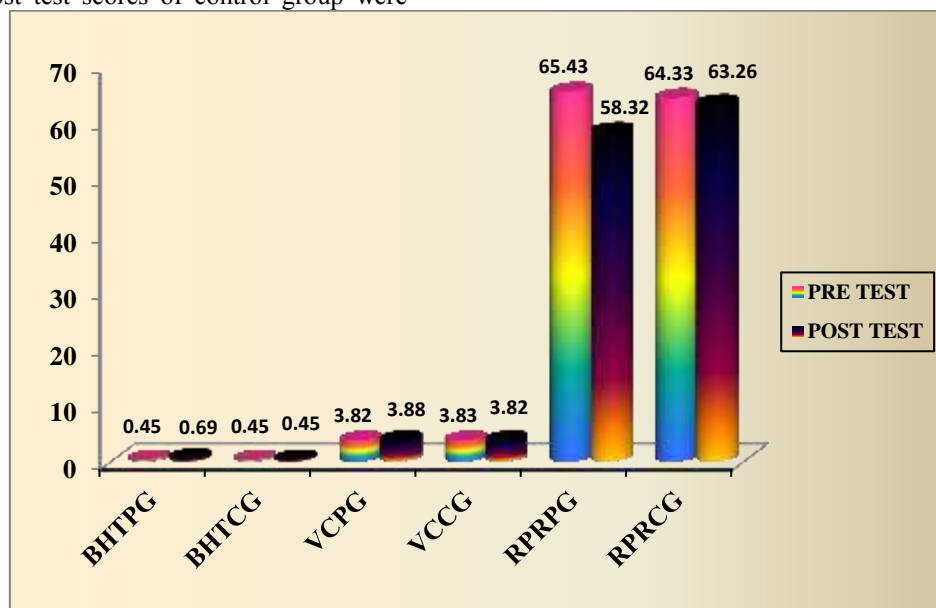


Figure-1: Bar Diagram Showing the Pre Test and Post Test on Selected Physiological Variables of Plyometric and Control Groups (BHTPG, BHTCG, VCPG, VCCG, RPRPG & RPRCG)

## DISCUSSION ON FINDINGS

The results of the study indicated that the selected physiological variables such as breath holding time, vital capacity and resting pulse rate were improved significantly after undergoing plyometric training. The changes in the selected parameters were attributed the proper planning, preparation and execution of the training package given to the players. The findings of the present study had similarity with the findings of S Senthil Kumaran (2018), Nithin Rajan and Ahamed Faiz PA (2018), Keerthi Kumar M, Sundar Raj (2016). The results of the present study indicates that the plyometric training methods is appropriate protocol to improve breath holding time, vital capacity and resting pulse rate of inter-collegiate level men volleyball players. From the result of the present study it is very clear that the selected physiological variables such as breath holding time, vital capacity and resting pulse rate improvement significantly due to plyometric training.

## CONCLUSIONS

Based on the findings and within the limitation of the study

1. It was noticed that practice of plyometric training helped to improve selected physiological variables of inter-collegiate level men volleyball players.
2. It was also seen that there is progressive improvement in the selected criterion variables of plyometric group of inter-collegiate level men volleyball players after six weeks of plyometric training programme.
3. Further, it also helps to improve selected physiological variables such as breath holding time, vital capacity and resting pulse rate.

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# ORIENTALISM IN THE AMERICAN AND BRITISH MEDIA EDITORIALS: ORIENTALIZING ISLAM AND ISLAMISTS IN THE COVERAGE OF THE EGYPTIAN REVOLUTION AND ITS AFTERMATH (2011-2018)

Ayyad ECHINE<sup>1</sup>

<sup>1</sup>PhD, Department of English, Faculty of Letters and Humanities, Ibn Zohr University, Agadir, Morocco

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## ABSTRACT

*The Arab revolutions of 2011 and their aftermath produce a myriad of political contexts that triggered much coverage in the Western media. This study draws on Edward Said's postcolonial critical model of Orientalism (1978) to locate Orientalist tropes in Western media editorials that cover the revolution and its aftermath in Egypt (2011-2018). It discusses the ideological manipulative functions of the media to see if they are utilized to provide a coverage that emanates from the classical Orientalist frames when reporting about the revolution's participants –Muslims/Islamists. Using critical discourse analysis, this thesis examines the editorial narratives (n=101) of four highly read US and British newspapers: The New York Times, The Washington Post, The Telegraph and The Guardian. The thesis outlines evidence that suggests that the selected media's representation of the revolution's participants is imbued with the ideology of Orientalism: Islam, political Islam, and the Muslim Brotherhood are reported through stereotypical lenses that posits them as an antithesis of the modern Western society and its values.*

**KEY WORDS:** *Orientalism, The Egyptian revolution, Islam and Islamists, CDA, Editorials*

## INTRODUCTION

The Arab world has seen dramatic political changes since December 2010 when the Jasmine revolution was triggered in Tunisia. The International news media swiftly responded to that revolution which subsequently inspired people in other Arab countries, such as Egypt, to revolt against their ruling regimes. While following the news media coverage of this critical period, one realizes that Edward Said's critical model as exposed in *Orientalism*, a founding text of postcolonial theory, comes back today with vibrancy and resonance to account for the nature of such media coverage. Many critics argue that the rise of the Arab Spring calls an end to postcoloniality as a condition and mode of ideology formation, and that the line between 'East' and 'West' is blurred (Dabashi, 2012). Other critics went further as to argue that neo-Orientalists such as Bernard Lewis and Samuel Huntington are silenced by the loud voices of the protests in Tunisia, Egypt and Libya (Ould Brahim, 2012). On the other hand, other critics argue that even when the West refers

to the Arab revolutions as 'Arab awakening' or "Arab spring" it represents Arabs with the same old Orientalist terminology (El-Mahdi, 2011; Khouri, 2011). Along the same line, this study suggests that Orientalist discourse is the driving narrative which underlies Western media coverage of the Arab spring.

Thus, two different arguments emerge as an outcome of what happened in the Middle East: One calls an end to Orientalism while the other presents Orientalist rhetoric as a persistent discourse that has been neither modified nor metamorphosed when reporting the Arab uprisings of 2011. This study intends to evaluate both positions and interrogate whether or not Orientalist rhetoric is present in the New York Times, the Washington Post, the Guardian, and the Telegraph editorials' portrayal of Islam and Islamists in the Egyptian uprising and its aftermath.

Broadly, editorials are media tools for telling news. However, they are entitled to transcend this simple undertaking. Newspapers' editorials present news events and provide the news evaluation. They





also have a persuasive social function in the sense that they tend to influence the social cognitions of their readers (Van Dijk, 1991). Locating an ideological rhetoric such as Orientalism in media texts necessitates considering texts with heavy ideological connotations. Evidently, news articles will not do in this regard but editorials are much relevant for such academic scrutiny. An Editorial is defined as “a corporate voice or position of a media organization on any given issue of public interest” which is also known as the leader (Azeez, 2018, p.1) or a leading article in a newspaper. The editorial or leader is very influential as it leads its readers to take decisions on the issues being discussed, and/or kick against an idea or policy (Duyile, as cited in Azeez, 2018, p.2).

The Western news media has been faithfully committed to the propagation of the Orientalist discourse when covering Arabs and/or Muslims in past critical periods. The Gulf war 1991 and the invasion of Iraq 2003 are cases in point. Therefore, I assume that the selected media’s coverage of Islam and Islamists in the Egyptian revolution and its aftermath does not sing on a different tune. Accordingly, my hypothesis is that this coverage is characterized by a Manichean division that conceives of the world as two distinctive entities: the Orient vs. the West, Us vs. Them. Accordingly, the research questions of this paper are as follows:

- a. Is the Orientalist understanding of Islam and Islamists reflected in the editorials’ coverage of the revolution?
- b. What are the most frequent Orientalist-based themes, if there are any, in the coverage?

Edward Said’s *Orientalism* (1978) forms the theoretical background of this study. His critical model provides an exhaustive analysis of Orientalist narratives and renders visible how such discourse enables the execution of authority and domination over the Orient (p.55).

This study will examine the extent to which the sample (editorials written by the aforementioned newspapers between 2011 and 2018 (n=101)) reflects Orientalist conceptualizations of Islam and Islamists in the context of the revolution. One main area in critical media studies will be targeted: critical discourse analysis (CDA). Norman Fairclough’s CDA (1989, 1995a, 1995b, 2003) is borrowed in this investigation. His analytical strategies, textual and discursive, will be made use of for a better qualitative analysis of the editorials. Excerpts from the editorials will be stated through the analyses.

The fact that Britain and its past colonial ambitions were more often than not referred to in postcolonial writings makes scrutinizing the British

media narratives so pertinent in the research scope of this study. Likewise, choosing the U.S. media coverage of the revolution in Egypt to trace an ideological discourse such as Orientalism can be easily justified. The term neo-Orientalism for example has been coined basically to criticize the American neo-colonial agenda and its “war-on-terror” in the Middle East (Altwaiji, 2014, p.316). In such a way, the U.S. and its experts on the Middle East (neo-Orientalists) have inaugurated “a new academia of Orientalism” (p.316).

## REVIEW OF LITERATURE

A large and growing body of literature has investigated the nature of Western media narratives about Islam and Arabs. The review below outlines how these Easterners, in different contexts, have been presented to the audience.

Edward Said’s (1981) *Covering Islam* provides in-depth analysis of how Islam and Arabs are “covered, covered up, portrayed, characterized, analyzed” by the Western Media. Said argues that the way Islam is covered is a “one-sided activity that obscures what “we” do” (by “we”, he means the West), “and highlights instead what Muslims and Arabs by their flawed nature are” (Said 1981: xxii). The American media has been always selective when working on media releases that deal with Arabs and Islam in the sense that this media chooses not to report about Islam and Arabs but in a negative way. It can be inferred from such coverage that “the true nature of Islam is not allowed to be known to others” (Saeed, 2007).

### *The Western Media Selectiveness in Reporting Arabs and Islam*

It has been argued that the interest in delving into the way the “west” reports about the “rest”, namely Muslims, started ages ago but increased noticeably after events such as the Rushdie affair, the Gulf war and the 9/11 bombings (Saeed, 2007) though, basically, the ideological construction of the West and the “Other”, according to Said (1978) “can be traced back to the expansion of Western imperialism”.

The American media tends always to cover up and underreport certain issues that would help in providing a different image about Islam and Muslims, and opt instead for emphasizing the traditional Orientalist images that the Westerners adopt centuries ago to define Islam (Said, 1981). Muslims’ “sense of justice, their history of oppression, their vision of their own society seem irrelevant” (p.8). Likewise, little knowledge about the whole civilization of Islam; its literature, history and sociology has not prevented Western experts on Islam from generalizing about the “Islamic mind-set” (p.14). For Said, such



generalizations have been confined to and highly welcomed by the media that presents Islam before most Americans just when it is mainly connected to newsworthy issues such as oil and terrorism (1981).

In the same vein, Said (1981) conceives of the media a “cultural apparatus” from which Europeans and Americans derive their consciousness (p.44). For said (1981), through ignorance, cultural hostility and racial hatred, the Western audience is drifted far from the true nature of Islam (p.163). Accordingly, the Western audience is always ready to accept the American homogenous coverage of Muslims because the latter are always depicted as the opposite of the West (Saeed & Drainville, as cited in Saeed, 2007, p.453). To confirm this argument, Saeed (2007) evokes the publication of caricatures of Prophet Muhammad (PBUH) by a Danish newspaper to argue that such publications suggest that the prophet was a terrorist and Islam is a root of terrorism.

### **Homogenizing the ‘Rest’**

Islam and Muslims are mostly portrayed as a single entity that is always positioned opposite the West (Akbarzadeh & Smith, 2005; Poole, 2002). The issue of terrorism is worth discussing in this regard for the media under review tends always to extend terrorism to all Muslims on earth. Whenever a violent incident committed by Muslim-named individuals, the whole Muslim society will be accused of terrorism. Osama Bin Laden, for example, is considered a representative of all Muslims rather than being a criminal (Nurullah, 2010). Besides, the British media, via its inaccurate and value-loaded language, calls Osama bin Laden a “Muslim fanatic”, a “Muslim fundamentalist” and a “Muslim extremist and terrorist”, and Islam a religion of violence and irrationality (Conte, 2001, para.3). Accordingly, the Western media is providing a version of Islam which can be referred to as “mass media Islam” that contains only acts of a violent minority while the peace-loving majority of Muslims is put outside the scope of the same coverage (Abdallah & Rane, 2007, p.7-8).

The Western motion picture and visual media are used as vehicles through which biases and stereotypes about the Arabs and Muslims are disseminated. *Reel bad Arabs: How Hollywood vilifies a people is* Jack Shaheen’s (2003) indispensable reference tool to learn about how films abuse the Arab individual. Shaheen provides a thorough and exhaustive analysis of 900 Hollywood movies portraying Arabs. He demonstrates how Hollywood movie viewers are made to believe that all Muslims are Arabs and all Arabs are Muslims. Shaheen (2003) sees that Hollywood movies’ repetitive negative portrayal and stereotypes influence even Arabs and

Arab-Americans and make them perceive themselves as bad people. Therefore, for Shaheen, real Arabs will never be known (2003). Shaheen’s analysis of hundreds of American movies shows how the Arab character is disgracefully called “bastards”, “pigs”, “camel-dicks”, “jackals”, “rats”, “ragheads”, “buzzards of the jungle”, and “son of whores” (p.11).

Conversely, in reality, the majority of Arab people have never slept under a tent or ridden a camel (2000). In this regard, Arti (2007) tells us that there has never been an intention to represent the true nature of Arabs. For him, intensifying the Arabs’ stereotypical images serves the U.S. political and cultural interests in the region which is motivated by the American imperial ambitions (2007).

The Portrayal of Arabs in Hollywood films evolves and takes different shapes through time. Brian Edward (2001) has uncovered a direct link between the end of the Cold War and a shift in Hollywood, leading to Arabs and Muslims playing the ‘enemy role’ as a replacement for communism. Edward concludes that the negative stereotype of the Middle East, which is designated as ‘Hollywood Orientalism’, is still persistent and insidious (2001, p.13).

The media under scrutiny underreports the real teachings of Islam by rendering individual behaviors representative of the whole religion of Islam. The same media makes it difficult for their audience to differentiate between real Islam and few Muslims’ behavior (Nurullah, 2010, p.1027-1028).

### **Review of Theory**

This investigation utilizes Edward Said’s postcolonial critical model to make sense of the selected media texts. Orientalism was initially defined by Said “as a style of thought based upon an ontological and epistemological distinction made between the Orient and most of the time the occident” (Said, 1978, p.2). It is “a Western style for dominating, restructuring, and having authority over the Orient” (p.3). Said argues that the Orientalists divided the world into two parts; the East and the West, the Occident and the Orient, the civilized and the uncivilized. Their writings corrected and penalized the East “for lying outside the boundaries of European society” (p.67). In those Orientalist productions, the Oriental, according to said, is always defined within ‘dominating frameworks’. It is “depicted as something one judges (as in a court of law), something one studies and depicts (as in a curriculum), something one disciplines (as in a school or prison), something one illustrates (as in a zoological manual)” (p. 4).

Said (1978) makes clear the idea that the West implements a binary oppositional method that permits



it to define itself by traits that the East does not reflect. When the European is a reasoner, accuracy lover, mature, normal, rational and virtuous, the Oriental is irrational, childish, different and gullible (p. 40). For Said “the Orient has helped to define Europe (or the West) as its contrasting image, idea, personality, experience.” (p.1-2). In other words, the Western identity is defined from within its juxtaposition against the Orient. Therefore, Orientalism is not only about the Orient but it is also about the West itself. Moreover, the Western depiction of the ‘Orient’ as the ‘Other’ was very crucial to understand the ‘self’, and this “constituted an enormously powerful cultural form, or what Gramsci identified as ‘hegemony’” (Rushworth, 2012).

## METHODOLOGY

### *Sampling, Newspapers selection and editorials*

The newspapers chosen for analysis are The New York Times, The Washington Post, the Guardian and the Telegraph. These papers are among the most influential broadsheets with a high circulation rate. They have international far reached readers who are often fairly affluent and educated (Rogers, 2018).

The broadsheets editorials, compared with tabloids or news articles, provide exhaustive coverage with a high degree of analytical competencies. In this way, as this investigation examines an ideological rhetoric, editorials are found to be the best unit of analysis – sample – because their influential and ideological nature suits perfectly the discourse in question.

The case study in this paper is the 2011 Egyptian revolution and its aftermath (2011-2018). This study scrutinizes the American and the British print media coverage of this uprising. It aims at investigating the nature of the coverage and to see if the editorials reflect Orientalist modes of thought in their portrayal of Islam and Islamists. The number of editorials that cover the Egyptian revolution and aftermath (2011-2018) varies according to each newspaper: The New York times (n=43), The Washington Post (21), The Guardian (n=26), and The Telegraph (n=11).

### *Critical Discourse Analysis*

Critical discourse Analysis is conceived of as a branch of critical studies that focuses on social problems and power dynamics that involve instances of domination and resistance (Chouliaraki and Fairclough, 2010). What distinguishes this method is that it scrutinizes discourse in context rather than dealing with texts as isolated linguistic items (Fairclough, 1992, 1995; Van Dijk, 1997a). Therefore, textual analysis as

suggested by CDA critically analyzes subjects and power relations within discourse in specific contexts.

Literature on CDA shows that there have been many attempts to systematize the functions of this approach. To name but a few, Fairclough (1992a, 2001) and Wodak’s (1996) focus on textual analysis; and Van Dijk’s (1997) and Gee’s (1999, 2005) focus on social variables such as context, power relations and ideology. Fairclough and Wodak (1997) outlined eight main principles of CDA that summarize few of the notions mentioned above. The first is that CDA, beyond its focus on language use, addresses social problems in the sense that it renders visible power relations which are frequently hidden in society (1997). The second is that power relations are discursive; that is they are exercised through discourse (1997). The third is that language use or discourse contributes in the transformation of society and culture, and therefore, power relations (1997). The next principle considers discourse a work of ideology, and to better understand how ideologies are produced through discourse an analysis of discursive practice (text production, consumption and effect) in addition to textual analysis have to be addressed (1997). Another principle emphasizes the importance of historical context in the understanding of discourse (1997). The next principle highlights the fact that the link between text and society is mediated (1997). The mediated relationship between text and society always follows “an order of discourse” (Fairclough, 1992a), which is defined by Fairclough as “totality of discursive practices of an institution and relationship between them” (1993, p.138). The next principle is that CDA goes beyond textual analysis and encompasses as well interpretation and explanation of intent (Fairclough & Wodak, 1997). Ultimately, discourse, from the perspective of critical discourse analysts, is a social action that aims at uncovering opaqueness and power relationships (Fairclough & Wodak, 1997).

The present study adopts Fairclough’s approach of CDA. The theoretical considerations outlined above are operationalized by Fairclough (1992a, 1995a) who guides textual analytical on: 1) vocabulary (how words function to show ideology), 2) transitivity (agency patterns in a text), 3) modality (conveying certainty and authority), 4) presupposition (unchallenged implicit assumptions), 5) scale of presence in a text; absent / presupposed / backgrounded / foregrounded) and many other tools of analysis. This investigation draws on some of these tools to answer the research questions and simultaneously explains each analytical tool within text analysis.



## The Egyptian Revolution Context and Western Media Attention

The uprising in Egypt was part of a series of movements against authoritarian leaders that are called 'the Arab Spring' by the world media. These demonstrations climaxed in Tunisia on the last days of the year of 2010 and later swept other countries among which is Egypt. On January 25, 2011, Egyptian activists took to the street and headed to their gathering location Tahrir Square to revolt against a long-standing corrupt regime led by President Hosni Mubarak and his associates, and to call for a democratically elected government that would replace Mubarak's repressive regime. The security forces' initial reactions to the protests were banning public gatherings, using tear gases to disperse the rebels, blocking the internet services, as they were of great help for the protests to organize their street mass protest, and setting up a curfew (Abushouk, 2014). Unwilling to leave office, Mubarak's regime made concessions like appointing Omar Suleiman as vice president and giving him orders to start negotiations with political forces in the country, and urging the protests to withdraw from the streets. Mubarak's concessions to moderate his power grab were not the ultimate goal the rebels were striving for, yet they applauded to Mubarak's departure on February 11, 2011 though the administration was left in the hands of a military council (Abushouk, 2014).

Among the reasons behind examining the coverage of the Egyptian revolution's aftermath is the fact that the Egyptian revolution did not finish or satisfies its ambitions with the ousting of Mubarak. Egypt has gone through years of turmoil and transition after Mubarak relinquished power; a transition that has been subject to up-to-the-minute groundbreaking coverage from the international media, namely the Western.

The initial reading of the editorials suggests that key events that characterize the Egyptian revolution were over-reported by Western media. The most alarming one for the West is when "the Muslim Brotherhood<sup>1</sup> wins nearly half the seats in multi-stage elections for the first post-Mubarak parliament, while ultraconservative Salafi Islamists take another quarter" sixteen months after the military took over on the ouster of Hosni Mubarak (news24, 2018). Four months later, The Muslim Brotherhood's candidate Mohammed

<sup>1</sup> The Muslim Brotherhood, or *al-Ikhwān al-Muslimūn* in Arabic, is the world's oldest Sunni revivalist organization in the Arab world. (Insidearabia.com, 2019)

Morsi defeated Ahmed Shafiq, Mubarak's last prime minister, and won the elections with 51.7% and took office on June 30, 2012 as Egypt's first freely elected president (2018). Morsi's policies were severely criticized by both the Egyptian civilians and political parties for the greater powers Morsi decreed for himself. Subsequently, On Morsi's anniversary in office, June 30, 2013, the Egyptians took to the street to demand Morsi's resignation; a demand that was supported by the military that, four days later, announced Morsi's removal and installed an interim president. The announcement was made by Chief General Abdel Fattah Al-Sisi on 3, July, 2013 (news24, 2018).

Subsequent violent incidents swept Egypt after what has been considered a military coup against Morsi; More than 600 people, mostly Morsi supporters, are killed and Islamists reacted back violently. An Egyptian court considered the Brotherhood a banned group that was later designated a terrorist organization by the government. Later, Morsi and 682 other people were accused of charges of inciting violence and of the killing of policemen for which, according to the court, they deserved death penalty (news24, 2018). Many other incidents were incessantly reported by world media such as Al-Sisi electoral victory in May 2014 and the dismissal of murder charges against Mubarak in November 2014, for these events go against the ambitions on which the 2011 revolution was grounded.

## RESULTS AND DISCUSSION

### Islam and Islamists: Threatening and Fearful.

#### *The Foregrounding of Islam, the Muslim Brotherhood, Iran, and Israel.*

In the preface to the 2003 edition of *Orientalism*, published shortly before his death, Edward Said writes that:

Bookstores in the US are filled with shabby screeds bearing screaming headlines about Islam and terror, Islam exposed, the Arab threat and the Muslim menace, all of them written by political polemicists pretending to knowledge imparted to them and others by experts who have supposedly penetrated to the heart of these strange Oriental peoples over there who have been such a terrible thorn in "our" flesh. (p. xv)

Clearly, Said's words are echoed in the way Islam is envisaged and reported nowadays. The coverage of the 2011 Egyptian revolution is one of those contexts where Islam and political Islam are presented and framed as a threat. On the one hand, the fearful nature of Islam is claimed to be acknowledged by Egyptians themselves. It is suggested that they are cautious and





worried about any involvement of Islam and the Muslim Brotherhood in the Egyptian revolution. *The NYT*, *WP*, *T* and *The G's* coverage of the issue reflects classic Orientalist trope of Islam being violent, fearful and threatening. In the context of the elections following Mubarak's ousting, *The NYT* and *The G* write:

- 1) "The young protesters ... worry their demand for democracy could be hijacked by ... the Muslim Brotherhood."(*NYT*, "Egypt's Unfinished Revolution", 24 March, 2011)
- 2) "Leaders of the democratic uprising were also expressing anxiety about the strong showing by Islamist parties."(*NYT*, "Egypt's Vote", 01 December, 2011)
- 3) Most Egyptians have no interest in swapping Mubarak's secular dictatorship for a religious one."(*NYT*, "Egypt's Vote", 01 December, 2011)
- 4) "They [the ordinary Egyptians] are in no hurry to replace a repressive secular regime with a repressive religious one."(*G*, "Cairo protests: The west has a duty to nurture democracy", 06 February, 2011)

The excerpts above, namely 1 and 2, show that the Egyptians, who are referred to as a group, are wary of and anxious about Islamists' parties, namely the Muslim Brotherhood. The fact that the Egyptians are afraid their democratic demands might be hijacked by Islamists suggests that democratic reforms are away from being realized and sought by Islamists or by Islamic ruling. This statement clearly positions Islam as the opposite of democracy. Moreover, as suggested in excerpts 3 and 4, the negative portrayal of Islam and Islamists is intensified in the sense that dictatorship is reported to be favoured over Islamic ruling by Egyptians. Such reports suggest that Islamic ruling, if practiced, will be at best worse than autocratic regimes.

Here, the editorials writers are presupposing that "leaders of the democratic uprising", "most Egyptians", and the "young protesters who made the revolution happen", though they belong to a country where Muslims make up 90% of the population, hold a negative attitude towards Islamic ruling. What makes of these scripts mere presuppositions is the fact that Egyptians are referred to as a group while there is a lack of a direct voice in the coverage; not a single Egyptian was given the opportunity to confirm or negate the stories. Besides, the fact that the Islamic party won the elections afterwards refutes and proves the above mentioned coverage to be the journalists' own evaluation, rather than the Egyptians' authentic version of the story. Relatedly, presuppositions for Fairclough (2003) have an ideological significance, and

since they cannot be challenged or defied, they become a part of a dominant ideological convention that, in this case, emphasizes a fearful aspect of Islamists and their ruling.

On the other hand, Islam is reported to be deemed fearful by the West, namely the U.S., Britain and Israel. Early in its coverage of the revolution, *The WP* writes:

- 5) "Egypt has been a vital ally of the United States, and a potential change of regime there is frightening to many in Washington, especially given the strength of the country's Islamist movement."(*WP*, "Egypt's unstable Regime", 25 January, 2011)

While religion, namely Islam, was clearly absent from the protests, the selected editorials present Islam, the Muslim Brotherhood and political Islam at large as a key to understand the events that swept Egypt. *The WP* announces, from the very beginning, that a loss of Egypt as a faithful ally under Mubarak's rule is frightening, and what makes it more frightening is the existence of a strong Islamic movement in Egypt. Thus, Egypt under Islamic law is fearful to the West. Here, Islamists are "foregrounded" as the strong available alternative to Mubarak's regime in Egypt. The same idea is foregrounded and reported by *The Guardian* that presents Islamic ruling a fearful outcome as far as the Western leaders are concerned:

- 6) "In place of Mubarak and men of his ilk, western leaders fear the rise of militant Islam, the ascendancy of groups such as Egypt's Muslim Brotherhood, and a general loss of influence and stability in the Middle East."(*G*, "Mubarak's dictatorship must end now", 30 January, 2011)

It is suggested in the excerpt above that the loss of a faithful ally in Egypt will be followed by the rise of militant Islam and the Muslim Brotherhood with which the West will lose its influence in the Middle East. This is to say that the absence of Western influence in the Middle East will lead to instability in the region, as the West is implicitly presented as peace and stability promoter. Accordingly, Islamic ruling or the Muslim Brotherhood will promote the opposite image if it replaces Mubarak in Egypt. The foregrounding in this case helps the media to highlight the differences between Islam and the West; the West as able to promote stability in the Middle East and Islamic ruling as fearful and chaotic. Moreover, the Muslim Brotherhood is made to appear in the media as a homogeneous whole, which is a strategy routinely followed to portray Islam as a monolithic religion. However, as Peter Mandaville stated, "Islam is not a





monolith, neither is political Islam” (Mandaville, 2013, p. 238),

The ‘foregrounding’ of Islam and the Muslim Brotherhood is accompanied by the ‘backgrounding’ of other groups that played a vital role during the revolution. In his analysis of the social actors in the Egyptian revolution, Telci (2011) provides an exhaustive micro level analysis of positions of social actors in the Egyptian revolution and speaks about civil society organizations and groups that actively participated in the revolutionary demonstrations. In the context of this investigation, these social actors receive scant attention in the selected editorials under study. It should be noted here that the selected media foregrounded the Islamists and backgrounded other social actors before the ousting of Mubarak and the ruling of Morsi, the Muslim Brotherhood candidate, as the elected president of Egypt. Foregrounding and backgrounding, therefore, are tools to put the agenda setting function of the media into practice. It is useful to recall that media gate keepers cut down billions of available messages and diffuse only the messages that suit the paper’s editorial line (shoemaker’s, 1991).

Accordingly, 6 April Youth Movement, which was one of the most influential actors of the Egyptian revolution (Telci, 2011), received scant coverage by the selected papers during the revolution, but it was referred to, when its leaders are already serving prison sentences in Asisi’s prisons, in 2013 (see “Who Will Be Left in Egypt?”, the NYT, 12, September 2013, and “Egypt: back with a vengeance”, the G, 25, December 2013) and in 2014 (see “Egypt’s jailing of democracy activists shows how far it has backtracked”, the WP, June 2014, and “Political Executions in Egypt”, the NYT, 28, April 2014). One singular mention of the 6 April movement as a well-organized group during the revolution appeared in 2011 in The WP (see “Misconceptions about the Egyptian crisis”, WP, 31, January 2011). Meanwhile, the Islamists and the Muslim Brotherhood are foregrounded and mentioned in most of the editorials.

Likewise, *Kefāya* (an Egyptian word for “enough”), which is the Egyptian Movement for Change, and that “has become one of the most visible oppositional organization that held systematic and consistent demonstrations throughout the country during, especially in the last decade of, the Mubarak Era” (Telci, 2011, p.179), was mentioned once by *The Guardian* in the whole sample (n=101) (see “Mubarak’s dictatorship must end now”, the G, 30, January 2011) though this group “used every opportunity to support Egyptian people’s will and quest for democracy, human rights and more importantly termination of the Mubarak regime” (Telci, 2011, p.179).

Equally important, the National Association for Change (NAC) and its leader Muhammed El-Baradei were not given comparable consideration as given to the Muslim Brotherhood in the coverage. The NAC led by Muhammed El-Baradei, the former President of the International Atomic Energy Association, launched opposition campaigns to bring Mubarak era to an end and was among the first movements that offered full support to the Egyptian protesters (Telci, 2011). However, the NAC and its leader were infrequently referred to and made ineffective compared to the Islamists. This argument is well illustrated in the following excerpt taken from *The NYT* editorials:

- 7) This [preparing for elections] is made far more complicated by the fact that Egypt has few opposition groups — the result of Mr. Mubarak’s 30 years of authoritarian rule. The best organized is the banned Muslim Brotherhood. Mohamed El-Baradei, the former top nuclear inspector for the United Nations and a Nobel laureate, is eager to lead. (*NYT*, “Beyond Mubarak”, 01 February, 2011)

In the excerpt above, the Muslim Brotherhood is placed in a foregrounded position which emphasises it as the best organized political group in Egypt, while the NAC or Mohamed El-Baradei is given no comparable description. In newspapers, the inclusion of any actor in the text is revealing but the way the same actor is positioned in the text is of much more importance. In Richardson’s formulation:

News text is structured like an inverted pyramid, whereby the facts/points deemed to be most important are located at the top in the headline, leading down in importance through the story lead, the first paragraph and so on to the bottom. (2004, p.46)

As far as CDA is concerned, Fairclough calls this structure “a scale of presence” in media written text, which for him, is running from ‘absent’ to ‘foregrounded (absent – presupposed– backgrounded – foregrounded)’. Accordingly, the location of the Muslim Brotherhood in the analyzed texts is highlighted and put at the top of the texts, whereas other influential secular groups were excluded and made absent or backgrounded at best in the coverage. This foregrounding of the Muslim Brotherhood as a well-organized powerful group will subsequently be followed by a foregrounding of this group as well as Islamic law (*Sharia*) as fearful, undemocratic and as a system which is at odds with the Western modern and democratic ruling.

Generally, the threatening nature of Islam in the coverage of the Egyptian revolution was frequently linked to any discussion of the Islamic group; the



Muslim Brotherhood. To get a first impression about the best way the Muslim Brotherhood has been portrayed, consider the following passage from one of the Telegraph's editorials:

- 8) "It will take time to evaluate any new Egyptian government – to discover, for example, whether the participation of the Muslim Brotherhood is sinister, harmless or somewhere in between"(T, "Britain's foreign policy needs to be made clear on Egypt", 04 February, 2011)

Such a strong presupposition suggests that being harmless is what can characterize the Muslim Brotherhood at best.

In addition, the naming choice adopted by any newspaper to define people "can have a significant impact in the way they are viewed" (Richardson, 2007, p.49). How the papers name their subjects not only identifies the category they belong to, but it also highlights the "relationship between the namer and the named" (2007, p.49). Accordingly, the fact that the selected papers refer to the Muslim Brotherhood using terms and phrases such as 'banned' (NYT, WP), 'the best organized' (NYT, WP, T), 'fundamentalist' (NYT), 'autocratic' (NYT), 'instigators'(T), and 'ultra-conservative' (G) reflect clearly how the Western media wants the Muslim Brotherhood to be viewed, what sort of attitude this media has towards their subject, and the nature of the relationship between the namer (the selected papers) and the named (the Muslim Brotherhood).

To stress the threatening nature of political Islam, the situation in Egypt was, more often than not, compared to Iran and the 1979 revolution. Iran's revolutionary experience is also referred to to highlight fundamentalist Islamism as an outcome of the revolution in Egypt. As early as in its first editorial covering of the Egyptian revolution, *The Telegraph* wrote that:

- 9) In Egypt, as in many other Arab countries controlled by autocratic governments, Islamic militants are waiting to exploit any opportunity that comes their way. The Iranian revolution of 1979 began as a secular protest movement against the shah and ended with the establishment of the world's most radical Islamic state. (T, "Egypt needs reform, but not revolution", 27 January, 2011)

Presenting a fundamentalist Islamic control of Egypt as an outcome of the revolution just days after Egyptians took to the street is a strong presupposition that exposes the ideological line of reasoning *The T* is adopting. Additionally, *The T* sees that invoking the Iranian revolution would be enough to prove the

aforementioned presupposition right, and that fundamentalist Islamists are awaiting opportunities to take over power in all Islamic states. Moreover, the excerpt above suggests an Orientalist view that sees all Islamic parties, states and histories through the same lenses; Islamic nations full of homogenous fundamentalist Islamists that will seize any opportunity to take hold of power. The overall outcome is that, to use Said's words, the "average reader comes to see Islam and fundamentalism as essentially the same thing" (1997, p. xvi).

The same sentiment is expressed by *The NYT* as it invokes the Iranian 1979 scenario and equates it to the situation in Egypt. This is what *The NYT* wrote:

- 10) "The Iranian revolution is seared in our memories. There are no guarantees that Egypt's next government will be as friendly to Washington as this one."(NYT, "Egypt's Latest Constitution" 04 December, 2013)

The excerpt above reveals the everlasting worry the West holds vis-à-vis any possibility of having political Islam ruling a state in the Middle East, because Islam, in Said's formulation, is a lasting trauma for the West (1979). The very idea that an event – which forty years ago – ended with power in Islamists' hands is still seared in the West's memories implies the historical fear and anxiety the West holds towards the religion of Islam.

Significantly, Israel is constantly referred to throughout the coverage of the revolution when political Islam is portrayed as fearful and threatening. It is generally placed as a victim, a long with the West, of any takeover of power by Islamists in Egypt. Traditionally, Orientalist narratives have placed Arabs and Israel in a "simple-minded dichotomy of freedom-loving, democratic Israel" on the one hand, "and evil, totalitarian, and terroristic Arabs" on the other (Said, 1978, p.27).

The American and the British media repetitively discuss how Israel and its interests in the Middle East will be affected after losing an ally like Mubarak in Egypt. The selected papers, to a lesser extent *The Guardian*, stressed an inevitable danger that will follow the ousting of Mubarak if Egypt is governed by Islamic law. A myriad of editorials projected Israel, and the West at large, as a scapegoat of political Islam in the Middle East.

### ***Islamic Ruling: an Antithesis of the West and its Values***

One of the recurrent arguments raised against the Islamic ruling and the Muslim Brotherhood, during the coverage of the revolution, is that Islam and Islamic law are intolerant of non-Muslim minorities, that Islam



is undemocratic, unmodernized and that it restricts freedoms. Consider, for example, when *The WP* wrote that:

- 1) "Its [The Muslim Brotherhood] long-term aim of establishing an Islamic government in Egypt is at odds with what the mostly secular and middle-class demonstrators have been calling for: the democratization and modernization of the country." (*WP*, "Misconceptions about the Egyptian crisis", 31 January, 2011)

The excerpt shows *The WP*'s positioning of the Muslim Brotherhood as not viable for democratic and modern ruling. It is highlighted as unfeasible to respond to the Egyptian's calls for democratizing and modernizing the country. The question that poses itself here is: has the Muslim Brotherhood or a Muslim government ever had the chance or been elected to rule Egypt, before the writing of the editorial? Put differently, positioning the Muslim Brotherhood practice of Islamic ruling is a mere unfounded allegation since, for example, "commitment to democracy is a serious issue but cannot be gauged by hurling groundless accusations" (El-Ghobashy, 2005).

The same covering patterns persist with the other papers. In one of its editorials, *The Telegraph* states openly its aggressive identification of Islam and Islamic ruling. Consider the following passage for clarification:

- 2) Britain knows who it does not want running Egypt: an Islamic regime so fanatically anti-Western that it uses the Suez Canal as a weapon against us, reneges on its peace treaty with Israel and fosters instability in the region. Another thing we do not want is a fundamentalist regime that uses medieval Islamic law to harass its own citizens and terrorise the Christian Coptic minority. (*T*, "Britain's foreign policy needs to be made clear on Egypt", 04 February, 2011)

The passage is clearly pregnant with a negative portrayal of Islam and Islamic law. It is a representation that stresses Islam's inferiority, negativity and threat. The threat dimension of Islamic law as shown in the excerpt is assumed to be on many levels: the threat it poses to the West ("uses the Suez Canal as a weapon against us") and ("reneges on its peace treaty with Israel"); the threat it poses to Egypt and the Middle East ("fosters instability in the region"); the threat it poses to the local people ("harass its own citizens"); and the threat it poses to non-Muslim minorities in Egypt ("terrorise the Christian Coptic minority"). Moreover, this short excerpt mirrors evaluative words with demeaning connotations that are abundantly employed to portray Islamic law: it is 'fanatic', 'anti-Western', 'fosters instability', 'fundamentalist',

'harass' Egyptian citizens and 'terrorise' non-Muslim minorities.

The fearful nature of Islam has already been stressed by Neo-Orientalists like Samuel Huntington and Bernard Lewis who were successful in consolidating the Orientalist vision that Islam is a threat to the West (Ismael & Measor, 2003). Combined with such a negative portrayal is the practice of the dichotomizing 'us' versus 'them', which also confirms the presence of a subjective perspective that creates an 'Othering' process in the coverage which is reflected in the use of the word 'us' in the expressions "uses the Suez Canal as a weapon against us".

In the same vein, *The NYT* contributes to emphasizing a presupposed inferior nature of Islamic ruling; its incapability to improve Egypt both economically and politically, and its intolerance towards non-Muslim minorities. To illustrate, *The NYT* wrote that:

- 3) "Mr. Aboul Fotouh is charismatic and is seen as a pious man, but not an extremist. He was expelled from the Brotherhood last year for advocating a more tolerant and inclusive approach to Islam and Egypt." (*NYT*, "Egypt's Chaotic Election", 25 April, 2012)
- 4) In Egypt, President Mohamed Morsi and the Muslim Brotherhood, the Sunni Islamist party from which he hails, have failed to unite the overwhelmingly Sunni country and its Christian and Shiite minorities around a centrist agenda in the post-Mubarak era. Instead, they have solidified ties with Salafist hard-liners in the Islamist camp; derided opponents, including many secularists, as "enemies of Egypt"; and demonized Shiite and Coptic Christian minorities. (*NYT*, "Dangerous Divisions in the Arab World", 28 June, 2013)

In the excerpts above, the Muslim Brotherhood is used as a vehicle through which Islam or Islamic ruling is seen with Islamophobic lenses. In excerpt three, Aboul Fotouh, one of the former leaders of the Muslim Brotherhood, is shadowed with a very positive point of view. He is presented as charismatic, pious and unextremist. The fact that he was expelled the previous year from the Muslim Brotherhood, as declared by *The NYT*, is seemingly a reason for *The NYT* to describe him with positive evaluative terms. Furthermore, the group that expels a person, who is pious, charismatic and unextremist, for "advocating a more tolerant and inclusive approach to Islam" has to be, absolutely, otherwise. In other words, the Muslim Brotherhood is represented as an intolerant group that excludes people with the good personality traits Abou-Al-Fotouh has. It should also be noted here that the excerpt includes



unfounded argument represented in the omission of relevant information about Aboul Fotouh's exclusion from the Muslim Brotherhood. Relatedly, Egypt Independent, one of the Egyptian local newspapers, had an interview with Abou-Al-Fotouh and reported the real reason behind his expulsion from the group:

(The) former Muslim Brotherhood leader announced his intention to run for president, defying the group's decision not to field any presidential nominee. After weeks of sending unequivocal warnings, the group's Shura Council decided last week to dismiss the 60-year-old doctor from the organization. (June 21, 2011)

*The NYT* argues that Abu-Al-Fotouh was expelled for "advocating a more tolerant and inclusive approach to Islam and Egypt", while the reason was simply because he did not abide by the decision the Brotherhood outlined apropos the candidacy for the presidency. This is an omission with which the reader is mystified and presented with one unfounded argument that the Muslim Brotherhood is an intolerant group that rejects any moderation in the way Islamic law is practiced. Consequently, such arguments against the Muslim Brotherhood that the Western media keeps marketing remain uncontested.

The intolerant aspect of Islamic ruling is frequently emphasized throughout the selected *NYT*'s editorials. In excerpt four stated above, *The NYT*, during Morsi's ruling period in Egypt, positions the Muslim Brotherhood and Mr. Morsi as failing to unite the Sunnis with other minorities such as Christians and the Shiites in one agenda. Likewise, the Islamic group is presented as deriding its opponents and demonizing Shiite and Coptic Christian minorities. With such information, the reader is not given the relevant information on how the deriding of secularists and the demonizing of Christians and the Shiites happened, and hence is left with unanswered questions. This is a technique of omitting crucial information that renders the reader, finally, mystified.

The same patterns were followed when equating Islamic ruling with restricting freedoms as shown in the excerpt below:

- 5) "Mr. Morsi and his supporters went too far last year in ramming through a Constitution that greatly enhanced the role of Islamic law and restricted freedoms." (*NYT*, "Egypt's Latest Constitution", 04 December, 2013)

Again, relevant information, if available, such as what freedoms the Islamic ruling is exactly restricting are omitted from the editorial.

The media views elaborated above had been already marketed in the past three centuries to emphasize a negative nature of Islam and Sharia. These

views are indicative of the Orientalist logic that was held by classical Orientalists who conceived of Islam as symbolizing "terror, devastation, the demonic, hordes of hated barbarians" (Edward Said, 1979, p.59). Islam is seen by neo-Orientalists as the antithesis of "Western ideas of individualism, liberalism, constitutionalism, human rights equality, liberty, the rule of law, democracy, free markets, the separation of church and state" that have little resonance in many cultures among which is the Islamic culture (Huntington, 1993, p.40).

### ***Islam: Unsolicitous of Women's Well-being***

The subjugation and repression of women, be they Arab, Muslim, or both, by the Muslim males or the Muslim social system is a powerful argumentative move that is usually deployed to disparage the religion of Islam (Richardson, 2004). *The New York Times* shapes the audience's view on the status of woman in Egypt in the context of the coverage of the revolution and its aftermath (coup and elections). These media typically choose to describe and report about the Egyptian woman, who in fact enjoys many roles in a variety of cultural groups, but within specific contexts; in this case being victimized by other social actors in Egypt. She is portrayed as someone to pity given the fact that she is sexually abused and is denied her rights by Islam, the Muslim Brotherhood or *Sharia* law. In *The NYT* we read that:

- 1) Cairo's Tahrir Square once symbolized the hope Egyptians felt when they overthrew Hosni Mubarak and began building a democracy. But this iconic rallying point for protesters has today also come to symbolize the terror and contempt women increasingly face since the Muslim Brotherhood came to power and the country descended into turmoil. (*NYT*, "Terror in Tahrir Square", 28 March, 2013)

In this excerpt, *The NYT* highlights the dramatic change that takes place in Tahrir square, the most reported place in Egypt and the cradle of the revolution that toppled Hosni Mubarak. This quote is a part of the coverage of the cases of sexual harassment and rape that took place in the demonstrations. Tahrir square is reported to be no longer a place of hopes, but rather a terror zone for women. Besides, *The NYT* links the terrorizing of women to the coming of the Muslim Brotherhood into power. Here, the Muslim Brotherhood is made, therefore, to symbolize women abuse. The Islamists are foregrounded and made involved in this mistreatment of women. Notice the following excerpt for illustration:

- 2) The scandal is not just that such violence happens. The women are being blamed by





conservative Islamists for bringing the assaults on themselves. As Adel Abdel Maqsood Afifi, a police general and lawmaker, said, "Sometimes, a girl contributes 100 percent to her own raping when she puts herself in these conditions." (*NYT*, "Terror in Tahrir Square", 28 March, 2013)

Here, the Islamists are reported to blame the victim because they hold women responsible for being harassed and raped. Besides, an emphasis is put on the Islamist's reaction to violence, and is highlighted as more important than the act of violence itself.

*The NYT* tries to direct the reader's attention to a linkage between women abuse and the coming of Islamists in Egypt while there is no mention of the attackers for example. Conversely, *Al Akhbar* newspaper, a local paper in Egypt, argues that "there are indications that the practice of sexual harassment originated from the authorities themselves ... In May 2005, the police recruited paid gangs to sexually harass women taking part in marches in downtown Cairo" (2012). Relatedly, Nehad Abu Komsan (2008), head of the Egyptian Center for Women's Rights, argues that sexual harassment in Egypt is a symptom of the country's political oppression; referring to the fact that terrorizing women in demonstrations is a "tear-gas bomb" technique to lessen the existence of women in street demonstrations. All these arguments are not to be found in the American and British media coverage that rather choose to make Islamists' voice apropos the issue salient in the coverage more than anything else.

Eastern woman, uniquely as a victim, is newsworthy for the Western media. This media's focus on the victimization of Arab women is stereotypical because it tends to project them only as passive and oppressed, while disregarding their presence and status in social, economic or political contexts (Ajrouch, 2007). Put differently, *The NYT* fails to deal with the positive roles women play during the revolution. This successful role will not result in higher sales numbers as it will not serve the discourse that portrays Arab women as oppressed and victims of the alleged Islamic rule.

In many other instances, the Muslim Brotherhood, and Islamists at large, are brought to the context of violating women's rights. Consider these excerpts for illustration:

- 3) "Critics say the constitution leaves too much room for Islamists to dominate, tramples the rights of minorities like Coptic Christians and is weak on women's rights." (*NYT*, "Egypt's Flawed Constitutional Vote", 13 December, 2012)

- 4) "Islamists known as Salafis, who among other noxious beliefs deny women the right to vote." (*NYT*, "Egypt's Vote", 01 December, 2011)
- 5) "The Brotherhood's positions on sharia law, the status of women, censorship, non-Muslim minorities, and on Israel, although modified, must still be worrying." (*G*, "Islam in Egypt: fear and fantasy", "Egypt: a revolution on the brink of self-destruction", 05 February, 2011)
- 6) "The president [Mr. Morsi] has failed to build the inclusive administration he promised, with both Copts and women among the disappointed constituencies." (*G*, "Egypt: a revolution on the brink of self-destruction", 29 June, 2013)"

In excerpt 3, in the context of its coverage of the then new Constitutional Declaration issued by President Morsi in 2012, *The NYT* quoted anonymous critics saying that Morsi's constitution gives chance to Islamists to dominate, violate the rights of coptic christians and does not serve women's right. Once again, the Egyptian woman is presented as a victim; influenced negatively by the Muslim Brotherhood's constitution; and put along with Coptic christians in the same category of those victimized by the Islamists. The very idea of placing Egyptian women with the Chritian minority in Egypt as undergoing the same repression by Islamists would urge Western readers to keep feeling antipathy towards Islam and Islamists as a religion that represses women and tramples the rights of the Christian minority in the Middle East.

Similarly, in excerpt 4, *The NYT* refers to another minority of Islamists; the Salafis, and presents them as denying women the right to vote. The Arab women are thus represented as politically immature and unable to make their political choices, and Islamists are portrayed as supporters of this violation. Additionally, *The NYT* presupposes that the Salafis have many other noxious beliefs, one of which is denying women the right to vote. Here, what Huckin (2002) calls 'presuppositional silence' is put into practice in the sense that the writer does not state what he is apparently assuming.

Conversely, the West's treatment of women's status and rights is reported to be the opposite of all that the Islamists did or say apropos the same issue. The West is, once again, presented as 'what the East is not'. Consider the following for illustration:

- 7) "This month, when a United Nations conference adopted guidelines for ending violence against women, the Brotherhood condemned the statement, saying it would undermine Islamic ethics and lead to the disintegration of society." (*NYT*, "Terror in Tahrir Square", 28 March, 2013)





Three main ideas are stated in the above mentioned excerpt: 1) the West is making effort to stop women's misery in Egypt, 2) these efforts are condemned by the Muslim Brotherhood and 3) the Muslim Brotherhood say that the West's guidelines for ending violence against women will undermine Islamic ethics and disintegrate society. This statement is written by *The NYT* immediately after its coverage of the sexual attacks and rapes in Tahrir square. The West, by the name of the United Nations, is shown as working on eradicating violence against Arab women. Reporting about the United Nations guidelines for ending violence against women is implicitly considered the West's reaction to the Arab barbarity and savageness the Egyptian woman is susceptible to, a 'moral imperative' to save the Arab women from torture. This Western duty, as implicitly suggested by *The NYT*, is according to Spivak, a case of "white men saving brown women from brown men" (1999, p. 287). This duty that is considered by the Muslim brotherhood, as assumed by *The NYT*, to be against Islamic ethics is significant. It implies that the Islamists are finally portrayed as soliciting and advocating violence against women.

The representation of the Egyptian women in the editorials covering the Egyptian revolution reflects Orientalist tropes. It echoes the medieval classical representation of Muslim woman as victimized and oppressed by the alleged Islamic rule. Such representation makes women visible solely in problematic contexts: being victimized, oppressed, and denied basic rights by Islamists and Islamic law. Meanwhile, the West is represented to correct the mistakes of the Easterners by saving the Arab women from the Muslim male-chauvinist society.

## CONCLUSION

This study uncovers the strategies and the ideological lenses through which the revolution and its aftermath in Egypt are consequently framed. The focus has always been to locate Orientalist modes of thought in the way the Western editors make sense of the subjects being reported. Accordingly, CDA traces a rhetoric that is stereotypical at best. It shows how the selected media highlights Islam/political Islam as the antithesis of the modern democratic Western ruling, how they emphasize it as restrictive of human rights, and how they project it as threatening to the stability in the Middle East (the stability that would serve uniquely the Western icon, Israel). Through the analysis of presupposition, foregrounding, backgrounding, omission, and mystification in the selected text, Islam and Islamists are found to be framed in a way that reflects the images inherent in Orientalist metaphorical

conceptualizations that see the East as the extreme Antithesis of the West and its Values.

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# CYBER BULLYING AND VICTIMIZATION: A META ANALYTIC REVIEW

Nasla V.S \* Nayana Mohan \* Sannet Thomas\*\*

\*I MSc psychology students, Yuvashethra Institute of Management and Studies, Palakkad, Kerala- 678631

\*\*Assistant Professor of Yuvashethra Institute of Studies, Palakkad Kerala-678631

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## ABSTRACT

Cyber bullying has become a critical social issue, which severely threatens children and adolescents' physical and psychological health. Cyber bullying has evolved from the increasing use of technology, specifically electronic communication and social networking. These findings enhance our understanding of the rates of occurrence of bullying, cyber bullying and victimization. Cyber bullying is defined as a means of bullying in which peers use electronic devices "to taunt, insult, threaten, harass, and/or intimidate a peer" (Raskauskas & Stoltz, 2007, p. 565). With the growth of information and communication technology (ICT), bullying has expanded into the technological realm. Labelled as cyber bullying, individuals are utilizing technology, such as cellphones and the internet, to bully and cause harassment to others with the intention of causing harm. Ten studies which met the inclusion criteria were selected for this study. Findings of the study shows that it has an impact on both psychological and socio demographic problem.

**KEYWORDS:** cyber bullying victimization, media effects, meta-analysis, social cognition, cyber bullying perpetration, Harassment, Information and Communication Technology (ICT).

## DISCUSSION

Cyber bullying refers to "an aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself" (Smith et al., 2008: 376).

Using this new form of bullying, known as cyber bullying, online harassment, or Internet bullying, bullies torment their victims in cyberspace with various forms of technology such as e-mails, instant messaging, chat rooms, and web sites. Text messaging over cell phones and phone cameras has also become new mediums for bullying (Campbell, 2005; Paulson, 2003; Peterson, 2002). It is being increasingly used to harm individuals (National Children's Home Study, 2002; Finkelhor, Mitchell, & Wolak, 2000). Cyber bullying, like face-to-face bullying, can happen to groups as well as individuals. It is important to note that cyber bullying does not involve adults targeting minors; if adults are involved, it is no longer considered bullying and instead is considered cyber-stalking or sexual exploitation (in the case of adults trying to lure children or adolescents via technology for the

purpose of engaging in sexual activities) (Finkelhor et al., 2000).

Rapid developments in information and communication technology have ushered in a technological transition in recent years (ICT). The benefits of these advances are manifold- such as increased availability of plethora of information, improved learning networks and resources for education, increased civic activity and public participation, development of social networks, friendships, etc., to name some of them (Kowalski et al., 2012a; Livingstone & Haddon, 2009).

## IMPACT OF CYBER BULLYING

The impact of cyber bullying among victims finds that the construct is a repeated behavior that offends, causes embarrassment, lowers self-esteem, sabotages, intimidates, and negatively affects an individual's academic, professional, personal and social life (Mesch, 2009). A range of problematic psychosocial health outcomes is associated with cyber bullying victimization including fear for their safety, increased distress, behavioral issues, drug abuse, psychosomatic problems like sleeping difficulties, headaches, bed-wetting, stomach aches,



etc. Victimization increases one's likelihood of experiencing social and emotional loneliness (Brighi et al., 2012; Olenik-Shemesh, Heiman, & Eden, 2012). Victims of cyber bullying and internet harassment also show signs of elevated depression (Bonanno & Hymel, 2013; Machmutow, Perren, Sticca, & Alsaker, 2012). Recent work shows victimization is associated with an elevated profile of cortisol, a physiological marker of stress, over a day (Gonzalez-Cabrera, Calvete, Leon-Mejía, Perez-Sancho, & Peinado, 2016). Perhaps the most troubling association is that pervasive and ongoing cyber bullying victimization has been linked to suicidal ideation and suicide (Hinduja & Patchin, 2010; Van Geel, Vedder, & Tanilon, 2014).

The public nature of cyber bullying and not knowing who and how many people have seen or perpetrated the behaviour can impact the victims' perception (Gradinger, Strohmeier, & Spiel, 2009; Tokunaga, 2010; Kowalski et al., 2012). The degree of impact can also be affected by the wide audience, anonymity, the permanence of a message (they can read it over and over, making it harder to forget), and the ability to reach the target 24/7 (Campbell, 2005; Kowalski et al., 2012; Menesini & Nocentini, 2012).

One approach that has been widely debated as a successful step against cyber bullying is to integrate cyber bullying content into the curriculum. At another level, existing policies (anti-bullying, acceptable usage, etc.) need to be updated and accompanied by monitoring and sanctioning of unacceptable behaviour (Jager et al., 2010; Marczak & Coyne, 2010). Rather than trying to remove all risks (which is difficult to do), it would be better to help students cope by strategizing with them about how to avoid harm (Collier, 2012). When taking such acts, the role of parents and educators cannot be overlooked, and they must be active in the process.

## GENDER DIFFERENCES IN BULLYING AND CYBER BULLYING

It's vital to assess whether there are gender gaps in the variable of interest, as in any childhood activity of concern. Since males and females create and respond to circumstances differently, this is essential information. We often need this knowledge in order to establish successful approaches that take into account gender differences. Currently, across cultures there are more male bullies than female bullies (Baldry & Farrington, 2000; Hussein, 2010; Wei et al., 2009). Since boys tend to do more physical bullying, they may also be more likely to be caught in the act, versus girls who do more relational bullying. (Kert, Coddington, Tyron & Shiyko, 2010; Wei et al., 2009).

In a recent study by Pornari and Wood (2010) conducted in the United Kingdom, a questionnaire was given to 339 students in grades 7 through 9, which revealed that girls participate in cyber bullying at higher rates than boys. This was also found to be true across the United States, based on a large self-report study of 3,767 students in 6th, 7th and 8th grades as well (Kowalski & Limber, 2007).

### Objective

1. To analyse research studies on cyber bullying and victimization and to have a deep understanding on the concept of Cyber bullying and victimization, and its related concepts.

## METHODOLOGY

### Literature Search

A computer based information search was conducted on the Info Net- a computer database, which provides abstracts and full paper of articles. Studies from 2009 up to 2020 were covered in the search. Google scholar, Research gate, Scholar works, Science direct, Pubmed, ncbi and Frontiers in were searched "cyber bullying" and "victimization" as keywords to search for papers published from 2009 to 2020. Many studies were identified by the above keywords. Study abstracts obtained were read to eliminate studies that were not concerned with cyber bullying and victimization. These steps produced a pool of 10 studies that met inclusion criteria.

### Inclusion criteria

The study aimed at understanding the concept of cyber bullying and victimization. Only full text studies were included. Qualitative studies, reviews, articles which focus mainly on cyber bullying and victimization were also included.

Another inclusion criterion was that study must be written in English language and finally the study must have been conducted between 2009 and 2020.

### Procedure

First of all the selected studies were arranged according to the year of publishing (from 2009 to 2020), then extracted major findings of the studies and then each study was analyzed qualitatively. These selected studies were arranged according to the publishing year. Then they are consolidated and analyzed using content analysis.

## RESULTS AND DISCUSSION

The collected studies were arranged in the order of publication and analyzed using already identified factors and some factors were also emerged during the analysis process. The arrangement of selected studies and their classification were presented in table 1.





SN Author(s) and year	Name of the study	Major findings
1. Anika Mishra, & 2 Dr. Shivani Datta Assistant Professor, Assistant Professor March 16, 2019	Understanding the Experience of Cyber bullying Victimization in Young Adults	This research identified main findings such as the <ul style="list-style-type: none"> <li>• perpetrator's anonymity in the participants' worldview</li> <li>• initial response, sense of self and virtual environment,</li> <li>• current anxiety, coping mechanism</li> <li>• support system</li> <li>• Learning from such experiences.</li> </ul>
2. Calliope Athanasiou, Eirini Melegkovits, Artemis K. Tsitsika (10 July 2018)	Cross-national aspects of cyber bullying victimization among 14–17-year-old adolescents across seven European countries	Cyber bullying is a widespread phenomenon that is shaped by country-specific socio-demographic factors as well as existing Internet use and development patterns. Preventive strategies emphasise the inclusion of Internet communication technology education into educational settings, with a focus on the strong connection between cyber victimisation and internalising and exterritorial zing factors.
3. Patricia A. Snell Elizabeth Englander 2010	Cyber bullying Victimization and Behaviours' Among Girls: Applying Research Findings in the Field	Females are more often involved in cyber bullying related activities, both as victims and offenders, according to previous studies and preliminary findings in this report. The time spent on the internet and on mobile phones can be connected to the incidence of these 'Cyber bullying' is a phrase that refers to the act of Aggression in a relationship Female-specific designs are also recommended to have a connection between these bullying styles.
4. Koine AT, Saw YM, Htut ZY, Khaing CT, Soe HZ, Swe KK, et al. (2020)	Assessing risk factors and impact of cyber bullying victimization among university students in Myanmar: A cross-sectional study	In the last year, two out of every five students have become victims of cyber bullying. Non-resident students and students who had only been at the university for three years or less were more likely to be victims of cyber bullying.





		Students, who had experienced psychological, physical, or sexual abuse in their communities, as well as cyber bullying, were more likely to be victims of cyber bullying. Victims of cyber bullying were found to have a strong association with difficulties focusing and understanding lessons, as well as beginning or growing drug abuse.
5. Tan Kim Hua, Nicholas Sia Heng Hwa, Sheau Tsuey Chong , September 2019	Cyber bullying Victimization and Cyber bullying Perpetration with Self-Esteem as the Moderator	The relationship between cyber bullying victimisation and perpetration was analysed using hierarchical multiple regressions, with self-esteem serving as a moderating variable. It also reveals whether the moderator variable of self-esteem truly moderates the relationship between cyber bullying perpetration and victimisation.
6. Bülent Dilmaç, Phd. Selcuk University, 2009	Psychological Needs as a Predictor of Cyber bullying: a Preliminary Report on College Students	
7. Kaitlyn N. Ryan and Tracey Curwen. October-December 2013	Cyber-Victimized Students: Incidence, Impact, and Intervention	Bullying is a complex and harmful problem for victims; cyberbullying is no less destructive and must be handled from the victim's viewpoint. According to research, cyberbullying goals and tactics vary depending on the victim's age and gender, and the victim's influence encompasses social, mental, and academic domains.
8. Natalie Extremera, Cirenia Quintana-Orts,, and Lourdes Rey	Cyber bullying Victimization, Self-Esteem and Suicidal Ideation in Adolescence: Does Emotional Intelligence Play a Buffering Role	EI should be considered as a personal resource that is related to the negative symptoms associated with cyber bullying victimisation, according to new study. Results not only add to the theoretical literature on cyber bullying and its negative effects in adolescence, but they also have the potential to be used to build school-based, integrated bullying prevention strategies aimed at enhancing adolescents' emotional abilities in order to defend against, or at least



		reduce, the negative consequences of becoming a victim of cyber bullying.
9. Eric Rice, PhD, Robin Petering, MSW, and Timothy Kordic, MA .2015	Cyber bullying Perpetration and Victimization among Middle-School Students	The findings of this study point to a variety of possible intervention options. Since middle-school students who are active in cyber bullying (as bullies or perpetrators–victims) spend more time online than their peers who are not, restricting Internet usage can help to reduce cyber bullying. Furthermore, educational services for teenagers who use the Internet regularly could be created and personalised. Interventions should also take into consideration the fact that cyber bullying isn't about online bullying. Unlike in-person bullying, which is more prevalent among boys, cyber bullying was found to be more common among girls in our research. Concerningly, we discovered that sexual-minority students face a disproportionately high risk of cyber bullying victimisation.
10. Sheryl A. Hemphill, Ph.D. a,b,* and Jessica A. Heerde, April 21, 2014	Adolescent Predictors of Young Adult Cyber bullying Perpetration and Victimization Among Australian Youth	The current research looked at adolescent predictors (ages 14e15 years) of young adult cyber bullying perpetration and victimisation (ages 18e19 years). Grade 9 traditional bullying perpetration, traditional bullying perpetration and victimisation, and poor family management were found to be predictors of cyber bullying perpetration in young adulthood. One teenage predictor of cyber bullying victimisation was discovered: emotion regulation. In the overall cyber bullying suspect and victim group, there were more young adult males than females.

This meta-analysis not only examines the most significant predictors of cyber bullying perpetration and victimization, but it also explores the extent of these predictors' impacts. Specifically,

the findings showed that all of the proposed variables from how cyber bullying and victimization impact young adults, gender, adolescents, and emotion were found to be important.



This research was important because it identified basic themes or main findings such as the perpetrator's anonymity in the participants' worldview, initial response, sense of self and virtual environment, current anxiety, coping mechanism, support system, and learning from such experiences, all of which contributed to the current literature and awareness on the effect of cyber bullying on young adults.

Cyber bullying is a recurrent issue that is affected by country-specific socio-demographic factors as well as various trends of existing Internet usage and growth. Preventive initiatives should concentrate on the consistent connection between cyber victimization and internalising and externalising difficulties, as well as the inclusion of Internet communication technology education in educational contexts.

Females are more often involved in cyber bullying related activities, both as victims and offenders, according to previous studies and preliminary findings in this report. The amount of time spent on the internet and on mobile phones may be connected to the incidence of cyber bullying. Female relational violence types are believed to be related to these bullying behaviours. Gender patterns in cyber bullying need to be investigated further. Students and faculty may receive training and education to help raise awareness about cyber bullying.' In the last year, two out of every five students have become victims of cyber bullying. Non-resident students and students who had only been at the university for three years or less were more likely to be victims of cyber bullying. Students, who had experienced psychological, physical, or sexual abuse in their communities, as well as cyber bullying, were more likely to be victims of cyber bullying. Victims of cyber bullying were found to have a strong association with difficulties focusing and understanding lessons, as well as beginning or growing drug abuse. For university students in Myanmar, periodic screening for cyber bullying, counselling facilities, cyber-safety educational programmes, and awareness raising campaigns are urgently needed.

The relationship between cyber bullying victimisation and perpetration was analysed using hierarchical multiple regressions, with self-esteem serving as the moderating variable. It also reveals whether the moderator variable of self-esteem truly moderates the relationship between cyber bullying perpetration and cyber bullying victimisation. The relationship between cyber bullying and college students' psychological needs. There was little theoretical history in this field of research prior to this study. This research attempted to fill the void. Aggression and succorance were found to be positive predictors of cyber bullying, while interception was found to be a negative predictor. Endurance and

dedication the risk of becoming a target of cybercrime was expected to be negative. Just the "need for reform" positively expected cybercrime. The participants' homogeneous ethnicity and socioeconomic history is one study's limitation. As a consequence, replication and comparative studies are needed. However, based on the current literature and the results of this research, aggression and violence are related.

Bullying is a complex and harmful problem for victims; cyber bullying is no less damaging and must be handled from the victim's viewpoint. According to research, cyber bullying goals and tactics vary depending on the victim's age and gender, and the victim's influence encompasses social, mental, and academic domains.

Despite these shortcomings, our findings contribute to the growing body of evidence that EI should be considered a personal resource related to the negative symptoms of cyber bullying victimisation. Our results not only add to the theoretical literature on cyber bullying and its negative effects in adolescence, but they also have the potential to be used to build school-based, integrated bullying prevention strategies aimed at enhancing adolescents' emotional abilities in order to defend against, or at least reduce, the negative consequences of becoming a victim of cyber bullying.

The findings of this study point to a variety of possible intervention options. Since middle-school students who are active in cyber bullying (as bullies or perpetrators-victims) spend more time online than their peers who are not, restricting Internet usage can help to reduce cyber bullying. Furthermore, educational services for adolescents may be created and customised. Interventions should also take into consideration the fact that cyber bullying isn't about online bullying. Unlike in-person bullying, which is more prevalent among boys, cyber bullying was found to be more common among girls in our research. We discovered that sexual-minority students were at a substantially higher risk of becoming victims of cyber bullying.

Adolescent predictors of young adult (age, 18-19 years) cyber bullying perpetration and victimisation (age, 14-15 years). Grade 9 traditional bullying perpetration, traditional bullying perpetration and victimisation, and poor family management were found to be predictors of cyber bullying perpetration in young adulthood. One teenage predictor of cyber bullying victimisation was discovered: emotion regulation. In the overall cyber bullying suspect and victim group, there were more young adult males than females.

## CONCLUSION

Reviewing the literature has given me a deeper understanding of cyberbullying and



victimization. The majority of studies showed that all writers approached the subject from various perspectives.

This meta-analysis not only examines the most significant predictors of cyber bullying perpetration and victimisation, but it also explores the extent of these predictors' impacts. Specifically, the findings showed that all of the proposed variables from how cyber bullying and victimisation impact young adults, gender, adolescents, and emotion were found to be important.

### Implication and suggestions

The findings of this meta-analysis present some practical implications for educators and parents. Additionally, this meta-analysis provides guidelines for the direction of future cyber bullying research. Future studies should focus on examining cyber bullying on social media. Next, while many children have become offenders and victims of cyber bullying; only a few studies examined predictors of cyber bullying perpetration or victimization in childhood.

This meta-analysis' results have some practical consequences for teachers and parents. In addition, the results of this meta-analysis provide direction for future cyber bullying studies. Future research should look at cyber bullying on social media. Next, while many children have been both perpetrators and victims of cyber bullying, only a few studies have looked into the factors that affect cyber bullying. This meta-analysis' results have some practical consequences for teachers and parents. In addition, the results of this meta-analysis provide direction for future cyber bullying studies. Future research should look at cyber bullying on social media. Next, while many children have been both perpetrators and victims of cyber bullying, only a few studies have looked into the factors that affect cyber bullying..

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# CINDERELLA COMPLEX: A META-ANALYTIC REVIEW

Jeslin Babu Joseph\* Sanjaly Jayesh\* Sannet Thomas\*\*

\*I MSc psychology students, Yuvakshetra Institute of Management Studies, Mundur, Palakkad, Kerala, Pin: 678631

\*\*Assistant Professor of Yuvakshetra Institute of Management Studies, Mundur, Palakkad, Kerala, Pin: 678631

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## ABSTRACT

Women's dependency has been a widely debated topic all over the world. A woman is always expected to do only what is appropriate in contemporary society since infancy, and they are not prepared for independence or self-sufficiency from the moment they are born. The idea of female dependency began to cause confusion and discontent among the "new independent women". The fear of being independent then termed as the Cinderella Complex. Cinderella Complex refers to the fear of being independent, causes unconscious desire to be taken care of by others (C. Dowling, 1981). Here the investigator planned to go through the studies conducted in India as well as outside to have a deep understanding on the concept of Cinderella Complex, its dimensions, method of study, related concepts, implications etc. The investigators used meta-analysis as the method for approaching the problem. Six studies which met the inclusion criteria were selected for this study. Findings of the study show that it is interpreted that women having high scores in Cinderella Complex are bound to show negative motivation towards personal growth. Furthermore, an interventional approach is being developed to motivate and train young women towards personal growth.

**KEYWORDS:** Cinderella complex, Meta-analysis, Women, Dependency

## INTRODUCTION

Cinderella complex is defined as the fear of being independent causes unconscious desire to be taken care of by others (Segen's medical-dictionary, 2011). The Cinderella complex was first proposed by Colette Dowling, who wrote a book on women's fear of independence – an unconscious desire to be taken care of by others. As a person gets older, the complex is said to become more evident. Dowling seeks to describe women as being driven by an implicit desire to be cared for as well as a fear of freedom, which he refers to as the "Cinderella complex." Women have been told since the dawn of time that they must support men emotionally and financially. Usually, patriarchal society persuades women that this system was founded for their comfort (Saha and Safri, 2016). Women, on

the other hand, are at risk of losing their self-confidence due to their low sense of status. From the 1950s to the 1970s, sociologists focused on women's rights and equality. Nonetheless, they believed in gender differences or separate roles. They connected motherhood to women's natural impulses without taking into account their pain and anxiety. As a result, girls develop a distrust of men. In fact, the origin of this fear comes from the notion of femininity (Nerenberg, 2017). Girls are taught that femininity and dependence are inextricably related. This dependence, on the other hand, creates a hierarchical society in which women are neither superior nor equal to men.

Cinderella Complex takes its name from the Cinderella fairy tale princess who waits for her prince charming to save her from her wicked stepmother and





stepsisters. The majority of modern fairy tale adaptations, as well as the original versions, impose gender constraints on women. Cinderella by Perrault is an example of how the heroine of the story must be "rescued" by a princely matter and supported by outwardly powers in order to obtain recognition and respect. Cinderella has no bad feelings toward her oppressors, the stepsisters and stepmother. This plot tells a woman that the only way to conquer injustice is to be patient and noble, and to wait for the day when the reward for her perseverance comes in the form of a man. As a result, young women are socialised to be dependent. Its plot is based on the notion that women should be "beautiful, friendly, elegant, industrious, compliant, and passive." According to the Medical Dictionary (2011) Cinderella Complex is termed as the fear of being independent causes unconscious desire to be taken care of by others. The belief that an ideal man would take care of all of a woman's needs and wants makes her submissive. A helpless girl living in a depressed society, like Cinderella, must wait for her dream knight on a white horse to come along and satisfy all of her wishes. This helps to reinforce the notion of what it means to be a normal girl. For instance, young girls should play with dolls; this keeps up ideas of motherhood and domestic activities (Bressler, 2012, p. 135). Cinderella is a patriarchal weapon that produces and nurtures psychological dependency in women. The attributes of feminine beauty and virtue are inextricably connected to those of conscience. A woman must be attractive, faithful, patient, sacrificial, and sexually innocent in order to be virtuous. A woman feels bad if she lacks any of these feminine qualities. As a consequence, dependence becomes a source of relief from perceived suffering. Rather than being self-sufficient, women depend on a man for security, identification, and proof of love. Feminist movements have existed in different ways all over the world. The world is awash in slogans calling for women's rights and equality, but what the general public overlooks is the psychological transference of dependence on men that women have built over time. Every female baby is still taught that she will never have to face danger because she will still be safe. This psyche transforms into a need for men's help and a dependence on them for protection. Furthermore, the Cinderella complex is not only seen in the sense of housewives or women who lack understanding. Cinderella Complex can be seen in women who are goal-oriented and making a lot of money. Diane Richardson assumes that "in conventional sociology and popular culture, motherhood was assumed to be a natural female desire and part of obtaining full adult status as a normal woman (Woodward, 1994, p. 14)". Dependency can be seen in cases where the wife seeks

guidance from her husband and looks to him for all of her decisions. All women have Cinderella Complex tendencies, but those with high Cinderella Complex scores are especially troubling. These women have a narcissistic dependency on men, which can be exhausting for their male partners and self-destructive for them. This leads to unreasonable expectations, which lead to disappointment. Cinderella is the name of the fairy tale heroine who influenced the creation of the complex. It is based on the idea of femininity portrayed in that story, where a woman is beautiful, graceful, polite, supportive, hardworking, independent, and maligned by the females of her society, but she is not capable of changing her situations with her own actions and must be helped by an outside force, usually a male (i.e., the Prince) (C. Dowling, 1981).

### **THEORY OF CINDERELLA COMPLEX**

Colette Dowling is an American author that describes Cinderella Complex and she is best known as the first author who describes the term with her book entitled *The Cinderella Complex: Women's Hidden Fear of Independence* (1981). Dowling writes about her personal experiences as a woman who experiences the Cinderella Complex itself. She identifies herself as a strong and independent woman who has shown for years that she is capable of supporting herself and pursuing her career in the manner she desires. However, after her marriage, she explains a shift in her emotions, in which she wishes to be fully supported by her husband and no longer consider having a job. Dowling is depressed as a result of her new lifestyle, and she holds her husband responsible for her depression. Her husband is the one who awakens her to the fact that she has been living in luxury, expecting her husband to take care of everything. After she realizes how helpless she is, Dowling tries to get her freedom again, yet she realizes that the only way she can stand up straight is if someone lifted her up (Dowling, 1981). Dowling states that dependency needs is still normal if it is in acceptable point. Men and women are still considered appropriate to be cared for by others as long as they are still in a tolerable condition. There is, however, a distinction between men and women. Dowling writes in her book that: It is preparation, not nature, that bestows this self-sufficiency on men. Males are raised to be self-sufficient from the moment they are born. Females are taught in a similar way that they have a way out—that they will be rescued someday, in some way. That is the fairy tale, the life-message we have interjected as if with mother's milk (Dowling, 1981). According to Dowling, since childhood women have been encouraged to be dependent even to an unhealthy



degree (Dowling, 1981). Thus, in adulthood, when a woman finds the freedom in life, she will find that the freedom is frightening because she has many opportunities to do anything or to be anything she wants but she is not ready for all of it. Later, Dowling discovers that the fears of being independent comes from the psychological need to avoid it, Dowling calls it the "wish to be saved" (Dowling, 1981). As she states that: We were brought up to depend on a man and to feel naked and frightened without one. We were taught to believe that as women we cannot stand alone, that we are too fragile, too delicate, and needful of protection. So that now, in these enlightened days, when our intellects tell us to stand on our own two feet, unresolved emotional issues drag us down. At the same time that we yearn to be fetterless and free, we also yearn to be taken care of (Dowling, 1981). Dowling's concept of Cinderella Complex as repressed attitudes and fears correlates to Sigmund Freud's psychoanalysis theories. Dowling claims that women's fear about freedom has been present since childhood, and that it is difficult to be free of these emotions, so women prefer to bury them deep inside their subconscious minds. Furthermore, since the family is the source of human's early emotional experience, it is clear that the family will have a huge effect on their children's attitudes, actions, and what kind of adult they will become in the future. Dowling's concept of Cinderella Complex, in which she discusses "repressed behaviors and fears," may be linked to Sigmund Freud's theory of how the unconscious mind functions. The Cinderella Complex is a significant psychological disorder that any woman in the world will encounter at some stage in her life, and it is likely that the world will become more conscious of it.

## OBJECTIVE

1. To analyze research studies on Cinderella complex and to have a deep understanding on the concepts of Cinderella complex and its relative concepts.

## METHODOLOGY

### Literature search

A computer based information search was conducted which provides abstracts and full paper of articles. Studies from 2016 to 2020 were covered in the search. Google scholar, Research Gate, Napsindia, Semantic scholar, Repository, Academia were searched using "Cinderella complex" and "Cinderella Complex in Women" as keywords to search for papers published from 2016 to 2020. Few studies were identified by the above keywords. Study abstracts obtained were read to eliminate studies that were not concerned with Cinderella complex. These steps produced a pool of 6 studies that met inclusion criteria.

### Inclusion Criteria

The study aimed at understanding the concept of Cinderella Complex. Only full text studies were included. Qualitative studies, articles which focus mainly on Cinderella Complex were also included. Another inclusion criterion was that study must be written in English language.

### Procedure

First of all the selected studies were arranged according to the year of publishing (from 2016 to 2020), then extracted major findings of the studies and then each study was analyzed qualitatively. These selected studies were arranged according to the publishing year. Then they are consolidated and analyzed using content analysis.

## RESULTS AND DISCUSSION

The collected studies were arranged in the order of publication and analyzed using already identified factors and some factors also emerged during the analysis process. The arrangement of selected studies and their classification were presented in table 1.



**Table 1 Author, title and major findings of Cinderella Complex research papers published during the year 2016 to 2020**

Sl. No.	Author(s) and year	Name of the study	Major findings
1.	Saha, T Safri (2016)	Cinderella Complex: Theoretical Roots to Psychological Dependency Syndrome in Women	This kind of realisation in 21st-century women illustrates the reduced but still important role of dependency in the female psyche. It is crucial to undertake research on women's dependence, as the most recent study on this subject is over 15 years old. This definition should be extensively researched on the Indian population as part of targeted research; research on this syndrome has not yet been performed in India.
2.	Smith, M. M. S. (2016).	Cinderella Complex: A study on Urban Homemakers' Life Satisfaction and Television Dependency	This notes that women who are faced with secret attachment needs are less pleased with their household tasks, and therefore the assertion 'Most of the things that I do are tedious or monotonous' confirms the homemakers' mental state, with the majority of 75 respondents agreeing. The relationship between life satisfaction and television dependence among homemakers has also been discovered.
3.	Sneha, S., & Rahmath, F. (2018)	A Study of Relationship between Cinderella Complex and Personal Growth among Young Females	It is believed that women with high Cinderella Complex scores would have a negative attitude toward personal development. In addition, an interventional strategy to inspire and train young women for personal growth is being developed.
4.	V. Chastine & N.K. Darmasetiawan (2019)	Cinderella complex on working women	The Cinderella complex in participants is mainly triggered by parental behaviour and patriarchal culture. Fear of performance, excessive adoration of men, and achievement discrepancies are all manifestations of the Cinderella complex. Participants with the Cinderella complex become reliant, engage in abusive relationships, and give up their careers and lives.
5.	Puspitasari, R. (2019)	A Cinderella complex issue in female protagonist of Bronte's Jane Eyre and Meyer's Twilight : A psychoanalytic study	Jane Eyre and Bella Swan both have features of the Cinderella complex, according to the researcher. They both have a strong urge to be looked after by someone they care for. They begin the story as independent women, but when they meet men who can help them, they become dependent women. Both of them have hidden behaviours and fears as a result of their traumatic childhood experiences. Jane Eyre and Bella Swan, in short, both have a Cinderella complex.



6.	Husseina, Z. S. (2020)	The Cinderella Complex as Reflected in 'The Grass is Singing' by Doris Lessing	The Cinderella Complex is a psychological question that goes unnoticed. Due to patriarchal doctrines that hold women in a tight circle, desiring only the Prince Charming who will come and take her to everlasting happiness like princess Cinderella, it infects women all over the world. In reality, as the protagonist Mary Turner in The Grass Is Singing shows, low self-esteem would be the unavoidable outcome, as she transforms from an independent woman to a dependent passive wife who lives her life in vain.
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The bulk of the research, according to the study, was performed on women. When looking at the various types of studies, it's obvious that the majority of them were library analysis, both qualitative and quantitative. Just a few experiments were experimental in nature. The bulk of the research looked into the dimensions, causes, and consequences of Cinderella Complex. The researchers discovered that women should have a wider perspective on their lives and build a personal space for them to spend quality time rejuvenating their own skills and becoming autonomous of their thoughts and acts after evaluating the literature on the Cinderella complex. They could be economically self-sufficient, establish an identity, and become mentally independent women by starting a small business. Furthermore, the researcher suggests that in this age of infotainment, women should rely on the knowledge available and keep informed about current events in order to engage in their family's decision-making process. According to the researcher, women must think deeply about their experiences and discover both the humiliations and the keys to autonomy and reality. Colette Dowling, a New York therapist, invented the term Cinderella Complex (also known as the Cinderella syndrome) in the early 1980s. It's a complex (or syndrome) that makes women think they're 'damsels in distress' who need to be saved from a male suitor. Women wait for a "man" to come along and take care of their lives, so they can live happily and contentedly in the shadows of their men. The Cinderella Complex refers to the largely suppressed attitudes and fears that prohibit women from completely using their minds and imagination, causing them to wait for something or someone outside of themselves to improve their lives. It's likely that women with a strong Cinderella Complex would be reluctant to move on with their lives. As a consequence, the idea of the Cinderella Complex has been shown to be important in today's world. It was noted that it is important to promote research into the Cinderella Complex, since male dependency is common, and the majority of cases and their effects go unnoticed. Cinderella Complex symptoms lead women

to enter unrealistic relationships and participate in abusive relationships.

### **SYMPTOMS OF CINDERELLA COMPLEX**

Most physicians agree that women with this complex also have other deep-seated emotional problems including low self-esteem and dependence issues. Some Cinderella complex sufferers are unable to embrace the men in their lives in a safe way. Rather than viewing them as average people with faults, they often idolise them. This form of idolization often contributes to unreasonable and unattainable expectations. Behaviors can emotionally wound a woman with these unrealistic expectations. Dependency and low self-esteem tend to be the root causes of the issue for women with Cinderella complexes. Most psychologists agree that extreme overprotective parenting can lead to attachment problems in many situations. In fact, these parents' protective actions may have devolved into coercive control, with the child being punished in some cases for showing signs of independence. It's also assumed that women with this complex were socially embarrassed during their formative years, which is a common cause of low self-esteem. These women do not believe they are worth anything other than what their Prince has bestowed upon them. Cinderella Complex victims will still wait for their prince to save them from life; no one else will suffice. They require the male figure to take care of them at all times; they require his care, regardless of the cost. They will remain in an abusive relationship that supports this ideal because they are unable to survive on their own and are terrified of any transition that will split them from their prince. According to Dowling (1981), psychological effects of Cinderella Complex are lack of self esteem, lack of confidence, anxiety and inability to function in the workplace. Cinderella Complex theory's core premise is that we all have a strong desire to be cared about by others. The symptoms may arise as a result of the



person's psychological state. Repressed behaviours and fears are among the signs.

## CONCLUSION

The definition of the Cinderella complex and its symptoms have acquired a greater understanding thanks to a study of the literature. The majority of studies indicate that all writers approached the issue differently and looked at it from different viewpoints. The Cinderella Complex refers to the largely suppressed attitudes and fears that keep women from fully using their minds and imagination, leading them to wait for something or someone external to change their lives. Women with a heavy Cinderella Complex are likely to be hesitant to move on with their lives. As a result, the Cinderella Complex has been shown to be accurate in today's world; As a person gets older, the complex is said to become more noticeable. Housewives and women who aren't mindful of their surroundings aren't the only ones who have the Cinderella complex. Women who are driven by greed and making a lot of money have a Cinderella Complex. Dependency can be seen in circumstances like depending on a husband for support and deferring all decisions to him. Cinderella Complex tendencies occur in all women, but those with high Cinderella Complex scores are particularly worrying.

## IMPLICATIONS AND SUGGESTIONS

These studies suggest that women should have a broader outlook for their life and create a personal space for them to spend quality time to rejuvenate their own capabilities and be independent in thoughts and actions. Further, the researcher suggests that in this infotainment era women should concentrate on the information available and be informed about current affairs to be a participant in the decision-making process of their family. The researcher puts forth that the women need to have a profound thought about their insights and discover both the humiliations and the keys to autonomy and truth.

Tools for measuring Cinderella complex should be developed. More experimental and qualitative researches should be conducted on this topic. Welfare measures have to be taken for the upbringing of women who are diagnosed with Cinderella complex. Interventions should be conducted for women who are in need for the above.

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# REALISTIC DIRECTION IN MODERN PAINTING OF UZBEKISTAN

**Abdumajid Sagatov**

*Associate professors, National Institute of Art and Design Named after Kamoliddin Behzod, Tashkent, Uzbekistan*

## ABSTRACT

*The article examines the role of realism in modern Uzbek painting, its features and new trends. The soft color gamut, the play of light and shadows, the rhythmic color and the elegant images gave the spiritual depth and a certain sense of historical emptiness. The images in both portraits give the impression of a person who is free from the worries of life, who is not wrapped up in the small worries of life, who is not affected by random changes, who is not given to transient emotions.*

**KEYWORDS:** *role of realism, Uzbek painting, features, new trends, soft color, light, shadows, rhythmic color, the elegant images, spiritual depth, certain sense, historical emptiness, portraits, person, worries of life.*

## INTRODUCTION

Over the years of independence, creative freedom has led to research in art and the development of various styles and trends. Realistic art (art based on life forms) and avant-garde modernism developed. The criterion for evaluating art began to be determined by the artist's personal intimate experiences, thoughts and experiences. Each period leads to the emergence of tests for the creator. In the early days of independence, there was a tendency to move away from the traditions of realistic art. The appeal of legends, or rather social legends, in the work of artists has led to the emergence of originality in the artistic style.

The works of J. Umarbekov, M. Kagarov, L. Ibragimov reflect the peculiarities of the art of the Buddhist period, and the works of A. Nasriddinov and G. Kadirov reflect the spirit of oriental miniatures. Also, Lekim Ibragimov's work explores aspects of the history of Uyghur art, including early medieval monumental painting, while Alisher Mirzaev's work is reflected in the style of post-impressionism and avant-garde Western art. Old Tashkent traditions, childhood memories, expression of the Uzbek character became the main theme of the artist's work. In R. Shodiev's works the appeal to national culture, folklore plays an important role, in the works of the artist Jurat Rakhmonov the modern modernist, in the works of T. Karimov the traditions of expressionism in a realistic style are observed.

## THE MAIN FINDINGS AND RESULTS

The direction of realism in the modern fine arts of Uzbekistan is enriched with new trends in the work of A. Ikromjanov. His works in the genres of portraiture, still life, and landscape have evolved creatively over time. Although it was difficult to give up the demands of social realism in the artist's early work, the artist was able to do so successfully. In the works "Self-portrait (Voice of the centuries)" (1980-1981), "Portrait of the photojournalist N.Sharipov" (1987), "Portrait of the composer M.Mahmudov" (1986) the influence of postgraduate studies under R.Akhmedov in 1983-1986 was felt.

Akmal Ikromjanov's serious achievements in the field of realism in 1990-2000 include portraits created in a strictly plastic, academic style, and works in the field of surrealism. The aesthetics of these portraits are influenced by the works of Western European classics of the XV-XVIII centuries. "Additional items typical of Europe - furniture, household items, features of historical clothing - were reflected" [1.3] The artist's "Self-Portrait" (1992), "Portrait of Character" (1992), "Portrait of Komila" (2001) are among them.

The artist expresses his attitude to the times in the direction of surrealism during these years. In his "Look" (1992), he portrayed Salvador Dali's approach to the moral and aesthetic problems of the time. The artist tried to express the theme of seductive pragmatism, which also separates the field of art and creativity, which does not lose its relevance with the language of painting. This evil,



symbolically, is expressed through the image of a salesman who trades in clay toys and knows nothing but the anxiety of making a profit.

In the works of A. Ikromjanov in 2011-2012 there was an appeal to the style of masters of Western European painting. In 2011, he wrote "Poems to the geniuses of the Renaissance. Under the title "Glory to Gans Golbey" he created "Self-portrait", "Portrait of Zukhra", "Portrait of Elmira". The artist is far from thinking of moving his contemporaries to the past. Through clothes, he strives to show that human beings, regardless of their nature, different destinies, spiritual world, feelings, historical period and place, have special qualities and at the same time have similarities and closeness between them.

In 2012, the artist created portraits in the spirit of the painter of the XV century Italian artist Piero della Francesca. In the works "Portrait of academic art critic A.Khakimov", "Portrait of Dilrabo" the side view of the person is described. The soft color gamut, the play of light and shadows, the rhythmic color and the elegant images gave the spiritual depth and a certain sense of historical emptiness. The images in both portraits give the impression of a person who is free from the worries of life, who is not wrapped up in the small worries of life, who is not affected by random changes, who is not given to transient emotions. Historical costumes portray the image of contemporaries not as arrogant but as glorious.

A. Ikromjanov's still lifes reflect the features of western and eastern fine arts. The artist's "Still Life with Sand and Candle" (1995), "Still Life with a Silver Flower" (2001), "Still Life with Books" (2002), "Still Life with Bread" (2002), "Still Life with Apples and Plums" (2006), Still lifes with grapes (2006) are among them.

In the world of painting, the direction of realism is developing methodologically. The trend of hyperrealism in the work of artists is becoming a tradition, and with the uniqueness of color and expression, this direction, which is typical of photography, is spreading among young artists who are emerging today. A number of artists such as V.Troshina, M.Khakimov, Sh.Pirmatov, D.Mamedova are developing in a unique way.

While modern hyperrealism relies on the aesthetic principles of photorealism, in contrast it does not directly copy reality. The painting object and scenes of hyperrealism represent the illusion of reality. The foundations of hyperrealism can be found in the philosophy of Jean Baudrillard. They create a false reality. Hyperrealism is developing in the world of fine arts, especially in the United States, Britain, China, Korea, Russia. The term is suggested by Jesus Braxot. Aesthetically close to naturalism and pop art, it combines intricate drawing and composition figures. Hyperrealism is characterized by a clear, external emotional movement, photo specificity,

technological characterization of the character of the image, color, texture, volumetric image.

At the beginning of the XXI century, the desire to create in the direction of hyperrealism in the fine arts of Uzbekistan began to be observed. During the period of striving for individuality in the work of artists, T. Ayupov began to work in this direction. "You have to love the beautiful things around you. It purifies one's heart. So I became acquainted with hyperrealism, using many imaging methods. This direction is in line with my life beliefs. As long as the world is to be described as it is, it is not appropriate to count it alone. It is necessary to combine its bright and unique features"[2.25]. The artist's works "New Look" (2000), "Chorbog" (2000), "Symbol" (2000) were the first examples of hyperrealism in the national fine arts.

## CONCLUSION

In conclusion, it should be noted that the trends of modern realism in Uzbekistan are based on the traditions of teachers and students, academic education. While academic education focuses on academic realism, artists are also given the freedom to choose their individual creative direction. Nevertheless, the traditions of realism are preserved in the works of People's Artists of Uzbekistan A. Ikromjanov, S. Rakhmetov, R. Khudoiberganov, and they are developing in the works of their students. At the same time, S. Rakhmetov's landscapes and portraits focus on inner feelings, while Akmal Ikromjanov's works have recently undergone specific research. The artist's approaches to the modern interpretation of the composition of Renaissance portraits are observed.

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# THE WOMEN ROLE IN THE MEDICINE DEVELOPMENT IN KASHKADARYA OASIS DURING THE SOVIET ERA

**Shakhlo Ubaydullaeva**

*Independent researcher, Karshi state university, Karshi, Uzbekistan*

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## ABSTRACT

*This article presents the women contribution to the development of the medical field in the health care system history of Kashkadarya oasis at the beginning of the last century, information on disease control measures in the context of various challenges.*

**KEYWORDS:** *health system, Kashkadarya region, Old mosque building, tuberculosis dispensary, female doctors, young nurse Khanifa Mustafoeva, chief doctor of the point Tazkira Mustafina*

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## INTRODUCTION

At renewal time in Uzbekistan, reforming and modernizing the health care system is one of the public policy priorities. In Uzbekistan, special attention is paid to further improving the health care system, encouraging the medical staff work, the widespread introduction of modern treatment technologies and methods. It is well known that it is the doctors responsibility who carry out and perform difficult tasks in this area, as well as those who see their lives as a part of people life.

## DISCUSSION

Achievements in the healthcare in Uzbekistan have a long historical roots. In particular, during the Soviet era, a lot of work was done in this direction, and modern medicine entered the local population life. At all times, medical workers have been active in establishing medicine in Uzbekistan, especially in Kashkadarya oasis. In 1924, the first Health departments were established in Kashkadarya oasis. During this period, the population of the executive committee of Kashkadarya district amounted to 209 thousand people, served by 2 doctors, 5 nurses, 1 obstetrician and 5 interpreters. It is estimated that there was one doctor for every 100,000 people in the country and one nurse for every 40,000 citizens<sup>1</sup>. Despite the difficult conditions during this period, some attention was paid to health care during the Soviet era. Partial funding has also begun to be

allocated to this area. As a result of the growth and rational use of funds in this area, in 1925-1926 the medical institutions network in Kashkadarya significantly expanded, it has been replenished with medical centers in Kitob, Kasan, Beshkent, Chirakchi and Guzar. The fight against socially dangerous tuberculosis, skin-genital and other diseases has begun. In the early XX century, one of the most common diseases among Kashkadarya population was pulmonary tuberculosis. Of course, hundreds of doctors and nurses were needed to fight this disease. In this regard, Kashkadarya region doctors were greatly assisted by medical workers of the neighbor republics. In 1927, a special anti-tuberculosis room was established in Karshi. This room was managed by an experienced female doctor E. Gorelina. Later, in 1930, a similar room was opened in Shakhrisabz, headed by doctor V. Efremova. In 1940, a separate anti-tuberculosis dispensary was opened in the Old Mosque building in Karshi. At the dispensary, female doctors E. Gorelina, M. Sodikova and G. Tyurikova, E. Izyumskaya worked for the population health<sup>2</sup>.

## RESEARCH METHODOLOGY

In 1926, the maternal protection and the pediatrics departments began to work under the health department. When studying historical sources on the protection of children's health in Kashkadarya, in the early XX century, it was found that 35-40 out

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<sup>1</sup>Vafakulov B.Kh. Healthcare of the Kashkadarya region for 50 years. –T.: Medicine. 1974. –p. 20.

<sup>2</sup> Esanova I. "The state of health care in Karshi district during the dictatorship." - Karshi: 2008. –p. 62.



of every 100 children born in our oasis died before the one year. We must also not forget that there was no clear account of the adults and children who died of starvation during the years of severe famine and war. The problem has been exacerbated by the shortage of trained doctors over the years, the lack of new treatment methods, and the lack of medications. However, even in those difficult years, there were those in the medicine who extended a helping hand to patients suffering from severe pain, who put compassion above all else. Even during World War II, there were one or two doctors in any district of Kashkadarya, as an ointment for the local people suffering, being with them in difficult times, paying attention to respecting and learning the customs and language of the population. Among them are E.Gorodena, P.Gerasimova, E.Kostinitsa from female doctors<sup>3</sup>.

In the 30s and 40s of the last century, in Karshi, Shakhrisabz, Chirakchi and other districts, local women with medical knowledge were also more involved. Doctors of higher education E.I.Kulasheva, A.A.Pokumina, E.Krepneeva, T.A.Ardasheva, M.X.Khatlulina, A.P.Podnyanskaya, who graduated from Samarkand and Tashkent Medical University in 1930-1940, came to work at the hospital. In particular, R. Kasimova was one of them. "In my career I was not limited to obstetrics, therapist, pediatrician, participated in epidemiological expeditions. We had to walk several hundred miles on foot, on horseback, or on a donkey, day and night in the heat and cold, in the heat of the sun. Going from yard to yard, we had to fight to hospitalize patients, end epidemiologies, create paramedic stations, improve people's living culture<sup>4</sup>", - R. Kasimova remembers. According to the data, during the Second World War, most of the health workers in Kashkadarya region were women. There were 20 hospitals with 819 beds, 68 paramedic stations, 4 outpatient clinics, 3 veterinary dispensaries, 2 tube dispensaries, 96 doctors, 27 permanent nurseries in the region. Despite the hardships of the war, spending on health care grew year by year, with a 68 percent increase in 1945 than in 1941<sup>5</sup>.

## ANALYSIS AND RESULTS

In 1944, a new hospital, maternity hospital and medical center were built on the territory of the "Yangi Turmush" farm in the mountainous district of

Miraki<sup>6</sup>. Specialists under the leadership of chief medical officer Tazkira Mustafina provided the medical center with the necessary medical equipment. Tazkira Mustafina and her staff served the residents of Miraki and Kitab districts<sup>7</sup>. Similar medical facilities have been built in other districts of the region. Medical services in the settlements have significantly improved. For example, the medical center service where a young nurse Khanifa Mustafoeva worked in the village of Aralovul of the "Maksad" farm in Karshi district was praised. She had come to work at a rural medical center shortly before the war began. When the war broke out, she worked as knowledgeably as an experienced medical professional. The young specialist girl served the field workers during the day, the population at night, the children. She never forgot the students, she always vaccinated them. Going from house to house, feeding the sick, she looked after the vaccinees herself. She eased the burden of women giving birth. The patient sent the children to the district and city center for treatment. Khanifa Mustafoeva served her people and her people in the war and the post-war years.

During 11 months in 1942, under the leadership of Nazira Nasriddinova, the medical center staff in Muminabad village council of Shahrishabz district treated 1,723 patients in the building of the center, 237 critically ill patients at home. Dozens of pregnant women were under their supervision. The medical center staff headed by Nazira Nasriddinova carried out frequent explanatory work among the population. The women role in agricultural work, in the Ministry of Health has increased. Nurses such as N.Burovkina, G.Knyazkova, F.Shokirova also took an active part in good deeds in the children's health protection in the region. Nina Timofeevna Burovkina, a labor veteran who worked as a nurse in the blood diseases department of the Regional children's hospital, recalls the medicine of those times:

"Yes, we were one of the first to start injecting children into a vein. We had a lot of training sessions by our experienced doctors after work to get this treatment done, we had to practice for hours at first..."<sup>8</sup>. In fact, most of the medications used to treat children at that time were taken orally or subcutaneously. Intravenous delivery methods and physiotherapeutic methods were subsequently improved.

<sup>3</sup>Team of authors. History of Kashkadarya medicine. - Tashkent.: 2016. -p. 40.

<sup>4</sup>A. Akbarov, D.Tursunov, Sh.Ashurova, Sh. Kodirov. Devotees of Kashkadarya medicine. Book 2. - Karshi: Kashkadarya mirror Media. 2019. -p. 10.

<sup>5</sup>Archive department of Kashkadarya region khokimiyat. F 1, op19, case 4, p 4.

<sup>6</sup>"Kashkadarya Haqiqati" newspaper, November 7, 1944.

<sup>7</sup>Archive department of Kashkadarya region khokimiyat. F 1, op19, case 4, p 4.

<sup>8</sup>Team of authors. History of Kashkadarya medicine. - Tashkent.: 2016. -p. 41.





## CONCLUSION/ RECOMMENDATIONS

In short, as we observe the current achievements and the medical field development in our oasis, the situation in the medicine in Kashkadarya shows that many researchers are paying attention. Not only the entry of the first modern medical network into the life of our people, who for centuries sought refuge from fortune tellers and local doctors, but also the women activities in the medical field, their role in society has always been one of the urgent tasks. It is clear from the above data that doctors have made a worthy contribution to the current state of medicine in Kashkadarya oasis, as well as to the women's health development.

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# COGNITIVE APPROACH TO THE ANALYSIS OF ANTHROPOCENTRIC METAPHORS IN THE POETRY OF RAUF PARFI

**Muazzam Altmishbayevna DEDAKHANOVA**

*PhD Student, Uzbekistan State World Languages University, Tashkent, Uzbekistan*

## ABSTRACT

*Linguistic analysis, disclosure of the essence and peculiarities of poetic metaphors is one of the most important issues in the development of language. Therefore, this article is devoted to the issue of linguocognitive study of anthropocentric metaphors in the works of Rauf Parfi. It aims to study the role of metaphorical expressions in the formation of modern poetic style, to consider their semantic features, to identify cognitive models. Given that a number of aspects of the nature of metaphor remain unexplored in the development of linguistic theories, the article focuses on this topic. The study also takes into account the coverage of poetic metaphors in terms of modern trends, the role of language in the system of figurative means.*

**KEYWORDS:** *anthropocentric metaphor, zoomorphic, phytomorphic, cosmomorphic, abiomorphic, theomorphic, abstractomorphic.*

## INTRODUCTION

Any artistic expression is done using a linguistic tool. In particular, the movements in the artistic discourse are based on certain linguistic laws. For example, metaphorical derivatives, one of the types of figurative meaning, are very common in poetry. The peculiarity of the poetic metaphor plays a special role in shaping the modern poetic landscape.

Rauf Parfi, described in contemporary poetry as an "artist of emotions," has a place in modern Uzbek literature in a variety of directions. His lyrics are extremely rich in metaphors. It is no exaggeration to say that this aspect is one of the main means of ensuring the poet's unique creative individuality. At this point, we need to look at the linguistics of poetic sentences used in the anthropocentric metaphor, as well as the cognitive analysis.

## LITERATURE REVIEW

The wide range of possibilities of language, its unique charm, richness of metaphorical expressions, especially in poetry, are vividly reflected in the skill of the poet. A metaphor is the use of a word or phrase that already exists in a language to express a new meaning in order to define any concept on the basis of comparison, that is, the transfer of a name from one object to another on the basis of similarity [1 . p.19]. It is one of the most important means of artistic expression, of speech, as a common way of creating a figurative meaning based on external or internal similarity. The development of

cognitive linguistics is characterized by an increasing focus on the development of the anthropocentric paradigm, cognitive-semantic, and linguocultural disciplines. Accordingly, the cognitive approach to metaphor and metonymy - types of semantic transfer - has become one of the current problems of modern linguistics [11. p.30]. It should be noted that "in linguistics, the anthropocentric paradigm developed as a result of the interest in the human factor, its mental and emotional world, its relationship with the outside world" [4. p.14]. Anthropocentric is the adherence to the idea that man is the center and highest goal of the universe. [10] In world linguistics N.D.Arutyunova, Yu.D.Apresyan, V.N.Teliya, A.A.Ufimseva, V.G.Gak, Ye.V.Urison, B.A.Serebrennikov, T.V.Boligina, A.D.Shmelev, G.S.Nasrullayeva [7. p.14], R.U. Madjidova [6] and other scholars have studied the anthropocentric aspect of language units on the basis of different approaches. In particular, in her research, GS Nasrullayeva explains the interpretation of anthropocentric metaphors based on the cognitive model of "the world in man" and "man in the universe" based on the relationship "human → universe" and "universe → human" [7. p.11-12]. We also chose to analyze the poetry of Rauf Parfi on the example of this model. Given the fact that only some poems contain characters who are not worthy of a human name, or inanimate objects that represent a person, we found it necessary to cover the issue in the cognitive model of "a MAN → the UNIVERSE" and "the UNIVERSE → a MAN".



**RESULTS AND DISCUSSION**

Semantic analysis of metaphors helps to understand the cognitive process taking place in the human mind and their social perception. "As a result of the realization of vocabulary in the process of human perception of the world, new complex cognitive processes take place in the conceptual sphere of the individual" [12. p.101]. The anthropocentric metaphors based on the "a MAN → the UNIVERSE" approach used in Rauf Parfi's work are as follows:

***I. The metaphorical meaning on which human Thenature as a biological phenomenon is based. This is reflected in the following internal views:***

a) the metaphorical meanings on which the human body is based:

One of my poems has no head,  
 See, his leg was also amputated  
 (*Bir she'rimning, qarang, boshi yo'q, Kesilgan-ku, qarang, oyog'i*) [9. p.92]...  
 Poetry is born, so it is a human being, but,

WATER	asleep: He forgot - calm	IN LOVE
TREE	drowsy: unable to forget	
SUN	lost sleep: didn't want to forget	

e) physical condition of the person, in the words of RU Madjidova, physiological condition of the person [5. p.279] based metaphorical meanings:

World dumb? World blind?  
 Trembling, moving clouds  
 In coffin lies dead contemplation  
 (*Nahot, Borliq — soqov, Nahot, Borliq — ko'r. Dildirab, lopillab turgan bulutlarning Tobutida yotar jonsiz tafakkur*) [9. p.93].

an hunched over peak	Witness to the pain of separation	Friend (confident)
the old spring		

g) the metaphorical meanings on which human clothing and its parts are based:

The hem of the blue sky  
 The fallen cloud is asleep  
 (*Moviy osmon etaklarida Uxlab yotar yiqilgan bulut*) [9. p.160].

The BLUE SKY → my BELOVED, the LOVER who fell at the foot of his shirt to put his head on his feet → the CLOUD is waiting for him so patiently and hopelessly, as if he had fallen asleep, that he could see no one else, that he could not hear advice fainted and forgot himself as well.

In addition to these species, there are metaphorical meanings that belong to the human profession, for example: "Singer leaves turn to gold" (*"Oltina aylanar kuychi yaproqlar"*) [9. p.101]; "There is no gardener in the garden, there is no leader of the people, they are all thieves, they are all false executioners" (*"Bog' — bog'boni yo'q, na el — elboni yo'q, Bori o'g'ri, bori kazzob jallodlar"*) [9. p.229]; "This scorn is ancient, these words are

unfortunately, for some it is a TOY, says the POET.

b) the metaphorical meanings on which a person's appearance is based:

You're crying, maybe that's why  
Sad fountain, bow your head  
 (*Sen yig'laysan, balki, o'shandan, G'amli fontan, egib boshingni*) [9. p.219].

FOUNTAIN ↔ CONFIDENT, someone who listens to your concerns. Of course, it's not easy for conscientious people to hear someone's pain, and that's why the fountain always bows its head and cries uncontrollably ...

d) the metaphorical meanings on which the human condition and the movement of its organs are based:

The tree can't sleep here,  
 The water is sleeping under the thin ice ...  
 The sun is struggling to find the moon...  
 (*Mudrab yotar bunda daraxtzor, Uxlar yupqa muz ostida suv... Quyosh oyni topolmasdan zor*) [9. p.77].

The WORLD is A CAREFREE PERSON, because the MIND in it is DEAD, without resurrection, lying in a CLOUD, in a COFFIN.

f) metaphorical meanings on which the stages of human life are based:

I beg from the an hunched over peak,  
 I ask the old spring (where are you)  
 (*Munkaygan cho'qqidan so'rayman Seni, Qarigan bahordan Seni so'rayman*) [9. p.284].

ancient, this is a cold hunter, an old wrestler" (*"Bu ta'na qadimiy, bu so'zlar qadim, Bu sovuq sayvoddir ko'hna palahmon"*) [9. p.183]; "Who is the executioner of the word, who is the victim" (*"Kim so'zning jallodi, kimlar qurboni"*) [9. p.228].

Subsequent types of anthropocentric metaphors appear in "the UNIVERSE → a MAN" direction. The corresponding metaphorical meaning of the means of expression of the "inhuman" being describing man is formed on the basis of the metaphorical model of "the UNIVERSE → a MAN". The expression of world events has a specific cognitive function in describing the organs, appearance, behavior, and state of the human body:

***ii. Zoomorphic Metaphors.***

Creatures (in the broadest sense) and their characteristics are derived from their metaphorical transfer to man: "Why don't black crows go far? Look, look at howling dogs" (*"Nechun ketmas qora qarg'alar nari? Qarang, ingillagan itlarga qarang"*) [9. p.178]. Black crows and ITs → gossipers. They



affect the psyche of the lyrical protagonist so much that he can't ignore it and becomes frustrated. It should be noted that zoonymics (zoonomy) is a field of study of nicknames for animals [8], nicknames, where we refer not to onomastics, that is, to the famous horses of nomenclature, but to the appellation. (Latin arrellativit - a kindred horse) [2. p.16] we analyzed anthropocentric metaphors of character. So we decided to use the term zoomorphic (zoo-animal, morph-form).

**iii. Phytomorphic Metaphors** have a special place among anthropocentric metaphors. In poetry, a number of words are used in reference to the mistress, such as cypress, rose, tulip, shamshad, which serve as a metaphorical expression [See: 7. p.12]. For example: I have wonderful flowers. My

My mother	My flower
My younger sister	
My beloved	
Woman	

**iv. Cosmomorphic Metaphor.** It is known that cosmonym (Greek hostos - space, universe, universe + onoma - famous horse) is a famous name of celestial objects in space, one of the languages of onomastic scale [2. p.41]. We, like GS Nasrullayeva, considered it appropriate to use the term cosmomorphic metaphor in a general sense in relation to mobile celestial bodies. Horse-shaped objects of the universe: the moon, the sun, and other cosmic objects are also used extensively in Rauf Parfi's work. Don't call me crazy - don't make me look like fire, my star (*Telba — otash deb meni pinhon, O'ylama sen, mening yulduzim*) [9. p.132]. Stupid here - fire → in love, STAR → my FLOWER.

**V. Abiomorphic Metaphor.** The metaphorical meanings of lexemes, which refer to inanimate objects in nature applied to man, are as numerous as they are [7. p.12]: "I do not know you, I do not know you, You are my lost gold" (*Sizni tanimayman, sizni bilmayman, Siz mening yo'qotgan oltinim*) [9. p.239]. It is clear that the golden abion in the verses has a metaphorical meaning. However, many of these metaphors do not appear in dictionaries because they are not linguistic.

**CONCLUSION**

Man, as a subject of culture, expresses its origin and reflection in language. For this reason, in the anthropocentric metaphor, the commonality of language and culture is more pronounced than in other metaphors. Natural phenomena in man, seeing human features in nature, is connected with the preservation of the traditions of the mythical period of thought. In addition to the above classifications, the following types of anthropocentric metaphors can be considered:

**Theomorphic Metaphors.** First of all, it should be noted that "theonym" (Greek theog - god

flower, you have never seen anything like this in your life (*G'aroyib gullarim bordir narida. Gulim, ko'rmagansan umringda hali*) [9. p.101] The word flower is used here both literally and figuratively.

The following verses also reveal the metaphorical meaning of the flower:

A pure flower that grows inside a broken place.

My mother, who was abused in the land of the disabled,

My raped sister, my eternal lover

(*Buzg'unzor qo'ynida ungan sof gulim. Majruhlar yurtida xo'rlangan onam, Zo'rlangan qonsinglim, mangu sevgilim*)

[9. p.248].

(Allah) - onoma - nickname) - means the name of the name and attributes of Allah. The term "theonymics" refers to the study of famous horses belonging to such an onomastic scale [2. p.75] and the names of creatures [8]. "O thou poor Iman, O thou wretched Cross, Arise, awake, O Hormuz, the trembling Charvat (*Ay Sen miskin Iymon, ay sen sho'rlik Xoch, Tur, uyg'on, ay Xurmuz, chalqindi Charvat*) [9. p.282]," Do not worship the stones, worship the fire ... Zoroaster groaned towards the Sun" (*Toshlarga yukunma, o'tlarga yukun... Zardo'shtiy singradi Quyoshga qarab*) [9. p.284], Is this you, Ahraman, the evil hero (*Bu senmi, Ahraman, yovuz qahramon*) [9. p.280].

Here Iman, the Cross, the stone, the fire (fire) - if the sun represents the symbol of the divine character (Mitra) and Hormuz (Ahura Mazda), Ahraman (Ahriman) are the gods of Zoroastrianism, and Zoroaster (Zoroaster) is a prophet of this religion, used in a metaphorical sense. Theomorphic metaphors "Awake, O angel, arise, arise, arise" (*Uyg'on, ey malagim, tur, o'ringdan tur*) [9. p.85], "Come to my heart, my angel" (*Mening yuragimga kelgil, malagim*) [9. p.101], "See Azrail is gone too" (*Ko'rib ketdi Azroil ham atayin*) [9. p.260], "Satan spat in your mouth, you throw yourself off the roof for money" (*Og'zingga tupurgan shaytoni lavin, Pul desa o'zingni tomdan otasan*) [9. p.259]. In the first examples, the theomorphic metaphor is clearly understood by comparing the mistress to an angel. In later examples, Azrael and the devil did not do such a thing, which is why the metaphor is reflected.

**Mythomorphic Metaphors** are the names of imaginary images [8], which are reflected in the lyrics of Rauf Parfi in the image of evil people: "In the naked desert appeared an ins... Yellow demons appeared. You, you mortal, you disgusting creature! [9. p.280]. *Yalang'och yobonda bir ins ko'rindi...*





*Sariq alvastilar bo'ldi namoyon... Sen ey o'laksaxo'r, ey irganch maxluq!*" [9. p.280].

**Abstractomorphic Metaphors.** Abstract names, which refer to the application of an object to a person or to a living being, are very common in the poet's work. Therefore, we can conditionally classify them as abstractomorphic metaphors, for example: "Ridden by fear kissed you on the forehead" ("*Senga o'ptirgandir Vosvo manglayin*") [9. p.260]. In this verse from the poem "To a Historian", under the abstractomorphic metaphor of "kissing the forehead of the fear's", a historian criticizes a man who is obsessed with his career, who paints the past and history of his people in black. being done. Or: You have cut off the hands and wings of knowledge, O shadow, you are the evil bliss, you have been mistaken (*Irfonning qo'llarin, qanotin kesding, Yovuz saodatsen, yonglishqon ko'lka*) ("Siyavush") [9. p.266].

Here the whole poem is based on a metaphor, and the mistaken shadow is a symbol of the throne. It is likened to evil bliss because it cuts off the hands and wings of knowledge, which hinders its development. In Parfi's work, there are also metaphorical images in the form of apostrophes in the form of apostrophes, such as "mistaken shadow". An apostrophe (deviation) is "a form of animation in which inanimate objects or events are treated as living things or as if they did not exist" [3. p.336].

Here are some other examples: "Heaven, wash your face Rain, oil, noisy, o wind" (Yog'gil, yomg'ir, guvla, ey shamol") [9. p.174], Wind, comb my hair Destiny, don't look by amazement ("Osmon, yuzlaringni yuvib ol... "Shamol, sochlarimni tarama... Qismat, hayron bo'lib qarama") [9. p.200]. Or, "O you, blind force, O you, ugly throne" ("Ey sen, so'qir quvva', ey sen, chirkin taxt") [9. p.266].

There is a symbolism in the verses that refers to man, based on the motives of heaven, rain, o wind, destiny, blind power, and ugly throne, which means that all these apostrophes are conceptual metaphors.

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## FEATURES OF ORAL FOLK ART IN THE EDUCATION OF CREATIVE THINKING IN THE INVOLVED PRESCHOOL AGES

**A. Khudoyberdieva**

Lecturer, Shakhrisabz branch of TSPU named after Nizami

### ABSTRACT

*This article discusses the features of oral folk art in the education of creative thinking in preschool students. At this age, the period of imaginative thinking and comprehension begins. Folk folklore is the source of pedagogical experience for the preschool child, in this period, as well as the basic basis for the education of morality, aesthetic feelings, and patriotism. In the process of mastering it, there is a huge investment in the emotional and moral sphere of the child.*

**KEYWORDS:** oral folk art folklore, nursery rhymes, folk songs, fairy tales, proverbs, cognition.

### INTRODUCTION

Adults play a major role in the development of children's creative imagination. It is necessary to develop it further, systematically, to pay great attention to the personality, the individuality of each educator. What books the child's parents read, what types of creativity they are interested in together, even on what cheeks they answer the questions of their children, the development of the creative imagination and imagination of children depends.

### THE MAIN FINDINGS AND RESULTS

For the education of preschool children, folklore does not lose its educational impact. It is in preschool age that the most intensive development of the individual takes place. During this period, the feelings and character traits that invisibly connect the child with his people begin to develop. The roots of this connection are in the language of the people, their songs, music, games, in the impressions that a little person receives from the nature of his native land, in the details of life, customs and customs of the people among whom he lives. Folk art is an inexhaustible source of pedagogical material, one of the foundations of speech, moral, aesthetic, and patriotic education. The use of the cultural heritage of the people in working with preschoolers and their development forms an interest in it, revives the pedagogical process, and has a special impact on the emotional and moral aspects of the individual.

Already at an early age, the child is faced with nursery rhymes, which represent one of the small forms of folklore works. For the child, the semantic

content, the rhythm of words, the ability to perform various actions when pronouncing the text becomes important. He experiences an emotional outburst, and this also helps to change his behavior, especially during the period of getting used to the conditions of being in kindergarten. With the help of a nursery rhyme, a folk song, you can switch the attention of children, cause positive emotions, develop a sense of the need to perform such routine moments as sleeping, washing, combing, eating, etc. The functions of educating oral folk art are that it promotes the understanding of such categories as good-evil, generosity-greed, honor, modesty, duty, etc. Russian folklore is comparable to a pure spring, after drinking from which a child learns the heart of his native people, becomes the spiritual heir of its traditions, and therefore grows up to be a real person [1, p. 7]. The functions of education of oral folk art are that it contributes to the understanding of such categories as good-evil, generosity-greed, honor, modesty, duty, etc. Russian folklore is comparable to a pure spring, after drinking from which a child learns the heart of his native people, becomes the spiritual heir of its traditions, and therefore grows up to be a real person [1, p. 7]. Folklore reveals all the charms of the language, enriches the speech of a preschooler. Folklore works allow the child to plunge into the beauty of the native language, affect the imagery of speech. Another great children's writer K. I. Chukovsky in the book "From two to Five" said that "all kinds of folk songs, fairy tales, proverbs, sayings, riddles, which make up the favorite mental food of preschoolers, best introduce the child to the basics of folk speech" [12]. In addition to the works



of Uzbek and Russian folklore, the reading circle of a preschooler should also organically fit the works of folklore of the peoples of the world, which introduce the child to national cultures, instilling him to universal values. Comparing the works of different peoples, the child gets the opportunity to initially analyze national characteristics, which contributes to the understanding of common moral positions, common goals of the folklore of each nation [7, p. 16].

## CONCLUSION

In short, thus, the introduction of the child to folk culture begins with childhood, where the basic concepts and examples of behavior are laid. Cultural heritage is passed down from generation to generation, developing and enriching the child's world. Folklore is a unique means for transmitting folk wisdom and educating children at the initial stage of their development. Children's folklore gives the child excellent examples of the Russian folk language, is one of the powerful means of developing and enriching the speech of children. Children's folklore should become a valuable means of educating the younger generation, which harmoniously combines spiritual wealth, moral purity and physical perfection.

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# THE ROLE OF FOLK TALES AS A MEANS OF SOCIO-CULTURAL EDUCATION OF STUDENTS ON THE BASIS OF THEATRICAL PRODUCTIONS

U. E. Ataev

Lecturer, Shakhrisabz branch of TSPU named after Nizami

## ABSTRACT

*This article is intended for the social and cultural development of education in schoolchildren by means of theatrical productions based on folk tales. These tools and methods help to develop children's love and interest in reading books, words, stimulating creative, aesthetic abilities, activating the possibility of self-development, self-affirmation of the child.*

**KEYWORDS:** theater, fairy tale, development, culture, role, self-expression, aesthetics, artistry, education skill, teacher, hero

## INTRODUCTION

Expressive reading is the creative activity of children, including: reading from a book, by heart, by roles; dramatization, staged works of fiction. Although the last two of these forms can be rightfully attributed to independent pedagogical methods of working with children. But at the heart of each is a work of art of the word and its embodiment in the personal aesthetic activity of the child. For managers of children's reading (parent, educator, teacher, librarian), expressive reading is a method of pedagogical work. It is aesthetically focused on the disclosure of individual creative needs and the possibilities of a growing personality. We understand expressive reading as reading a work that has already been read, that has been mastered with interest, that expresses its personal attitude to the characters of the work, to the author's position, that is, it conveys the reader's life position. This is a complex activity that manifests itself simultaneously as an individual penetration into the

## THE MAIN FINDINGS AND RESULTS

The goal and task of socio-cultural education in primary school students is:

- check the productivity of expressive reading and theater activities in working with children of primary school age as a means of socio-cultural education.

1. To promote the development of children's interest, love for books, reading.
2. Stimulate creative, aesthetic abilities.
3. Activate the possibility of self-expression, self-affirmation of the younger student.

**Conducting events:**

1. Expressive reading of fairy tales of the peoples of the world
2. Fairy tale Drawing Contest
3. Expressive reading of the play
4. Children's fairy-tale crossword puzzle contest

### **Design of the corner "Literary gazebo" with literary games**

5. Staging of various performances
  6. The field of miracles by the names of fairy tales, etc
- We get the following result**
1. Children listen to expressive reading with interest.
  2. Children willingly portray the heroes of fairy tales. Invent a new course of events in fairy tales
  3. The disabled child coped perfectly with the main role in the play, asserted himself, overcame difficulties in communication. All children are artistic, confident on the stage.

Theatre is an effective tool in the development of artistry primary school and develops thinking, attention, mental abilities, memory, which is essential for children in the future teaching Theatre activities in school has great potential in the implementation of socio-cultural education of students (the formation of aesthetic judgments, artistic taste, personal values, basic communication skills, ways to work with a partner and team work, self-education, hard work, self-organization and accountability, etc.), providing various types of communication, the mastery of theatrical activity. The formation of interest in art acts as a counterweight to the negative impact of the surrounding reality. The problems in the system of secondary and general education are partly explained



by the fact that the opportunities for theatrical creativity are not used in general education schools to the full extent, and the general development of the theater is huge.

Teachers all over the world say that the theater for children is a wonderful opportunity to appropriate a changed reality. "You can't teach behavioral and interpersonal skills just by talking about them. They need to be worked out in action..." - wrote P. F. Kellerman. Theater is the teaching of behavioral skills and interpersonal communication. But this is a study with passion, this is the comprehension of the world of human relations and characters through play, acting. Classes in theater and stage creativity are an impact on the child's memory, will, imagination, feeling, attention, and thinking. They help to develop logic, to control your body and not be shy about it, to free yourself from internal clamps, to realize unfulfilled ideas and dreams through the game, to test yourself. Students' favorite type of reading is role-playing reading. Every child in the class was given a role, and even a weak-reading child tried to justify the teacher's trust. A weak-reading student is more helped by such a type of work as "reading behind the speaker".

## CONCLUSION

Improving the development of artistic and creative abilities of younger schoolchildren is possible through purposeful, systematic formation of interest in the theater and theatrical and creative activities; the development of creative imagination; mastering productive and expedient action and means of figurative expression. As a condition of effectiveness, purposeful and systematic theater classes in the classroom, organized on the basis of interaction between the university of culture and the school, are assumed. Thus, the main directions in the development of methods of teaching students expressive reading: relying on the latest achievements of art historians and teachers-scientists in the field of theater pedagogy; the formation of students of pedagogical universities of communicative competence, which is manifested in the ability to master the main components of verbal action, in the ability to overcome mistakes in communication and psychological barriers; the use of modern means of new technologies.

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## FAIRY TALES OF THE RUSSIAN AND UZBEK PEOPLES (COMPARATIVE APPROACH)

<sup>1</sup>Vasilakhon Avazxon kizi Giyosova, <sup>2</sup>Nemat Kazakbaevich Sabirov

<sup>1</sup>Specialized state educational school number 41

<sup>2</sup>Senior Lecturer, Russian language and literature, Fergana state university

### ABSTRACT

*The article examines interethnic ties and similarities based on a comparison of the fairy tales of the two peoples. Social formations based on the existing type of classification.*

**KEY WORDS:** *folklore, poetics, ideology, cumulative tales, traditional forms, identity of the plot, idealization of the hero;*

### INTRODUCTION

Literature is a huge repository of spiritual and moral values, a means of understanding the world, it helps us understand “what is good and what is bad,” and points to the origins of universal human conflicts. Literature helps us see the inner beauty of a person, learn to understand and appreciate it. The connection between literature and folklore is so great that its importance cannot be overestimated for our time. Folklore is the canvas of all literary creativity; it forms the basis for the expression of experiences by writers and poets.

### MAIN PART

Scientific editions of Russian folklore began to appear in the 30s – 40s of the 19th century. First of all, these are the collections of the professor of Moscow University I.M. Snegireva “Russian folk holidays and superstitious rites” in four parts (1837-1839), “Russian folk proverbs and parables” (1848), then a collection of Afanasyev’s fairy tales. There are a lot of international plots, motives and types of heroes in fairy tales. The importance of the classification of fabulous material was once pointed out by one of the largest researchers of the tale, V.Ya. Propp. He noted that “different types of fairy tales differ not only in external features, the nature of plots, heroes, poetics, ideology, etc., they can turn out to be completely different in their origin and history and require different methods of study. Therefore, the correct classification is of paramount scientific importance” [37, p. 57].

In Russian folklore, the division of fairy tales into magical, about animals, everyday and cumulative to a certain extent determines intra-genre

differences: in some, fantastic elements prevail, while others are characterized by a specific composition of characters; the third reveal social conflicts, the fourth are built according to the special laws of chain-like structures. Scientists also distinguish tales of the “transitional type, combining the features of various groups, such as magic and every day.”

Attempts to scientifically interpret the samples of Uzbek folk tales were made in the mid-1930s. In the book “Uzbek khalk ertaklari” (1939) M.Afzalov made the first attempt to classify Uzbek folk tales. In his book, he wrote: “We call a fairy tale one of the typical genres of folklore, created by the laboring masses and for many years preserved in his memory, inextricably linked with the life of the people and their customs, reflecting social, political and social life through science fiction and fiction transmitted in various traditional forms with a moral and educational purpose”. He highlighted: 1. Household tales 3. Fairy tales about animals 4. Fairy tales. [8, p. 29]

V.Ya. Propp in his work “Russian Fairy Tale” noted that in Russian science there were no clear differentiated ideas about the genres of Russian folk prose. So, stories, legends and traditions were related to fairy tales. The scientist believed that “a legend arises in the system of “monotheistic” religions,” along with Christian legends, one can speak of Muslim or Buddhist legends. V.Ya. Propp predicted that “a close study of the tale and an equally close and detailed study of the legend will show that we have different formations here” [37, p. 49].

The plots of Uzbek folk fairy tales testify to the existence of various ties of the peoples of Central





Asia with the peoples of the states of the world. The most ancient caravan routes between East and West for thousands of years passed through the territory of Central Asia, which contributed to the assimilation of the culture, art, oral and written literature of various peoples by the local peoples and the penetration of the cultural elements of Central Asia into the cultures of other peoples. As the folklorist M. Samali emphasizes, many similarities of plots in the plots of fairy tales of the peoples of the East should be considered as a consequence of the connection between economic, trade and cultural relations between different peoples.

Among the Uzbek folk fairy tales, along with the original ones, there are a lot of works that duplicate the plots and content of folklore works of various peoples, a significant part of them are ranked by researchers as plots of an international nature. This fact first of all testifies to the fact that many peoples of the world in their historical, socio-economic, cultural development have gone through separate stages. These two factors indicate the presence of interethnic ties and the similarity of social formations - and determine the commonality of the worldview, social and life experience of the working masses of the whole world, and hence the existence of similar folklore plots recorded in the oral work of various peoples.

The best fairy tales are characterized by traditional formulas of proverb, beginning, storytelling, and ending. Sometimes a tale begins with a saying that is not related to the storyline of the tale. The purpose of the saying is to show the skill of the storyteller, to prepare the audience for listening to the fairy tale. A proverb is an optional part of a fairy tale, it can be short: "It was at sea, on an ocean, on Buyan island, among the water where the trees grew", or expanded: "The tale begins from Sivka, from Burka, from the things of a Kaurka. On the sea, on the ocean, on the Buyan island, there is a baked goby, next to it, pounded onions; three fellows walked, dropped in and had breakfast, and then they went - boasting, amusing themselves.

Fairy tales are sometimes very large in volume, which is facilitated by the use of the "pile of homogeneous actions" technique. In the fairy tale "Marya Morevna" this technique is used more than once, in it, as it were, several plots are connected. The ideological orientation of the tale also determined the contrasting depiction of the hero's merits and the vices of his enemies; therefore, contrast is one of the main artistic techniques in the tale. Psychological characteristics are elementary, some are always positive, others negative. There are few actors, only those who take an active part in the action. The characters of the heroes do not change, they are manifested not in reasoning, but in action, in deeds. The fairy tale does not stop at the direct idealization of the hero and heroine.

The fabulous plot is characterized by the method of "reflected action", based on the fact that if the hero at the beginning of the tale generously renders help to someone, then later he is paid with good ("The Magic Ring", "By the Pike's Command"). In fairy tales, there is also a method of "stepwise narrowing of the image" (for example, the description of the place where the death of Koshchei is hidden - from the description of the island where the oak grows ... to the tip of the needle). In dramatically tense places, the tale resorts to repetition of description, to rhymed parallelism ("the horse runs, the earth trembles," "he drives it with a pestle, sweeps it with a broomstick"). In the tale, retardation is widely used, slowing down in the development of the action, which is facilitated by the use of repetitions, the trinity of the action, as well as dramatic and lively dialogue, which is repeated without changes throughout the narrative.

Fairy tales are the richest and most varied in their plot. Their thematic diversity is due not only to the circle of plots that exist among the Central Asian peoples, but also to the folklore plots of the entire East, as well as to a certain mutual influence of the oral creativity of many other peoples. In fairy tales, the main place is occupied by the motives of the amazing heroism of the characters, their victory over evil forces in the conditions of magic fantasy. From the point of view of genre features, Uzbek folk tales are syncretic. In other fairy tales, the properties of magical and everyday fairy tales merge (for example, the collisions of the Barley-Palvan from the fairy tale "Barley-Palvan" with divas, his steadfastness and rationality in the fight against an evil witch, a description of love affairs); many fairy tales resemble a heroic epic (some episodes-fairy tales "Khusanjan" echo the cycle "Gurogly", under the guise of a bald-headed kalya hero falls in love with the daughter of the king, becomes the son of childless old men, their genesis is a challenging but exciting challenge. The plots of Uzbek folk tales testify to the existence of various ties of the peoples of Central Asia with the peoples and states of the world. The most ancient caravan routes between East and West for thousands of years passed through the territories of Central Asia, which contributed to the assimilation of culture, art, oral and written literature of various peoples by local peoples and the penetration of cultural elements of Central Asia and the culture of other peoples. As the folklorist M. Samali emphasizes, many identities in the stories of the tales of the peoples of the East should be considered as a consequence of the links of economic, trade and cultural relations between different peoples. [38, p. 23] Among the Uzbek folk fairy tales, along with the original ones, there are a lot of works that duplicate the plots and content of folklore works of various peoples, a significant part of them are ranked by researchers as plots of an international nature. This fact first of all testifies to



the fact that many peoples of the world in their historical, socio-economic, cultural development have gone through the same stages. These two factors - the presence of interethnic ties and the similarity of social formations - determine the commonality of the worldview, social and life experience of the working masses of the whole world, and hence the existence of similar folklore plots recorded in the oral work of various peoples.

## CONCLUSION

The proof is a simple comparison of individual Uzbek fairy tales with some of A.I Afanasyev's fairy tales [Afanasyev, 1957] based on the Korsh-Andreev index. Therefore, despite the fact that the plots of these tales are similar to those of international ones and are called migratory, wandering, or nomadic, they arose and changed on a deeply national basis in close connection with the ancient culture and centuries-old experience of the people.

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## PROBLEMS OF LEARNING GRAPHICS IN UZBEKISTAN

**B.Kh. Namozov**

*Independent Researcher (Phd), National Institute of Arts and Design Kamoliddi Bezhod,  
Ташкент, Узбекистан*

### ABSTRACT

*This article is a study of graphics in Uzbekistan and an analysis of existing problems, the current state of graphics, the history of educational processes and the opportunities created. Works of art created by renowned and renowned artists who have contributed to graphics have been scientifically analyzed.*

**KEY WORDS:** *art, portrait, graphics, creativity, line, image, artist, color, education, art.*

Б.Х. Намозов

Независимый исследователь(Phd)

Национальный институт искусства и дизайна

Ташкент, Узбекистан

## ПРОБЛЕМЫ ИЗУЧЕНИЯ ГРАФИКИ В УЗБЕКИСТАНЕ АННОТАЦИЯ

*Данная статья представляет собой исследование графики в Узбекистане и анализ существующих проблем, современного состояния графики, истории учебных процессов и созданных возможностей. Произведен научный анализ произведений искусства, созданные известными художниками, которые внесли неоценимый вклад в графику Узбекистана.*

**Ключевые слова:** *искусство, портрет, графика, творчество, линия, изображение, художник, цвет, образование, искусство.*

### ПРОБЛЕМЫ ИЗУЧЕНИЯ ГРАФИКИ В УЗБЕКИСТАНЕ

В современном мире растёт роль и значение искусства и культуры. Они выступают в качестве основных флагманов в воспитании молодого поколения в духе любви к Родине, уважении национальных и общечеловеческих ценностей.

В целях реализации обозначенных задач в нормативно-правовых документах, касающихся искусства, весьма плодотворную работу проводят государственные, правительские, общественные, негосударственные и неправительственные организации. В их числе: Академия художеств Республики Узбекистан, Творческое объединение



художников при Академии художеств Узбекистана, Союз театральных деятелей Узбекистана, Творческий союз журналистов Узбекистана, Общественный фонд по поддержке творческих деятелей Узбекистана «Илхом» [2, 1] и др.

К примеру с образованием в 1997 году Академии художеств Узбекистана был открыт новый этап в развитии искусства. Поскольку данная организация способствовала проведению различных выставок в республиканском и международном уровнях, что позволило художникам с нашей республики расширить диапазон своего творческого ракурса. Было подготовлено множество творческих трудов с исторической тематикой, созданы произведения, посвященные событиям, связанным с национальной историей.

В изобразительном искусстве появились новые портреты и композиции, отражающие славное прошлое и нынешнее развитие Узбекистана.

В целях всесторонней поддержки проводимой работы в данном направлении в нашей республике созданы необходимые условия для реализации творческого потенциала учащейся молодежи. Но впереди ещё много дел, которые окажут непосредственное влияние на творческое развитие учащейся молодежи.

*В их числе:*

- ▲ организация активного участия студентов в республиканских и международных мероприятиях, касающихся всех видов искусства;

- ▲ целенаправленное и последовательное развитие у них творческого потенциала;

- ▲ предоставление студентам возможностей для самореализации и самовыражения;

- ▲ проведение мониторинга участия студентов в различных мероприятиях вузовского, межвузовского, республиканского и международного уровней;

- ▲ перспективное планирование совместных дел с другими высшими образовательными учреждениями, с предприятиями и организация встреч с людьми, которые внесли значительный вклад в развитии отечественного и мирового искусства.

Вот почему последовательная реализация осуществляемых в нашей республике широкомасштабных мер связана с развитием подрастающего поколения. На их становлении как профессионалов своего дела существенную роль играет правильный выбор профессии. Этот факт ещё не везде решён положительно. Имеют место случаи, когда родители или близкие родственники

всё ещё агитируют своего ребёнка выбирать престижную профессию юриста, бизнесмена и т.д. Хотя потенциальные творческие способности и желание детей говорят о том, что им следует помогать в их профессиональном становлении как представителя искусства.

В Послании Президента Республики Узбекистан Шавката Мирзиёева Олий Мажлису от 24 января 2020 года говорится: «в целях последовательного продолжения и выведения на новый, современный уровень начатой нами работы по развитию сферы науки и просвещения, воспитания нашей молодежи личностями, обладающими глубокими знаниями, высокой культурой и духовностью, формирования конкурентоспособной экономики предлагаю объявить текущий год в нашей стране «Годом развития науки, просвещения и цифровой экономики» [5].

В данном выступлении впервые в нашей республике стал вопрос об оптимизации вступительных экзаменов в высшие учебные заведения, упор делается на то, что необходимо уделить особое внимание упрощению условий приёма, предоставлению вузами студентам реально востребованных знаний.

Нынешний год стал реально годом, совершившим коренной поворот в развитии цифровой экономики. Из-за пандемии образовательные учреждения нашей республики, как в других странах мира, перешли на онлайн обучение. Многим преподавателям, магистрантам, студентам, ученикам и их родителям пришлось срочно освоить азы цифровой технологии.

В указе Президента Республики Узбекистан Шавката Мирзиёева «Об утверждении Государственной программы по реализации Стратегии действий по пяти приоритетным направлениям развития Республики Узбекистан в 2017–2021 годах в «Год развития науки, просвещения и цифровой экономики» красной нитью проходит линия, направленная на внедрение в учебный процесс высших образовательных учреждений платформы дистанционного обучения, оснащение их необходимым оборудованием в установленном порядке, создание программно-аппаратного комплекса [4]. Цифровизация системы непрерывного образования, в том числе вузовского, будет способствовать совершенствованию системы подготовки квалифицированных кадров, а также целенаправленной переподготовки специалистов.



## ТЕОРЕТИЧЕСКАЯ ЧАСТЬ

С давних времён художественное искусство среди представителей творческой интеллигенции занимало ведущее место среди других искусств Узбекистана.

Как показывает история изобразительного искусства, на территории современного Узбекистана были развиты традиции всех видов искусств. В каждый период времени духовный мир человека, действительность, природа находили своё отражение именно в искусстве.

Посредством культуры и искусства Узбекистан сегодня открыт миру, зримо представляя ему свою многовековую историю и национальную культуру.

Прав был первый Президент Узбекистана Ислам Каримов, когда говорил, что именно представители искусства и спорта первыми покажут всему миру нашу страну. Историко-культурная парадигма с глобальными геополитическими структурными переменами в современных условиях позволила учащейся молодёжи весьма ответственно отнестись к выбору своей профессии и своей профессиональной подготовке.

Национальное самопознание и самоидентификация позволили молодёжи глубже изучать историческое прошлое Узбекистана. В этом контексте огромная роль отводится произведениям искусства, способным дать образ былого, понимание которого основывается на конкретно-рациональных знаниях и на эмоционально-чувственном восприятии. «Искусство, – по мнению М.С.Кагана, – это наиболее адекватная образная модель, портрет культуры, своего рода код, позволяющий проникнуть в самую глубинную её суть» [6].

Сегодня предоставлена представителям искусства свобода творчества. Расширены возможности для развития и совершенствования всех художественных направлений искусства. Изменились критерии оценок, в основном, они стали строиться на личных переживаниях, раздумьях и размышлениях художников. Это привело к созданию портретов исторических личностей эпохи Темура и Темуридов такими талантливыми художниками, как Гафур Абдурахманов, Алишер Аликулов, Чингиз Ахмаров, Кутлуг Башаров, Баходир Джалалов, Малик Набиев, Джавлон Умарбеков и другими.

За эти годы созданы графические работы с образами народных героев Заратуштра, Тумарис, Алпомиша, Спитамена и других. Изобразительное

искусство в Узбекистане проявило себя, в частности, в творчестве миниатюристов Ташкента, Самарканда, Бухары, Коканда, Хивы, Карши и т.д.

Из истории известно, что выдающийся просветитель, поэт, философ, каллиграф, астроном Ахмад Дониш обладал талантом художника, о чём свидетельствуют сохранившиеся его рисунки. В их числе миниатюра «Поэт и художник», выполненная к рукописному изданию Абдукадыра Бедила «Четыре элемента». Другой видный просветитель Востока Захириддин Мухаммад Бабур вместе с руководящей деятельностью в минуты отдыха любил рисовать картины. Таких примеров в истории нашей республики можно привести множество.

С точки зрения проблемы изучения графики в Узбекистане, то следует подчеркнуть, что для осуществления этой цели необходимо осмыслить путь, пройденный художниками-графиками в историческом плане.

Для решения поставленной задачи необходимо понять феномен возникновения узбекистанской научной школы графического искусства, философию и основные тенденции её развития, оценить различные формы постановки научных исследований, их результативность по отношению к практическим потребностям общества, а также продуктивность их применения в современных условиях.

Новые культурно-исторические реалии опираются на многочисленные древние и средневековые трактаты, которые содержат, как правило, эмоционально-личностные, чувственные описания памятников искусства, изложение морально-этических принципов художественного творчества и технических приёмов создания художественных произведений.

Исходя из этого, нашему рассмотрению подлежат те явления, которые связаны с развитием графики, объектом изучения которой выступают различные виды искусства: архитектура, скульптура, живопись и народно-декоративное искусство. Говоря о становлении этого направления искусства в Узбекистане, необходимо понять принципы методологии, методики и технологии графических работ, показать преемственность между поколениями, осуществляемой как за счёт межличностных контактов, так и за счёт наличия учреждений (музеев, научно-исследовательских институтов), поддерживающих эти традиции, и учебных заведений, призванных готовить квалифицированные кадры.

Говоря о географических рамках исследования, необходимо отметить, что в процессе





нашей работы упор сделан на изучение графики Узбекистана. Хотя с точки зрения центрально-азиатского региона, наша республика на протяжении всей своей истории входила в различные государственные образования, испытывала влияние тех или иных культурных традиций и при этом сохранила устойчивое ценностное ядро собственной культуры.

Изучением центрально-азиатского искусства занимались не только искусствоведы, но и филологи, историки, архитекторы, этнографы, археологи, каждый из которых придерживался наиболее близкой ему методики, привнося её элементы в формирующуюся методологию центрально-азиатского искусствоведения.

Этнографы сыграли определяющую роль в выработке представлений об искусстве Центральной Азии. Архитекторы внесли свой вклад в изучение зодчества. Филологи и историки выступили интерпретаторами художественной рукописи. Археологи выявили древневосточный пласт, античность и раннее средневековье, установили глубокие корни местных национальных культур. Значит, при изучении графики необходимо проследить генезис узбекистанской научной школы искусства от начальных предпосылок к её формированию, момента её первых самостоятельных проявлений до сегодняшнего дня.

Термин «графика» происходит от греческого глагола «graphein», что означает скрести, царапать, писать, рисовать. Первоначально данный термин употреблялся лишь применительно к письму и каллиграфии. Но в конце XIX – начале XX веков, когда бурное развитие получила промышленная полиграфия, графику стали использовать в качестве каллиграфически чёткого, контрастно линейного рисунка. Он был наиболее удобным для фотомеханического воспроизведения в книгах и журналах. Тогда графика определилась как искусство, в основе которого лежит линия, контраст чёрного и белого. Потом такое понимание графики было расширено за счёт введения художниками новых методов изобразительного искусства и создания произведений, руководствуясь своим вдохновением и видением мира.

Графика – это вид изобразительного искусства, включающий рисунок и печатные художественные произведения [3, 27], основывающиеся на искусстве рисунка, обладающие собственными изобразительными средствами и выразительными возможностями, то есть когда изображение создаётся с помощью

линий, штриховок и пятен, которые рожают тональные нюансы.

Цвет в графике тоже может применяться, но он считается вспомогательным изобразительным средством. Следовательно, графики чаще всего работают с одним цветом (например, используя тушь или карандаш), при этом в контурной линии создавая не только плоскостные, но и объёмные изображения с контрастом белой или черной поверхности бумаги, которое является основным материалом графики. Сочетанием тех же средств могут создаваться тональные нюансы.

Наиболее общий отличительный признак графики – это особое отношение изображаемого предмета к пространству, важную роль в воссоздании которого играет фон бумаги или, по выражению В.А.Фаворского, «воздух белого листа» [1].

Пространственное ощущение создают не только не занятые изображением участки листа, но часто и проступающий под красочным слоем фон бумаги.

При этом связанное с плоскостью листа графическое изображение носит плоскостной характер. Графика с большей свободой и гибкостью варьирует степень пространственности и плоскостности. Графике свойственны тщательность объёмно-пространственного построения, интерес к повествованию, обстоятельное штудирование природы, выявление структуры предмета.

Сейчас весьма важно то, что художник-график может ограничиться и беглым впечатлением, условным обозначением предмета или как бы намёком на него, обращаясь к воображению зрителя. Незаконченность и лаконизм при этом служат одним из главных средств художественной выразительности. Ёмкость образа в графике часто достигается путём концентрации художественных средств, образно-выразительными метафорами. Поэтому в графике наряду с завершёнными композициями самостоятельную художественную ценность имеют натурные наброски, эскизы произведений живописи, скульптуры и архитектуры.

Способность графики к резкому заострению образа обусловила широкое развитие графической сатиры и гротеска. Активную роль в графике играют фактура материалов, специфика графических техник и приёмов.

*По назначению различаются следующие виды графики:*

- \* станковая графика;
- \* книжная графика;
- \* газетно-журнальная графика;



- \* прикладная графика;
- \* плакат.

Станковые произведения печатной графики в силу большей доступности, а также декоративных качеств широко используются для украшения интерьеров.

Одна из основных областей применения графики – это книга. С рукописной книгой во многом связаны рисунок и миниатюра, с печатной книгой – гравюра и литография. Книжная графика включает не только иллюстрирование, но и создание обложек, виньеток, заставок и других элементов художественного оформления книги. К газетно-журнальной графике относятся работы по оформлению периодических изданий.

**Прикладная графика делится на** рекламную и промышленную.

**Рекламная графика** включает разработку вывесок и рекламных носителей (буклетов, флаеров), а также айдентики, то есть разработку фирменного стиля.

**К промышленной графике** относится создание банок, почтовых марок, упаковок. Чаще всего рекламные и промышленные задачи пересекаются и синтезируются. К примеру, создание дизайна упаковок для определённого товара.

Плакатная графика также может включать афиши и рекламные щиты.

**По технике графику разделяют на** рисунок и печатную графику.

**Рисунок** является наиболее традиционным видом графического искусства, истоки которого можно увидеть в наскальных изображениях эпохи палеолита, античности, где основу изображения составляют линия, силуэт, цветное пятно.

**В задачах рисунка много общего с задачами живописи, а границы между ними условны:** акварель, гуашь, пастель, темпера могут использоваться для создания как живописных, так и графических произведений.

**Печатная графика** сегодня получила быстрое распространение не только в нашей республике, но и во всех странах мира. Этот вид графики стал очень удобным в оформлении работ разного жанра своей экономичностью, высоким качеством и оперативностью.

Одним из ярких представителей графических работ можно назвать известного узбекского художника Урала Тансыкбаева. Его первые работы были выполнены преимущественно углём и карандашом. В работах Тансыкбаева чувствуется стремление отразить национальный быт, природу

со всеми его подробностями и особенностями: юрты с их обитателями, караваны верблюдов, виды гор и долин.

Ещё одним ярким представителем графического искусства Узбекистана был Усто Мумин. Он был учеником К. Малевича. После окончания учёбы в России он вначале работал в Самарканде, потом переселился в Ташкент и стал крупнейшим мастером графики, проникшимся народной культурой Узбекистана. Его знаменитый графический рисунок «Вышивальщицы» был выполнен тушью.

Сегодня среди молодых художников есть много желающих продолжить труды известных художников-графиков Узбекистана и создать свои неповторимые творческие труды, которые также вольются в копилку искусства нашей республики, и будут способствовать воспитанию гармонично развитого подрастающего поколения.

## ЗАКЛЮЧЕНИЕ

За свою многовековую историю графическое искусство Узбекистана обогатилось, и сегодня художники-графики пользуются комбинацией линий и штрихов и контрастов белого и чёрного, в основном, без применения других цветов красок.

Графика обладает широчайшим диапазоном функций, видов, жанров, художественных средств, создающих в своей совокупности огромные возможности для изображения и образного истолкования мира, выражения чувств и мыслей художника-графика.

Связь графики с нынешней жизнью и возможности, которые открываются перед этим видом искусства в современных условиях, создают условия для возникновения всё новых творческих работ в графическом плане.

Таким образом, в искусстве Узбекистана развились и достигли значительных успехов совершенно новые, ранее не существовавшие виды и жанры искусства. Среди них можно назвать графическое искусство Узбекистана, которое является составной частью мирового искусства. В нём находит отражение самобытная жизнь народа нашей республики, уникальная природа, дух времени и образов современников.

По мнению Президента Академии искусств Узбекистана Акмаля Нуриддинова, в работах художника любого жанра должна быть оригинальность, чувственность, философское погружение в тему. Если художник пишет не глазами, а душой, только тогда зритель может почувствовать всю энергию, красоту произведения.



Мы согласны с этим мнением народного художника Узбекистана и считаем, что исследование проблем исторического развития графического искусства Узбекистана в настоящее время актуально как в теоретическом плане, так и в практическом отношении, поскольку каждый художник-график должен придерживаться в искусстве оригинальности и неповторимости.

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# TAJIKS IN THE JIZZAKH OASIS: TRADITIONAL WAY OF LIFE AND CUSTOMS

**Khakima Babaydavlatovna Davlatova**

*Master Student, Methods of Teaching Social Sciences and Humanities,  
Jizzakh State Pedagogical Institute*

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## ABSTRACT

*This article describes the traditional way of life and customs of the Tajiks of the Jizzakh oasis. The nature and history, flora and fauna, monuments and tourism of Tajik villages in Jizzakh region are covered. The earliest tribal communities in the region had favorable natural conditions and fertile lands for livestock and settled farmers, especially the availability of running water, which was the main reason for the mutual development of human activities and social processes in the oasis.*

**KEYWORDS:** *Jizzakh region, natural conditions, fertile lands, deserts, Asraf, Porasht, Ukhum, Modjarm, Hoyat, Andigin, Nurata Mountains, Kyzylkum Desert, Aydar-Amasay lake, Khornok, Sebinak, Khodkhona, Bedak, Zimichik, Sangin, Andaburovud, Alichak, Nor, Dokuli, Tillo, Biydarak.*

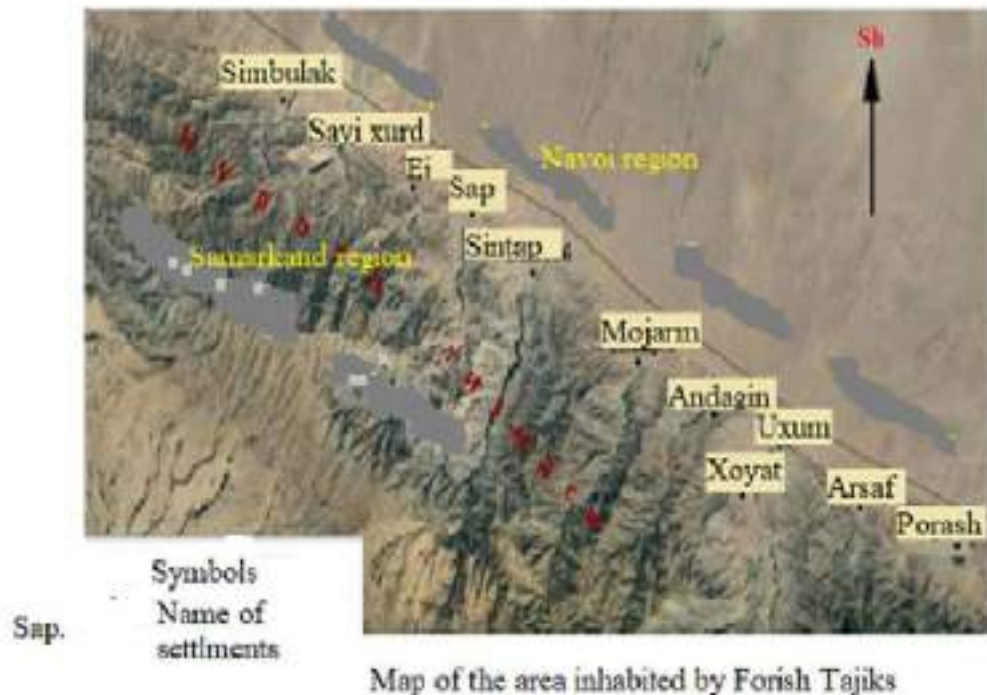
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## INTRODUCTION

“Jizzakh region is located in the central part of Uzbekistan, and most of it consists of deserts and steppes. The relief of the region is unique and it includes mountains, foothills, steppes and plains (deserts). The earliest tribal communities in the region had favorable natural conditions and fertile lands for livestock and settled farmers, especially the availability of running water, which was the main reason for the mutual development of human activities and social processes in the oasis. It also laid the foundation for the formation of sacred shrines from ancient times, associated with the worldview and beliefs of the people,” wrote Akchayev F.

## THE MAIN FINDINGS AND RESULTS

There are many villages in the Jizzakh oasis. There are villages in the area such as Asraf, Porasht, Ukhum, Modjarm, Hoyat and Andigin. It is a treasure with such a long history and has not yet been studied in depth. The traditional way of life, customs and rituals of the Tajiks of Forish district are unique and, although not fundamentally different from each other, there are many aspects to be studied and researched. Many scientists and researchers grew up on this land and wrote down information about their villages.



The Nurata Mountains are located in the central part of Uzbekistan and are administratively part of the Samarkand, Navoi and Jizzakh regions. The Nurata Mountains are described in Greek historical sources as part of the Soghdian Mountains, while in the Arabian geographical literature they are mentioned as part of the Qaf Mountains. Early medieval written sources refer to the mountains on the northern border of Samarkand as the “Mountain of Religion” – “the mountain of religion in which it originated”. The local people living in these mountains say that their voluntary conversion to Islam led them to call it by this name. Therefore, the local people considered their mountains sacred during the Mongol invasion and strictly protected them from non-Muslims. Naturally and geographically, the Nurata Mountains stretch for about 400 km from southeast to northwest, with an average width of 50-70 km. About 5-6 km from the northern part of the mountain, the territory of Kazakhstan begins north of the Kyzylkum Desert and the Aydar-Amasay lake system. The south-western foothills of the mountains extend to the lower reaches of the Zarafshan River. All natural and climatic conditions typical of Central Asia can be found in the study area. Naturally and geographically, the region consists of deserts, foothills, hills and low mountains. The population living in the northern part of the Nurata Mountains is ethnically more complex and relatively little studied by experts in the field. However, the geographical features of the region attracted some experts. For example, historians and geographers such as A. N. Khoroshkhin, M. S. Andreev, B. H. Karmishchva, A. Mukhlorov, M.

Numaarov were in these places as part of various expeditions and partially studied different sections of the indigenous population. Importantly, the ethnographic data collected by them on indigenous peoples, although incomplete, have not yet lost their scientific significance. According to your expert, the Nurata Mountains have been a natural barrier to the movement of desert nomads to the Samarkand and Bukhara oases for many centuries. Scientists have acknowledged that this has affected the ethnic composition of the people living in the northern foothills of the mountain. Active migration processes have taken place in the region since ancient times and have had a significant impact on the ethnic composition of the local population. One of the branches of the Great Silk Road, which now runs through the northern part of the Nurata Mountains, where the majority of the population is Uzbek, is on the road connecting Tashkent, Jizzakh, Nurata, Karmana, and later Bukhara and Tajik villages with a history of more than two thousand years are located on the right side of this road,” wrote Hakimov Q.

“The village of Mojarm shines like a ruby in the foothills of the Nurata Mountains. “In this village, which is famous for its charming nature, people have been engaged in agriculture, animal husbandry and handicrafts since ancient times,” wrote Professor Yu. Nurnazarov.

The Mojarm River is the longest and widest river in the Forish Mountains. Has a pool of 56<sup>2</sup> km and a length of 36 km. The people of Mojarm are engaged in agriculture as well as gardening. They deliver nuts to many parts of the country. Almonds, pistachios and cumin grow in Mojarm.





The village of Mojarm is famous for its unique tree - spruce, which is very rare in Central Asia (eastern biota-luni basic semiglobosa). It is said that this tree was planted by Alexander the Great when he buried the commanders of the deceased. The Mojarm spruce was also planted by Alexander the Great. In any case, it is a sign of antiquity. The spruce tree is 20 meters long and 24 meters in diameter. Foreigners also come to see the tree.

The traditions of Mojarm village are similar to those of other Tajik villages and Forishs. In the village of Mojarm, home hotels are open. Foreign tourists are shown the lifestyle and nationality of the local population on the example of ecotourism and ethnotourism.

The tourism potential of the Mojarm village is very high, and it is necessary to develop special target plans for its development and implement them for the development of the village.

The Nurata Nature Reserve is located in the northern foothills of the Nurata Range, at an altitude of 500 meters to 2,169 meters above sea level, and covers an area of 17,752 hectares. The reserve is home to rare mountain animals and rare plant species. The village of Hoyat is located in the middle of the mountain slopes of the Nurata Nature Reserve.

The word Hoyat translated from Old Soghdian means "spring place". In the dialect of life, it is pronounced as IY, I or ly instead of U, Ye, E. For example, mur-muur, shepherd-chuupon, megoyam-miyguum, meravam-miyrum, hez-xiy, sieve-iy-lak, announcement-iy-lan, etc., were written by Mahmudi Forishi in his book "Forishoni Tojikoni".

The nature of Hoyat is different from that of Ukhum, that is, it is much higher than Ukhum, and the summers are cooler and the winters are colder.

The Nurata Nature Reserve is dominated by animals (deer, pigs, jays, wolves, foxes, etc.); wild birds (sparrows, hawks) and medicinal plants (cumin, corn, rhubarb, etc.) are protected.

Hoyat rivers consist of ten large and small canals, such as Khornok, Sebinak, Khodkhona, Bedak, Zimichik, Sangin, Andaburovud, Alichak, Nor, Dokuli, Tillo and Biydarak.

There are several caves in Hoyat: Boboi Gafur, Khojamqul and Bakhrimurod. It is said that there was an underground road from the cave on the Ukhum side to Nurata. There is no real life in this myth. The city of Kurgan (fortress) stands out among the natural and historical monuments of Hoyat. The city is inaccessible and is the first camp of the Hoyats. The population took refuge here in the past centuries (200-250 years ago) during the invasion of the enemy. The fortress of the city of Kurgan is so amazing that 10-15 people can fight here with 500 enemies.

The population of Hoyat village belongs to three tribes: kuyiki, dokhayiti and nodirboboi. Due

to the proximity of the Hoyat and Ukhum regions, these tribes do not belong to the Ukhum people. On the contrary, the seed of dokhayiti is related to the people of Ej.

The customs of the people of Hoyat are similar to those of Ukhum and all the angels.

The ruined stone houses of Hoyat village, the old mosques, the stone statues of Saidon, Novi Daroz, Pichak and Forgu and the Hoyat (Hoyati bolo) hills indicate antiquity.

Modern tourism is developing in life. Foreigners are visiting there. Home hotels have been set up in the village, where tourists can enjoy ecotourism and ethnotourism.

One of the largest villages in the Ukhum-Forish Mountains, The entrance to the village is called Mola and Sirtikon.

The people of Ukhum belong to three generations: Albaki, Sultan and Tabakdi. Each generation is further divided into parts. For example: albaki sakigi, yorbay mullahnemati, dablati, man, kazigi; tabaqdi mullahartuqi, mullah niyози, mullah mosai, torbagi; sultani solehbay, alibay, nekmahmadi, odinabay.

In ancient times, these generations lived mainly in separate places in the Upper and Middle Ukhum. The settlements of Mola and Sirtikon developed much later. According to some sources, the Middle and Upper Fortresses are the oldest settlements. The villages of Bazarjay, Sultani Miyona and Tabaqdeh appeared about two hundred years ago, and Hoyati Poyon, Mola, Sirtikon, Mushi Biryon in the late 40s and 80s of the last century.

The village of Ukhum differs from other villages in that the relief of Ukhum is unique and the mountains are very high. The highest ridges of the Nurata ridge are Hoyat (2169 m above sea level) and Panjangusht (2100 m). It is said that Samarkand can be seen in the fresh air from Panjangusht, wrote Mahmudi Forishi.

Parandoz, Dushah, Karavul and Tali surkh peaks are also very high. There are natural monuments such as Kajdum, Parrandoz, Soi Hoyat caves and Shah izard, Shah ali and Ruxsha.

The customs of the Ukhum people are similar to those of the Farish. From ancient times the inhabitants of these villages have been friends and relatives. The gorge of Ukhum village is 15,000 km long. The villagers are engaged in agriculture, animal husbandry and handicrafts.

Although Ukhum is 150 km from the regional center and 50 km from the district center, special attention is paid to the development of ecotourism.

The village of Porasht, located on the slopes of the Nurata Mountains, 150 km from the city of Jizzakh, 50 km from the Forish district, has a very beautiful flora and fauna, ancient history, high peaks,



tourist attractions, rich customs and traditions, values and is distinguished by its rites.

The word Porasht means “Farsh” in Arabic (a high mountain on three sides and a flat place in the middle). In Sogdian, “Porasht” (bottom of the castle) means a fortress. Professor Makhmud Nurnazar wrote that the word “Porasht” literally means “the end of the castle” in Sogdian. Ancient Porasht is not in the present place, but in the gorge of the Upper River. There are ruins of castles, ancient houses and gardens, stone carvings, and according to some sources, no one has lived there since the 17th century.

Legend has it that in the place of the present Porasht there was a lake with reeds. The khan of Bukhara, Abdullah Khan II (1534-1598), rested on this land while crossing the steppe with his army. When he returns, he gives the land to a guard. The guard brought his people from Bukhara and improved these places. It is said that the Porashtians are of three tribes: the natives of the village, the relatives of the guards (people from Bukhara) and the Mahmazmans. This, of course, has no scientific basis, and the dialect of the Porasht population differs from that of Bukhara.

The village of Porasht is currently working in the field of modern tourism. It is able to demonstrate its natural flora and fauna, values and nationality to tourists. In Porasht, locals are building grasslands and hotels to receive tourists. At a time when modern tourism is developing, it is necessary to provide more information about Porasht to foreigners and the population of our country. It is also necessary to improve the conditions in the village, provide them with modern Internet and technical equipment!

The village of Porasht has historical monuments: Sukhchi Abdullokhon, Sultanteppa (XVI century) and three mosques (Mullodekhqon, Arabboy and Mergonsulolasi). The mosque was built in the early twentieth century.

The main water sources in Porasht village are Musoboy, Navruzboy and Domullo springs.

The difference between Porasht and other villages is that the village is located at the exit of the Dara and extends to the north. The wind blows, which the locals call wind or ice wind.

The first new type of primary school was established in 1928 in Porasht, a seven-year school in 1936, and a ten-year high school in 1968. The village secondary school №13 was first named after Rudaki and then after Janibek Kuvnak.

Porasht has had a library since 1950. As more and more tourists come to see the Nurata Mountains and the world of the Nurata Nature Reserve, the family-owned Porasht Hotel has opened in the village of Porasht.

With the development of modern tourism, hotels have been established in the village of Porasht,

which have the following programs:  
- You can watch and help prepare national dishes and bake bread in the oven;

- Depending on the season, weddings and kupkari games can be watched;  
- Organize folklore and enjoy national and cultural traditions and melodies;  
- If you want to get acquainted with the livestock in the area, take it to the livestock farms.

At the top of the village of Porasht and on all four sides is the village of Asraf, with its beautiful nature surrounded by mountains. The population is engaged in agriculture and horticulture, handicrafts and animal husbandry. History of Asraf village spreads over the centuries. They are Sogdians who were moved here by the Greeks from the Zarafshan valley. There are Azizmurod and Abdulla Naiman springs in the village.

## CONCLUSION

As we live in the age of modern technologies, if we develop modern tourism in our villages with such a rich history and beautiful nature, the flow of tourists will increase.

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# THE CONCEPTS OF “HAPPINESS AND A HAPPY LIFE” AND THEIR INTERPRETATION IN THE WORKS OF MUSA JALIL

<sup>1</sup>Shoira Kosimovna Khoshimova, <sup>2</sup>Namet Kazakbaevich Sabirov

<sup>1</sup> Lecturer, Department of Russian language methodology

<sup>2</sup>Senior Lecturer, Department of Russian philology

## ABSTRACT

*The article reveals the features of M. Jalil's work; the main emphasis is on the interpretation of happiness in the works of the author under study, as well as happiness in the understanding of the famous Tatar poet Musa Jalil.*

**KEYWORDS:** *happiness, civilization, ascetic image, sage Solomon, motive, the highest good, general notebooks;*

## INTRODUCTION

Literature is one of the main custodians of the values that make up our civilization. The topic of happiness, since the interpretation of this term largely depends on what type of civilization a particular community belongs to.

## MAIN PART

The concept of “happiness” in the common mind, as a rule, is associated with material benefits, business success, an excess of entertainment and pleasure. However, this is not how things work out in life, and sometimes rich and successful people turn out to be the most unhappy. Much has been said about what happiness is in ancient times. The Stoics, for example, believed that happiness consists in an ascetic lifestyle and freedom from passions. Skeptics added fearlessness to death to dispassion. The Epicureans saw happiness in pleasures and pleasures, however, they also considered the highest good reason, which should govern a person.

“Happiness is a concept that designates the highest good as a completed, self-valuable, self-sufficient state of life; the generally recognized ultimate subjective goal of human activity,” says the New Philosophical Encyclopedia, published by the Academy of Sciences. So, happiness is “the generally recognized ultimate goal of human activity,” that is, an unconditional value recognized by all mankind, the difference is only in interpretations. The topic of the search for happiness is one of the most important in the literature, because at any time this issue is relevant for every person.

There are many books in the world that are capable of pushing a person to any business, many writers who have revealed the secrets of being in their works, or at least tried to do it. And almost every work of world literature talks about what happiness is.

The biblical sage Solomon, for example, believed that happiness is not in what we can achieve by our efforts, but in the efforts itself. To be happy means “to enjoy the good in all his labors, as he who labors under the sun all the days of his life that God has given him.” Various ideas about happiness are expressed by the heroes and characters of N. Nekrasov's poem “Who Lives Well in Russia”. In this work, Grisha Dobrosklonov was happy. This is how Grishka talks about true happiness:

*I don't need any silver  
No gold, but God forbid  
So that my fellow countrymen  
And to every peasant  
Lived freely, cheerfully  
In all holy Russia!*

And in A. Chekhov's story “Gooseberry”, it is stated that happiness lies in the ability to do good to people: “As long as you are young, strong, cheerful, do not get tired of doing good! There is no happiness and should not be, and if there is a meaning and purpose in life, the meaning is not at all in our happiness, but in something more reasonable and great. Do good!”

Our research is directly related to the interpretation of happiness in literary works, as well as happiness in the understanding of the famous Tatar poet Musa Jalil, and how this concept is presented in



his poems, by what means the poet conveys his feelings, emotions, thoughts to the reader, what other concepts is associated with the motive of happiness.

Musa Jalil's work can be divided into several periods, and the motive of happiness changes in each of the stages: the author uses other images, other methods to convey his thoughts to the reader, and the content of the works also differs.

The first period is the time of its formation. Several general notebooks with poems, stories, and plays of the poet have come down to us. The poet himself wrote: "In 1922-23 I was far from the actual embodiment of reality. My creative principles were such that I was unable to reflect modern life. The subject of poetry was far from real life. During the years of the workers' school, a revolution was outlined in my work. In 1924, I began to write in a completely different way. "The stages following this period: 1924-1932, when Musa Jalil was a poet of youth, the author wrote dozens of poems and poems "Sarvar" and "Traveled roads"; 1932-1941, notable for the fact that the poet's main attention was paid to the new man, the builder of the new time, his bright thoughts, his exceptional character; 1941-1944 is a very short period, perhaps the most studied, the most famous, as it is the front-line poetry of Musa Jalil, including the immortal Moabit Notebooks.

In Gazi Kashshaf's article "Musa Jalil" we read: "Jalil's early work bears clear traces of the influence of democratic literature of the early 20th century, especially the poetry of Gabdulla Tukai and Mazhit Gafuri. With their work, Musa's poems are brought together by humanistic pathos, sympathy for the oppressed, intransigence to evil in all its forms. From the very first, so far naive, experiments one can feel the democratism of the beginning author." As we know, he came from the lower classes, experienced the arrogant attitude of the Bai sons, so he was sympathetic to the people. During this period, the language of Musa Jalil's poems is simpler, his thought is expressed directly, without embellishment. His poetry was born and inspired by youthful maximalism, high intensity of civic feelings. From these romantically inspired early lyrics of the poet, one can single out the poem "Happiness", written in 1919. The lyrical hero of the young romantic is the son of his country. He is full of desire to fight against the enemy for the happiness and freedom of his homeland:

*If I took the saber, if I rushed with it,  
 Defending the red front, sweeping away the rich,  
 If there was a place for me in the line of friends,  
 If I used a dashing saber to cut the executioners,  
 If the enemy retreated before my strength...*

Musa himself not only campaigned for a new life, but also defended the new power with arms in hand: in the detachments of special forces he fought with white gangs. Therefore, agitation is not enough for the lyrical hero: he wants to rouse the

whole people to fight. And the very last lines of the poem allow us to draw a conclusion about what happiness is for a hero. Personal happiness is possible only in the struggle:

*I would consider this death in battle happiness,  
 I sing the glory of a heroic death in a song.*

Another poem, written in 1923, has something in common with the previous one. This is the poem "From the Heart". The lyrical hero here is the one who "opened a new path to the sun behind the gloom, visited the blue stars, brought the sky closer and made friends with the earth." We understand that the form of Jalil's poems has changed: epithets, metaphors, personifications, which carry a great semantic load, have adorned the poem, made the language expressive, showed that an interesting poet came to Tatar literature, with his own vision, with his own attitude to life. But the ideals of his lyrical hero are the same:

*My comrades, we have no fear!  
 United in one impulse,  
 We rejoice in happiness and victories,  
 There are thousands of us, we are the youth of the  
 country.*

The inner world of the lyrical hero is enriched. His feelings become psychologically more reliable, and the perception of life - philosophically more significant, wiser. From a sharp oratorical gesture, the poet goes on to a confidential lyrical confession. From the sweeping, energetic tread of verse - to song melodiousness. His hero is always militantly active. Idle contemplation, spiritual passivity is alien to him.

According to critics, "in the works of Musa Jalil, a lively, lyrical feeling breaks through, like melt water from under the snow. Lyricism is the strongest side of Jalil's talent".

We hear these motives in the poems "Song of Youth", "Youth", and very often, using the pronoun "we", Jalil speaks on behalf of the entire young generation and affirms all the same values.

The works written by Musa Jalil at the front, and later in captivity, stand apart. "The poems written at the front have a different character. The pathetic monologue and open publicism are replaced by front-line poetry, simply and reliably revealing the feelings and thoughts of a person in war," wrote Raphael Mustafin about them. Perhaps these are the most mature poems of the poet, and in them we already see a philosophical attitude to the concept of happiness. Take the poem "Happiness", written in 1942. In it, the author talks about the minutes of hardship and happiness. He is confident that:

*Past adversity  
 And troubles and grief  
 Will rush like water  
 Will be forgotten soon.  
 But happiness is a man  
 Never forgets:  
 But you will never forget*





*Past happiness.*

*You live again*

*And there is no oblivion for you,*

*Oh, human happiness*

*Hours and moments!*

And this is probably due to the fact that during the Great Patriotic War Musa Jalil had to go through a lot, reconsider his attitude to life and death, to good and evil, to loyalty and betrayal. The images in his poems change, the means used in poetry change. His lyrical hero, who was in captivity, seems happy with the most common things for us, which we sometimes do not even notice: the opportunity to see the sun, breathe fresh air, be close to loved ones, (the poems "Parting", "Will", "Beloved" and others).

More and more often we feel the connection between the happiness motive and the memory motive. Reading "The Gardener", created in 1943, the reader, along with the hero Jalil, is transported to a beautiful garden where apple trees, berries, violets and poppies grow, hears the voices of birds arriving in spring. The poet leads the reader to the idea that nature is renewed every spring - this is an eternal law, and man is not given to live twice. But you can live in the grateful memory of people, and it depends only on the person himself: live, work so that the next generations will remember you with a warm word:

*And the youth will come and praise the garden.*

*And if he dies, the gardener,*

*The garden will live, bloom from year to year.*

*And the old one is happy: the larch is a friend*

*He will sing about him, grieving, in the wind.*

In the poem "My Songs" you will not find the word "happiness". But it is guessed. The songs reflected the poet's whole life, his hatred for the enemy, love for a friend, his loyalty to the Motherland, truthfulness and sincerity; poems helped him live, supported him in moments of joy and sadness, so he turns to them with such warmth and love. The poet sees his immortality in them:

*If you die, I will die into oblivion,*

*If you live, I will find life with you.*

The poem especially vividly expressed the poet's passionate desire to serve with his song to the Motherland, the people:

*I have always dedicated songs to the Fatherland,*

*Now I give my life to my Fatherland.*

The poet managed to convey the feelings and aspirations of people - love for the Motherland, willingness to give his life for her, hatred of the enemy, feelings of friendship and brotherhood. The pictorial and expressive means that reveal the ideological content of the poem are interesting and bold: the poet compares his life with a ringing song, death with a song of struggle, his feelings are hot, and his oath is firm. He rejects "low joys, petty happiness", and thereby conveys his thoughts and feelings: happiness lies in the ability to be free and in

captivity, to live the life of the country, to fight for the freedom of the Motherland and for its happiness.

## CONCLUSION

Thus, having studied the works of Musa Jalil, the motive of happiness in Jalil's lyrics is one of the main motives, and it undergoes changes from stage to stage, that is, it "grows" together with the poet, deepens in content and the poet's happiness is a multifaceted concept: it is also personal happiness, and happiness is universal.

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## THE ROLE OF TEACHERS AND LEARNERS IN COMMUNICATIVE LANGUAGE TEACHING

<sup>1</sup>Charos Ganisherovna Uralova, <sup>2</sup>Kamola Ilhomjonovna Saidova,  
<sup>3</sup>Yusuf Sobirovich Xayrullaev

<sup>1</sup>Student, Samarkand State Institute of Foreign Languages

<sup>2</sup>English Teacher, Samarkand State Medical Institute

<sup>3</sup>English Teacher, Samarkand State Medical Institute

### ABSTRACT

*The need to provide the educational process with modern pedagogical technologies is one of the conditions for the implementation of the National Training Program. A new system of knowledge on modern, advanced pedagogical and information technologies for young people studying in all educational institutions of the country: preschools, secondary schools, vocational colleges, academic lyceums and higher education institutions. The continuous organization of armament with is a requirement of the period. The use of pedagogical technologies and teaching methods as one of the problematic features plays a central role in the enrichment of students' knowledge, broadening their worldview and practical learning activities. The role of teaching methods, such as the free expression of ideas by the student and the free coverage of the topic by the group or community, is of great importance. From the above thoughts and comments, it is clear that this topic of the article is one of the most important issues facing teachers, methodologists and scholars today. Depending on the purpose of the scientific article, the role of teachers and learners in communicative language teaching will be discussed.*

**KEY WORDS:** Chang, barriers, "find the color" game, Candlin, project work.

### INTRODUCTION

The application of CLT to teaching English in Uzbekistan context has recently been discussed broadly.<sup>1</sup>

As the CLT method tries to comprise students' in more substantive and interactive learning tasks that contribute both to apprehensible input and learners' language input, the English language teachers in Uzbekistan still consider it challenging and troublesome to apply the method and maximize learning proficiency, especially in EFL.

CLT implementation in EFL context finds many challenges which according to Chang<sup>2</sup> include:

- a. lack of teacher-training ;
- b. local culture of learning and teaching;
- c. language test ;
- d. lack of teachers' access to policy making process.

Barriers in implementing the CLT Approach in Uzbekistan -The following part relates to the teachers' perceived difficulties in implementing the CLT approach in our country context. For

convenience, this part has further been divided into two categories<sup>3</sup>:

### THE MAIN RESULTS AND FINDINGS

1. Teachers' related issues: Teachers' lack of proficiency in English, work load and their understanding of the implementation of the CLT approach were included in this part. The result of the three items is evident. These items are a genuine concern of the teachers in implementing the CLT approach.

The teachers should be provided computers and they should have enough time to prepare their material for teaching. Then we can expect innovative and creative teaching in applying communicative approach.

2. Student-related issues: Students' proficiency in English and their willingness and motivation for participation in classroom activities were the points discussed under this head. Students' motivation can bring good results in improving the situation. If they are motivated and willing to use the target language in classroom, it will create an environment of the use



of language which will result in improved communicative competence of the learners and, will also help teacher motivation.

The teacher plays different parts in the teaching process. The teacher performs a variety of roles according to the activities in the classroom. The teacher, as a manager, gives instructions to the students. As an example, the teacher asks students to repeat the sound, then the sentence, to pronounce it. The teacher explains the new language materials and it is this or that informant. The teacher provides materials and instructions to allow students to work on their own. So here he or she is a helper. A good teacher needs to be enthusiastic, creative, patient, and understanding towards the many students he or she works with.

There are some activities that can be included in elementary school lessons.

Development of speech skills:

a) Help to the Zumrad -Guess what is in the box?

(Forms of work: pair, group work, individual work). In this lesson, students will learn vocabulary, "Is there...?". They deal with grammatical structure, can suggest their own versions, as well as increase their creative thinking skills.

b) Help to Anvar. Tell him what he should take to school.

c) discussion. Look at the pictures and say what you like or dislike.

Such games can be used to develop listening skills and practice colors.

"Find the color" game.

Student 1 - In the "Find the color" game, the colorist and the rest are the performers.

The team asked him, "What color do you want?"

Readers: I want the color "red". All students must touch the red card (or pencil). Anyone who does wrong will be disqualified.

The real-life simulations change from day to day. Students' motivation to learn comes from their desire to communicate in meaningful ways about meaningful topics. Candlin<sup>4</sup> describes the learner's role within CLT in the following terms: "The role of learner as negotiator – between the self, the learning, process, and the object of learning – emerges from and interacts with the role of joint negotiator within the group and within the classroom procedures and activities which the group undertakes. The implication for the learner is that he should contribute as much as he gains, and thereby learn in an interdependent way".<sup>5</sup> CLT methodologists consequently recommended that learners learn to see that failed communication is a joint responsibility and not the fault of speaker or listener. Similarly, successful communication as an accomplishment jointly achieved and acknowledged. Several roles are assumed for teachers in Communicative Language Teaching, the importance of particular roles being determined by the view of CLT adopted. Candlin

describes teacher roles in the following terms: "The teacher has two main roles: the first role is to facilitate the communication process between all participants in the classroom, and between these participants and various activities and texts. The second role is to act as an independent participant within the learning teaching group. It is closely related to the objectives of the first role and arises from it. These roles imply a set of secondary roles for the teacher; first, as an organizer of resources and as a resource himself, second as a guide within the classroom procedures and activities. A third role for the teacher is that of researcher and learner, with much to contribute in terms of appropriate knowledge and abilities, actual and observed experience of the nature of learning and organizational capacities. Other roles assumed for teachers are needs analyst, counselor, and group process manager".

Typically, such formal assessments contain items that attempt to determine an individual's motivation for studying the language. For example, students might respond on a 5 point scale (strongly agree to strongly disagree) to statements such as the following: I want to study English because

- I think it will someday be useful in getting a good job.

- It will help me better understand English - speaking people and their way of life.

- One needs a good knowledge of English to gain other people's respect.

- It will allow me to meet and converse with interesting people.

- I need it for my job.

- It will enable me to think and behave like English-speaking people.

On the basis of such needs assessments, teachers are expected to plan group and individual instruction that responds to the learner's needs to work out specific CLT activities for learners. The most obvious characteristic CLT is that almost everything that is done is done with a communicative intent. Students use the language a great deal through communicative activities such as games, role plays, and problem – solving tasks (see discussion of these in the review of techniques). Activities that are truly communicative, according to Hole, have three features in common: information gap, choice, and feedback. An information gap exists when one person in an exchange knows something the other person does not. If we both know today is Tuesday and I ask you, "What is today?" and you answer, "Tuesday", our exchange is not really communicative.<sup>6</sup>

Another peculiarity in successful teaching of a communicative speech is an activity where the students are put in the centre of the action, where they use the language and practice communicative speech. It is the project work, its purpose is to encourage the learners to work things out for



themselves. It is an extended language activity, focusing on the topics, themes. The project work is a means of communication and enjoyment. The learners can experiment with the language as something real. It is a highly adaptable methodology, it is useful as a means of generating positive motivation, because it is very personal. The students tell about their own lives, their own research into topics that interest them. This work helps them to understand that they can use English to talk about their own world, it improves their ability to think.

Project work allows students to consolidate the language that they have learnt and encourages them to acquire new vocabulary and expressions. In addition, it gives learners integrated skills practice. Throughout project work students have extensive practice of the skills of reading, writing, listening and speaking. Using projects with classes provides excellent opportunities for cross-curricular work. The topics should be carefully chosen and have to be presented in a lively and up to date manner.

## CONCLUSION

To conclude, project work is effective, interesting, entertaining and should be used at the lesson. The communicative approach has changed our stereotypes about the teaching process. This teacher emphasizes the participation of children who are not the main figure of the lesson. He or she is just a provider of information and motivation. Most of the study time is spent on speech activities and only the target language is used. We need to know our younger students, their abilities and interests. Conditions must be created for students to learn in the classroom. "Language is a skill, so you have to learn it, you can't teach it," M. West said. Thus, students need to be taught to learn for themselves. And our task is to make the learning process fun and enjoyable.

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# A STUDY OF INTERNET UTILIZATION BY STUDENTS IN TIMES OF COVID PANDEMIC: EVIDENCE FROM ERNAKULAM DISTRICT OF KERALA

Siby K M<sup>1</sup>, Dr.Varun V Varghese<sup>2</sup>

<sup>1</sup>Assistant Professor, Postgraduate department of Economics, St.Paul's College Kalamassery, Kerala, India

<sup>2</sup>Assistant Professor, Postgraduate department of Commerce, St.Paul's College Kalamassery, Kerala, India

## ABSTRACT

*The testing times of Covid Pandemic had made online classes the new norm of academic transmission of knowledge. The inevitability of a smart device and Internet access in a student's life had made drastic changes in their academic perspectives. The present study aimed to analyze the attitude of students towards Internet and online classes based on data collected from 111 student respondents belonging to different age and education categories from different parts of the Ernakulam district of Kerala. The frequency analysis and Chi-Square analysis were applied to study the data and found that gender and age categories had no significant association with time spent on online classes while the education category of students shows a significant association.*

**KEYWORDS:** Online Class, Internet Utilization, Chi-Square

## 1. INTRODUCTION

Covid Pandemic had thrown out 1.2 billion students from their classrooms globally. This forced the emergence of rampant online classes that changed education dramatically. The shift of students and teachers onto the online platforms had opened up a multitude of opportunities and challenges. The integration of information technology into education would likely be further accelerated in Post Covid scenario. This structural shift in the transmission of knowledge had initially caused hiccups and adjustment lags both in the lives of teachers and students. The present study intended to look at the attitudes of students towards online class transmission and the various aspects of their Internet utilization.

The present study is structured in the following ways. Section two delineates the objectives and hypotheses of the study. Section three briefly depicts the methodologies used in the study. Section four elaborates the results and its discussions. Section five summarizes the important findings of the study.

## 2. OBJECTIVES AND HYPOTHESES

The primary objective of the study was to analyse the Internet utilization of students and the impact of demographic characteristics like gender, age category and education category on time spent by students on online classes. The following hypotheses were formulated for meeting these objectives.

H<sub>01</sub>: There is no significant association between gender and time spent on online classes.

H<sub>02</sub>: There is no significant association between age category of students and time spent on online classes.

H<sub>03</sub>: There is no significant association between type of education and time spent on online classes.

## 3. RESEARCH METHODOLOGY

The sample of the study was composed of 111 students from different parts of Ernakulam district belonging to different education categories like Secondary, Higher Secondary, Graduate, and Post Graduation. A well-structured questionnaire was constructed and data were collected online to ensure that all respondents had Internet facilities. The study also made use of frequency analysis and chi-square analysis to find out the impact of different demographic



characteristics like gender, age category, and education category on the Internet utilization of students, especially on online classes.

#### 4. RESULTS AND DISCUSSION

This section is classified into segments

- 1) Demographic Profile of the respondents
- 2) Characteristics of internet utilization among students
- 3) Chi-square analysis

##### 4.1) Demographic Profile

Variable	Characteristics	Frequency	Percentage
Gender	Male	42	37.8
	Female	69	62.2
Age	Below 20	55	49.5
	Between 21 and 30	55	49.5
	Above 30	1	.9
Education	Secondary Education	9	8.1
	Higher Secondary Education	12	10.8
	Degree	66	59.5
	PG	24	21.6

##### 4.2) Characteristics of Internet utilization among students

###### 4.2.1 Sources of the Internet among students

Source of internet	Frequency	Percentage
Mobile Sim	100	90.1
Broadband connectivity	5	4.5
Portable Wi-Fi	6	5.4

###### 4.2.2 Internet data availability per day among students

Internet data per day	Frequency	Percentage
Less than 1 GB	7	6.3
1 GB	22	19.8
1.5 GB	53	47.7
2 GB	13	11.7
More than 2 GB	16	14.4

###### 4.2.3 Time allotments by students on online

	Never	Less than 2 hours	Between 2-3 hours	Between 3-4 hours	Between 4-5 hours
Time spent on online classes	0	18	23	17	53
Time spent on playing video/online games	74	25	3	5	4
Time spent on reading online	9	58	22	14	8
Time spent on online shopping	51	1	3	5	51





#### 4.2.4 Frequency of website visits and entertainments online by students

	Never	Daily	More than once per week	Once per week	Once per month
Frequency of YouTube visits	2	83	13	12	1
Frequency of Facebook visits	49	19	16	10	17
Frequency of Whatsapp visits	0	107	2	2	0
Watching/downloading movies	34	4	14	23	36

#### 4.2.5 Student attitude towards online classes and Internet

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Online classes are more effective than offline classes	35.1	34.2	14.4	9.9	6.3
Offline classes should begin from next academic year	3.6	9.9	16.2	34.2	36.2
Internet affects my grade negatively	6.3	18	33.3	35.1	7.2

### 4.3) Chi-square Analysis

#### 4.3.1) Testing of the first Hypothesis

Null Hypothesis: There is no significant association between gender and time spent on online classes.

Alternative Hypothesis: There is a significant association between gender and time spent on online classes.

			Time spent on online classes				Total
			Less than 2 hours	Between 2-3 hours	Between 3-4 hours	Between 4-5 hours	
Gender	Female	Count	13	11	14	31	69
		Expected Count	11.2	14.3	10.6	32.9	69.0
		% within Gender	18.8%	15.9%	20.3%	44.9%	100.0%
	Male	Count	5	12	3	22	42
		Expected Count	6.8	8.7	6.4	20.1	42.0
		% within Gender	11.9%	28.6%	7.1%	52.4%	100.0%

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.034 <sup>a</sup>	3	.110
a. 0 cells (0.0%) have an expected count less than 5. The minimum expected count is 6.43.			

From the resulting output, it is evident that there is no significant association between the gender of the student and the time spent on online classes, Pearson chi-square (3, N=111) = 6.034, p = 0.110.

Both male and female students show no significant difference in time spent on online classes. The assumptions of the chi-square test are not violated since zero cells have an expected count less than 5. 45



% of female students and 52 % of male students spent between 4-5 hours on online classes.

**4.3.2) Testing of the second hypothesis**

Null Hypothesis: There is no significant association between the age category of students and time spent on online classes.

Alternative Hypothesis: There is a significant association between the age category of students and time spent on online classes.

			Time spent on online classes				Total
			less than 2 hours	between 2-3 hours	between 3-4 hours	between 4-5 hours	
Age	Below 20	Count	10	14	7	24	55
		Expected Count	8.9	11.4	8.4	26.3	55.0
		% within Age	18.2%	25.5%	12.7%	43.6%	100.0%
	Between 21 and 30	Count	8	9	10	28	55
		Expected Count	8.9	11.4	8.4	26.3	55.0
		% within Age	14.5%	16.4%	18.2%	50.9%	100.0%
	Above 30	Count	0	0	0	1	1
		Expected Count	.2	.2	.2	.5	1.0
		% within Age	0.0%	0.0%	0.0%	100.0%	100.0%

	Value	df	Asymp. Sig. (2-sided)
Likelihood Ratio	3.647	6	.724

a. 4 cells (33.3%) have an expected count less than 5. The minimum expected count is .15.

From the resulting output, it is evident that there is no significant association between the age category of students and the time spent on online classes, likelihood Ratio (6, N=111) = 3.647, p = 0.724.

Different age categories of students show no significant difference in time spent on online classes. The assumptions of the chi-square test are violated since 33.3 % of cells have expected count less than 5. Hence likelihood ratio is looked at instead of Pearson Chi-Square. 43.6 % of students belonging to the age category below 20 and 51 % of students belonging to

the age category between 21- 30 spend 4-5 hours on online classes.

**4.3.3) Testing of the third hypothesis**

Null Hypothesis: There is no significant association between the education category of students and time spent on online classes.

Alternative Hypothesis: there is a significant association between the education category of students and time spent on online classes



**Table 11: Education \* Time spent on online classes Cross tabulation**

			Time spent on online classes				Total
			Less than 2 hours	Between 2-3 hours	Between 3-4 hours	Between 4-5 hours	
Education	Secondary Education	Count	5	1	3	0	9
		Expected Count	1.5	1.9	1.4	4.3	9.0
		% within Education	55.6%	11.1%	33.3%	0.0%	100.0%
	HSS	Count	4	7	0	1	12
		Expected Count	1.9	2.5	1.8	5.7	12.0
		% within Education	33.3%	58.3%	0.0%	8.3%	100.0%
	Degree	Count	6	11	11	38	66
		Expected Count	10.7	13.7	10.1	31.5	66.0
		% within Education	9.1%	16.7%	16.7%	57.6%	100.0%
	PG	Count	3	4	3	14	24
		Expected Count	3.9	5.0	3.7	11.5	24.0
		% within Education	12.5%	16.7%	12.5%	58.3%	100.0%

**Table 12: Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Likelihood Ratio	37.932	9	.000
a. 10 cells (62.5%) have an expected count less than 5. The minimum expected count is 1.38.			

From the resulting output, it is evident that there is a significant association between the education category of students and the time spent on online classes, likelihood Ratio (9, N=111) = 37.932, p = .000

Different education categories of students show a significant difference in time spent on online classes. The assumptions of the chi-square test are violated since 62.5 % of cells have expected counts less than 5. Hence likelihood ratio is looked at instead of Pearson Chi-Square. Students belonging to the degree (57.6%) and PG (58.3%) spend 4-5 hours on online classes while a negligible share of students belonging to secondary (0%) and higher secondary education (8.3%) spend 4-5 hours on online classes. Most of the classes of these education categories of students in Kerala are conducted through education channels available in televisions. The classes of degree and PG students are online interactive classes conducted through online platforms as Google meet, Zoom, etc.

**5. CONCLUSION**

The predominant conclusion of the study based on the sample data analysis was that there was no significant association between the gender and age categories of students and their time spent on online classes. On the other hand, there was a significant association between the education category of students and their time spent on online classes. The graduate and

postgraduate students spent more time on online classes than their counterparts in secondary and higher Secondary education. The reason behind this aspect was that most of the academic transmission of knowledge in secondary and higher secondary education was done through the medium of television. The study also concluded that 70 % of the students preferred offline classes than online classes and 70.2 % of students aspired to have offline classes from next academic year onwards.

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# THE PRESENCE OF ANAEMIA AMONG PREGNANT WOMEN AND ITS RELATION BY THE NUTRITIONAL CONSULTATION AND THE KNOWLEDGE ABOUT THE SOURCES OF THE IRON IN EL-OBIED CITY-NORTH KORDOFAN STATE - SUDAN

Mirghany Elnager Ahmed Ibrahim<sup>1</sup>, Tahani Ahmed Mahmoud Doudi<sup>2</sup>,  
\*Mohammed Ismail Humaida<sup>3</sup>

<sup>1</sup>Department of Food Hygiene & Safety, Faculty of Public & Environmental Health, University of Kordofan, Sudan.

<sup>2</sup>Ministry of Health, North Kordofan State, Sudan.

<sup>3</sup>Department of Epidemiology, Faculty of Public & Environmental Health, University of Kordofan, Sudan

\*Corresponding Author: Dr. Mohammed Ismail Humaida<sup>3</sup> Department of Public Health, College of Public Health & Health Informatics, University of Hail, Kingdom of Saudi Arabia,

## ABSTRACT

**Background:** This study was conducted at the Obstetrics and Gynecology Hospital in Elobied City - North Kordofan State, West of Sudan, in the period from December 2017 to December 2019, to detect the presence of anaemia among pregnant women, and to study the relation of the presence of anemia by consulting the doctor about the foods needed during the pregnancy, and by the knowledge about the sources of the iron.

**Methods:** Systematic random sampling method was used to select 384 pregnant women. Data were collected by questionnaire, a blood samples were taken from all women chosen and analyzed by Mindray haematology analyzer to measure the hemoglobin level to detect the presence of anaemia. The data of questionnaire were analyzed by SPSS and the results presented in tables and figures showing the percentages. To find the relation between the presence of anaemia and some variables, the Chi-square test (McNemar's test) was used. **Results:** Most pregnant women (75%) were have anemia. Most pregnant women (73.44%) have no knowledge about the sources of the iron, the majority of them (95.8%) don't consult the doctor about the types of foods needed during the pregnancy period.

**Conclusion:** The study discovered that lack of consulting the doctor about the types of foods needed during the pregnancy period contributed to the presence of anemia with (72.7%), and lack of knowledge about the sources of the iron contributed to the presence of anemia with (54.9%).

**KEY WORDS:** Anaemia, Pregnant Women, Nutritional Consultation, El-Obied

## INTRODUCTION

Anaemia, defined as a decreased concentration of blood hemoglobin, is one of the most common nutritional deficiency diseases observed globally and affects more than a quarter of

the world's population [1]. Anaemia is a major cause of morbidity and mortality of pregnant women and increases the risks of foetal, neonatal and infant mortality [2]. Anaemia during pregnancy contributes to 20% of all maternal deaths [3]. Iron





deficiency is the cause of 75% of anaemia cases during pregnancy [4,5].

### Inhibitors of Iron Absorption

Inhibitors of iron absorption include: Phytates, present in cereal bran, cereal grains, high-extraction flour, legumes, nuts, and seeds; food with high inositol content; iron-binding phenolic compounds (tannins); foods that contain the most potent inhibitors resistant to the influence of enhancers include tea, coffee, cocoa, herbal infusions in general, certain spices (e.g. oregano), and some vegetables; and Calcium, particularly from milk and milk products [6].

Tidehag [7] published that the majority of phenolic compounds are of plant origin, and they are mainly found in the leaves, stems and flowers. They are reactive substances and form iron-phenolic complexes in the intestine thereby making the iron less available for absorption. Tannins are large polyphenols which can precipitate proteins. A number of foods such as coffee, tea, beans, spinach and aubergine contain such phenolic compounds. Iron in foods is either haem iron or non-haem iron [ 8 ]. Iron absorption is influenced by dietary iron content and bioavailability of dietary iron [ 9 ]. Haem iron is more efficiently absorbed than non-haem iron from the food . Bioavailability of non-haem iron is dependent on other dietary compounds. Calcium inhibits both haem and non-haem iron absorption. Tea and coffee consumption with meal inhibits the absorption of non-haem iron [8 ]. In addition, phytates inhibit the absorption of non-haem iron [ 9 ]. Vitamin C, fresh vegetables, fresh fruits and berries, meat, fish and poultry enhance non-haem iron absorption [8], [ 9 ]. Fruits and vegetables contain of non-haem iron and together with C vitamin the absorption of iron improves [ 8 ] . The World Health Organization [ 10 ] and UNICEF et al [ 11 ] recommend that dietary allowance of iron for pregnant and breastfeeding women is 30-60 mg per day and that of folate is 400 µg per day. Iron status can be improved by eating diverse meals and promoting better feeding practices. Meals can be diversified by increasing access to iron rich foods for example, fish, poultry and whole grains [11]. The major inorganic salts present in milk are calcium, phosphorous, sodium, potassium, magnesium chlorides and sulphates. Trace elements such as iron, copper, manganese, iodine and zinc are also present in milk. Milk is a source of calcium and a rich source of phosphorous. Both of these elements assist in the formation of bones and teeth of growing children. Since milk is deficient in iron, an exclusive milk diet may cause anemia due to iron deficiency[12].

**Objectives:** To detect the presence of nutritional anaemia among pregnant women. To

study the relation between the presence of anemia and consulting the doctor about the foods needed during the pregnancy. To study the relation between the presence of anemia and the knowledge about the sources of the iron.

### METHODOLOGY

**Study type and design:** descriptive- cross sectional study.

**StudyArea:** The study was conducted at Obstetrics and Gynecology Hospital in Elobied city, sudan. The hospital includes the departments of accidents, intensive care, laboratory, pharmacy, and antenatal care clinic (ANC).

**Study population:** All the pregnant women attending ante natal care clinic (ANC) at Obstetrics and Gynecology Hospital in elobied city during the study period.

**Inclusion criteria :** Mothers who attended antenatal care clinic (ANC) during the period from 15<sup>th</sup> August to 15<sup>th</sup> September, 2019, and who met the choosing criteria (systemic random sample) had chosen.

**Sampling :**

a / Sample size : The sample size was determined according to Le [13] by the following formula:

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

**Where:**

n is sample size.

Z is the value of the standard normal variable corresponding to 95% level of significance (z = 1.96).

P is the prevalence of VL (p = 0.5) and (q = 1 -p) since no prior information exist.

d is a marginal error (d=0.05)

Accordingly, a sample of 384 persons was obtained.

b / SampleTechnique : The systematic random sample was used.

### Data Collection Methods and tools :

In this study a structured pre-coded and close-ended questionnaire was used to collect data . Some health workers was trained to assist in filling the questionnaire. Blood samples were collected in (2.5ml).

### Data analysis:

The blood samples were analyzed in the laboratory of the hospital by Mindray haematology analyzer to measure the level of hemoglobin. The cut-off points for the diagnosis of anaemia was according to the hemoglobin level as mentioned by Park (14), where A hemoglobin level of 10 to 11 g/dl has been defined as early anaemia; a level below 10 g/dl as marked anaemia.



The data of questionnaire were analyzed by statistical package for social sciences (SPSS). The results were presented in figures and tables showing the percentages. The relation between some variables and the the presence of anaemia was done according to Al-Qassas (15) and Le (13) by McNemar's test ( Chi- square ( $X^2$ ) test) for the correlative percentages in the table (2x2) by the formula:

$$X^2 = \frac{(B - C)^2}{B + C}$$

Where: B and C are cells in the table 2x2 (without the cells of the total) as in the following shape:

A	B
C	D

The value of  $x^2$  obtained from this formula compared with the value of  $x^2$  obtained from the table of  $x^2$ . The result have statistical significance when the calculated value is larger than the tabulated value under significance level (0.05). The null hypothesis is rejected at the 0.05 level when  $X^2 \geq 3.84$ .

### Ethical Considerations

Permissions for the study was obtained prior to collect data, by contacting and receiving the approvals from the competent directors in the Obstetrics and Gynecology Hospital, also the participants women in the study had assured with that the data needed from them will be in complete confidence, and used only for scientific research purposes.

### RESULTS

As illustrated in table 1, anemia was found in 75% of pregnant women ( 23.4% of them have marked anemia and 51.6% of them have early anemia). Table 2 shows that 26.6% of pregnant women have no knowledge about the sources of iron ( 20.1% of them were anaemic as in table 4). It found that 95.8% of pregnant women do not consult the doctor about the type of food needed during the pregnancy period as in table 5 and 72.7% of them were anaemic as in table 6).

**Table (1): Distribution of pregnant women attending ANC in Elobeid City according to the Level of hemoglobin- December, 2019**

Hemoglobin Level (g/dl)	Frequency	Percentage	Diagnosis of anaemia
5-9.9 g/dl	90	23.4%	Marked anaemia
10- 11 g/dl	198	51.6%	Early anaemia
<11 g/dl	96	25%	Normal
Total	384	100%	-

**Table (2): Distribution of pregnant women attending ANC in Elobeid City according to the knowledge about the sources of iron - December, 2019**

The knowledge of women about the sources of iron	Frequency	Percent
Have knowledge	102	26.6%
Have no Knowledge	282	73.4%
Total	384	100%

**Table (3): Distribution of pregnant women attending ANC in Elobeid City according to the sources of iron known to the pregnant women - December, 2019**

Sources of iron known to the pregnant women	Frequency	Percent
Meats	22	21.5
Dairy products	53	52
Vegetables	25	24.5
They are all true	2	2
Total	102	100%



**Table (4): The relation between presence of anemia and the Knowledge about the sources of iron among the pregnant women in Elobied city – December, 2019**

The presence of anemia	The knowledge about the sources of iron		Total
	Yes	No	
Present	77(20.1%)	211 (54.9%)	288 (75%)
Not Present	25(6.5%)	71(18.5%)	96(25%)
Total	102(26.6%)	282(73.4%)	384(100%)

N = 384, McNemar's test ( $X^2$ ) : calculated = 38.2 and tabulated = 3.84 . Significant level = 0.05

**Table(5):Distribution of pregnant women attending ANC in Elobeid according to consulting of the doctor about the type of food needed during the pregnancy period - December, 2019**

Consulting the doctor	Frequency	Percent
Yes	16	4.2
No	368	95.8
Total	384	100%

**Table (6): The relation between the presence of anemia and the consulting the doctor about the food during the pregnancy period:**

The presence of anemia	The consulting the doctor		Total
	Yes	No	
Present	9(2.3%)	279(72.7%)	288(75%)
Not present	7(1.8%)	89(23.2%)	96(25%)
Total	16(4.2%)	368(95.8%)	384(100%)

N = 384 , McNemar's test ( $X^2$ ) : calculated = 67.5 and tabulated = 3.84 . Significant level = 0.05.

## DISCUSSION

Table1 showed that 23.4% of the pregnant women had marked anaemia, and 51.6% of the pregnant women had early anaemia. This means anemia was found in 75% of pregnant women (as 23.4% marked anemia and 51.6% early anemia). This evaluation was according to what mentioned by Park (14): "A hemoglobin level of 10 to 11 g/dl has been defined as early anaemia; a level below 10 g/dl as marked anaemia.

As illustrated in table 2, the women who have knowledge about the sources of iron were 26.6%. Most of them (52%) as illustrated in table 3, they said that the source of iron is dairy products. This indicates that their knowledge about the sources of iron is poor, because the milk is deficient in iron as mentioned by Woldecherkos et al [12]: " Since milk is deficient in iron, an exclusive milk diet may cause anemia due to iron deficiency ".

Also it demonstrated in table 2, there is 73.4% of the pregnant women have no knowledge about the sources of iron, and 54.9% of them were anemic (table 4). The results in table 4 showed that the high percentage (54.9%) of the presence of anemia belongs to the lack of knowledge about the sources of iron. The minimum percentage (20.1%) of the presence of anemia belongs to the knowledge about the sources of iron. Those results confirm that lack of the knowledge about the sources of iron increases the presence of anemia in pregnant women. This results were have statistical significance, because the calculated value of  $X^2$  was larger than the tabulated value ( $38.2 > 3.84$ ) under the significance level 0.05. This results proved that lack of knowledge about the sources of iron contributes to the presence of anemia in pregnant women.

There are 95.8% of the pregnancy women do not consult the doctor about the type of food needed during the pregnancy period (table 5), and the



results of table 6 showed that the high percentage (72.7%) of the presence of anemia belongs to lack of consulting the doctor about the type of food needed during the pregnancy period, the minimum percentage (2.3%) of the presence of anaemia belongs to consulting the doctor about the type of food needed during the pregnancy period. Those results confirm that the consulting the doctor about the type of food needed during the pregnancy period reduces the presence of anemia, and lack of consulting the doctor about the type of food needed during the pregnancy period increases the presence of anemia. These results were statistically significant, because the calculated value of  $X^2$  was larger than the tabulated value ( $67.5 > 3.84$ ) under significance level 0.05.

## CONCLUSION

The study discovered that lack of knowledge about the sources of the iron contributed to the presence of anemia with (54.9%). And lack of nutritional consultation about the types of foods needed during the pregnancy period contributed to the presence of anemia with (72.7%). This study recommended by conducting nutritional education for pregnant women during the pregnancy period.

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# DRINKING THE COFFEE AND THE PRESENCE OF ANEMIA AMONG PREGNANT WOMEN IN EL-OBIED CITY, WEST OF SUDAN

Tahani Ahmed Mahmoud Doudi<sup>1</sup>, Mirghany Elnager Ahmed Ibrahim<sup>2</sup>,  
\*Mohammed Ismail Humaida<sup>3</sup>

<sup>1</sup>Ministry of Health, North Kordofan State, Sudan

<sup>2</sup>Department of Food Hygiene & Safety, Faculty of Public & Environmental Health,  
University of Kordofan, Sudan.

<sup>3</sup>Department of Epidemiology, Faculty of Public & Environmental Health, University of Kordofan,  
Sudan

\*Corresponding Author: Dr. Mohammed Ismail Humaida<sup>3</sup> Department of Public Health, College of Public Health & Health Informatics, University of Hail, Kingdom of Saudi Arabia,

## ABSTRACT

**Background:** This study was conducted at ante natal care clinic (ANC) in the Obstetrics and Gynecology Hospital in Elobied City, West of Sudan, to detect the presence of nutritional anaemia among pregnant women, and to study the relation between the presence of anemia and drinking of the coffee among the pregnant women.

**Methods:** This descriptive cross-sectional study was conducted in the period from 15<sup>th</sup> August to 15<sup>th</sup> September, 2019. Systematic random sampling method was used to select 384 pregnant women. Mothers who attended ANC during the study period and who met the choosing criteria had filled the questionnaire and a blood samples were taken from the target group and analyzed in the laboratory to detect the presence of anemia according to the level of hemoglobin. The data of questionnaire were analyzed by SPSS and the results presented in tables and figures showing the percent ages. To find the relations between the presence of anaemia and some variables, the Chi-square test (McNemar's test) was used.

**Results:** Most pregnant women (75%) were have anemia. Most pregnant women (52.1%) were drink the coffee directly after eating.

**Conclusion:** The study discovered that drinking of the coffee directly after eating contributed to the anemia with 40.1%. This study recommended the pregnant women to stop the drinking of the coffee directly after eating.

**KEY WORDS:** Coffee, Anemia, Pregnant Women, El-Obied

## INTRODUCTION

Anaemia, defined as a decreased concentration of blood hemoglobin, is one of the most common nutritional deficiency diseases observed globally and affects more than a quarter of the world's population [1]. Anaemia is a major cause of morbidity and mortality of pregnant women and increases the risks of foetal, neonatal and infant mortality [2]. Anaemia during pregnancy contributes to 20% of all maternal deaths [3]. Iron deficiency is

the cause of 75% of anaemia cases during pregnancy [4]

According to UNICEF [5] the causes of iron deficiency are: too little iron in the diet, poor absorption of iron by the body, and loss of blood (including from heavy menstrual bleeding). It is also caused by lead poisoning in children. Nutritional Anaemia develops slowly after the normal stores of iron have been depleted in the body and in the bone marrow. Women, in general, have smaller stores of iron than men and have increased loss through





menstruation, placing them at higher risk for nutritional anaemia. High-risk groups include: women of child-bearing age who have blood loss through menstruation; pregnant or lactating women who have an increased requirement for iron; infants, children, and adolescents in rapid growth phases; and people with a poor dietary intake of iron through a diet of little or no meat or eggs for several years.

### Inhibitors of iron Absorption

Absorption of non-heme iron is inhibited by phytic acid (inositol hexaphosphate and inositol pentaphosphate) in grains and cereals and by polyphenols in some vegetables, coffee, tea, and wine. These inhibitors chelate non-heme iron so it is not available for uptake. [6].

Polyphenolic compounds is a large heterogeneous group of molecules which exist in colored varieties of cereals, legumes, fruits and berries, and as well in wine, tea, coffee and cocoa. Some of the more than 5000 known polyphenolic structures are potent inhibitors of iron absorption [7].

The majority of phenolic compounds are of plant origin, and they are mainly found in the leaves, stems and flowers. They are reactive substances and form iron-phenolic complexes in the intestine thereby making the iron less available for absorption. Tannins are large polyphenols, which can precipitate proteins. A number of foods such as coffee, tea, beans, spinach and aubergine contain such phenolic compounds [8]. Taking the tea or coffee after the meal directly reduce the absorption of iron [9].

### Sources of iron

Non-vegetarian dietary sources of iron are red meat, fish, liver, and egg yolks; vegetarian sources include, lentils and beans, whole grains and products made from these foods [5].

**Objectives:** To detect the presence of nutritional anaemia among pregnant women. To study the relation between the presence of anemia and the drinking of the coffee among the pregnant women.

### METHODOLOGY

**Study type and design:** descriptive- cross sectional study.

**StudyArea :** Elobied city, at Obstetrics and Gynecology Hospital which includes the departments ofaccidents, intensive care, laboratory, pharmacy, and referring clinic.

**Study population :** All the pregnant women attending antenatal care clinic (ANC) at Obstetrics and Gynecology Hospital in Elobied city during the study period.

**Inclusion criteria :** Mothers who attended antenatal care clinic (ANC) during the period from 15<sup>th</sup> August to 15<sup>th</sup> September, 2019 and who met the choosing criteria (systemic random sample) had chosen.

### Sampling :

**a / Sample size :**

The sample size was determined according to Le [10] by the following formula:

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

Where:

n is sample size.

z is the value of the standard normal variable corresponding to 95% level of significance (z = 1.96).

P is the prevalence of VL (p = 0.5) and (q = 1 -p) since no prior information exist.

d is a marginal error (d =0.05)

Accordingly, a sample of 384 persons will be obtained.

**b / SampleTechnique :** The systematic random sample was used.

### Data Collection Methods and tools :

In this study a structured pre-coded and close-ended questionnaire was used to collect data . Some health workers was trained to assist in filling the questionnaire.Blood samples were collected in (2.5ml).

### DATA ANALYSIS

The blood samples were analyzed in the laboratory of the hospital by Mindray Haematology Analyser to measure the level of hemoglobin.The cut-off points for the diagnosis of anaemia was according to the hemoglobin level as mentioned by Park [11], where A hemoglobin level of 10 to 11 g/dl has been defined as early anaemia; a level below 10 g/dl as marked anaemia.

The data of questionnaire were analyzed by statistical package for social sciences (SPSS) . The results were presented in figures and tables showing the percentages. The relations between some variables and the infection by anaemia were done according to Al Qassas [12]and Le [10] by McNemar's test ( Chi- square (X<sup>2</sup>) test) for the correlative percentages in the table (2x2) by the formula:

$$X^2 = \frac{(B - C)^2}{B + C}$$

Where:

B and C are cells in the table 2x2 (without the cells of the total) as in the following shape:

A	B
C	D

The value of x<sup>2</sup> obtained from this formula compared with the value of x<sup>2</sup> obtained from the table of x<sup>2</sup> (appendix B). The result have statistical significance when the calculated value is larger than the tabulated



value under significance level (0.05). The null hypothesis is rejected at the 0.05 level when  $X^2 \geq 3.84$ .

**Ethical Considerations:**

Permissions for the study was obtained prior to collect data, by contacting and receiving the approvals from the competent directors in the Obstetrics and Gynecology Hospital, also the participants women in the study had assured with that the data needed from them will be in complete confidence, and used only for scientific research purposes.

**RESULTS**

As illustrated in table 1, anemia was found in 75% of pregnant women (23.4% of them have marked anemia and 51.6% of them have early anemia). Table 2 explained that 52.1% of pregnant women were drinking the coffee after eating (80% of them were drinking the coffee directly after eating the meal as in table 3). Table 4 showed that 40.9% of anemic pregnant women were drinking the coffee directly after eating the meal.

**Table (1): Distribution of pregnant women attending ANC in Elobeid City according to the Level of hemoglobin - December, 2019**

Hemoglobin Level (g/dl)	Frequency	Percentage	Diagnosis of anaemia
5-9.9 g/dl	90	23.4%	Marked anaemia
10- 11 g/dl	198	51.6%	Early anaemia
<11 g/dl	96	25%	Normal
Total	384	100%	-

**Table (2): Distribution of pregnant women attending ANC in Elobeid City according to the drinking to the coffee after the eat - December, 2019**

Drinking the coffee after eating	Frequency	Percent
Yes	200	52.1%
No	184	47.9
Total	384	100%

**Table (3): Distribution of pregnant women according to the period of drinking the coffee after eating the meal - December, 2019**

The period of drinking the coffee after eating the meal	Frequency	Percent
Directly	160	80
Half an hour after eating	5	2.5
Hour after eating	7	3.5
Tow hour after eating	28	14
Total	200	100%

**Table (4): The relation between the presence of anemia and drinking the coffee directly after eating the meal among the pregnant women in Elobied city - December, 2019**

The presence of anemia	The drinking the coffee directly after eating		Total
	Drink	Not drink	
Present	157(40.9%)	131(34.1%)	288(75%)
Not Present	3(0.8%)	93(24.2%)	96(25%)
Total	160(41.7%)	224(58.3%)	384(100%)

N = 384,  $X^2$  (McNemar's test) : calculated = 31.7 and tabulated = 3.84 . Significant level = 0.05.



## DISCUSSION

This study showed that anemia was found in 75% of pregnant women (23.4% of them have marked anemia and 51.6% of them have early anemia as in table 1. This evaluation was according to what mentioned by Park [10]: "A hemoglobin level of 10 to 11 g/dl has been defined as early anaemia; a level below 10 g/dl as marked anaemia".

The factor that contributes to the presence of this anaemia among the pregnant women, was drinking the coffee directly after the meal, where the coffee contains some compounds that affect the iron absorption. This opinion corresponds with what mentioned by WHO [7]: "taking the tea or coffee directly after the meal reduce the absorption of iron. Also this corresponds with what mentioned by Kathryn & et al, (6): "Absorption of non-heme iron is inhibited by ... and by polyphenols in some vegetables, coffee, tea. These inhibitors chelate non-heme iron so it is not available for uptake.

Statistically, the results of table 4 showed that the high percentage (40.9%) of the presence of anemia belongs to drinking of coffee directly after the eating, and the minimum percentage (34.1%) belongs to lack of drinking the coffee directly after the eating. These results proved that the drinking of the coffee directly after the eating increases the presence of anaemia in pregnant women. This result was statistically significant, because the calculated value of  $X^2$  (McNemar's test) was larger than the tabulated value (31.7 > 3.84) under the significance level 0.05.

## CONCLUSION

The study discovered that drinking of the coffee directly after eating contributed to the anemia with 40.9%. This study recommended the pregnant women to stop the drinking of the coffee directly after eating to enhance the absorption of iron from the nutritional meal.

**Acknowledgement:** First, we are grateful to the God who succeeded us to do this work. We are grateful to everyone who helped me to do this study in any step.

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## MODERN INTENSIVE METHODS OF LEARNING FOREIGN LANGUAGES

**Ibragimova Feruza Holboyevna**

*Senior teacher, Doctor of Philosophy (PhD), Department of Intensive Teaching of Foreign Languages, Tashkent State Pedagogical University named after Nizami, Tashkent city, Republic of Uzbekistan*

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### ABSTRACT

*In the past few decades, the attitude towards the study of foreign languages has changed. Now it is difficult to find a person who would not feel the need to learn foreign languages. Previously, people simply did not understand how knowledge of another language can change their lives, expand their horizons and change their worldview. This article reveals methods of intensive language teaching as the most successful.*

**KEYWORDS:** *method, language, learning, English, online, learning.*

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### DISCUSSION

The study of a foreign language in the modern world is one of the important components of the moments in the life of a modern, successful person. Knowledge of a foreign language is not only desirable, it is necessary. Today there are more and more people who want to know a foreign language, because this knowledge gives them new opportunities and makes their spiritual world richer. Ideally, an educated, ambitious person should be fluent in several foreign languages, constantly polish and improve them, because learning foreign languages is not at all a boring process. This is a creative, exciting activity that develops the worldview, allows you to improve logical thinking, the ability to express your thoughts concisely and clearly [4].

The process of high-quality study of a foreign language should be interesting, exciting, include various forms of acquiring knowledge and skills.

Currently, there are many ways and methods of mastering English available, and one of these methods is online. This method is the most acceptable for a modern person, since it makes it possible to independently choose a time and place for learning, the only necessary things are Internet access and a computer. Everyone knows that when learning, for the greatest achievement of the result, it is necessary to use visual, motor and auditory types of memory in the complex. Visual and motor memory is responsible for acquiring skills like reading and spelling. Auditory memory is responsible for speech

perception and understanding. Motor memory is responsible for developing communication and pronunciation skills.

To obtain a greater effect when learning a language, it is recommended to place the greatest emphasis on the type of memory that is more suitable, but you cannot give up the complex. Online learning now allows not only to apply methods affecting all types of memory, but also to approach the student individually, creating an emphasis on various types of memory [2, p. 357]. In the process of studying business English, you should pay attention to the fact that each specific specialty, industry, focus has its own specifics. Take, for example, a sales manager and a medical professional, their business vocabulary will be diametrically different, and in some cases, some of the same expressions and words have dissimilar meanings. It is also necessary to understand that mastering business English requires knowledge in a certain area. But you need to understand that studying business English will give the student a set of basic words and phrases, you will have to learn all the subtleties on your own. In the modern world, there are a large number of methods and ways to learn the necessary foreign languages online:

Learning vocabulary from an online textbook involves independent study. This course is usually divided into lessons, which consist of theoretical information and rule-based exercises. There are usually links to the exercises with the correct answers.



Video lessons develop listening comprehension, grammar, pronunciation, and also replenish vocabulary. Thematic dictionaries of the English language, where, for convenience, the vocabulary is divided by topic and it is possible to find words on a topic of interest. Topics in English are used for independent work on the development of speech and pronunciation, as well as preparation for lessons or exams.

Communication with native speakers is an excellent method for those who already have minimal knowledge, serves to improve their knowledge and consists in communicating with foreigners on free English-speaking dating sites, as well as practicing with a native speaker repeater online using the Skype "Or" Zoom ". Almost all known methods of mastering a foreign language are used to teach beginners, but some of them are more successful, others less, since some approaches already require a skill. In its "pure" form, one or another technique is usually not used, but several are combined.

Grammar-translation method. This method of teaching English includes learning the language by mastering grammar, reading and translating texts. First of all, example sentences are selected for rules and schemes, then they move on to larger texts, which, as a rule, are translated initially from English into Russian, then from Russian into English. This method is suitable for the initial study of the rules for constructing sentences, word order. [2, p. 355-357].

The audio-linguistic method consists in repeating the phrases said by the teacher or reproduced from the device. Then the student not only repeats, but also adds his sentences to the story. The advantage of the method is that the student acquires the practice of pronunciation, the disadvantage is in copying someone else's style and accent. The method of silence excludes the "speaking" of the teacher in the classroom. Initially, all communications with students are carried out using special plates indicating the sounds of English speech. The technique is useful in that the student independently learns pronunciation, and this is especially important in learning English from scratch.

The method of physical response is interesting in that during the first lessons the student is not required to react to the words or tasks of the teacher, the student only listens and reads the texts. Then the teacher begins to teach actions (for example, gives the task to "get up" or "walk", of course, in English, and the group follows his commands). Only after the study of physical reactions begins the language practice of communicating with the teacher or teaching colleagues. This method is also useful for the initial level of study, as it contributes not only to perception, but also to deep assimilation of the material. [2, p. 353-354].

The immersion method is considered one of the most effective ways to start learning a foreign

language in adulthood. Students seem to be "immersed" in the world of what they are studying - the whole group speaks only English with each other and the teacher. This helps students relax and feel free to communicate.

In addition, there are two so-called "methodological paradigms" of teaching foreign languages, the components of which are often diametrically opposed. These parts or parts of these parts are erroneously called "methods" or "techniques", individually they do not form a whole:

The academic paradigm is characterized by: adherence to the language norm; intolerance to mistakes, their widespread correction; limiting variability; restriction of barbarism; encouraging neologisms / terms; transfer teaching method; imitative-structural assimilation of the material. The naturalistic paradigm is characterized by: adherence to the speech norm; tolerance for mistakes; encouraging variability; encouragement of barbarism; intolerance to neologisms / terms; direct communicative teaching method; imitative-functional or cognitive-functional assimilation of the material. [1, p. 21].

However, if the teacher and students do not share the same working language, then the direct communication method is the only possible way of teaching. Everything is used for explanations: pictures, diagrams, gestures, etc., and at first glance it seems funny and easy, but it only seems ... Of course, a well-implemented translation method gives faster progress, motivation, and, as a result, better knowledge than uninterrupted. Even in a linguistic environment, the direct communicative method is inferior to the translated or mixed one.

The advantages of electronic textbooks are: firstly, their mobility, secondly, the availability of communication with the development of computer networks, and thirdly, the adequacy of the level of development of modern scientific knowledge. On the other hand, the creation of electronic textbooks also contributes to the solution of such a problem as the constant updating of information material. In addition, knowledge control is carried out with the help of electronic textbooks - computer testing. [1, p. 9].

The electronic dictionary combines the functions of searching for information of interest, demonstrating language patterns and makes it possible to master educational material using a special system of exercises. All modern electronic dictionaries use the audio tools of multimedia personal computers to reproduce pronunciation [5].

It can be concluded that practically all known methods of mastering a foreign language are used for teaching beginners, but some of them are more successful, others less, since some approaches already require a skill. In its "pure" form, one or another technique is usually not used, but several are combined. The use of computer programs opens up





new opportunities in teaching English, because using them in English lessons, the teacher is faced with new forms and methods of teaching.

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## SOCIAL AND PSYCHOLOGICAL SITUATIONS OF EMPLOYMENT MANAGEMENT

Bobur Abdullaev<sup>1</sup>, Gulbonu Kuvatova<sup>2</sup>, Javlon Abdulazizov<sup>3</sup>

<sup>1</sup>Lecturer, National University of Uzbekistan, Tashkent, Uzbekistan

<sup>2</sup>Student, National University of Uzbekistan, Tashkent, Uzbekistan

<sup>3</sup>Student, National University of Uzbekistan, Tashkent, Uzbekistan

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### ABSTRACT

*This article analyzes a person's career orientation based on his or her personality traits. That is, a person's choice of profession and work based on his temperament, which can lead to success or failure.*

**KEYWORDS:** *Occupational psychology, professional orientation, dynamics of activity, professionalism, normative professionalism, super professionalism, adept.*

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### INTRODUCTION

There are such professions, which make special demands on a person's personality, his characteristics and behavior. In these situations, psycho-diagnostics are the vital necessities in choosing a career and preparing a person for work.

The history of the use of psychological methods in the selection of a particular profession or in the selection of well-known professionals goes back to ancient times. As early as the middle of the third millennium BCE, ancient Babylonian calligraphers were examined and tested.

Professionally trained calligraphers were one of the central figures of the Mesopotamian civilization.

### THE MAIN RESULTS AND FINDINGS

In ancient Egypt, the art of riding was taught only to those who could pass the tests known. The ancient Greek philosopher Pythagoras also underwent a similar test. According to sources, Pythagoras later returned to Greece and opened a school where he was accepted only if he passed the tests.

Historical sources emphasize that Pythagoras paid special attention to the role of intellectual abilities, and therefore paid great attention to the diagnosis of these abilities. Pythagoras, in particular, paid special attention to the laughter and gait of young people, emphasizing that the habit of laughter is the best indicator of human nature.

He pays close attention to the recommendations of parents and teachers, monitors each new student, especially the ability of students to express their opinions independently and not to be ashamed, to have a comfortable discussion with their interlocutors.

In prehistoric times, ancient China also had a system for testing the abilities of those who claimed to hold public office. Every three years, officials were re-examined in person by the emperor.

For the state, it is important to select people who are sufficiently capable of the system of examinations, who have in-depth knowledge in all areas, especially those who are able to work in government.

A brief historical tour allows you to see the testing of individual abilities as a part of the social life of different peoples. In recent years, the problem of combining theoretical constructions with empirical results in psychology has become widely understood. For this, it was necessary to develop the necessary methods. Tests are now the most developed part of the methodological arsenal. This notion of tests is gaining ground in the scientific literature.

Scholars point to the end of the 19th century as the beginning of the scientific stage of personnel selection. During this period, F. Galton conducted a public study of 17 anthropometric, medical, and psychological indicators in more than 10,000 people who came to the international exhibition in London



(3). The data show that the differences between people, even if they are the same age, are very large.

At the beginning of the twentieth century, the German psychologist G. Munsternberg was one of the first to develop and use psychological tests to determine the professional abilities of people, thereby paving the way for great research in the field of professional choice. Munsternberg highlights three main problems:

- 1) Selection of suitable people through professional selection and professional counseling;
- 2) Increase of labor productivity;
- 3) Achieving the necessary psychological results.

According to K. Platonov, the main features of the activity are understood and purposeful (1). From the point of view of GV Sukhodolsky, the basic conceptual apparatus of activity includes: - "subject of activity"; - "morphology of activity"; - "motivation and function of activity"; - "dynamics of activity"; - "diversity of activities".

According to the author, activity as a general psychological category has a hierarchical level. It includes types, classes, class structures, fields (occupation), specialties, subject (specialization). It follows that each professional activity is a class of labor activity, designed to achieve a set of goals, and has certain characteristics and numerical characteristics.

According to GM Bogoslovsky's research, "from the point of view of a particular person, a profession is an activity through which a person participates in the life of society and is the main source of material means of subsistence. (1)

The concept of "profession", described by EA Klimov, has a more complete character. Profession is: - such a field in which a person performs his functions as a subject of labor; - a group of people performing certain types of work duties; human training (knowledge, skills, abilities), due to which a person is able to perform certain types of work functions; - the process of activity, professional work, for example, the implementation of the functions performed by labor and profession (4).

Any analysis of professional activity requires the use of the category of professionalism. AK Markova points out several aspects of the discussion of professionalism (6). The first is "normative professionalism", which is considered as a set of personality traits that are necessary for the successful performance of work.

In other words, as a concept of professionalism, mental qualities reflect the characteristics of the subject of labor, which has the necessary set of norms. Finally, professionalism is understood as the quality of performance of normative functions when the subject of labor deserves high marks.

AK Markova distinguishes between two aspects of personal professionalism and groups of seven

criteria, specific stages and stages, as well as five levels of professionalism, the internal interdependence of which is conditioned as an objective process of professional activity. These levels are:

- degree of professionalism;
- professionalism;
- super professionalism;
- non-professional or fake professionalism;
- post-professionalism degree (6).

In the later stages of professionalism, the specialist acquires an individual character of activity and is socially and professionally recognized, corresponding to the individual's desire to self-realize, to achieve a professional "akme". A person who has opened his professional capacity, even at retirement age, will have the opportunity to realize the remarkable professional and personal potential accumulated in various forms of activity in the post-professional stage (consultation, participation in consultations, training, etc.).

The breadth of the analysis of individual forms of adaptation to professional activity and the psychological aspect of the phenomenon of professional non-professionalism are professional mal-adaptation, personal deformation or "burning", as well as certain shortcomings in the process of continuing professional education.

EA Klimov's research includes the concepts of "optant", "adapter", "adaptant", "intern", "master", "reputation", "coach", based on the interdependence of human development and the process of his professionalization (4).

Directly related to the category of professionalism is the set of mental qualities, the mental state that allows to act independently and responsibly, the concept of professional competence, defined as "the ability to perform certain human functions" (1.13).

Therefore, the adoption of such a level of personal training will ensure a high level of individual-personal compatibility, based on known research (7,19), the ability of the subject of labor to act independently and responsibly, to act professionally and responsibly. We describe it as a set of mental qualities, mental state, which allows to have the ability and skills to perform work tasks.

Analysis of any professional activity is built taking into account the known requirements formed in the methodology of activity research.

## CONCLUSION

The issues of training and selection of personnel in management have historical roots, and this problem has always been relevant and important.

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## ANTAGONISTIC INTERACTIONS OF SOIL SAPROPHYTE BACTERIA WITH PATHOGENS OF COTTON DISEASES

Gulasal SULAYMONOVA <sup>1</sup>, Rano SATTAROVA <sup>2</sup>,  
Nigora XAKIMOVA <sup>3</sup>, Sardorjon AVAZOV <sup>4</sup>

<sup>1</sup>Assistant, Tashkent state agrarian university

<sup>2</sup>Professor, Tashkent state agrarian university

<sup>3</sup>Professor, Tashkent state agrarian university

<sup>4</sup>Professor, Tashkent state agrarian university

Tashkent, Uzbekistan

### ABSTRACT

*In the paper are discussed questions of the research to find new antagonistic microbes. The results obtained on the action of the investigated 5 microorganisms-antagonists (Bacillus megaterium, Bacillus brevis, Streptomyces sp Pseudomonas fluorescens, Bacillus thurengensis) to seven species of phytopathogenic microorganisms (Fusarium oxysporium, ) are presented in the article.*

*On the basis of the received data the conclusion has been drawn that the revealed kinds to some extent possess defined, but the yielded strains in a kind of weak virulence cannot be applied in the practical purposes.*

**KEYWORDS:** cotton diseases, antagonistic microbes, damages, pathogen, Bacillus megaterium, Pseudomonas fluorescens.

### INTRODUCTION

To date, a large amount of factual material has been accumulated, indicating the promising use of antagonist microbes in the fight against pathogens and plant diseases [2].

In this regard, research on the search for new antagonist microbes used in this direction is acquiring even greater relevance.

To study antagonists to 7 types of pathogens of cotton, grain and berry crops, we used five strains of soil, saprophytic bacteria from the collection of museum cultures of the Institute of Microbiology [3]. The study of the antagonistic effect of

microorganisms on phytopathogenic bacteria was carried out according to the Cooksey Moore method. The investigated microorganisms were grown on glucose agar, and the test cultures on potato agar. The size of the zone of inhibition of the growth of phytopathogenic bacteria was determined after 48 hours [1]. The results obtained on the action of the investigated 5 microorganisms-antagonists (Bacillus megaterium, Bacillus brevis, Streptomyces sp Pseudomonas fluorescens, Bacillus thurengensis) to seven species of phytopathogenic microorganisms (Fusarium oxysporium) are presented in the table.





**Table 1**  
**Antagonistic spectrum of the studied microorganisms**

The investigated microorganisms - antagonists	Phytopathogenic microorganisms					
	Fusarium oxysporium		Rhizoctonia solani		Xanthomonas malvacearum	
	C	Z	C	Z	C	Z
1. Bacillus megaterium	7	12	8	13	10	26
2. Bacillus brevis	-	-	-	-	-	-
3. Streptomyces sp	5	8	6	12	9	16
4. Pseudomonas fluorescens	10	18	12	18	10	30
5. Bacillus thurengensis	6	12	10	16	16	20

C - colony diameter in mm

Z - diameter of the zone of no growth in mm

The table shows that the cultures of Pseudomonas fluorescens and Bacillus megaterium showed the best bactericidal effect against Xanthomonas malvacearum and Fusarium oxysporium and Rhizoctonia solani. An insignificant bactericidal effect was shown by the culture of Streptomyces sp to all pathogens causing diseases of cotton seedlings.

Bacillus megaterium and Pseudomonas fluorescens have shown good antibacterial properties against 3 types of phytopathogenic microorganisms. These cultures had a pronounced antagonism; the diameter of the zone of no growth in these cultures corresponded to 12, 13, 26, 16 and 20 mm. (Table. 1)

All studied antagonists did not show antibacterial properties to all investigated phytopathogenic microorganisms in the Bacillus brevis strain, however, it should be noted that the Pseudomonas fluorescens strain has good antibacterial properties, since it showed a broader spectrum of action in this variant.

Thus, the study of the antimicrobial action of the studied microorganisms on phytopathogenic microorganisms showed that all 4 strains showed an antimicrobial spectrum to phytopathogenic microorganisms in terms of the spectrum of action and their antibiotic activity was different.

Based on the data obtained, it can be concluded that antagonism in the studied bacteria in relation to phytopathogenic microorganisms was observed in some cases actively, in others weakly. In this regard, we have selected the most active antagonist bacteria (Bacillus megaterium and Pseudomonas fluorescens) for further research.

Data on the antibiotic activity of microorganisms indicate the possibility of using some of them to limit the infection caused by phytopathogenic microorganisms and to develop biological methods for combating plant diseases.

## CONCLUSIONS

1. The phenomenon of antagonism to phytopathogenic microorganisms was manifested not alone in all studied antagonist bacteria.
2. The highest antibiotic activity and a wide spectrum of action against the studied phytopathogens was found in the Bacillus megaterium and Pseudomonas fluorescens strains.
3. Bacillus megaterium and Pseudomonas fluorescens are the most active antagonists, which may later be used to develop biological methods for beavers with diseases of cotton seedlings.

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## ANALYSIS AND SEED INFECTION OF VARIETIES OF DILL

Lola BABAJANOVA<sup>1</sup>, Yorkinoy MIRZAAKBAROVA<sup>2</sup>,  
Rano SATTAROVA<sup>3</sup>, Sardorjon AVAZOV<sup>4</sup>

<sup>1</sup>Researcher

<sup>2</sup>Master's student, Tashkent state agrarian university

<sup>3</sup>Professor, Tashkent state agrarian university

<sup>4</sup>Professor, Tashkent state agrarian university

Tashkent, Uzbekistan

### INTRODUCTION

Currently, there is a need to develop economically and technologically methods to increase the yield of green crops. High quality seeds are one of the main conditions for obtaining high and sustainable yields of green crops, in particular dill.

Dill is an annual plant known since ancient times. Its greens and seeds have long been used as a spice in the countries of southeastern Europe and Asia. The homeland of dill is the Near and Middle East. Dill is a long-day plant. In conditions of a long day, staking of dill occurs 32-40 days after germination. At the same time, 3-4 days with long-term lighting are enough for him. In a short day (up to 10 hours). Plant stemming is greatly delayed [4,10,13].

The optimum temperature for germination of dill seeds is +20 .. +260C [12,13].

Dill yield depends on the variety, sowing time, conditions and growing method. In the open field, the yield of early-ripening varieties of dill reaches 14-16 t / ha (9, 12) of late-ripening varieties of 20-50 t / ha [10,11].

The optimum temperature for germination of dill seeds is +20 .. +260C. Temperature +280C ... +320C causes a decrease in seed germination [5,13].

Dill seeds, rich in proteins, carbohydrates and minerals, represent a good nutrient substrate for the life and preservation of pathogenic microorganisms. Seeds can spread many diseases that worsen the quality and reduce the yield of dill. In order to prevent plant diseases in the field, it is

necessary first of all to investigate seeds as one of the primary sources of many diseases [10, 11].

Correct determination of the cause of the disease is the first stage in the fight against it. To diagnose contamination of dill seeds, it is necessary to know which pathogens are transmitted by seeds [3,6].

In this regard, the purpose of our work was to determine the seed infection of dill in varieties Orom, Anet, Alligator and Kharkovskaya 85. We studied the following questions: 1. Germination energy of dill seeds (germination). 2. Length of seedlings on starved agar and nutrient media. 3. Determination of external and internal infection.

### RESEARCH METHODS

To accelerate seed germination, they are washed in warm water for a day. Then they are poured onto a damp cloth and kept at +20 .. +250C. In such conditions, the plants will sprout 2-3 days after sowing.

The germination energy of dill seeds was studied by germinating seeds in a humid chamber. Petri dishes were used as a humid chamber. The bottom of the Petri dish is lined with filter paper. The paper is folded in two layers, cutting out a circle to match the surface of the bottom of the cup. The cups are sterilized. Before spreading the seeds, the paper is moistened with sterile water. Water is taken in such an amount that the paper is wetted, but there is no excess water on the surface.



Seed placement should be carried out under conditions that ensure maximum sterility. The length of seedlings was studied on seedlings obtained in a humid chamber on starvation agar and on nutrient media. Potato and Chapek were used for the work.

Sprouted seeds are examined under a microscope. When studying the internal infection, cotton seeds were placed in 960 alcohol for 1 minute, and then dried on filter paper and the outer skin of the cotton seed was removed, and then they were laid out in humid chambers and on nutrient media.

The study of the germination of cotton seeds was carried out in a humid chamber. The experiment was repeated 4 times. Each replication contained 10 seeds. The germination of seeds was monitored for 10 days.

### RESEARCH RESULTS

It can be seen from the results of the studies that the highest germination rate was manifested in the Orom variety, the germination rate reached 90%, and the lowest in the Kharkovskaya 77 variety, it was 57.5%, in the Alligator and Anet varieties, the germination energy varied from 65 to 70%.

The length of seedlings of dill seeds was studied by germinating seeds in a humid chamber, on starved agar and on Chapek's medium and potato agar. The repetition of the experiment is multiple.

The results of the studies are shown in Tables 2,3, and 4. The results of the analysis for each replication are summarized and the average percentage is displayed. The results of studying the length of the seedling in a humid chamber are presented in Table 2.

The table shows that the longest seedlings on the 15th day were in the Orom variety, and the smallest seedlings were found in the Kharkovskaya variety.

The study of the length of the seedlings grown on hungry agar showed that the greatest length of the seedling was manifested in the Orom variety (3.5 cm), and then I go to the Anet, Kharkovskaya and Alligator varieties (2.4; 2.2; and 2 cm) Tab. 3

Table 4 shows the results of germination of dill seeds on Chapek nutrient media and potato agar. The data in the table indicate that the seedling length on potato agar is longer than on Chapek. So in the Orom variety on the 15th day on Chapek's medium, the seedling length was 2.8 cm and on potato 3.6 cm.

**Seed germination of various varieties of dill.**

**Table 1**

Varieties	Number of seeds per experiment	Number of germinated seeds					%
		3	5	7	10	15	
Orom	40	11	18	26	30	36	90
Anet	40	9	12	21	26	26	65
Alligator	40	6	9	18	25	28	70
Kharkovskaya 77	40	3	5	16	20	23	57,5

In the Anet variety on Chapek's medium, the seedling length on the 15th day was 2.6 cm, and on potato agar 3.0 cm. A similar pattern was manifested in other varieties. A low pattern on potato agar was manifested in the Kharkovskaya variety, and on Chapek's medium in the Alligator variety.

Thus, on the basis of the research carried out, it was found that the highest germination energy was found in the Orom variety, and the lowest in the Kharkovskaya variety. the study of the epiphytic mycoflora of seeds showed that on the surface.

In the Anet variety, fungi of the genus *Aspergillus*, bacteria, *Fusarium*, actinomycetes were identified. The Alligator variety has fungi of the genus *Rhizopus*, *Cladosporium*, *Mucor*, *Penicillium*.

Fungi of the genus *Fusarium*, *Mucor*, *Rhizoctonia*, *Alternaria*, actinomycetes and bacteria were identified in the Kharkovskaya variety.

The study of the epiphytic mycoflora of seeds showed that in the Orom variety, mainly fungi of the genus *Aspergillus*, *Fusarium*, *Mucor*, *Penicillium*, *Alternaria* were identified.



The length of the seedlings of various varieties of dill in a humid chamber.

Table 2

varieties	Seedling length cm				
	3	5	7	10	15
Orom	1,2	1,6	2,00	2,3	3,2
Anet	1,00	1,2	1,00	1,9	2,3
Alligator	1,2	1,4	1,8	2,1	2,5
Kharkovskaya 77	00	0,5	0,7	1,2	1,6

The length of the seedlings of the studied varieties of dill on nutrient media.

Table 3

Varieties	The length of sprouts Chapek day					Potato agar day				
	3	5	7	10	15	3	5	7	10	15
Orom	1,5	1,9	2,2	2,6	2,8	1,8	2,00	2,4	2,8	3,6
Anet	0,8	1,2	1,6	2,00	2,6	1,2	1,6	1,9	2,4	3,0
Alligator	1,00	1,4	1,7	2,00	2,2	1,4	1,8	2,00	2,2	2,8
Kharkovskaya 77	0,5	1,00	1,3	1,6	2,4	1,2	1,6	2,00	2,3	2,6

The length of the seedlings of various varieties of dill on starved agar.

Table 4

Varieties	Seedling length (cm) day				
	3	5	7	10	15
Orom	1,3	1,7	2,0	2,4	3,3
Anet	0,9	1,6	1,8	2,00	2,4
Alligator	1,2	1,4	1,6	1,8	2,2
Kharkovskaya 77	0,5	1,00	1,3	1,6	2,00

Fungi of the genus *Mucor*, *Rhizoctonia*, *Penicillium*, *Fusarium*, *Aspergillus*, *Alternaria* and bacteria are formed in all studied varieties.

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# ISSUES OF JUDICIAL CONTROL OVER THE LEGALITY OF DOCUMENTS OF LOCAL GOVERNMENT BODIES IN FOREIGN COUNTRIES

**Toshov Ikromjon Murodiloevich**

Academy of Public Administration under the President of the Republic of Uzbekistan Master's student, Judge of Bukhara Regional Court

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## ANNOTATION

*Local self-government bodies operate on the territory of the state, in accordance with its legislation – therefore, state control over their functioning is natural.*

*The article analyzes the institute of judicial control over the activities of local self-government bodies in the leading countries of the world on the basis of the legislation of foreign countries and scientific literature. It is concluded that various variants of judicial control are used in foreign countries.*

**KEYWORDS:** *body, justice, self-government, court, control, supervision, jurisdiction, municipal control, foreign experience, Supervisory activity.*

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## INTRODUCTION

The exercise of State control depends on the municipal system that exists in the country. For example, if a state uses the Romano-German system of local self-government, almost all administrative-territorial units have local government bodies of general competence that represent state power – they are entrusted with the main functions of monitoring the activities of local self-government bodies. If we are talking about countries with the Anglo-American model of local self-government, it is important to remember that local government bodies of general competence are not created in administrative-territorial units there. Thus, state control over the activities of local self-government bodies takes on a more centralized character-it is carried out mainly by the central bodies of state executive power.

Depending on the nature and content of the state control over the activities of local self-government bodies is divided into administrative, judicial and financial. In some States, there are other, additional types of controls. Thus, in the Scandinavian countries, the institution of the Ombudsman has been created specifically for the implementation of State control over the activities of local self-government bodies.

Any administrative control over local self-government bodies may be exercised only in the manner and in the cases provided for by the Constitution or the law.

Any administrative control over the activities of local self-government bodies, as a rule, is aimed

only at ensuring compliance with the rule of law and constitutional principles. However, administrative control may also include the control of expediency, carried out by higher authorities, in relation to the tasks assigned to local self-government bodies.

Administrative control over the activities of local self-government bodies should be carried out in accordance with the proportionality between the degree of intervention of the supervisory authority and the significance of the interests that it intends to protect"

All tribunals and courts should be independent of the executive and legislative authorities, as well as of the parties to the judicial process. This means that neither the judiciary, nor the judges that make up it, can depend on other branches of Government or on the parties to a lawsuit. The courts must also be truly independent, as well as free from any form of influence or pressure from other branches of government or anyone else. The independence of the judiciary must be guaranteed by the Constitution, laws and policies of the country and must be exercised in practice by the executive branch, its organs and representatives, as well as by the legislative branch. The judiciary must have jurisdiction over all matters of a judicial nature and the exclusive right to determine whether a matter submitted to it falls within the scope of its competence defined by law. No inappropriate or improper interference in the judicial process should be allowed. The decisions of the courts may not be subject to review (except for a supervisory procedure), commutation of the sentence or pardon,





except in cases where this is carried out by the competent authorities in accordance with the law.

## REVIEWS

Administrative control includes three main areas of its implementation:

a) Constant monitoring by state authorities and their officials of the activities of local self-government bodies;

b) The possibility of the dissolution of local representative bodies or the removal of elected officials of local self-government;

c) Approval of acts of local self-government bodies on certain issues by state authorities, constant monitoring of municipal acts by state bodies with the possibility of cancellation or suspension of acts that contradict the current legislation.

The measures provided for in paragraph "b" are often accompanied by the implementation of not only administrative, but also judicial control – the court decides on the legal fate of normative legal acts of local self-government bodies.

The judiciary must have jurisdiction over all matters of a judicial nature and the exclusive right to determine whether a matter submitted to it falls within the scope of its competence defined by law. No inappropriate or improper interference in the judicial process should be allowed. The decisions of the courts may not be subject to review (except for a supervisory procedure), commutation of the sentence or pardon, except in cases where this is carried out by the competent authorities in accordance with the law. The judiciary should be independent in terms of the internal structure of the judicial administration, including the distribution of cases among judges within the court to which they belong. The term "judicial independence" has two dimensions: institutional independence and personal independence. Appointments made by the executive branch of government or the election of judges by popular vote undermine the independence of the judiciary. The criteria for appointing persons to judicial positions should be their suitability for the position, based on professionalism, ability, legal knowledge and appropriate training in the field of law. The relevance of the chosen article lies in the fact that the judiciary, as one of the three branches of government, is one of the driving forces of the modern state.

The role of judicial control over the activities of local governments is traditionally higher in the countries of the common law family. In the United States and the United Kingdom, for example, it includes the interpretation of legislation on local self-government (most often questions of the limits of competence), the decision on the application of sanctions to municipal authorities.

Judicial control over the activities of local self-government bodies is typical both for Uzbekistan

and for other countries of the world and is an integral part of state control.

This type of control is carried out by the judicial authorities, in accordance with general constitutional acts, laws on local self-government and legislation on courts.

The right to introduce control over the activities of local self government bodies is established of the European Charter of Local Self Government according to which:

Given that the essential difference between control and supervisory activities is the ability of supervisory authorities to interfere in the operational activities of controlled entities, and for supervisory authorities direct intervention in the activities is impossible, the European Charter of Local Self-Government refers to the control and supervision by the state of local self-government bodies, the procedure for the implementation of which should be regulated by national legislation.

According to the European Charter of Local Self-Government, local self-government bodies should have the right to judicial protection to ensure the free exercise of their powers and compliance with the principles of local self-government enshrined in the Constitution or domestic legislation. Recourse to judicial remedies can be understood as the access of a local authority to a properly constituted court or equivalent, independent and lawful body with the right to make decisions and make recommendations on this decision and on the compliance with the law of any act, omission or other administrative act.

Taking into account that judicial protection of the rights of local self-government, among other things, implies ensuring the legality of the activities of local self-government bodies, we can say that the Charter indirectly establishes judicial control over local self-government bodies and officials.

## DISCUSSION

At the same time, the provisions of the European Charter on Local Self-Government regulating State control in the field of local self-government are primarily aimed at ensuring the independence of local self-government, excluding the possibility of direct interference in its activities. Indeed, the protection of the rights of citizens to exercise local self-government and to participate in it requires the independence of the latter. At the same time, ensuring the continuity and unity of public administration, including information management (which is ensured by control), is necessary from the point of view of protecting the rights, freedoms and legitimate interests of citizens. According to A.I.Cherkasov, who, in turn, agrees with his colleague T. Byrne from the UK, "many functions performed by local authorities are essentially national in nature, and therefore it is necessary to maintain at least some minimum standards for their



implementation.[1]" The German scientist F. L. Knemeier believes that the purpose of state supervision is to ensure the legality of the actions of local governments and " to guarantee the interests of the state as a whole in connection with the special local interests of the communes"[2].

In accordance with the norm of the European Charter of Local Self-Government, the constitutions, constitutional acts and ordinary laws of European States contain provisions on State control over the activities of local self-government bodies. Moreover, as the analysis showed, not all European constitutions have norms on state control over local self-government. In the texts of the constitutions, the guarantees of local self-government, the basis of relations with state authorities, the procedure for organizing local self-government are mandatory, and the possibility of control and supervision of local self-government by the state is indicated. More detailed provisions on State control can be found in national acts of lesser legal force-laws.

For example, according to the provisions of the German Constitution, " ... in the lands, districts and communities, the people must have representation created by universal, direct, free, equal and secret elections. (...) Communities should be given the right to regulate, within the framework of the law, under their own responsibility, all the affairs of the local community. Community unions also enjoy the right of self-government within the limits of their powers and in accordance with the law[3]".

The tasks of local self-government are regulated by federal and land laws. The State delegates some of its functions to the self-government bodies. The Federation and the Lander are thus not the only subjects of State administration. Communities and districts perform the functions assigned to them either as institutions of self-government, or on behalf of the state and by order of a state body within the framework of the functions delegated to them[4].

As you can see, the text of the German Constitution does not say that state control is established over local self-government bodies. This does not mean that there is no such control - it is carried out in accordance with the constitutions and laws of the lands on their territory.

Jurgen Harbich, Doctor of Law, notes:"In order to guarantee the subordination of municipalities to the norms of law, state supervision of municipalities has been established in the Federal Republic of Germany. The federal States independently regulate the details of such supervision in their local government laws. The municipal law of Germany is not a problem of the state center, but is the sphere of competence of the federal states. However, the main directions of municipal supervision in Germany are nevertheless quite unambiguous and unified.

The Federal Constitutional Court, in its decision of January 23, 1957 (FCC 6, 104 and further 118), defined municipal supervision as a counterweight to local self-government. Thus, State supervision is the "natural opposite" of the right to self-determination of local communities. From the point of view of the rule of law, it would be unacceptable if the communes took illegal actions and the State did not have the opportunity to intervene. State supervision is a necessity of the rule of law"[5].

Despite the unification of the methods of control over the activities of local self-government bodies in federal states, there are still certain features arising from regional legislation. The practice of controlling local self-government bodies, including judicial ones, is somewhat different in unitary States.

According to article 72 of section XII "On territorial Collectives" of the French Constitution, "The territorial collectives of the Republic are communes, departments, and overseas territories. All other territorial collectives are created by law.

These collectives are freely managed by elected bodies, subject to the conditions provided for by law.

Government representatives in departments and territories are responsible for ensuring national interests, for administrative control and compliance with laws"[6].

According to Law No. 82-213 of 2 March 1982, " Communes, departments and regions are freely governed by elected councils. The laws determine the distribution of competencies between communes, departments, regions and the state, as well as the distribution of public funds, which follows from the new rules of the local tax system and the transfer of state loans to territorial communities.; the organization of the regions, the statutory guarantees provided to the staff of the territorial communities, the method of election and the charter of the elected representatives, as well as the forms of cooperation between the communes, departments and regions and the development of citizens' participation in local life."

To date, French legislation fully regulates all issues related to the organization and activities of local self-government at all levels of administrative and territorial structure. All these laws are combined in the Administrative Code, which is actually the " constitution " of local self-government in France[7].

According to the laws adopted in the 1980s, " the regions became full-fledged local administrative-territorial entities, governed by councils elected at elections. Executive power in the departments and regions was transferred from the appointed representative of the state to the elected chairman of the consultative assembly (assembly). Permanent administrative control over the acts of the assemblies was replaced by subsequent judicial control over the



legality of the acts adopted. However, important acts adopted by local assemblies become binding only if they have been published and handed over to a representative of the State, who has the right to challenge them in an administrative court within two months." [8]

In Germany and France, there was a model of local self-government, which in the literature was called Romano-Germanic. It is characterized by strict administrative control over the activities of local self-government bodies by the State, which in terms of judicial control is implemented through administrative courts and administrative tribunals (quasi-judicial bodies).

Systems of judicial control over the activities of public authorities in the scientific literature are called "systems of jurisdictional control". "Specific systems of jurisdictional control in modern states provide different solutions to the question of the nature of the judicial bodies that should perform the task of judicial control of administrative acts. The classification of these systems can be made on various grounds. Depending on which bodies exercise jurisdiction in cases arising from administrative-legal relations-general courts or special administrative courts, we can conditionally distinguish two extremely general systems of jurisdictional control:

The system of unified jurisdiction of the general courts, characterized by the following main features: a) control over the acts of administrative bodies is carried out by the general courts; b) there is no coherent system of administrative courts headed by the highest administrative court (Great Britain, USA, Australia, New Zealand, Denmark, Norway, etc.);

A system of multiple jurisdictions, the distinctive features of which are: a) the existence of a system of administrative courts of General and special jurisdiction; b) the smallest category of administrative disputes are also within its scope of competence of the General courts (France, Germany, Italy, Sweden, Greece, Turkey, etc.)"[9].

Accordingly, a system of multiple jurisdiction of the characteristic times for the countries of the Romano-Germanic of local government.

The Anglo-Saxon model is characterized by the control of local self-government bodies by the general courts.

The Anglo-Saxon model assumes a variety of ways of organizing local government, which is most clearly manifested in the United Kingdom, which historically has several levels of local government: from county councils to parish councils and rural island councils.

At each of these levels, there is a judicial body whose competence includes resolving issues of compliance of decisions and actions of local self-government bodies with the law. "In the UK, a

significant addition to administrative supervision is judicial control over the compliance of decisions of municipal authorities with acts of central authorities. It is usually carried out by various judicial instances, for example, in England - justices of the peace, county courts, the High Court, the House of Lords, and municipal acts can be challenged in court not only on the initiative of private individuals, but also by public authorities"[10].

An interesting fact is that " the UK legislation establishes the legal status of a municipality as a corporation, ensures the autonomy of local authorities, and establishes the legal basis for the activities of government departments to monitor the work of local self-government bodies. Municipalities may only perform actions that are expressly prescribed by law. Otherwise, the acts of the local authorities may be declared invalid by the court"[11].

In the United States, there is a variation of the Anglo-Saxon model of local government, which is characterized by a variety of forms of local government in different states. The state control over local self-government bodies is also diverse, a variety of which is judicial control.

The courts have a significant influence on the practice of organizing and implementing local self-government in the countries of the Anglo-Saxon legal family. "Judicial precedent in municipal cases in the United States, Great Britain, Canada, and some other countries is interpreted as one of the main sources of municipal law"[12].

It can be argued that the judicial authorities in foreign countries exercise subsequent external control over the actions of government bodies, including local self-government bodies. Judicial response to illegal actions of local self-government bodies is expressed in a certain sanction, which is the final assessment of the decision (action) of a particular local self-government body or official.

In addition, the analysis showed that in foreign countries, as in the Russian Federation, judicial control is one of the types of state control over local self-government bodies, due to the subordinate nature of local self-government in relation to the state, as well as the right of the state to control the performance of local self-government bodies of their own powers and powers transferred to local self-government bodies by the state on a temporary basis.

The specifics of the methods and models of organizing judicial control over the activities of local self-government bodies depend on the state's membership in the Romano-Germanic or Anglo-Saxon legal family and, as a result, its membership in the corresponding model of local self-government organization.

Judicial control over local self-government bodies in foreign countries, as well as in the Russian Federation, is one of the functions of the judiciary



related to the administration of justice, and in essence this control is subsequent and external.

## RESULT AND ANALYSIS

The reform of the judicial and legal system was carried out consistently and in stages, in close connection with fundamental changes in the sphere of state and public construction. A new milestone in the development and further development of an independent and effective judicial system was the publication of Presidential Decree No. UP-4966 of 21 February 2017 "On measures to radically improve the structure and increase the efficiency of the judicial system of the Republic of Uzbekistan".

In accordance with the structural changes in the judicial system, the Supreme Economic Court of the Republic of Uzbekistan was merged with the Supreme Court of the Republic of Uzbekistan, which became a single supreme judicial authority in the field of civil, criminal, administrative and economic proceedings.

Administrative courts have been established, which are authorized to consider disputes arising from public legal relations and administrative offenses. Economic courts were renamed economic courts with the creation of inter-district economic courts. At the same time, 71 inter-district (district, city) economic courts have been created, which consider disputes between business entities in the first instance, and the existing economic courts of the regions, the city of Tashkent and the Republic of Karakalpakstan have been transformed into courts of second instance.

The Military Collegium of the Supreme Court has been liquidated, and the judicial collegium for administrative cases of the Supreme Court of the Republic of Uzbekistan has been established. At the same time, the reforms were carried out taking into account the generally recognized norms of international law, as well as the rich historical experience of national statehood, customs and traditions of our people. Justice and transparency of judicial proceedings are currently factors that affect the overall picture of the independence of our country as a whole, which in turn is the driving factor for the recognition of our state by the international community. The Basic Law of the Republic of Uzbekistan declares that the judicial power in the Republic of Uzbekistan operates independently of the legislative and executive authorities, political parties, and other public associations. According to the Law of the Republic of Uzbekistan

"On the courts" justice in the Republic of Uzbekistan is carried out only by the court. The Court is called upon to exercise judicial protection of the rights and freedoms of citizens proclaimed by the Constitution and other laws of the Republic of Uzbekistan, international acts on human rights, the rights and legally protected interests of enterprises,

institutions and organizations. The Court's activities are aimed at ensuring the rule of law, social justice, civil peace and harmony. The independence of the judiciary is guaranteed by the Constitution of the Republic of Uzbekistan: "The judiciary in the Republic of Uzbekistan operates independently of the legislative and executive authorities, political parties, and other public associations. Judges should be independent and subject only to the law. Any interference in the activities of judges in the administration of justice in accordance with the Constitution is unacceptable and entails liability under the law. The inviolability of judges is guaranteed by law.[13]"

Citizens of the Republic of Uzbekistan, foreign citizens and stateless persons have the right to judicial protection from any illegal actions (decisions) of State and other bodies, officials, as well as from attacks on life and health, honor and dignity, personal freedom and property, and other rights and freedoms. President of Uzbekistan Shavkat Mirziyoyev, speaking at a video conference on the state of affairs in the judicial system, proposed to introduce a number of innovations to improve the work of the sphere. In particular, the head of state said that in order to further improve the system of training and advanced training of judges, it is necessary to organize a specialized educational institution in the country - the Academy of Justice. At the meeting, another interesting proposal was put forward - to organize a series of broadcasts on television and in the press, publishing articles on a regular basis under the headings "Judicial Club" and "Under the protection of the court", telling about the life of judges who have earned the respect of the people, as well as promoting good practices in the administration of justice. Also, the President of Uzbekistan Sh. Mirziyoyev put forward a proposal to introduce in the republic the procedure for judges to conduct an open dialogue with the population on the ground at least once a month. Also, in his opinion, it is time to establish the practice of each judge reporting on their activities in the local soviets of people's Deputies. President Sh. M. Mirziyoyev emphasizes: "Now the people themselves will first of all give an assessment of the judges' activities." [14] Now, an innovation among these areas of reform and the expansion of the practice of conducting field court sessions in mahallas, enterprises and organizations aimed at the prevention of offenses has been introduced. Modern technologies play a significant role in this, with the widespread introduction of information and communication technologies into the activities of courts, including electronic shorthand and videoconferencing, and the formation of an interdepartmental system for electronic information exchange to ensure the unconditional execution of court decisions. The liberalization of criminal penalties, which marked the





beginning of an important stage of judicial and legal reforms, had great social and socio-political significance. In this context, it should be noted that the introduction of the institution of reconciliation also served as an important step in the further liberalization and humanization of the criminal punishment system. Reflecting the humanistic nature of our legislation, it serves to shape the law-abiding behavior of citizens based on respect, voluntary and informed compliance with the laws. In order to further enhance the role of the court in ensuring the observance of the constitutional human rights to freedom and personal integrity, the institution of the right to issue a court order for detention has been introduced into the judicial and legal system of the country. The transfer to the courts of the right to issue a pre-trial detention sanction has created an effective mechanism for judicial control over the legality of the use of pre-trial detention at the pre-trial stage of the criminal process. In addition, this measure has strengthened the responsibility of investigators and prosecutors, as well as the role of the judiciary in the reliable protection of human rights and freedoms. This institution, which has become widespread in democratic countries of the world, has been successfully operating in Uzbekistan since January 1, 2008.

The close connection of justice and independence with the concept of legality and equality was noted by Aristotle, he wrote: the concept of justice means at the same time both legal and equal, and injustice — illegal and unequal (treatment of people). In order to build a democratic State based on the rule of law and a civil society in our country, the most important task is to ensure the rule of law and justice.

In the Strategy of Action on the five priority areas of development of the Republic of Uzbekistan in 2017-2021, the priority areas of reforming the judicial and legal system are identified as improving citizens' access to justice, ensuring the true independence of the judiciary, and strengthening guarantees of reliable protection of human rights and freedoms.

Fundamental changes related to the reform of the judicial and legal sphere have been introduced in 7 articles of the Constitution of the Republic of Uzbekistan. A new body of the judicial community — the Supreme Judicial Council of the Republic of Uzbekistan — has been formed to radically improve the system of selecting candidates and appointing judges, and to form a highly qualified judicial corps. The resident set a goal — to strengthen the people's trust in the judicial system by protecting the rights and freedoms of citizens, to turn the court into a true "Abode of Justice". The most important task is the formation of a judicial body capable of making comprehensively thought-out fair decisions. In order to prevent crime among young people, to increase

attention to their moral and spiritual education, to warn them against the negative impact of various extraneous trends, the post of deputy heads of district (city) departments (departments) of internal Affairs on youth issues — heads of departments (departments) of crime prevention was introduced in the internal affairs bodies. Another of the main priorities of the reform of the internal affairs system is the radical improvement of the institution of crime prevention, as the main direction of the fight against crime.

In order to ensure early prevention and prevention of offenses, wide involvement of self-government bodies of citizens, civil society institutions and the population in preventive measures, a Republican interdepartmental commission for the prevention of Crime and Offenses was established, specific criteria for evaluating the effectiveness of crime prevention activities and a mechanism for encouraging and stimulating prevention inspectors who have achieved high results in their activities were introduced.

By the Decree of the President of the Republic of Uzbekistan No. UP-5343 of February 15, 2018 "On additional measures to improve the efficiency of the Prosecutor's Office in ensuring the implementation of adopted normative legal acts", the General Prosecutor's Office established departments for supervision of the implementation of legislation in the fuel and Energy complex; for supervision of the implementation of legislation in the customs and tax spheres; for supervision of the implementation of legislation in the field of transport, construction and other sectors of the economy; supervision of the implementation of legislation in the field of health, education and other social spheres; legal protection of entrepreneurship and investment; supervision of the implementation of decisions of the President of the Republic of Uzbekistan; ensuring the powers of the prosecutor in administrative proceedings; methodological support of the investigation.

## CONCLUSION

An additional guarantee of ensuring the rights and legitimate interests of entrepreneurs was the creation of the institution of the Commissioner under the President of the Republic of Uzbekistan for the protection of the rights and legitimate interests of business entities.

Judges who are part of the society they serve cannot effectively administer justice without public trust. They should become familiar with the public's expectations of the judicial system and complaints about its functioning. A permanent mechanism for such feedback, established by the Council of Judges or other independent body, will facilitate this. The Republic of Uzbekistan thus reaffirmed its commitment to its international obligations in the field of human rights and the obligation to comply with the international treaties to which it has acceded.





Awareness of civil society institutions about their rights to participate in solving issues of state and local importance, mastering the skills of implementing various forms of public control over the implementation of laws and other normative legal acts is an essential element of the culture of human rights of both society as a whole and each individual.

One of the important conditions for strengthening the guarantees for the protection of human rights and freedoms in the country is to increase the level of knowledge of employees of the State apparatus and, above all, lawyers on human rights and freedoms. To this end, special attention is paid to ensuring the rights of citizens to education, creating equal conditions and opportunities for admission to higher education for all persons.

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## SCIENTIFIC AND CULTURAL DEVELOPMENT IN THE STATE OF THE SAMANIDS AND SELJUKIDS IN THE 9TH-12TH CENTURIES

**Azimov Adiz Abdullaevich**

Senior Lecturer of the Department of Social Sciences, Bukhara Engineering and Technological Institute; Uzbekistan

### Научное и культурное развитие в Государстве Саманидов и Сельджукидов в IX-XII веках.

Азимов Адиз Абдуллаевич

Старший преподаватель кафедры «Социальные науки»

Бухарский инженерно-технологический институт; Узбекистан.

**Аннотация:** В статье анализируется развитие образования в государстве Саманидов и Сельджукидов, которая сыграла главную роль в судьбе народов Мавераннахра и Хорасана. В эпоху первого ренессанса воспитания и образования главным образом строилось с учёта местного менталитета, учёба велась в основном в мечетях, медресе и рабатах. Выдающиеся учёные того времени в основном начали создавать свою школу по философии, астрономии, метафизики,

**Ключевые слова:** Образование, политическая независимость, Среднеазиатские правители, Саманиды, Сельджукиды, медресе, мечети, рабаты, Низамия, наука, правоведы, Абулфазл Мухаммад ибн Абдаллах Балъами, Абу Абдаллах Ахмед ибн Ахмад ибн Мухаммад Джейхани, Абу Али Мухаммед ибн Балъами, Абу Хафз Кабир, Бухара, Самарканд, Хорезм, Ургендж, Мерв, Шираз, Исфаган, Рей.

Основная задача каждого государства и одной из самых актуальных вопросов человечества в современном мире является проблема воспитания и образования подрастающего поколения. В свою очередь, именно образование оказывало и сейчас оказывает влияние на решение политических, экономических и социально-культурных проблем общественного развития. В современном мире развития научно-технического достижения напрямую связана с образованием.

Научно-культурная и просветительско-образовательная роль Великого Мавераннахра и Хорасана имело большое значения в эпоху глубокой древности, была велика, и в эпохе древнего мира, а также и в средние века. После освобождения народов этого региона от иноземного поработителя привело к необходимости развития языка тюркского и таджикского. В начале средних веков в Мавераннахре и Хорасане образование и

просвещение имело большое значения, как наука, так и литература.

В результате завоевания политической независимости, а также заметные успехи в разных областях общественной жизни в конце IX и начала X веке оказала чрезвычайно благоприятное влияния не только на рост производства, но и создало также основу для развития культуры, науки и литературы. Этот процесс привёл к тому что в эпоху Саманидов в столицу Мавераннахра в Бухару начали сткаться учёные и писатели, не только из разных уголков Мавераннахр и Хорасана, но из других регионов Халифата, эти учёные связали свою судьбу с научной и литературной жизнью народов Мавераннахр.

Среднеазиатские правители из политических соображений покровительствовали развитию науки и литературы. Многие выдающиеся учёные, такие как например, Абулфазл Мухаммад ибн Абдаллах Балъами,



Абу Абдаллах Ахмед ибн Ахмад ибн Мухаммад Джейхани, Абу Али Мухаммед ибн Бальями [1] были назначены на посты визиров, которые свою очередь способствовало тому что при дворе начали покровительствовать разные области культуры и науки. При дворе Саманидов начали работать и заниматься наукой, а также поэзией такие выдающиеся учёные своего времени как философы Закария ар Рази[2], Абу, Наср ал Фараби, Абу Али ибн Сина[3], учёные ал Ферганы, Бируни, Наршахи, теологи хадисаведи Имам ал Бухары, аз Замахшари, ал Матрудий, имам ал Термизи, поэты Абулхасан Шахиди Балхи, Абулхусейн Муради Бухари, Рабия Каздари Балхи и другие[3].

А эти учёные свою очередь смогли создать свою научную школу и прямом и переносном смысле этого слова, которое дало толчок созданию развитию образованию – педагогическим направлениям, в эпоху Саманидов образовательная обучение в основном проходило в мечетях, рабатах, школах и медресе.

В государстве Саманидов науки и образовании поднялось на государственный уровень, в результате сюда начали приглашать учёных, философов и поэтов, ремесленников из других стран, веротерпимость и благородия Саманидов и Сельжукидов дало возможность свободно приезжать и уезжать учёным, перенимая друг у друга культуру и опыт в науке и образовании. Школы IX-X веков действовали в тесной связи с мечетью и медресе. Это явление постепенно набирало силу, и в школах стали преподавать историю своего народа для освещающую величие и роль Мавераннахр и Хорасана. Ради прогресса образования в этом периоде преподаватели начали изыскивать разные пути воспитания и обучения. И для этого во многих центральных городах Мавераннахра и Хорасана были построены крупные соборные мечети и медресе.

Например одно из первых в Бухаре медресе Фаржак появилось ещё в X веке, вблизи рынка Кавшдузон (обувщики). В махалле Дарваза города Бухары в период правления Саманидов было построено специализированное медресе для правоведов.

Как известно этих медресе учились многие известные ученые — правоведы, судьи и имамы, в том числе такой известный правовед, как Абу Хафз Кабир (Хазрат имам) Бухари. Как отмечает Наршахи, благодаря именно таким людям Бухара заслужила название Купол ислама (Куббатул Ислам). Ученик Имама Аъзама[4]. Абу Хафз Кабир был крупнейшим ученым, создавшим основы исламского законовещения- Фикв. Как пишет Наршахи, его заслугами Бухара обрела

звание «Куббат ул-ислом» — «Купол исламской веры». Абу Хафз по различным аспектам исламского законовещения написал целый ряд произведений.

Многие города Мавераннахра и Хорасана, как Бухара, Самарканд, Хорезм, Ургендж, Мерв, Шираз, Исфаган, Рей были духовным центром ислама. В этих городах развивались богословские школы, собирались лучшие теоретики ислама со всего государства, открывались религиозные школы-медресе, где готовились проповедники для всего Ближнего Востока, причем в это время медресе существовали, только в Хорасане и Мавераннахре. Проповедь мусульманской религии достигла в Средней Азии таких высот, на которые она не поднималась даже в эпоху халифата, что в IX-X веках для проведения учебных занятий были разнообразные места, как начальные школы, соборные мечети, медресе, библиотеки, лавки, ханака - монастырь, обитель дервишей, суфа - широкое возвышенное место перед мечетью, медресе или домом, караван-сарай и рабаты, дома учёных[4]. Мечети с самого начала своего появления стали местом не только совершения культовых церемоний, в основном чтения Молитв, но и местом учебных занятий. Как известно в начальной школе ученики должны были учиться в 8 лет, а в последствии среднюю школу 8 лет, высшую школу 6-8 лет.

Судя по сообщениям литературных, исторических, и выводов видных ученых-историков, в IX-X вв. наряду с религиозными школами функционировали также и светские школы, а также литературные школы[5].

Если мусульманская философскую мысль, был в основном пытан в Багдаде, то литература и науки - математика, медицина, география и история - развивались в это время, главным образом, в Средней Азии[6], в междуречье Амударьи и Сырдарьи, а также в Хорасане. Все эти регионы, смогли сформировали единое культурное пространство. Например когда Бухара была столицей Саманидов, она являлась одним из ведущих центров образования Востока, а может в сей Азии. Как утверждают мыслители разных времён, не последнюю роль в этом сыграло то, что в Бухаре сходились, связывавшие Восток и Запад караванные пути, посредством которых в в этот регион попадало все лучшее и передовое, накопленное учеными Дальнего Востока и классического мира, дававшее стимул для развития творческого мышления этого региона.

После распада Саманидского государства на его территории появилось несколько отдельных государств. Одно из этих государств являлось держава Сельжукидов. В



государстве Селджукидов как и до них большое значения давали образованию. Они приняли научно - образовательную наследия Саманидов.

Как известно главным визирем Сельджукского государства был назначен Низомом уль-Мульком который в разных регионах Селджукидского государства построил дома образования, одно из них было построено в Багдаде [459/1066 году]. Надо сказать что Селджукиды унаследовали передовые знания не только Саманидов, но и богатую науку и книги академии Мамуна в Хорезме и академии Багдада. Это дало государству Селджукидов мощный толчок к развитию науки и культуры, а также образованию. И это позволило несмотря на развал несколько королевств продолжить Ренессанс Востока.

Практически в каждом более или менее крупном городе было построено учебное заведение. Они вошли в историю как медресе «Низамия». Первое медресе было возведено в столице Халифата - Багдаде. Были построены крупные медресе также в Нишапуре, Балхе, Герате, Басре, Исфахане и во многих других городах. Медресе «Низамия» было построено даже в дагестанском селе Цахур. Для преподавания в этих медресе приглашались крупнейшие учёные исламского мира. В их числе были и такие известные учёные, как аль-Газали, Джувейни, Абу Исхак Ширази и многие другие. Для комфортабельного обучения были созданы все условия. При медресе были организованы крупные библиотеки, как утверждали из источников, многие учёные – мыслители, хадисаведи, суфисти пользовались наследием этой библиотеки[7]. Студентам было организовано бесплатное питание и проживание. Эти медресе в последующие века являлись центрами возрождения религии. В Низамиях особое внимание уделялось воспитанию и изучению искусств и ремесел, экономическому и торговому обмену. Из исторических источников выявлено, что во времена правления Малик-шаха в государстве Сельджукидов функционировали около 50 Низамий в крупных городах Хорасана и Мовереннахра. Руководителями, смотрителями и мударрисами учебных центров всегда были знатные люди, к которым приезжали выдающиеся ученые со всех концов света, стремились услужить им, почерпнуть и заимствовать [знания] из рудника их науки и света их учения.

В этих высших учебных заведениях задачу воспитания видели, прежде всего, в том, чтобы человек обретал высокие духовные и нравственные качества.

Дальнейшее развитие духовной сферы, воспитание совершенного человека, использование исторического наследия,

созданного нашими предками, воспитание молодежи как духовно зрелых людей - требования времени.[8]

Знание Аллаха отличается от познания человека. Он полностью осознает свою сущность. Его знания не нуждаются в постепенном изменении, потому что такое знание не направлено от незнания к знанию, от неопределенности к точности, это, по сути, совершенная, абсолютная наука. Следовательно, существует несравнимая разница между познанием человеком истины и его познанием Самого Аллаха. Но, тем не менее, человечество живет надеждой на жизнь Его благодати и милосердия.[9]

Низамийя давали не только религиозное, но и светское образование. Сначала в них изучали грамматику, право, философию, но постепенно, программа расширялась: стали изучать труды эллинических, иранских и индийских авторов, штудировали учебную литературу всего тогдашнего цивилизованного мира.

Методика обучения в Низамийи мало отличалась от практики преподавания в других медресах. Учитель несколько раз читал отрывок текста, а ученик должен был впоследствии точно воспроизвести этот отрывок. Ученик должен был показать правильное понимание текста, и если есть вопросы, задать их учителю. Роль учителя сводилась к тому, чтобы следить за правильностью чтения текста, причем особое внимание уделялось правильной флексии. На начальном этапе для преподавателей важно было не столько усвоение учеником материала, сколько следить за правильным чтением учеником текста, особенно если это касалось конечных огласовок.

Таким образом, моральные, просветительные и гуманистические идеи Низамийя, практически содействовали воспитанию подрастающего поколения. Школа морально-этических взглядов Низам ал-Мулка была построена на основе принципов справедливости, совести, жалости, сострадания, милосердия и призывала людей к чистоте поведения, овладению науками, ремеслами и искусством своего времени, прежде всего, воспитанию в' людях милосердия, сострадания, честности и справедливости. Низам-ал-Мулк считал, что земля и вода не являются собственностью отдельных людей - они являются собственностью всех людей мира, все имеют одинаковые права на умное их использование. правления Сельджукидов происходит возрождение образования, школьной системы, изучения персидского языка, в обществе образуется духовно - умственная атмосфера и намного повышается интерес и любовь молодежи к школе, наукам, знаниям. Мыслящие люди, люди



искусства и творческих сфер деятельности консолидируются во дворце Сельджукидов, где были созданы все условия для творчества и получения образования и решения проблем воспитания. В это время воспитание развивалось многосторонне. На переднем плане воспитания была учеба, и направлена она была на созидание, на развитие культуры и использование педагогической мысли, другая его сторона была нацелена на воспитание чистых моральных принципов, рождающихся из способа мышления передовой и творческой части общества того периода. Имам Газзали, Омар Хайям, Кушайри, Хасан Сабах и многие другие в форме морально-исторических преданий, трудовых, эстетических и патриотических легенд создавали произведения с высоким содержанием самосознания. Действительно, формирование школьного дела и воспитание в эпоху Сельджукидов быстро развивалось, принимало определенную, совершенную форму и играло действенную роль в просвещении общества.

А также места для проведения учебных занятий эпохи Сельджукидов были разнообразны: например, начальные школы, соборные мечети, медресе, библиотеки, лавки, ханака-монастырь, обитель дервишей, суфа - широкое возвышенное место перед мечетью, медресе или домом, могло находиться и внутри постройки, во дворе, караван-сарай и рабаты (рабат-постоялый двор), дома учёных. Мечети с самого начала своего появления стали местом не только совершения культовых церемоний, в основном чтения

Другими учебными заведениями считались караван-сарай и рабаты. В этих местах также собирались студенты, купцы, военные, ученые, литераторы и организовывали научные и литературные собрания.

Как известно из источников эти школы при мечетях и медресе содержались за счет прибыли вакфов (завещанное имущество, земли для мечетей, медресе), а частные школы - за счет их хозяев. В эти школы состязались между собой по разным отраслям науки, но в первую очередь по чтению Карана.

Среднее и высшее мусульманское учебное заведение: школы, мечети и другие учебные заведения играли важную роль в развитии культуры, цивилизации, а также в развитии общества. Истории школы Средней Азии представляет собой важный, славный и достойный восхищения период. Изучение наук, воспитания, педагогической мысли и конкретное, точное и всестороннее исследование этого исторического периода для персоязычных и тюркоязычных народов имеет важное значение. В этот период развития для прогресса своих школ и для того, чтобы вести свое частное хозяйство,

находили разные пути воспитания и обучения. В классификационных обучении наших предков наука о воспитании состоит в главном из этики. Этику понимали естественным знанием, основу которой составляет мысль логическая, физкультура, любовь к своей Родине, уважение ко всем наукам, в том числе гуманитарным и к естественным.

Для создания условия по приказу везира при Низамиях были выстроены новые здания для учителей и учеников, был построен сад, собрана богатая библиотека. Низамийя превратились в высшее учебное заведение. По сообщению летописцев, Нишапурском Низамийи обучалось около 500 юношей, По сведениям одного из историков того времени, среди обучающихся там учеников встречались даже жители самой Бухары — этого признанного центра высшего образования мусульман.

В 1074 году он по приглашению Маликшаха и Низам-уль-Имса построил обсерваторию в Исфохане и возглавил ее.

В 1079 году Зиги-Эльханий создал пересмотренный календарь (календарь), основанный на наблюдениях в обсерватории Нишопура на основе «Почетных ценных бумаг» своего времени. Этот календарь также превзошел григорианский календарь, который был введен в Европе 500 лет спустя.[10]

Подводя итог надо отметить что в эпоху правления Саманидов и Селджукидов система образования вышла на новое русло, для того чтобы сохранить всё что было до них, и для того чтобы создать своё новую систему обучения и воспитания подрастающего поколения. Современном Узбекистане на пути третьего ренессанса опыт и история предков имеет большое значения и поэтому, историю развития науки и образования народ Узбекистана особа ценит и преумножает.

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# POTTERY MAKING TRADITIONS IN THE VILLAGES OF THE KESH OASIS IN THE EARLY MIDDLE AGES (ON THE EXAMPLE OF TURTKULTEPA)

**Egamberdiev Fakhriddin,**

*Karshi State University, Department of World History*

## ABSTRACT

*This article analyzes small pottery with a single cane found during archeological excavations at the first medieval Turtkultepa monument in Yakkabag district of Kashkadarya region.*

**KEYWORDS:** *South Sughd, Nakhshab, Kesh, Afrosiab, Kesh Archaeological and Topographic Expedition (KATE), Qovunchi culture, jetisar culture, pottery, mug, small jug, clay, bowl, angob-paint.*

## DISCUSSION

During the early Middle Ages, the pottery of the two neighboring oases of South Sughd - Nakhshab and Kesh provinces - differed sharply from each other. Nakhchivan has its own independent pottery traditions, while the Kesh oasis is close to the Samarkand oasis in many respects. Potters from Bactria, Sughd, Fergana, Khorezm, Ustrushna, Chach and other historical and geographical regions in the early Middle Ages they produced a large variety of large and small pots, jugs, double-walled pots, jugs, mustachora (flyaga), jugs, handmade pots, and such methods of production were peculiar to the whole of Central Asia. In this regard, the analysis of each form does not include the analysis of all Central Asian pottery. We also found it necessary to compare it with artifacts found in the monuments of historical and geographical lands.

A whole set of mugs was found in Turtkultepa, and so many and varied mugs have never been found in any other monument in Sughd. This type of pottery is also relatively rare in the monuments of the Kesh oasis. The only mug kept intact was found in Hovuztepa<sup>1</sup>. The reason why mugs are rarely found in the monuments of the Kesh oasis is that no monument of this oasis dating back to the V-VI centuries has been excavated by extensive archeological excavations such as Turtkultepa. The Kesh Archaeological and Topographic Expedition (KATE) of the Department of Central Asian

Archeology of Tashkent State University, which has been working in this oasis for many years, has not acquired entire complexes of pottery due to its archeological intelligence and small-scale archeological excavations.

The Turtkultepa pottery complex shows that for the first time in the history of this oasis pottery was also produced in large quantities. The mugs are marked in Afrosiyab pottery<sup>2</sup>. In the ruins of a castle near Kofirqala in Samarkand, a piece of a mug decorated with angob-paint was found<sup>3</sup>. According to the researcher of this monument, the mug, which is the only one among a large number of pottery vessels, pointed out that the production of this type of pottery is only a picture. Although this type of vessel is rarely found in Panjakent, it has not yet been reflected in the scientific literature. But among the pottery vessels of the VII-VIII centuries of Panjakent, mugs occupy a significant place. Mugs were not produced in Nakhchivan and Bukhara during this period. There was no need for these dishes, as the dwarf "Nakhshab jugs" performed the function of the mugs in Nakhshab. But even among the pottery vessels of Nakhshab from the VII-VIII centuries, mugs like in Panjakent are common<sup>4</sup>. Mugs began to

<sup>2</sup> Lebedeva T.I. Keramika Afrasiaba V-VI vv. IMKU, vip. 23, Tashkent, 1990.str. 163.ris.2,2.

<sup>3</sup> Shishkina G.V. Rannesrednevekovayaselskaya usadba pod Samarkandom // IMKU. Vip. 2. – Tashkent: Fan, 1961, – str.210.ris.10,4.

<sup>4</sup> Turebekov M., Raskopki bastiona vnutrenney krepostnoy steni Yerkurgana // Vip. 16. – Tashkent: Fan, 1981, - str.41.ris.3.

<sup>1</sup> Kabanov S.K. Arxeologicheskiye razvedki v verxney chasti dolini Kashkadari. Trudi Instituta istorii i arxeologii. Vip. 7, Tashkent, 1955.str. 94.



appear in such monuments as Kuchuktepa, Kuyovkurgan in the territory of Tokharistan in the second half of the V century AD from the first half of the VI century<sup>5</sup>.

As mentioned above, the mugs are mainly found in the layers of monuments in Sughd dating back to the VII-VIII centuries. If we are interested in the process of the appearance of these vessels in the Sughd region, mugs are not found in the monuments of the more ancient times of this country. This type of pottery is mostly found in hand-made monuments in the monuments of the Tashkent oasis and the Middle Syrdarya region, which were mainly influenced by the Kovunchi and Jetiasar cultures. Many mugs were also found in the monuments of the Jetiasar culture of the Jetiasar I period (I-IV centuries AD or I - III centuries BC)<sup>6</sup>. Cups have been very popular in the monuments of the Tashkent oasis since the time of Qovunchi I. Their production will continue in the Qovunchi II and Qovunchi III periods. Experts note that in the following centuries in the cities and villages of the Tashkent oasis began to make them on pottery wheels. However, the failure to produce mugs in Nakhshab, where the influence of the Qovunchi and Jetiasar cultures was stronger, was due to the very high quality "Nakhshab jugs" widely produced in the region since the 3rd century AD. In our opinion, the relatively slightly rougher mugs could not compete with the local "Nakhshab glasses", which are designed to perform the exact same function as them, are very delicate, beautiful and of high quality. It is probable that this variety of mugs originated in the Kesh oasis under the influence of the Jetiasar and Qovunchi cultures, which also have their ancient roots.

Several types of single-barreled mugs have been found in Tortkoltepa, which have been used in household use of liquid products such as water, milk, and oil. A characteristic feature of this type of vessel is that the noxious body expands upwards for easy and targeted flow of liquid. Although these types of vessels are often found in the monuments of other regions of Sughd, none of them is found as a whole complex, as in Turtkultepa. No such vessels were produced in Nakhshab, and there was no need for these vessels, as their function was performed by the dwarf "Nakhshab jugs". Samples of vessels close in shape to these vessels are found in Jangaltepa in the

Chimkurgan Reservoir<sup>7</sup>, in Panjakent in the Bukhara V strata in Bukhara<sup>8</sup>.

In the ruins of the castle near Kofirqala in Samarkand, a vessel similar to one of the vessels in Turtkultepa was found<sup>9</sup>. These vessels are also found mainly in the layers of monuments in Sughd dating from the V-VI centuries. In terms of shape, this type of pottery is especially common in monuments under the influence of the Qovunchi culture, and most of them are handmade. This type of jug was first widely used in the monuments of the Tashkent oasis during the Qovunchi I period. Their production does not stop during the Qovunchi II and Qovunchi III periods<sup>10</sup>. This type of mug-shaped vessels was also found in the lower layers of the "Big House" belonging to the Jetiasar №3 monuments on the banks of the Syrdarya River, dating to the I-IV centuries AD (or III century BC)<sup>11</sup>. It is also likely that these types of vessels originated in the Kesh oasis under the influence of the Jetiasar and Qovunchi cultures, which have their ancient roots.

Single-headed jugs of this type began to appear in the territory of Tokharistan in the late IV-early AD and early V centuries. In one of these jugs, two twins are mounted in a vertical position, designed to lift the container with two fingers. Similar double-headed mugs began to appear in monuments such as Kuchuktepa, Kuyavkurgan in the territory of Tokharistan in the second half of the V century AD from the first half of the VI century<sup>12</sup>.

However, in Nakhshab, where the influence of the Qovunchi and Jetiasar cultures is stronger, the reason for not producing such jars as mugs is, as mentioned above, high-quality Nakhshab jugs, which have been widely produced in the region since the 3rd century AD. As mentioned above, these single-barreled mugs, like mugs, could not compete with the local "Nakhshab jugs" which are very thin, beautiful and of high quality.

A large collection of small jugs has been obtained at Tortkoltepa, and their forms resemble those of large vessels. Small-sized, wide-necked, single-plate thin-walled goggles were widely produced in all regions of Central Asia in the early

<sup>5</sup> Annayev T.Dj. Rannesrednevekoviye poseleniya Severnogo Toxaristana. Tashkent, 1988. tabl. XIII a, 44-45, 47.

<sup>6</sup> Levina L.M. Keramika nijney i sredney Sirdari v I tisyachiletii n.e., M., 1971. ris.3, 74-81; ris.15, 80-122.

<sup>7</sup> Kabanov S.K. Kultura selskix poseleniy Yujnogo Sogda II-VI vv. Tashkent, 1981. s 24, ris.15,9,19-20.

<sup>8</sup> Marshak B.I. Otchet o rabotax na obyekte XII za 1955-1960 gg. MIA, vip.124, M-L.1964.ris.21,4.

<sup>9</sup> Shishkina G.V. Rannesrednevekovayaselskaya usadba pod Samarkandom // IMKU. Vip. 2. – Tashkent: Fan, 1961, – S.210.ris.10,4.

<sup>10</sup> Levina L.M. Keramika nijney i sredney Sirdari v I tisyachiletii n.e., M., 1971. ris.29, 23-29; ris.32, 70-75, 100-105;

<sup>11</sup> Levina L.M. Keramika nijney i sredney Sirdari... S.16, ris.3, 23

<sup>12</sup> Annayev T.Dj. Rannesrednevekoviye poseleniya Severnogo Toxaristana. Tashkent, 1988.XIVa, 44-45, 47.



Middle Ages, and their shapes do not show specificity for any region.

A large collection of pottery obtained as a result of large-scale archeological excavations in Tortkoltepa reflects the main features of Kesh pottery of the V-VI centuries and the main forms of pottery produced in the upper oasis of South Sughd during this period. This is the first time that such a large collection of pottery has been obtained, and the inclusion of this collection in the scope of research and study is of extraordinary importance in the study of the history of early medieval Kesh pottery.

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# CENTRAL ASIA IS AN INTEGRAL PART OF WORLD CIVILIZATION

**Hayitboy D. Kholmiraev<sup>1</sup>, Khalima B. Kadirova<sup>2</sup>**

<sup>1</sup>*Candidate of Historical Sciences Associate Professor,  
Tashkent State Pedagogical University named after Nizami*

<sup>2</sup>*Doctor of Philosophy (PhD) Associate Professor,  
Tashkent State Pedagogical University named after Nizami*

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## ANNOTATION

*The history and culture of the longest-running primitive period in the evolution of human society have not been sufficiently studied, because the science of archeology and anthropology gives information about this. Evidence from the past can enrich scientific knowledge with history, ethnology, ethnography and cultural studies.*

*The cultures of ancient Egypt, Mesopotamia, India and China had a positive impact on the civilization of the peoples of the world. The history of the peoples of Uzbekistan as an integral part of world history serves as a solid foundation of traditions, customs, upbringing, morals and values, which are an important factor in the formation of the nation as a people in the long history of the peoples of Central Asia.*

**KEYWORDS:** *ethnogenesis, identity, ethnic history, cultural process, culture, primitive, ancient, civilization, history, archeology, anthropology, anthropogenesis.*

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## INTRODUCTION

Not only archeological and anthropological data on the origin of the first primitive human life in Africa and Asia, but also the natural climatic conditions of the region are important for the suitability of primitive man for life.

The first Paleolithic in world history began 3-2 million years ago and lasted about 100,000 years. Human body remains, labor and hunting weapons found in various parts of the world testify to this. This period is called "the Stone Age" because the weapons were made with stones. This period is called the Paleolithic and it was the longest period in human history. The Paleolithic period is divided into three parts: early, middle and late Paleolithic period.

A very large period of Uzbek history has been studied without written sources, based on archeological and anthropological sources. In the primitive human period, the Paleolithic world and the concept of man were the basis for the peoples, the history and culture of their ancestors due to the phenomenon of ethnogenesis, from the process of understanding the world to the phenomenon of self-realization. The history of the peoples of Central Asia, especially Uzbekistan, includes thousands of years. During a long period of development, our ancestors underwent complex ethnic processes. Therefore, not only the anthropological image of the

primitive ancestors, but also the intermingling of tribes led to drastic changes.

## The process of ethnogenesis, ethnos and cultural transformation in Central Asia.

The history and culture of each nation is formed at certain stages, and the events that took place in the process of formation of a certain ethnos, nation and peoples are the historical and ethnocultural process of the people. In general, it is impossible to create a scientific image of a nation, its territory and statehood without defining the ethnogenesis of the people, the composition of the ethnic strata.

Central Asia is located at the crossroads of complex ethnic and cultural development, and in the early Mesolithic period (9-14 thousand years ago) it was originally inhabited by primitive hunters and fishermen. In later periods (Neolithic, Eneolithic, Bronze) peasants, hunters and fishermen, breeders lived together. Their close proximity, inextricable ties, led to not only cultural but also ethnic mergers and acquisitions.

The existing scientific methodology in the science of ethnogenesis has not been developed, the origin of the people. Ethnogenesis is said to be the formation of a new ethnos based on several ethnic components that already exist. The concept of ethnogenesis was first introduced to science in the





1920s by N.Y. Marr [1.P.304]. However, attention should be taken not to allow any influx of tribes to migrate to the territory of Uzbekistan, as they would always be more numerous than the tribes to which they migrated. Archaeological and anthropological research proves this.

In the 4th-3rd millennia BC in the north-east of Afghanistan appeared the sites of the famous Indo-Pakistani representatives of the Harappan culture in this direction they crossed the high Hindu Kush mountain roads with the veils of the Harappa culture. The occupation of the ancient tribes, in addition to the acquisition of new lands, mineral resources; also associated with the search for deposits of copper, tin, and lead [2.P.24].

However, attention should be taken not to allow any influx of tribes to migrate to the territory of Uzbekistan, as they would always be more numerous than the tribes to which they migrated. Archaeological and anthropological research proves this.

In the middle and second half of the 2nd millennium BC, tribes with different cultural traditions lived on the territory of Uzbekistan. During this period, Tozabog'oy and Zamonbobo cultures were formed in Surkhandarya oasis, which developed in terms of material culture, construction, housing and handicrafts. Territorial factors determining ethnos in the process of ethnogenesis: language and ethnic nomenclature, ethnocultural unity and affiliation, socio-economic and economic object, unity of ethnic nomenclature and identity, unity of political association, common religion and a number of other ethnic features are important.

Ethnos-people is formed only when all these ethnic signs and symbols occur, that is, the process of ethnogenesis is completed. Material-social human creative power and abilities are expressed in various forms of human life and activity as a certain stage of historical development, as well as in the material and spiritual sources they create. Culture includes not only the development of the ability to adhere to existing norms and customs, but also the encouragement of the desire to adhere to them. Culture includes not only the development of the ability to adhere to existing norms and customs, but also the encouragement of the desire to adhere to them. such a two-pronged approach to culture is inherent in any society (jen in ancient China, dharma in India). the Hellenes saw their fundamental difference from the "uncultured" barbarians in "paydey", that is, in "upbringing." In the last days of ancient Rome, the concept of "culture" was similar to the concept of civilization, which was enriched with the content of social life that reflects the urban way of life and became widespread in the Middle Ages.

Transformation is one of the ways in which genetic material is exchanged in prokaryotes, changing its genetic properties as a result of the entry

of foreign DNA into the cell. From a close relationship according to a particular territorial unit or phenomenon of ethnic and religious affiliation, a cultural transformation takes place in relation to the emergence of harmony in the customs, traditions and culture of the peoples, and in the process of transformation in culture, the process of renewal, change, and development takes place, with the enrichment of traditions and customs from the voluntary assimilation of the highest priority of other peoples and tribes. As a person knows his own identity and obtains deeper knowledge on his or her lineage, the feeling of love for his country grows [3.P.24].

While this is a positive aspect of the cultural transformation process, it led to a crisis of religious, moral, cultural and national values of the victorious nation or people defeated in subsequent periods by crusades. such cultural threats are taking on a new style, appearance, and form according to the phenomenon of space and time. [3.P.59].

The cultural and social system of Central Asia also underwent changes, and the Bronze Age system was abolished. Due to the development of prospecting, mining and processing of ore deposits, the labor and status of men in society has risen to the first level. it was better for man to adapt it to himself than to adapt to the environment. the changes that have taken place have had an impact on people's lifestyles in every way. In the past, only women's clothes were made not only of different colored fabrics, but also of silk and natural fiber fabrics. The men wore clothes made of coarse wool and straps made of animal skins on the shoulders, sleeves, chest and waist. [4.P.329].

But the formation of a social class also had an effect on men's dress. Then their clothes were made of high-quality silk and natural fibers.

### **The first fine art in Central Asia.**

Primitive fine arts in world history, especially the painting of various images on the walls of ideas, coincided with the Late Paleolithic period, and caves in Central Asia, rock carvings appeared in the Mesolithic period. the rock paintings common in the mountainous regions of Central Asia were of two kinds according to the method of processing. some are painted and the other is engraved.

The rarest examples of rock paintings in Uzbekistan are Zarautsay, Bironsay, Kuksaroy, Takasay, Teraklisay and Sarmishsay. There are pictures of the ancient and modern fauna of Uzbekistan on the rocks here. They are primitive bulls, lions, tigers, foxes and wolves, deer and gazelles. Among the paintings are arrows, long swords, daggers, helmets, and traps.

The oldest paintings are Zarautsoy, which date back to the Mesolithic-Neolithic, VIII-IV millennia BC. Through rock paintings we can learn



about the hunting, labor and fighting weapons of the people of that period. Rock paintings are important in the study of the ideological views and religious beliefs of our ancient generations.

Rock images are found in many parts of the world. A noteworthy feature of the nearly 4,000 rock paintings found in the Sarimsay gorge in Navoi Province is that the images reflect a particular event.

The images have a certain compositional appearance when depicting a hunting scene, a state of war, or a religious ceremony. Not all of these rock paintings were created at the same time or period. If the first images were drawn in the early Paleolithic period, the rest were drawn in the later period. It differs not only in image but also in color. For the inscriptions in the Arabic spelling around the latter also prove it. In the depiction of a hunt, a battle, or a religious ceremony, an attempt to express a holistic event or phenomenon is felt because of the attempt to accurately depict the object in the human hand. It is not difficult to distinguish whether a wolf, a fox, a sheep, a goat, a camel, a horse, and other animals have been tamed by man, or whether they live in the wild.

These rock paintings provide an opportunity to get a clear idea and thinking about the daily life, training and protection of ancestors from the external dangers of the past, the animal world that surrounds them, said researcher I.V. Sukhirov.

During the Eneolithic-Stone Age, people became acquainted with the first metal. By this time copper weapons were much more advanced, but it was not possible to make heavy labor weapons from them. Copper is mainly used in household items, jewelry and military weapons. Monuments of the Eneolithic period were found and examined in Lavlakon, Uchtut (copper deposit) in districts of Bukhara region and around Samarkand (Sarazm culture). By this time, agriculture had spread to the northeastern regions of Central Asia. [5.P.5].

The largest of them are Tozabogyob, Zamonbobo, Sopollitepa, Jarqo'ton, Chust, Amirobobd monuments. Research on these monuments suggests that great changes took place in the cultural development of human society during the Bronze Age. The population shifted to certain forms of management, that is, to agriculture in oases, lakes, rivers, and streams, and to livestock in the steppes and foothills. (The first major division of labor was formed).

During archeological excavations in the Surkhandarya region of Uzbekistan, 46 graves of the Paleolithic period were found, mainly ammunition, knives and stone weapons were found in men's graves. And in addition to household items such as pottery, bronze mirrors, jewelry, necklaces and beads made of precious and semi-precious stones were found in the graves of their wives.

Many stone statues have been found in Central Asia, many of which have a theological basis. but on the basis of a bust statue of a man found in Jarqo'ton, an idea of the external structure of the population of Jarqo'ton emerged. By this time many sculptures had been found in the tombs of Jarkoton and Boston, in which the human figure was expressed in an anthropomorphic form. And a bust found in the arch of jarkuton depicts a human figure vitally. If we think on the basis of this statue, the inhabitants of thejarkuton belonged to the European race, and their snub-nosed, hairy, bearded men were snow-red.

By this time, the social structure of Central Asia had also changed. although the seed system continued into the Bronze Age, the status of the mother seed was lost. As a result of metal smelting and the development of the economy, the labor and position of men in society became of paramount importance. it can be concluded from this that the Bronze Age was dominated by men in the development of society, in the development of agriculture, animal husbandry, hunting and handicrafts. Even if women participate in the consumption of what men produce, they lose ownership of it. Dominance in production thus passes into the hands of men, and the system of the mother's seed is replaced by the system of the father's seed (patriarchy).

As a person knows his own identity and obtains deeper knowledge on his or her lineage, the feeling of love for his country grows. [6.P. 3167].

### **The Development of Urban Planning and Urban Culture in Central Asia.**

According to archeological data, agriculture developed in Uzbekistan in the 2nd millennium BC. According to archaeologists, in the territory of Surkhandarya, Bukhara and Khorezm, farmers of the Bronze Age, settlements along the banks of mountain rivers and streams watered the fields.

The Sopollitepa settlement in Muzrabad district was surrounded by a three-row defensive wall. Multi-room dwellings, handicraft workshops, bronze tools, weapons, pottery and other utensils were found in the old mausoleum. the settlement of Jarqo'ton in the Sherabad district has a much larger area, surrounded by strong defensive walls, and divided into parts.

Kaltaminor culture originated in the territory of ancient Khorezm in 5-4 millennia BC. The tribal population of Kaltaminor was engaged in fishing, hunting, and partly in handicrafts.

In turn, differed from the culture of the steppe cattle-breeding tribes in the territory of Khorezm and Bukhara. but the constant communication and interactions that existed between the tribes also led to the spread of cultural characteristics. Thus, the traditions of agriculture,



horticulture and animal husbandry are widespread in the territory of Uzbekistan.

At the end of the 2nd millennium BC and at the beginning of the 1st millennium BC, in the Fergana valley the settlements where the Chust culture flourished were surrounded by defensive walls. The inhabitants of this settlement lived in a house and a basement made of straw or raw brick.

Spinning mills and weaving looms were created here. woven fabrics of wool and vegetable fibers, and sewed garments. thus the production economy came into being. bronze was invented during this period. In the discovery of bronze, production developed and metal was used to make axes, sickles, hoe, tessa, spears, knives, swords, daggers and jewelry. handicraft workshops appeared, and blacksmiths, thieves, and carpenters were made. the use of animals as a means of transportation was mastered, and livestock, irrigated agriculture, and trade relations were established.

Socio-cultural changes in society led to a change in the system of governance and the transition to patriarchy. cities appeared. different social strata, property inequalities emerged. city-states were formed. In the course of each specific cultural period, many socio-political events and processes have led to changes in the socio-political system and public administration. Since the emergence of the first statehood, many processes, such as the stages of development of urban culture, ethnocultural and economic relations, migration processes, relations between nomadic and sedentary populations, the development of material and spiritual culture are directly related to each other.

A nation that realizes its changes on time and honors its national identity and national values can build a solid foundation for its future with the highest respect. No matter how much scientific, political, and economic development mankind is, it is natural that people make efforts to inherit mental, spiritual and moral perfection of their ancestors, and try to be like them. After all, national self-awareness is a force that combines emotional and rational ideas that reveal the level of human consciousness. It is difficult to understand national identity, national interests if the moral and ethical environment in people's lives is not in demand. [7. P. 2122].

## CONCLUSION

The issue of studying the origins of the Uzbek people has long attracted the attention of scholars, and much has been done in the meantime. but it is extremely difficult to solve this problem perfectly because periodic ideology predominated in research conducted during the former Soviet era. therefore, scientific truth can be obtained from a comparative analysis of the studied sources with Iranian, Greek, Chinese, and Arabic sources.

The modern Uzbek people are multi-component, most of them consisting of tribes and generations. The heroic epic of the Uzbek people "Alpomish" tells about 92 descendants of Uzbeks. these Turkic tribes lived in a vast area from the Korean border in the east to the Black Sea coast in the west, from the coldlands in the north to the Caucasus, the Iranian hill in the south, southern Afghanistan, and the Himalayas. There have been many cases of reunification and disintegration in their lives, and sometimes, as a result of the strengthening of these tribes, there have been many cases of migration, reunification and division among the Turkic tribes. The territory of Uzbekistan has been a crossroads of the Great Silk Road for thousands of years. therefore, the region served not only as a crossroads of diplomatic, trade, and cultural ties, but also as a crossroads of ethnic ties. there are many examples of this in history.

Some information about the ancient history of our people has been preserved in Iranian, Greek, Armenian and Chinese sources. Therefore, a comprehensive and detailed restoration of the ethnic history of the Uzbek people depends not only on the results of archeological excavations, but also on the study of sources written in different periods and languages, as well as in-depth and wide-ranging scientific research. Chinese written sources are important in carrying out this complex and topical task. because in ancient times the Chinese had extensive embassy, tourism, and trade relations with neighboring countries, and this was done at the expense of receiving information from visiting ambassadors and merchants.

Therefore, in Chinese sources there is a great deal of information relating to trade routes, to the defense of the surrounding countries and their cities, to interstate relations, and to the relations between the tribes and between them. of course, most of the Chinese sources that have survived to our day are official sources.

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# THE THEME OF ORPHANHOOD IN THE POETRY OF UZBEK AND ENGLISH LITERATURE

**Safarova Zilola Tolibovna**  
*Bukhara State University, Uzbekistan*

## ABSTRACT

*In poetry, the poet always tries to cover the pain and experiences of the people. Poems on the theme of orphanhood in Uzbek and English literature are also important in this regard, as they serve to awaken a sense of humanity and compassion in the heart of the reader.*

**KEY WORDS.** *Poem, poetry, orphan, orphanhood, war, literary theme, motif, social life*

## I. INTRODUCTION

It is known that literature is an art that explores the life of the people in different periods and the peculiarities of the human psyche. Fiction fully reflects a person's thoughts, dreams and desires. In this regard, the words of the first President of the Republic of Uzbekistan "In order to understand spirituality, first of all, it is necessary to understand the human being"<sup>1</sup> are of special importance. The reason why literature is called a reflection of life is that it has always served in a sense to embody the period in which the writer lived. For instance, samples of literature created during and after the war, in turn, illustrate the spirit of that time. Along with the themes of patriotism and heroism, the works about orphans and orphanhood also play a significant role in the poems of that period. Because the writers tried to cover the negative consequences of the war by revealing that many children were orphaned as a result of the war.

This article provides an analysis of some examples of poetic work that reflect the plight and pain of orphan children, illustrating the writer's ability to reflect on their inner feelings. It studies and compares the attitude of Uzbek and English authors towards the problem of orphanhood.

## II. LITERARY REVIEW

In modern literature there are 5 types of poetics: general, descriptive, normative, theoretical and historical poetics. In historical poetics the genesis of all artistic elements that serve the creation of a

work is studied.<sup>2</sup> The artistic world and mastery of the writer are revealed in connection with the historical and literary process and the spirit of the time. When we read the poems created during the war, we realize that the representatives of both Uzbek and English literature have a common theme and motive in their work. That is – orphan and orphanhood.

In their poems, poets often described unfortunate mothers sending their children to war and unhappy children who lost their fathers. In Uzbek poetry, this theme is beautifully revealed in the poem "Nido" by Erkin Vahidov, "Sen yetim emassan" by Gafur Gulam, "O'g'lim sira bo'lmaydi urush" by Zulfiya and etc.

In English literature, the theme of orphanhood is deeply rooted in the works of some poets. In particular, William Blake's poetry mostly focuses on the image of homeless and lonely orphans. His "Songs of Innocence and Experience" is fully devoted to this theme. Here can be listed the poems like: "The Falling Leaves" by Margaret Postgate, "For the Fallen" by Robert Laurence Binyon, "Tears of the Orphans" by Hesbon Nyamwaya, "The Little Orphan" by Edgar Albert Guest, "A cry of an orphan" by Ruetry and so on.

## III. ANALYSIS

Uzbek writers, who described the scenes and consequences of the war in their poems, mainly tried to reveal the suffering of the common people. We can clearly see it in the poem "Sen yetim emassan"

<sup>1</sup> I. Karimov. Yuksak ma'naviyat - yengilmas kuch. - T.: Ma'naviyat, 2008, 29 - bet

<sup>2</sup> G. Xalliyeva. Qiyosiy adabiyotshunoslik. - T.: "Mumtoz so'z", 2020, 47- bet, 2020, 47- bet





(“You are not an orphan”) by Uzbek writer Gafur Gulam. When he was 9 his father dies, after 6 years he loses his mother. Staying alone with his sisters and brothers he becomes completely orphan, and does any kind of work in order to support his siblings.<sup>3</sup>Due to the fact that young Gafur saw all the difficult days caused by war and experienced them in his innocent soul, the feelings of humanity and orphanhood awoke in his heart very early. As he admitted himself, this was the reason why his first poetic pieces were devoted to orphans. “Sen yetim emassan” (“You are not an orphan”) is a poem that brought him fame immediately after it was written. It sings with great skill the patriotic, fraternal and humane feelings of people towards the orphans during the Second World War.

Sen yetim emassan,  
Tinchlan, jigarim,  
Quyoshday mehribon,  
Vataning – onang,  
Zaminday vazmin-u,  
Mehnatkash mushfiq,  
Istagan narsangni tayyorlaguvchi  
Xalq bor – otang bor.  
Cho`chima, jigarim,  
O`z uyingdasan.

*(You are not an orphan, Calm down, my liver, As kind as the sun,  
There is the Motherland - like Your mother,  
As gentle as an Earth Who is ready to give whatever you want  
There are people - you have a father. Don't panic, my liver, you are at home.)*

In these lines, the poet addresses to the orphan child with the aim to calm him down telling that he is not alone, the homeland and the people are with him: to defend, to support, to care. He uses the word “Liver” while addressing to the orphan child. In Uzbek nation the close family members as, siblings often refer to each other with this word and show how dear is this person for them. The poet also tries to say that no child is a stranger, that the Uzbek nation does not leave any orphans by their own and reflects its readiness to take care of them as parents.

In each verse, the author tries to win the heart of an orphan with a kind of paternal kindness convincing him of a bright future. At the same time, he speaks about his own orphanhood and fully embodies the situation of his time. In the following verses we can see that the poet's lonely childhood and experiences are skillfully described.

Мен етим ўтганман,  
Оҳ, у етимлик...  
Вой, бечора жоним,  
Десам арзийди.

<sup>3</sup> Jumaboyev M. Bolalar adabiyoti. – T.: “O`qituvchi” nashriyot-matbaa ijodiy uyi, 2004, 61 - bet

Бошимни силашга  
Бир меҳрибон кўл,  
Бир оғиз ширин сўз  
Нондек арзанда.

*(I was an orphan, Oh, that orphan hood. It was worth saying. Woe is me, my poor soul. A kind hand To stroke my head, And sweet words To please my heart – are as dear as a piece of bread.)*

While reading these verses, the plight of orphans who have lost their parents and home as a result of the war becomes vivid in the eyes of the reader and a strong feeling of compassion awakens in the hearts.

“Nido” by Erkin Vohidov was created as a painful cry from the tongue of a child whose father died in the war. The poet expresses how many children remained with unfulfilled dreams in their hearts because of the war, and how many homes were left in endless sorrow and pain. The reader can clearly understand that the consequences of war injurious mostly for innocent children:

- Мана мен, ўғлингиз,  
Дардли оламга  
Сиздан танҳо ёдгор,  
Сўйланг, отажон!

Сўйланг, бир дақиқа кулоқ солайин,  
Овозингиз тинглаб тўёлмаганман.  
Бир марта йўқотиб тополмаганман,  
Хаёлимда тиклаб олайин.  
Отажон!<sup>4</sup>

*(- Here I am, your son. To a painful world.  
A lonely memory from you,  
Talk - Let me listen for a minute, I'm not fed up with listening to your voice.  
I have lost it once, let me fix it in my mind. My dear daddy!)*

Erkin Vohidov's poem was welcomed by the readers as having the most impressive meaning and vivid scenes. The lines where a young boy with angelic thoughts, who has just started the school and learned to write, writes a longing letter to his father melt the hearts.

“Дадажон!” Мен сизни жуда  
соғиндим.

Соғиндим иккала кўзим билан тенг.  
Келиб қолармишсиз эртами-индин,  
Аям шундай деди, Ростми шу,  
айтинг?! “Dadajon!”<sup>5</sup>

*(“Daddy! I miss you so much. I miss with both my eyes equally.*

<sup>4</sup> Vohidov E. Ishq savdosi. Saylanma, Birinchi jild. T.: “Sharq”, 2000, 163

<sup>5</sup> Vohidov E. Ishq savdosi. Saylanma, Birinchi jild. T.: “Sharq”, 2000, 169



*Sooner or later you will come, my mother said, Is that true, tell me?! Daddy!"*

Such poems, which reflect the suffering of mothers who have lost their children, are also found in English literature. In his poem "For the Fallen" Robert Laurence mentioned about awful consequences of war:

With proud thanksgiving, a mother for her children,

England mourns for her dead across the sea.  
 Flesh of her flesh they were, spirit of her spirit,

Fallen in the cause of the free.

In some of the poems poets skillfully described the affliction of abandoned children, not because of the war, but because of the cruelty of their parents. Through the image of an orphaned child, the writer appeals to unkind mothers and urges them to be compassionate towards their children.

All I want is someone to love me  
 Someone to guide me and to help me  
 Am I asking too much?

Or is it just that no one wants me ("A cry of an orphan" by Ruetry.)

#### IV. DISCUSSION

The purpose of the creation of orphan images by poets and writers is to encourage humanity to be kind. The reasons for the orphanhood of children in the works are different: the early death of parents, the consequences of war, the abandonment of children by unloving mothers, and so on. However, no matter what the reason, no matter what nationality, the child's heart, dreams and hopes are similar. They need love and care. For example, Abdulla Aripov's poem "Mother" expresses the grief of children who lost their mothers at early age.<sup>6</sup>

Афсус, ўзинг эрта кетдинг,  
 Эрта кетдинг оламдан.  
 Укаларим бағрим эзар,  
 Ажрадик деб онамдан.

In these lines we can feel the sorrows of the children whose mother died. The poem is told by the elder son of the woman (poet himself). The poem also shows the boundless love of Uzbek mothers in such a way that she takes care of her children even after her death.

Сен отамга пул берибсан  
 Ёстиғингинг остидан.  
 Айтибсанки, онасизлик  
 Келмасин ҳеч ўйига.  
 Сарф қилингиз, менга эмас,  
 Абдулланинг тўйига.

Here the author describes how the mother thinks about her son. Gives money to her husband and says to spend it for his wedding, she wants her son not to

feel the sorrows of motherlessness. The similar feelings of a poor orphan can be in the following lines written by English poet William Blake. But here the difference is the author reflected mistreatment of a father towards his motherless child:

When my mother died I was very young,  
 And my father sold me while yet my tongue  
 Could scarcely cry 'weep! 'weep! 'weep!  
 'weep!'

So your chimneys I sweep & in soot I sleep.<sup>7</sup>

The child tells how his father sold him to a master chimney sweeper when he was so young that he could not even pronounce the words 'sweep, sweep' (the traditional street cry which chimney sweeps called out to advertise their presence). The boy comforts Tom Dacre, another sweep whose blond hair has just been shaved off. Tom goes to sleep and dreams that an angel sets free all the sweeps so they can run, play and swim freely in the innocence of youth. William Blake openly demonstrates the injustice of social London life in his rhymes. At those times people often forced the children that were homeless or sold by their family members to do the dirtiest and the most dangerous labors like, chimney sweeping.

#### V. CONCLUSION

The analysis proves that the poetry of both nations describes a similar attitude towards orphans. It is not difficult to feel that the highest goal of poets is to awaken feelings of compassion in the hearts of mankind. After all, regardless of nationality, all children have the same sufferings, thoughts, dreams and hopes. Both English and Uzbek literature reflect that the life is very hard for motherless children, the authors admit that nobody can replace mothers. In addition, we can surely say that most of the analyzed English and Uzbek poems point out to the war as the main factor in the orphanage of children.

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# INTEGRATED DATABASE MANAGEMENT ALGORITHMS IN MANAGEMENT BODIES

**Sodiqov Sarvar Sami ugli**

*Assistant, Tashkent State Transport University*

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## ANNOTATION

*Cases such as the development of Information Technology and the ever-increasing flow of information, rapid changes in information, motivate mankind to seek measures for the timely processing of this information. The creation of a database for data storage, transmission and processing, and then the wider use of it, remains relevant today. A database is a set of interrelated and sorted data, which characterizes the nature, condition and relationship between objects in a particular field of view of the objects being viewed. In fact, at present, in the life of a person, the storage and rational use of the necessary information in the database plays an important role. The reason is that no matter what aspect of the development of society, we will certainly be forced to resort to the database in order to obtain the necessary information for ourselves. So the fact that organizing into a database is becoming one of the most urgent solved problems of information exchange technology is a prerequisite of the period. It should be noted that when creating a database, it is necessary to take into account two important conditions. The type and appearance of the data should not depend on the programs that use them, that is, when entering new data into the database or changing the type of data, programs should not be required to be modified.*

**KEYWORDS:** *database, data flow, integrated, algorithm, Information, application.*

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## DISCUSSION

The importance of the algorithm developed in the management of database in the system of management bodies is that it speeds up the process of data flow management as well as data transfer. Below are 2 pieces of database management algorithms. In the first section, the appearance of algorithm to show the database organizers as well as to manage the database. In the second section illustrates algorithm and method of working with the database. Its methods described in the pyramid vision of database management were considered.

It places in it a resource of communication tools and database at the lowest stage. Cooperation and support of Information Technologies at the next stage. This is the introduction of interactive services within the e-government system, increasing the speed of performance, providing necessary software and technical services and, of course, improving the quality of Service. At a higher stage, the administrative strategic phase takes place, namely the database administrators. This method was called General Communication and an extended acceptable plan.[1] Of course, a team of information technology expert team staff is also formed to monitor the work process of all these processes. (Picture 1).



1-picture. Extended approval plan in database management.

The main purpose of the use of information and communication technologies in the state statistical bodies is the automation of statistical production processes. This includes the processes of collection, processing, collection, storage, generalization, analysis and publication of statistical information about socio-economic events, processes taking place in the Republic and their results.

Currently, there is a corporate information network of the state statistics agency, which includes

the district and city statistical departments. it is necessary to monitor the system of 4 or 5 time in this group of management bodies formed a unified information system of the state statistics agency, which includes all information resources, information systems, software-hardware and telecommunication tools of the state statistical bodies and consists of the employees of the system. Picture 1 shows the way database management appears in pyramid



2-picture. Information and database management networks.



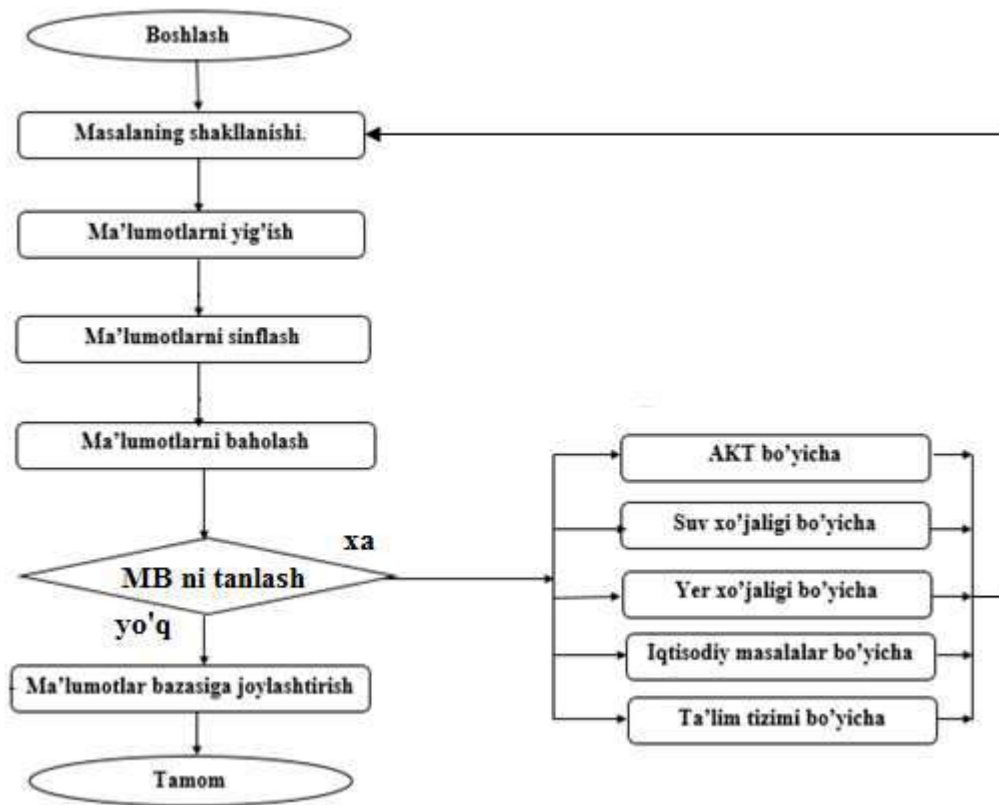


The algorithms for managing the base of information in the management bodies are presented in 3th and 4th pictures. The database management algorithm was developed into two pieces, one for the data flow and the other for the data flow, an algorithm developed for the management of the database of territorial governing bodies. Figure 2 describes the separation of database management into different networks.

Information and database management is divided into several sectors. Examples of these include data entry, data class, database control, technology, architecture, engineering, management and planning, the need for a database, logical, security, data analysis, data acquisition, database functions, database management system software, data analysis, data model, quality of data, database

administrator, database functions, data migration, merging, database management systems, technologies is from the sentence.[2]

The importance of an information system that illuminates the current state of each territory within the e-government system is considered very high. This is because it is important to use the information system so that the employees of the management bodies can have a general overview of the area without going to each area. It is necessary to create a system that ensures that citizens enter all the information themselves. Figure 3 shows the algorithm for managing the database for such a system as well as in the management bodies. In Figure 4, part of the database management algorithm cited in Figure 3, that is, the algorithm of the management system is mentioned.



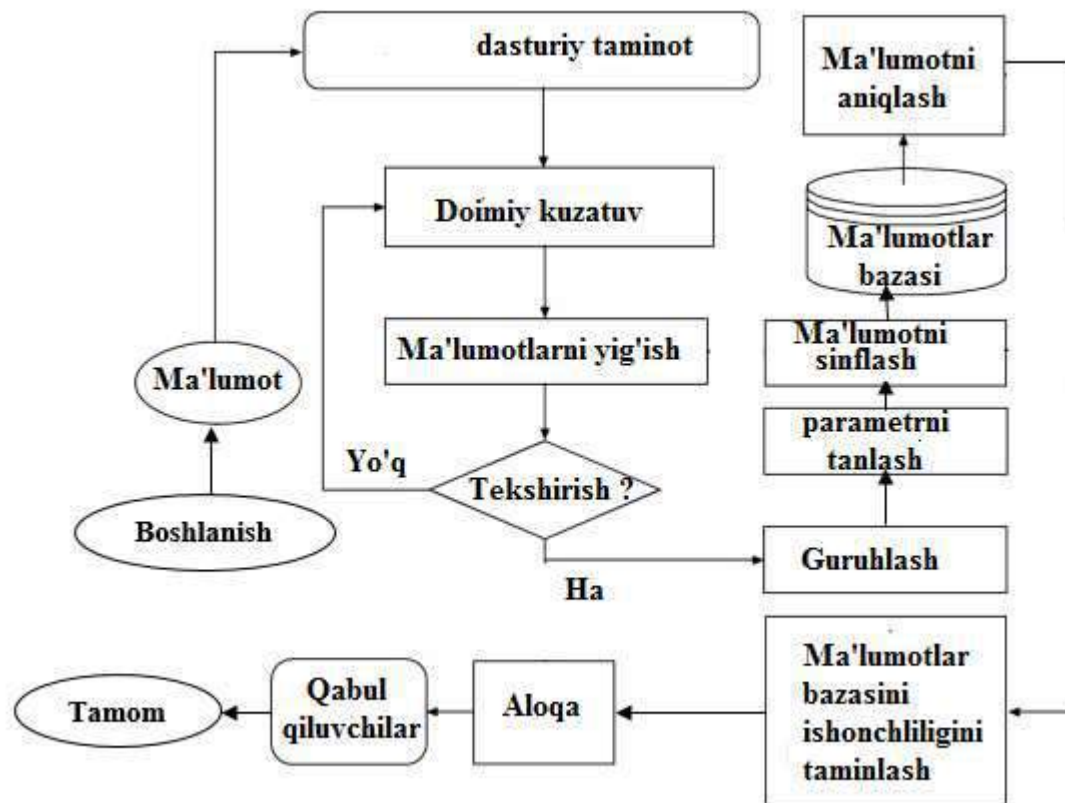
**3-picture. Database management algorithm**

Any effective information system should provide users with a set of information that is accurate, timely and appropriate to the work being done, regardless of what area or direction it is dedicated to. Such information is collected in various types of files and devices available on the computer. Computer application software organizes and stores system information in the form of bits, bytes, fields, records, files and databases. In the management of the database and before starting to work with it, it is

of course necessary to identify its areas, since this work will ensure the interaction of objects.

Figure 4 describes the management of the database in the central management bodies in the database management algorithm. Of course, the collected, checked and processed with much more data. Therefore, it is necessary to have a high level of software that meets the latest technologies. Security software is also used to ensure data reliability.





4-picture. Database management structure

Checking on them is carried out namely classification when data is being collected. After selecting the parameters, the known ones are divided into groups, that is, they are divided into groups by different spheres. The grouped data will be sent to the recipients and the data will be sent to the software.

### CONCLUSION

The algorithm for managing this database is the most optimal physique for management bodies,

which increases both speed in managing data integration and helps to create a convenient interface.

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## CARE FOR OBESE AND HEALTHY DIET: AN OPINION

S. Senthil Kumaran<sup>1</sup>, A. Abdul Halik<sup>2</sup>, S. Princy<sup>3</sup>

<sup>1</sup>Director, Unicorn Fitness Madurai, Tamilnadu, India

<sup>2</sup>PhD Research Scholar, Department of Physical Education, Bharathiar University, Coimbatore, Tamilnadu, India

<sup>3</sup>PhD Research Scholar, Department of Physical Education and Yoga, Bharathidasan University, Tiruchirappalli, Tamilnadu, India

### ABSTRACT

Information on wellbeing training accepts extraordinary significance in India, where the greater parts of individuals are uninformed about the essential standards of wellbeing and cleanliness. Due to this obliviousness, they can't forestall the illnesses, the majority of which are preventable. There is a new need to eliminate this obliviousness of masses. They are to be made mindful of crucial and fundamental standards of wellbeing and cleanliness. Wellbeing training gives the logical realities of local area cleanliness that could help in forestalling and destruction numerous infections and eliminate obliviousness. Weight is the maybe generally pervasive in both created and non-industrial nations, and affecting youngsters just as grown-ups. It is presently regular to the point that it is supplanting the more conventional general wellbeing concerns. It is perhaps the main supporters of infirmity. Heftiness might be characterized as an unusual development of the fat tissue because of a broadening of fat cell size or an expansion in fat cell number or a mix of both.

**KEYWORDS:** obesity care, diet, health education.

### 1. INTRODUCTION

"Nutrition is the science that manages every one of the different elements of which food is created and the manner by which appropriate sustenance is achieved" starches: a wellspring of energy. Protein: a wellspring of development and fix. Fats: a wellspring of energy and contain fat dissolvable nutrients [1]. Nutrients: needed in little amounts to keep body solid. Mineral salts: needed for solid teeth, bones and muscles. Corpulence might be characterized as an unusual development of the fat tissue because of a growth of fat cell size or an expansion in fat cell number or a blend of both. Corpulence is regularly communicated regarding weight list (BMI). Overweight is generally because of corpulence however can emerge from different causes like unusual muscle advancement or liquid maintenance. Reasons for Obesity, these are the reasons for stoutness for example age, sex, hereditary elements, actual inertia, dietary patterns, socio-efficient, mental, liquor, family propensity, education [3].

### 2. BODY COMPOSITION

The overall extent of without fat mass to fat mass in the body. Lacking fat mass is made out of muscle, bone, organs, and water, while fat is the basic fat tissue." Body organization is utilized to depict the level of fat, bone and muscle in human bodies. Since strong tissue occupies less room in our body than fat tissue, our body synthesis, just as our weight decides leanness. Two individuals at a similar tallness and same body weight may appear to be totally unique from one another on the grounds that they have an alternate body piece [4].

### 3. CAUSES OF OBESITY

**3.1 Hereditary factors:** There is a hereditary part in the etiology of weight. The profile of fat dissemination is likewise portrayed by a huge heritability level of the request for around 50% of the absolute human variety.

**3.2 Consumption behaviour:** The structure of the eating regimen, the periodicity with which it is eaten



and measures of energy drive from it are largely pertinent to the etiology of stoutness.

**3.3 Era:** Corpulence can happen at whatever stage in life, and for the most part increment with age. Babies with over the top weight acquire have an expanded occurrence of corpulence in later life. It has been grounded that most fat cell are framed right off the bat throughout everyday life and the hefty newborn child sets down a greater amount of these cells than the typical baby.

**3.4 Physical Inactivity:** There is persuading proof that ordinary active work is defensive against undesirable weight acquire. Where stationary way of life especially stationary occupation and dormant diversion, for example, sitting in front of the TV advance.

**3.5 Socio-Economic Status:** The relationship of stoutness to social class has been concentrated in some detail. There is a reasonable reverse connection between financial status and heftiness.

**3.6 Gender:** Lady for the most part have higher pace of heftiness than man, despite the fact that men may have higher paces of overweight. It has been asserted that lady's BMI expanded with progressive pregnancy.

**3.7 Consideration of obesity:** Before we think about evaluation of corpulence, it will be valuable to initially take a gander at body arrangement as under.

- (a) The active mass (muscle, liver, heart etc.)
- (b) The fatty mass (fat)
- (c) The extracellular fluid (blood, lymph etc.)
- (d) The connective tissue (skin, bones, connective tissue)

Despite the fact that heftiness can without much of a stretch be recognized from the start sight, an exact appraisal requires estimation and reference principles. The most broadly utilized rules are:

1. Body weight: Body weight, though not an accurate measure of excess fat, is a widely use Index.

- (a) Body mass Index = weight (kg)/Hight<sup>2</sup>.

(b) Ponderal index Height/cube root of body weight (kg) [5].

#### 4. CARE AND HEALTHY DIET PLAN FOR OBESE

A low fat eating routine, as the name suggests, is a dietary example that restricts the fat admission at around 1/3 of the complete every day calories devoured. It comprises of minimal fat, especially immersed fats and cholesterol which lead to expanded blood cholesterol levels and coronary failure. This kind of diet intends to decrease heftiness centres around food sources that contain entire grains, products of the soil [5]. It is coordinated towards weight reduction and treatment of specific infections by offering 20 to 30 percent of absolute day by day calories from fat. A lot of vegetables and proteins in an ordinary low fat eating routine stockpile the body with energy however almost no fats. Be that as it may, fats should not to be killed totally as some dietary fat is required for acceptable wellbeing, providing energy and fat dissolvable nutrients like A, D, E and K [6]. Studies have uncovered that the correct sorts of fats can really help in shedding pounds. Subsequently, the great focal point of sound eating routine arrangement for weight is on restricting the undesirable fats and utilization of perfect measures of fats. Low-fat eating regimens have been advanced for the anticipation of coronary illness. Bringing down fat admission from 35-40% of all out calories to 15-20% of absolute calories has been appeared to diminish aggregate and LDL cholesterol by 10 to 20%; notwithstanding, the majority of this lessening is because of a decrease in immersed fat admission [7]. We make an Indian eating routine plan for individuals confronting weight. Follow this eating regimen plan and begin eating those food things which recorded in breakfast, lunch and supper timings [8].

#### 4.1 DIET PLAN FOR OBESE

Day	Breakfast (8:00-8:30AM)	Mid-Meal (11:00-11:30AM)	Lunch (2:00-2:30PM)	Evening (4:00-4:30PM)	Dinner (8:00-8:30PM)
Sunday	3 egg whites + 1 toasted earthy coloured bread + 1/2 cup low fat milk (no sugar)	1 cup papaya	1 cup arhar dal + 1 chapatti + 1/2 cup low fat curd + plate of mixed green	1 cup vegetable soup	1 cup pumpkin + 1 chapatti + plate of mixed greens
Monday	1 small onion stuffed chapatti + 1/2 cup low fat curd	1 cup coconut water	1 cup moong dal/chicken curry + 1 chapatti + serving of mixed green	1 cup pomegranate	1 cup beans + 1 chapatti + serving of mixed greens



<b>Tuesday</b>	2 besan cheela + 1/2 cup low fat curd	1 apple	1 cup masoor dal + 1 chapatti + 1/2 up low fat curd + serving of mixed greens	1 cup tomato soup	1 cup carrot peas vegetable +1 chapatti + plate of mixed greens
<b>Wednesday</b>	1 cup vegetable earthy coloured bread upma + 1/2 cup low fat milk (no sugar)	1 cup musk melon	1 cup rajma curry + 1 chapatti + plate of mixed greens	1 cup vegetable soup	1 cup parwal vegetable + 1 chapatti + plate of mixed greens
<b>Thursday</b>	1 cucumber hung curd sandwich + 1/2 tsp green chutney + 1 orange	1 cup buttermilk	1 cup white chana/fish curry + 1 chapatti + serving of mixed greens	1 cup low fat milk (no sugar)	1 cup cauliflower vegetable + 1 chapatti + serving of mixed greens
<b>Friday</b>	1 cup vegetable poha + 1 cup low fat curd	1 cup watermelon	1 cup chana dal + 1 chapatti + serving of mixed greens	1 cup sprouts serving of mixed greens	1 cup tinda vegetable + 1 chapatti + serving of mixed greens
<b>Saturday</b>	1 cup low fat milk with oats + 3-4 strawberries	1 cup coconut water	1 cup soybean curry + 1 chapatti + 1/2 cup low fat curd + serving of mixed greens	1 cup organic product plate of mixed greens	1 cup ghia vegetable + 1 chaptti + plate of mixed greens

### 5. Do's and Don'ts while adopting an Obesity Diet Plan

Attempt to stay away from these food things in the event that you are following corpulence diet plan:

1. Depend on sodas, improved cereals, treats and cakes, doughnuts and cakes, chips, and ice cream parlour to get you as the day progressed.
2. Try not to skip suppers. This will entice you to nibble and DO NOT nibble between dinners.
3. Abstain from eating rapidly. Sit and bite each chomp. Have a go at utilizing chopsticks.
4. Don't foods shop when you're very hungry.
5. Try not to eat more than a few bits of natural product each day.

Add these food things if you're eating routine diagram on the off chance that you are following corpulence diet plan:

1. Eat more vegetables - add them at each dinner.
2. Drink a lot of water - you can get eager when parched.
3. Take a stab at eating off more modest plates in order to eat more modest parts.
4. Exercise between 30 minutes to one hour every day with moderate exercise - energetic strolling, group activity, cycling or swimming.
5. Be aware of what you put in your mouth and your shopping streetcar [9],[10].

### 6. Foods that are Easy to Consume on an Obesity Diet

Choose minimally processed whole foods.

1. Whole grains (whole wheat, steel cut oats, brown rice).
2. Vegetables (a colourful variety-not potato).
3. Whole fruits (not fruit juices).



4. Nuts, seeds, beans, and other healthful sources of protein (fish and poultry).
5. Plant oils (olive and other vegetable oils).
6. Drink water or other beverages that are naturally calorie-free [11].

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## 7. CONCLUSIONS

Overweight and heftiness basically are expanding at a kind of disturbing rate universally and actually has arrived at plague extents in pretty generally much every country in a subtle way. Weight has a huge commitment toward cardiovascular sicknesses, metabolic problems, gastrointestinal issues, and tumours, which is quite significant. However in beginning phases of weight acquire, when a really individual particularly is overweight, its movement to kind of horrible corpulence can be captured through diet and exercise, without the requirement for drug, endoscopic, or surgeries. We for all intents and purposes have endeavoured to place additional proof on the side of very current prescribed procedures in dietary administration and activities [12].

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## DESIGN AND CHARACTERIZATION OF ERLOTINIB NANOPARTICLES

Shirtha Mupkalkar<sup>1</sup>, Naveena Kommineni<sup>2</sup>, Pingali Srinivasa rao<sup>3</sup>,  
Vijayabhaskar Kanakam<sup>4</sup>

1234St.Peters Institute of Pharmaceutical Sciences,  
Vidya Nagar,Hanmakonda,Warangal,Telanagana,India

### ABSTRACT

*The aim of this study was to formulate and evaluate nine formulations of ERLOTINIB loaded PLGA nanoparticles homogenization followed by solvent evaporation technique by use of biodegradable and biocompatible polymer i.e. PLGA. The effect of different concentrations of polymer and stabilizer (PVA) on particle size, zeta potential, %EE and drug release was studied. PLGA was used in different concentration of 120 mg, 150 mg, and 200 mg. Preformulation studies of FTIR and DSC was done to determine possible interaction between the drug and excipients. A5 showed 75.14% of release after 72 h and followed the fickian diffusion pattern of kinetic. SEM image showed the spherical morphology of nanoparticles.*

### INTRODUCTION

As mortality due to cancer continues to rise, advances in nanotechnology have significantly become an effective approach for achieving efficient drug targeting to tumor tissues by circumventing all the shortcomings of conventional chemotherapy. During the past decade, the importance of polymeric drug delivery systems in oncology has grown exponentially<sup>1</sup>. In this regard, a wide range of submicron materials has been designed and engineered, especially for defeating cancer. Its applications expedite the development of contrast agents, therapeutics, drug delivery vehicles and theranostics. Nanoparticles for drug delivery applications have been composed of biodegradable and biocompatible polymers based on natural and/or synthetic materials<sup>2</sup>.

The use of nanocarriers has resolved the undesirable characteristics of anticancer drugs such as low solubility and poor permeability in cells<sup>3</sup>. One extensively investigated polymer is poly lactic-co-

glycolic acid (PLGA), synthetic thermoplastic aliphatic biocompatible polyester.

There are specific formulations based on PLGA and its related homopolymers, polylactic acid (PLA) and polyglycolic acid (PGA), which have been approved by the US Food and Drug Administration (FDA) for medical applications<sup>4</sup>.

In the field of controlled drug delivery system, increasing attention is focused on biodegradable polymers such as PLGA because of its biodegradability and biocompatibility<sup>5</sup>. PLGA nanoparticles are colloidal polymeric drug carriers that hold promise for oral drug delivery which represents by far the most common and convenient route of administration and also offer many advantages over conventional oral dosage forms, such as enhancing the oral bioavailability of those poorly absorbed drugs, protecting the encapsulated drugs in the polymer network<sup>6</sup>.

In this study, an attempt was made to formulation and characterization of water- insoluble drug *i.e.* ERLOTINIB in the form of PLGA based nanoparticles by use of emulsification followed by

homogenization technique. The prepared nanoparticles were characterized with regard to particle size, poly-dispersity index, zeta potential, morphological character, encapsulation efficiency, *in-vitro* release and kinetic study.



**MATERIALS AND METHODS**

Erlotinib was obtained as a gift sample from Hetero Drugs Limited, Hyderabad, India. PLGA was purchased from Lactel-Direct Corporation, USA. All other ingredients used were of analytical grade.

**Preformulation Study:** Preformulation studies such as FTIR and DSC were performed to determine the possible interaction between Erlotinib and the excipients used in the formulation of nanoparticles.

**Preparation of Nanoparticles:** PLGA nano- particles of Erlotinib were prepared by homogenization method <sup>7, 8</sup>. Preparation of loaded nanoparticles was based on the oil/water emulsification solvent evaporation method. Both polymer and the drug were dissolved in acetone as an organic solvent. The solvent should be organic, miscible in water and easily

removed by evaporation <sup>9</sup>. The organic phase so formed was added dropwise to an aqueous phase, containing (Polyvinyl alcohol) PVA cold as a surfactant, using a high-speed homogenizer using digital ultra turrax S22 & T25 dispenser in an ice bath at 8000 rpm speed. The emulsion formed was magnetically stirred to evaporate acetone.

After evaporation of the solvent, the nanoparticles were recovered by centrifugation using REMI C- 24BL cold centrifuge. Based on the initial trials formulations were prepared using general full factorial design (Qsutra Minitab 17 software) with two factors and three levels **Table 1**. Composition of prepared nanoparticles was tabulated in **Table 2**.

**TABLE 1: FACTORIAL DESIGN**

Factors	Levels		
PLGA (mg)	120	150	200
PVA (%w/v)	1	1.5	2

**TABLE 2: COMPOSITION OF ERLOTINIB LOADED PLGA NANOPARTICLES.**

Formulation	PLGA (mg)	PVA (%w/v)	Organic Solvent (ml)	Tween 80 (%v/v)
A1	120	1%		
A2	150	1.5%		
A3	200	2%		
A4	120	1%		
A5	150	1.5%	5 ml	0.2%
A6	200	2%		
A7	120	1%		
A8	150	1.5%		
A9	200	2%		

**Evaluation of Nanoparticles:** The supernatant was collected after centrifugation and used for the determination of % encapsulation efficiency (%EE)

<sup>10</sup>. Particle size distribution, polydispersity index, and zeta potential of all formulations was measured by dynamic light scattering using Malvern nano ZS-90.

$$\%EE = \frac{\text{Total drug added} - \text{Drug present in the supernatant}}{\text{Total drug added}} \times 100$$

**In-vitro Release Study:** *In-vitro* diffusion studies for Erlotinib loaded nanoparticles were carried out by using the dialysis bag technique <sup>11, 12, 13</sup>. The compartment was under continuous stirring at 37 °C ± 0.5. The drug which diffuses from nanoparticles in phosphate buffer saline was periodically withdrawn and the same amount was replaced with fresh phosphate buffer saline (pH 7.4). The absorbance of samples was analyzed by UV spectrophotometer

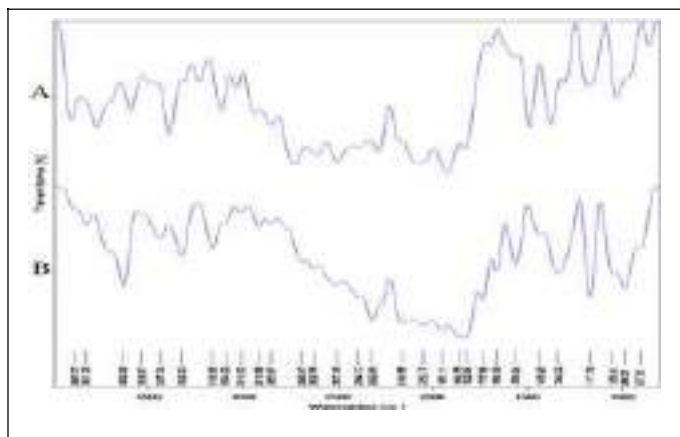
using Agilent Technologies Cary 60 UV-Vis at 332 nm.

**In-vitro Kinetic Study:** The dissolution profile of all formulations were fitted to zero order, first order, Higuchi and Korsmeyer-Peppas model to ascertain the kinetic modeling of the drug release <sup>14-17</sup>.

**Surface Morphology:** Morphology of the prepared PLGA nanoparticle was observed by scanning electron microscope (SEM).

## RESULTS AND DISCUSSION

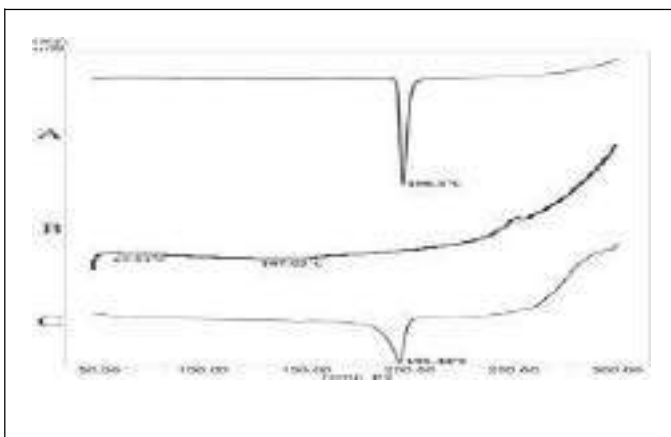
**FTIR Spectroscopy:** FTIR spectra of Erlotinib and the mixture of Erlotinib, PLGA and PVA showed that there was no possible interaction between the drug, polymer, and stabilizer used in the nano-particle formulation. It is shown in Fig. 1.



**FIG.1: FTIR SPECTRA OF ERLOTINIB LOADED PLGA NANOPARTICLES.** A: Erlotinib. B: PHYSICAL MIXTURE OF Erlotinib + PLGA + PVA

**Evaluation of the Nanoparticles:** %EE, mean particle size, PDI and zeta potential of the prepared nanoparticles are shown in Table 3. The amount of drug with respect to the concentration of the PLGA nanoparticles had a significant effect on the loading efficiency. It was observed that an increase in the amount of polymer and concentration of stabilizer yields to increase in the amount of % EE. An increase in the size of nanoparticles with the

**Differential Scanning Calorimetry (DSC):** The DSC thermogram of Erlotinib, PLGA and PVA showed that there is no significant interaction between the drug, polymer and stabilizer used in the formulation of nanoparticles. The thermogram is shown in Fig. 2.



**FIG. 2: DSC THERMOGRAM OF ERLOTINIB. B: DSC THERMOGRAM OF PLGA. C: DSC THERMOGRAM OF PHYSICAL MIXTURE OF Erlotinib + PLGA + PVA**

increase in concentration of PLGA and PVA was observed. It was observed that by increasing the concentration of PVA as a stabilizer, zeta potential value got decreased. The reason is maybe due to presence of PVA at the surface of nanoparticles, it acts as a shield between nanoparticles and surrounding medium<sup>18</sup>. PDI value for all the prepared formulations found to be less than 0.3, indicating homogeneity of all formulations<sup>19, 20</sup>.

**TABLE 3: EVALUATION PARAMETERS OF ERLOTINIB LOADED PLGA NANOPARTICLES**

Formulation n	EE(%) ±SD	Particle Size (nm) ±SD	PDI ±SD	Zeta Potential (mV) ±SD
A1	20.30 ± 0.44	299 ± 16.99	0.13 ± 0.03	-8.45 ± 0.61
A2	58.61 ± 0.81	340 ± 7.80	0.15 ± 0.02	-2.98 ± 0.16
A3	62.91 ± 0.64	469 ± 7.99	0.20 ± 0.03	-2.99 ± 0.02
A4	49.96 ± 0.88	340 ± 6.34	0.11 ± 0.01	-3.44 ± 0.23
A5	64.37 ± 0.24	446 ± 3.71	0.14 ± 0.03	-2.50 ± 0.11
A6	71.46 ± 1.27	568 ± 1.49	0.21 ± 0.01	-3.26 ± 0.39
A7	52.19 ± 1.63	330 ± 2.66	0.19 ± 0.07	-2.40 ± 0.51
A8	58.54 ± 0.48	471 ± 3.27	0.21 ± 0.01	-2.05 ± 0.04
A9	73.18 ± 0.71	604 ± 6.48	0.14 ± 0.02	-1.42 ± 0.17

Mean ± SD

**In-vitro Release Study:** Release study was carried out for the formulations bearing % EE more than 55% for 72 h which shown in the following Fig. 3. A5 showed a higher release rate of 75.14 after 72 h. The release profile showed the initial burst release of  $7.53\% \pm 2.12$  for A5 which can be due to rapid dissolution of the adsorbed drug. After that, the

slow release was observed on increasing the time duration and could be due to the penetration (diffusion) of release medium into the nanoparticles and dissolves the entrapped drug. A9 slow release rate was observed leads to an increase in the concentration of PLGA leads to tight and increase in the polymeric matrix around the entrapped drug.

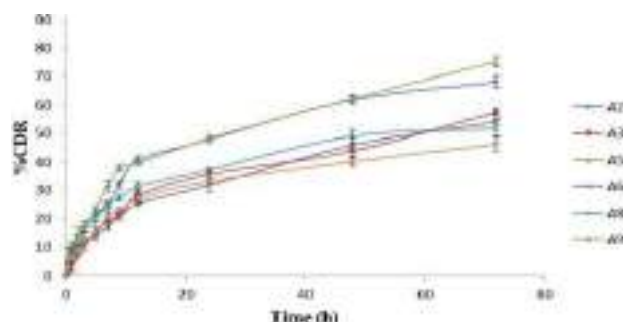


FIG. 3: CUMULATIVE DRUG RELEASE STUDY OF PLGA NANOPARTICLES (A2, A3, A5, A6, A8, A9)

**Drug Release Kinetic:** The drug diffusion profiles of all formulations were fitted into various kinetic modeling. From the result, it was obtained that all formulations were more linear towards Higuchi model with an R<sup>2</sup> value of range 0.948 to 0.986 indicating

that the drug release mechanism is by diffusion.

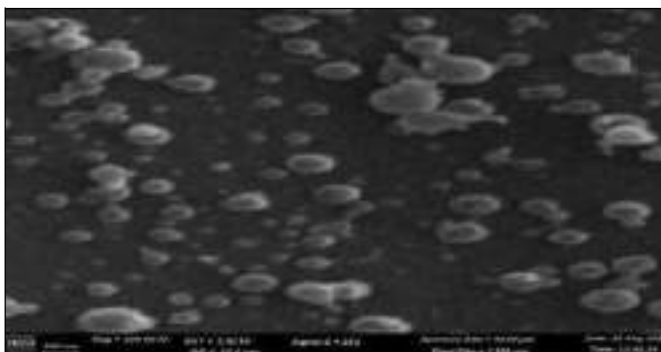
In Korsmeyer-Peppas model, the n values for all formulations were found to be close to 0.5 indicates fickian diffusion<sup>21</sup>.

TABLE 4: RELEASE KINETIC DATA OF ERLLOTINIB LOADED PLGA NANOPARTICLES

Formulations	Zero Order R <sup>2</sup>	First Order R <sup>2</sup>	Higuchi R <sup>2</sup>	Korsmeyer-Peppas n Value
A2	0.811	0.913	0.965	0.458
A3	0.881	0.943	0.986	0.497
A5	0.831	0.946	0.973	0.472
A6	0.885	0.941	0.989	0.469
A8	0.770	0.849	0.948	0.498
A9	0.791	0.849	0.975	0.518

**SEM:** Scanning electron microscope (SEM) was used to determine the surface topography of the ERLLOTINIB loaded PLGA nanoparticles. The result is shown in Fig. 4. It was observed that the nanoparticles are spherical in shape with no agglomeration. for providing the facilities required for this project and their continuous support and inspiration.

FIG. 4: SEM OF ERLOTINIB LOADED PLGA NANOPARTICLES IN 100KX



## CONCLUSION

Nine formulations of Erlotinib loaded PLGA nanoparticles were prepared and evaluated. The best release pattern was obtained in A5 where 150 mg of PLGA and 1.5% w/v of PVA were used. The release

pattern was best fitted to fickian diffusion, and sustained release drug delivery was obtained which could be applicable for cancer treatment.

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# ROLE OF PLANNING AND FORECASTING IN ACHIEVING MANAGERIAL EFFECTIVENESS IN ADAMAWA STATE UNIVERSITY, MUBI

**Sanusi Bello**

*Associate Professor, Department of Business Administration, Adamawa State University,  
Mubi-Nigeria*

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## ABSTRACT

*This study discusses “Role of Planning and Forecasting in achieving Managerial Effectiveness in Adamawa State University, Mubi”. The problem of the study looks at how budget and forecast results may not focus on accurate or timely information, thus offering little predictive value which limits the organisations ability to respond confidently to changing market conditions and increases the possibility of poor strategic decision making. The research design used for this study is non-experimental design method with specification in descriptive research design. The total population of the study is eight hundred and twenty four (824) which comprises of two hundred and thirty two Academic Staff (232) and five hundred and ninety two (592) non academic Staff of different carders, the sample size was determine at 269 using Yaro Yemani formula. The study was analyzed using descriptive statistics. The finding revealed that strategy roles of planning includes focus on improving forecast accuracy, it enables organisation to react quickly to conditions and alter long range plan. Also the finding revealed that planning and forecasting enhances the value of financial planning information used for strategic decision-making. The study therefore, recommends that there is need for management of ADSU to embrace the use of strategy planning in order to be able to forecast accuracy, to enable the institution to react quickly to conditions and alter long range plan, which can enhance the value of financial planning information to attain go strategic decision-making.*

**KEYWORDS:** *Effectiveness, forecasting, managerial, planning and role*

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## INTRODUCTION

One of the key challenges facing companies today is the ability to plan for the future and to predict operating performance. An effective, timeous and accurate budgeting, forecasting and financial planning process offers organisations an opportunity to prepare for and be in a position to succeed in a rapidly changing business environment. Companies that can update plans and forecasts quickly are in a better position to take advantage of opportunities and respond to threats (Stretch, 2009). Budgeting, forecasting and variance analysis are management accounting tools that can help organisations gain a more in depth understanding of the industry in which they operate. Over time, the understanding is refined and these tools can ultimately add value to the organisations’ strategic decision making process.

Achieving true value through the financial planning process is dependent on a number of factors, namely: understanding of the industry-specific challenges and opportunities, corporate culture of the organisation regarding planning and budgeting, the organisations ability to quickly change the scope of

its assumptions as the business environment changes, time and costs involved in the process and integration of all the functional areas of the organisation in the planning process. Organisations need to carefully consider the economic environment as well as take cognisance of the various internal and external factors which may have an impact on its operations. According to Botten (2008), organisations should maintain a weather-eye on its environment, watching out for emerging opportunities and threats. Each industry has its own set of challenges and opportunities that organisations have to take into account in their strategic planning. Therefore, budgeting and forecasting have to consider these general and industry-specific opportunities and threats.

An organisations attitude toward planning is important, buy-in from the whole organisation must be obtained in order for the process to add value and to be effective. Stretch (2009), argues that many managers are burdened with planning systems developed years ago in a relatively static, easy to understand, industrial age. This kind of



organisational scenario at a managerial level could lead to negativity and a lack of buy-in to the planning process. Other reasons for criticism and lack of buy-in are highlighted by Collier & Agyei-Ampomah (2007) as follows, budgets; are time-consuming and expensive, provide poor value to users, are too rigid and prevent fast response and can lead to unethical behaviour

Moreover, the individual perspective focuses on the individual rather than the organisation for managerial effectiveness because individuals can learn, practice and develop management skills and behaviour, which can be applied across the situations and contexts (Page et al. 2003). Managerial effectiveness has also been articulated as the ability of a manager to carry out the activities required for his position while achieving the results both current and in terms of developing further potential (Gupta, 2000).

In an environment where timely and accurate information is invaluable to making strategic decisions, an organisations ability to change or update the original plan quickly is crucial. The use of flexible budgets or rolling forecasts has given organisations this opportunity. A flexible budget or forecast is a much better basis for investigating variances, especially when key drivers such as planned volumes differ from the original plan (Collier & Agyei-Ampomah, 2007).

This process gives organisation's an opportunity to learn from the inaccuracies in their assumptions and take cognisance of any anomalies affecting the business that are outside the general scope of its assumptions. Many organisations do not evaluate actual results versus planning / forecast, this hinders the quality of the assumptions and forecasting going forward.

For many years, organisations have viewed planning and forecasting as mandatory and time consuming. The traditional planning and forecasting processes are still the cornerstones of the corporate financial planning process. In South Africa today, companies still budget once a year, and use this budget as the benchmark for judging monthly performance (Stretch, 2009).

Each year, the various operational areas within the company provide input to finance in order to compile a budget. These inputs are used together with certain assumptions and the financial impact thereof presented as the finance department's evaluation. Once all parties agree, a formal budget is approved and filed away. Even if the organisation moves toward the flexible or rolling forecast approach, there are still a number of factors that hinder the quality of the budgeting and forecasting processes. As a result, planned data is not being used to its full potential. This information should add value to an organisations strategic decision-making process.

Considering the limitations of the traditional budgeting and forecasting processes and also the various factors that influence the quality of these processes, organisations need to have a strong focus on budget and forecast accuracy. Forecasts are not always accurate – they are essentially about predicting the future with incomplete information (Department of Treasury, 2008). According to Ernst & Young (2011), budget and forecast results may not focus on accurate or timely information, thus offering little predictive value which limits the organisations ability to respond confidently to changing market conditions and increases the possibility of poor strategic decision making. With adequate understanding of the basic features and limitation of the techniques, the decision maker can help the forecaster formulate the forecasting problem properly and can therefore have more confidence in forecasts provided and use them more effectively. The forecaster, in turn must bring together the technique with the knowledge and experience of the manager (Chambers, 2017).

Hence, in most business, the responsibilities for preparing the planning and demand forecast lies with the marketing or sales managers, rather than operations. So it is important to harness, marketing and operations managers' position, since forecasts are also major responsibility for operation managers; otherwise business will be in dilemma between the two departments. The purpose of this study is to highlight current organisational paradigms regarding budgeting, forecasting and financial planning and to assess whether organisations add value to their decision-making through budgeting, forecasting and financial planning.

Their study only centered only budget and forecast in an organization using manufacturing organization and most of the studies have been done in the western context. Therefore, this study tend to bridge this gap by inculcating (role of planning and forecasting) and how each of the variables lead to achievement of managerial effectiveness with specific reference to Adamawa State University, Mubi.

The following questions were raised to elicit useful information to be able to deal with the subject.

- i. what are the strategic role of planning and forecasting in achieving managerial effectiveness in Adamawa State University, Mubi?
- ii. what are the mediating factors influencing planning and forecasting in achieving managerial effectiveness in Adamawa State University, Mubi?
- iii. what are the limitations to planning and forecasting in achieving managerial effectiveness in Adamawa State University, Mubi?



## CONCEPTUAL CLARIFICATION

### Concept of Corporate Planning

IBM (2009), states that planning is a strategic prediction of business performance at a summary level. Usually, planning is the province of a few savvy senior managers charged with making sure the company responds to changing market conditions and opportunities, balancing assets with opportunities. Accordingly, the process can be fairly frequent and must be completed quickly. According to Jackson, Sawyers and Jenkins (2009), planning is the cornerstone of good management and requires the development of objectives and goals for the organisation as well as the actual preparation of budgets.

According to Ilesanmi (2011), a strategic plan refers to the formulation of a unified, comprehensive and integrated plan aimed at relating the strategic advantages of the firm to the challenges of the environment. Its overall purpose is to assess the future implications of current decisions, to develop a framework for adjusting operations to changes in the wider business environment and to link and control the various elements of complex organisations.

### Concept of Forecasting

Forecasting is essentially a re-casting of the budget, in summarized form, to reflect changing market conditions, strategic plan alterations, error corrections and revised assumptions in the original approved budget. Companies typically re-forecast monthly or on an ad hoc or event basis in this unpredictable economy, with the process executed by a handful of finance personnel (IBM, 2009).

According to Barrett and Hope (2006), a common approach to forecasting is geared at fiscal year-end and is aimed at helping managers 'keep on track'. This is often known as "3+9", "6+6" and "9+3", the second number representing the months remaining until the fiscal year end. In its simplest form, IBM (2009) argue that a forecast is a revision of the budget that reflects changing business conditions, reassessment of key budget assumptions or perhaps a significant review of the strategic plan. The increasing use of forecasts has meant that budgets have become more forward-looking and better linked to strategic planning (CIMA, 2004).

### Concept of Managerial Effectiveness

Managerial effectiveness is often defined in terms of output - what a manager achieves. This result oriented definition leads us to look for the factors that contribute towards the "results". Studies find three factors to be responsible for the results that an organisation achieves through its managers. These are; (a) the efforts and ability of the managers, (b) the environment in which the managers and the organisation operates, and (c) the efforts and ability of the subordinates. Thus, the managers' ability is the key element in achieving the desired results.

According to Campbell (2000), managerial effectiveness should reflect in organizational effectiveness as well. Even if it does not, the effectiveness of the individuals by itself should be a matter of concern; because performing well is a prerequisite to any subsequent positive organizational dynamics.

Sayeed (2002), defined managerial effectiveness as a function of behaviour as well as technical management process. It is a leader's ability to achieve desired results. How well he applies his skills and abilities in guiding and directing others determines whether he can meet those results effectively. If he can, his achievements are poised to help the organization gain a competitive edge against rival organizations heading into the future. Managerial effectiveness has always been the prime concern and motto of the business owners (Shukla & Mishra, 2010).

The concept of "managerial effectiveness" has been defined differently by different scholars due to its complex nature (Bao, 2009). For example, Reddin (2000), defined managerial effectiveness as the extent to which a manager achieves the output requirements of their position. Kirchoff (2001), perceived it as the act of fulfilling various goals rather than optimizing one. Bennett and Langford's (2002), described managerial effectiveness as the relationship between what a manager achieves (performance) and what he/she is expected to achieve (i.e. aims and objectives) within the constraints imposed by the organization and socio-economic environment. Boyatzis (2000), extended the term to include qualities, intrinsic abilities or personality strengths. Drucker (1988), concluded that effectiveness is the foundation of success.

### The Roles of Forecasting and Planning Process

According to PricewaterhouseCoopers (2007), it is no longer sufficient to just measure past performance. Budgeting and forecasting have become a core competency for organisations to effectively plan, manage and execute strategy. KPMG (2010), argue that budgeting and forecasting is an essential component of their effort to create and sustain value in the business. The need for a value-adding budgeting, forecasting and financial planning process is becoming more and more evident in today's complex and rapidly changing business environment. The accuracy and timeliness of the information generated through these processes have serious implications for strategic decision-making.

#### i. Importance of the strategic plan

A value-adding forecasting and financial planning process should be driven by the organisations strategic plan. According to Deloitte Consulting LLC (2010), when organisations do not have a clear business strategy, it is difficult to make budgeting





and forecasting decisions. An effective strategic plan translates the business strategy into a simple story about the organisations future. This story is clear when people in the organisation understand what leadership has chosen to do, and not to do. This clarity is the foundation for a planning, budgeting and forecasting process that works.

**ii. Develop an annual budget based on the strategic plan**

CIMA (2008), states that the main purposes of budgeting as it relates to planning and control and supporting the achievement of strategic plans are as follows: translating the long-term plan into an annual work programme, co-ordinating the various departments of the organisation to ensure they work in harmony. A budget requires managers to consider the relationship between their operations and those of other departments. Otherwise, managers might make decisions in their own interests, rather than the organisation's best interests, communicating plans to those who will be held accountable. Each department or individual should understand what role they play in helping the organisation achieve its plans. One of the limitations of the traditional budgeting process is that financial plans are disconnected from the organisations overall strategic plans. According to IBM (2009), senior managers are concerned that the annual budget bears little relation to their carefully prepared strategic plans.

**iii. Re-forecasting the annual budget**

Preparing the annual budget is simply not enough in today's volatile and rapidly changing business environment. Barrett and Hope (2006), maintain that for this reason many organisations have adapted their budgeting process and are looking at other performance management methodologies such as re-forecasting. There are two basic approaches to re-forecasting the budget: the first approach is geared at fiscal year-end and often referred to as "3+9", the second number representing the number of forecast months left until financial year-end. This approach was briefly mentioned in chapter two, secondly, rolling forecasts are being used to manage businesses more effectively making planning a continual process. The following example is made by Barrett and Hope (2006), if the organisation was just approaching the end of the quarter one of the fiscal year. The management team gets the actuals for that quarter and starts to review the next four quarters ahead. Three of these quarters are already part of the

original plan or budget but a further quarter needs to be added (quarter one of the following fiscal year). By definition, the fiscal year-end is always on a 12-18 month rolling forecast

**iv. Performance measurement**

According to Deloitte Consulting LLP (2010), too many companies put tremendous effort in the planning, budgeting and forecasting process, only to have much of that work wasted by not having the right information available to make sure they stay on track. The most fundamental planning, budgeting and forecasting value adding capability is the measurement of actuals against plan. Grigore, Bagu and Radu (2009), argue that the performance measurement process collects, processes, and distributes data to allow an effective execution of the other sub-processes. This information is presented in the form of key performance indicators (KPI's) and these KPI's must be guided by the strategic plan. Reviewing actual performance against planned targets ensures that timely preventative and corrective action is taken to keep the organisation on track.

This aspect of the budgeting and forecasting process is where the most value can be added to strategic decision-making. Reviewing actual performance against plan is very important, not to point out the inefficiencies in the plan and allocate blame but rather to learn from the variances and ultimately have them influence the organisations strategic direction.

**Factors Influencing the Quality Planning and Forecasting Processes**

Organisations that have moved away from the traditional 'annual' budgeting process and embraced a planning cycle that focuses on a budget with more frequent re-forecasting still face the challenge of ensuring the quality of information generated through the budgeting, forecasting and financial planning process. This information is useful for analysing trends, developing meaningful business insights and ultimately adding value to strategic decision-making. According to KPMG (2010), the key to reliable planning and forecasting is the ability to draw together culture, process and internal and external data into balanced and cohesive framework enabled by technology. Reliable planning and forecasting can have an incredible long-term impact on the business, helping to improve the ability to identify new opportunities and manage potential risks. Deloitte Consulting LLP (2010), states that a value-adding budgeting, forecasting and financial planning process provides the organisation with the following: aligns everyone to the same goals, provides both short-term





and long-term targets, sets a framework with which to evaluate investment opportunities, guides the definition of key performance indicators (KPI's).

When it's done right, the planning, budgeting and forecasting process begins with the enterprise strategy (3-5 years) which drives decision-making about investments, capital allocation and resource deployments. Executives and business stakeholders are fully engaged in the process and drive initiatives to obtain funding. These initiatives drive highlevel financial plans (18-24 months) which set targets for operating plans (1218 months). Lessons learned from variance analysis drives re-forecasting which in turn feeds back to the strategic plan. According to Jackson, Sawyers and Jenkins (2009), a budgeting process that is clearly guided by a strategic plan makes managers more focused on important aspects of the budget and less worried about irrelevant details.

#### **i. Corporate culture towards planning**

According to CIMA (2004), organisational culture is by far the biggest influence on how formal systems and processes operate in practice. Fostering the right culture, whatever that may be in the context of individual companies, was recognised as one of the most important factors in the success of the budgeting and forecasting process. It is critical that a company's culture embraces and rewards planning. Excellent business management requires excellent financial management, which in turn requires a company-wide commitment to excellence in budgeting, forecasting and reporting (Adaptive Planning, 2005).

#### **ii. Plausibility of assumptions**

The use of assumptions is a vital element of budgeting, forecasting and financial planning and has a direct impact on the quality of information generated as a result of these processes. According to Steven-Jennings (2009), the key assumptions used in the plan must be tested thoroughly by researching the industry, speaking to colleagues and competitors and getting objective opinions. In a related publication, KPMG (2010), mention that the key to an effective budgeting and forecasting process is to validate all possible assumptions and factors so that executive management can weigh the validity of each and determine which to include and which to omit. Evaluating actual outcomes to what was planned is a very effective means of testing the assumptions used in the plan. Papenfuss (2012), mentions that the development, testing and discussion of forecast assumptions are now a critical part of the planning process. A longer range outlook in the budget or forecast process offers organisations the opportunity to test the plausibility of their assumptions. Organisations, operating in an international environment, which are affected by factors such as currency differences have to make significant assumptions

in terms of the strength or weakness of their trading currency. Inflation and a deteriorating trading currency are often recovered through product pricing and marketing.

#### **iii. A focus on improving forecast accuracy**

The quality of financial information from the budgeting and forecasting process is largely dependent on the organisations attitude toward budget and forecast accuracy. The need for improved value and accuracy from budgeting, forecasting and financial planning led to a thorough research study conducted by PricewaterhouseCoopers in 2011. This study focused not only on the current challenges but also on the practises organisations are deploying to improve the financial budgeting and forecasting processes (PricewaterhouseCoopers, 2011). According to PricewaterhouseCoopers (2011), a key finding of this study is that increasing forecasting accuracy is at the top of the improvement agenda. Companies continue to struggle with the shared ownership between business and finance of the financial plan and the overall financial conservatism built into the planning process. Companies that formally measure and report on forecast accuracy have achieved a higher level of precision. KPMG (2011), states that a forecast is comprised not only of financial measures, but also key drivers of the business that affect current and future financial performance. The deeper the understanding of the relative impacts of each driver, the more accurate the forecast and the ability to make informed decisions. Achieving forecast accuracy improves the quality of financial information and increases the credibility of the finance department's financial evaluation. Organisations must however shift the focus from control and accuracy to how effectively they use this information as a tool for strategic decision-making.

#### **iv. Frequency and level of detail**

Organisations face the challenge of choosing the ideal frequency and level of detail for their budgeting, forecasting and financial planning. According to KPMG (2010), rolling forecasts, revised monthly, quarterly, or at least annually are key to understanding the company's current financial situation and also its future. The market, competitors and economy change constantly and at ever-increasing rates. Organisations are reacting by forecasting more frequently and reducing the amount of detail in each forecast. Barrett and Hope (2006), state that the frequency of updating forecasts would depend on the industry. However, if an organisation has got forecasting down to a slick process that takes up little time and involves little cost, more frequent re-forecasting will give better early warnings of emerging trends and enable organisations to be



more responsive. According to Pricewaterhouse Coopers (2011), obtaining the right level of detail for an organisation means that that a company has to understand and focus on the real drivers of the business that significantly impact their financial statements and spend less time managing the detail that has little impact on decision-making. Developing the balanced level of detail in a company's planning environment translates into the following benefits: avoids giving the perception of false accuracy, allows financial planners and managers to focus on the most important accounts and their drivers, enables finance teams to perform scenario analysis and turn around 'what-if' challenges in a timelier manner.

#### iv. Technology

The technology used by organisations in the budgeting, forecasting and financial planning processes is a very important factor in whether these processes add value to strategic decision-making. CIMA (2004), state that new technology has helped organisations move away from a culture characterised by functional divisions and 'silo' mentality. Departments and managers using off-line spreadsheets can end up disconnected from other parts of the organisation that would impact on their planning. Research conducted by PricewaterhouseCoopers (2011), indicates that 27% of the organisations surveyed still rely on spreadsheets and manual processes for their budgeting, forecasting and financial planning. Whilst spreadsheets are flexible and relatively quick to update, IBM (2009), cite the following reasons why they are inadequate in managing a budgeting process of any significant size or sophistication. Spreadsheets are: two-dimensional, hard to maintain, don't integrate well with other systems, difficult to share and often hard to understand.

### Limitations of the Forecasting Planning Process

#### i. Cost control versus value creation

One of the key limiting factors of the traditional budgeting and forecasting processes is the purpose for which the budget was prepared in the first place. Jackson, Sawyers and Jenkins (2009), highlight two purposes for which budgets are typically prepared: the use of budgets for cost control and performance evaluation and the use of budgets in strategic planning and operating activities. Many organisations still prepare an annual budget for the first reason, to control costs and evaluate performance. John and Ngoasong (2008), argue that this kind of planning encourages internal politics, gaming behaviour and a short-termist culture that focuses on achieving the budget figure or target. According to CIMA (2004), budgeting in this manner can

stifle the entrepreneurial, risk-taking culture that can be responsible for value creation. When rewards and incentives are offered for achieving targets, managers may become reluctant to present an unbiased picture. This unbiased picture will therefore add little or no value as an informational tool in the strategic decision-making process. Jackson, Sawyers and Jenkins (2009), state that this kind of behaviour is unethical and is not beneficial to the company as a whole. Organisations can reduce incentives for this type of behaviour by holding managers accountable and punishing unethical behaviour with strong sanctions.

#### ii. Lack of departmental collaboration

A lack of cross-functional collaboration and the mind-set that the budget 'belongs' to finance is also one of the limiting factors of the traditional budgeting and forecasting processes. In most organisations, the finance department 'owns' and administers the budgeting process. Accountants are therefore first in the line of fire for its perceived shortcomings and are charged with making the necessary changes (CIMA, 2004). Akintoye (2008), argues that the finance department are often seen as traffic cops rather than strategic partners. Budgetary planning then becomes a mere exercise; consequently, the quality of information for budgetary planning and control is seriously compromised. This kind of organisational paradigm regarding the budgeting and forecasting process can have serious implications as to whether the process itself adds value to strategic decision-making. Departmental heads provide assumptions such as sales volumes, inflation and other key drivers to finance to use in the budgeting and forecasting process. According to Adaptive Planning (2005), because finance does much of the work themselves, line managers see little benefit and are dragged through the process. There is a lack of buy-in from the various functional areas and the finance department's plan loses credibility.

#### iii. Lengthy, inflexible and laborious planning cycles

The traditional budgeting and forecasting process is time consuming, inflexible and costly. According to Deloitte Consulting LLP (2010), the greatest threat to effective financial stewardship is a long, resourceconsuming planning cycle. Too many decisions are made without meaningful perspective and direction. PricewaterhouseCoopers (2011), states that organisations spend a great deal of time and effort on consolidating, summarising, communicating, explaining and reviewing information for financial planning. This argument is supported by IBM (2009), who mention that weeks and months are spent struggling with the mechanics of



the process, chasing submissions, checking for incomplete or invalid data and trying to track and control versions. Another concern raised by IBM (2009), is that the finance department, even with enterprise resource planning software, is still doing too much manual work to fine-tune the budget thus adding to the inefficiency of the process.

#### iv. Behavioural implications of budgeting

When budgets are used for both planning and control purposes, conflicts invariably arise. If managers are evaluated and compensated according to whether they 'meet the budget', they may have incentives to pad the budget, thus making targets easier to reach (Jackson, Sawyers & Jenkins, 2009). According to Collier and Agyei-Ampomah (2007), the practise of reducing budgets where they have not been spent has led to managers spending their budget allocations at year end, whether the expenditure is needed or not to avoid budget cuts in the following year.

### EMPIRICAL REVIEW

According to Song (2011), the empirical evidence suggests that more strategic planning and more new product development projects lead to better firm performance. Previous studies have attempted to determine the effect of the planning process on firm financial performance. These efforts have divided firms into those with formal planning systems and those without formal planning systems and related these to measures of financial performance (Wood and LaForg, 2000). These studies were based on the assumptions that formal planning leads to better financial performance and that the effectiveness of the planning process could be determined by looking at the financial returns of the firm. This theory has not been supported strongly by empirical testing. For both large and small firms the results have been mixed when planning formality has been related to financial performance (Kudla, 2001).

McCarthy and Minichiello (1996), note that a company's strategy provides a central purpose and direction to the activities of the organization and to the people who work in it. Adding to this argument, Kotter (1996) contends that the primary goal of strategic planning is to guide the organization in setting out its strategic intent and priorities and refocus itself towards realizing the same.

Hugh (2002), study surveyed 10 companies, comparing performance of formal and informal planners over a 7-year period. Based on the survey results, He concluded that formal planners outperform informal planners and hence, supporting the results. Ansoff (1981), studied 93 firms using various variables of financial performance. The findings revealed that companies, which do extensive strategic planning, outperformed the other companies. Metropolis concluded that strategic management practices enhance both organizational profitability

and company market share and therefore suggest that strategic planning concepts should be adopted by business organizations. Similarly, it has been argued that although there is a general perception and belief that strategic planning improves organization effectiveness, if wrongly pursued the anticipated value may not be tapped (Robert and Peter, 2012).

### Theoretical Framework

There are two approaches to corporate planning prescriptive and emergent approaches.

#### Prescriptive Approach

According to Lynch (1997) a prescriptive corporate planning is one where the objective has been defined in advance and the main elements have been developed before the plan commences. Prescriptive corporate planning starts with the search for an agreed objective, then the environment in which the organization operates is then analyzed and projections made for the future. Based on this work, forecasts then form the background for the organization strategic plan. At this point the objectives may be reviewed. If the forecasts are particularly positive or negative, then the objectives may be changed.

Lynch states that after making a forecast of the expected environment, various options are identified to enable the business to achieve the agreed objectives, there is usually more than one way of achieving objectives. One option is then selected which has the ability to meet the objective. The chosen option is implemented by the organization's managers. The prescriptive corporate planning process is claimed to be logical, rational and capable of real insight into the problems of an organization. It focuses on the major issues that each company needs to address.

#### Emergent Approach

Emergent corporate planning is a strategy whose final objective is unclear and whose elements are developed during the course of its life, as the strategy proceeds. Lynch (1997) deriving from the observation that human beings are not always the rational and logical creatures assumed by prescriptive approach, various commentators have rejected the long-term prescriptive approach. They argue that strategy emerges, adapting to human need and continuing to develop overtime. Given this, they argue that there can be only limited meaningful prescriptive strategies and limited value from long-term planning. According to Gayle (2002) the advantages of emergent corporate approach are that which takes account of people issues such as motivation, allows the strategy to develop as more is learnt about the strategic situation and provides the opportunity for the culture and politics of an organization to be included in the process.



For the purpose of this study the researcher has however, dwelled on prescription approach theory, the research for chosen this theory is because prescriptive corporate planning starts with the search for an agreed objective, then the environment in which the organization operates is then analyzed and projections made for the future i.e. it forecasts then form the background for the organization strategic plan.

**METHODOLOGY**

The paper adopted the use of non-experimental design with specification to descriptive research design: Descriptive research: This is a more in-depth research that answered the question what and how. This study was carried out in Adamawa State University, Mubi. The total population of the study is eight hundred and twenty four (824) which comprises of two hundred and thirty two Academic

Staff (232) and five hundred and ninety two (592) non academic Staff of different carders. The sample size is 269 determine through use of Yamani (1964). Closed ended questionnaire is the major instrument for data collection in this study; this is because questionnaire has the capacity of collecting more relevant data from respondents. The questionnaire was design on five points likert scale ranging from strongly agree(5), to strongly disagree(1). The study however, used Statistical Package for Social Sciences (SPSS) for correlation analysis at 0.05 level of significance.

**Hypothesis Testing**

H<sub>0</sub> : Planning and forecasting does not lead to achievement of managerial effectiveness in Adamawa State University, Mubi;

		PF	ME
PF	Pearson Correlation	1	.888**
	Sig. (2-tailed)		.067
	N	241	241
ME	Pearson Correlation	.888**	1
	Sig. (2-tailed)	.065	
	N	241	241

\*\*Correlation is significant at the 0.01 level (2-tailed)>

Where:

PF : Planning and forecasting

ME : Managerial effectiveness

To evaluate whether there is a significant relationship between planning & forecasting, and managerial effectiveness in ADSU Mubi. Hypothesis shows a correction of 0.065 and which is higher than 0.05 level of significant. Therefore, the null hypothesis which states that planning and forecasting does not lead to achievement of managerial effectiveness in Adamawa State University, Mubi was retain and reject the alternate hypothesis.

**FINDINGS**

The major findings of this study have been derived from the analysis and presentation of data of this study:

- i. Findings revealed that strategy roles of planning includes focus on improving forecast accuracy, it enables organisation to react quickly to conditions and alter long range plan. Also the finding revealed that planning and forecasting enhances the value of financial planning information used for strategic decision-making.
- ii. From the above analysis, the finding revealed that planning and forecasting didn't helps in validation and testing of assumptions in ADSU, the institution attitude/culture towards planning in is not encouraging. A finding also shows that there

is no focus on improving forecast accuracy in Adamawa State University, Mubi which can leads to effective planning and forecasting.

- iii. Finding further revealed that there is lack of involvement from principal officers and top management in ADSU which affect planning and forecasting, budgets are prepared too far in advance, volumes and exchange rates will change; Finding also shows that in ADSU forecast are unrealistic when trying to achieve pre-determined targets,

**CONCLUSION AND RECOMMENDATIONS**

This research has provided an insight into the evaluating the role of planning and forecasting in achieving managerial effectiveness; the hypothesis established that planning and forecasting does not lead to achievement of managerial effectiveness in Adamawa State University, Mubi. The study further concludes that strategy roles of planning includes focus on improving forecast accuracy, enables organisation to react quickly to conditions and alter long range plan, enhances the value of financial planning information used for strategic decision-making.





Moreso, planning and forecasting didn't help in validation and testing of assumptions in ADSU, the institution attitude/culture towards planning is not encouraging. There is no focus on improving forecast accuracy in the University which can lead to effective planning and forecasting. Furthermore, there is no planning for uncertainty in the external environment that will lead to effective forecasting.

Lastly, limitation to planning and forecasting in ADSU includes lack of involvement from principal officers and top management in ADSU which affect planning and forecasting, budgets are prepared too far in advance, volumes and exchange rates will change; forecast are unrealistic when trying to achieve pre-determined targets. Inadequate training and development of staff on effective planning has negative effect on staff performance; also discouragement of information sharing in ADSU affects the level of planning and forecasting.

The following recommendations were derived from the above findings;

- i. Since it is observed that strategy role of planning is very vital to survival of organizations, therefore there is need for management of ADSU to embrace the use of strategy planning in order to be able to forecast accuracy, to enable the institution to react quickly to conditions and alter long range plan, which can enhance the value of financial planning information to attain go strategic decision-making.
- ii. The study further recommends that management of ADSU should give more priority to planning and forecasting in their decision making process, because management of ADSU didn't see planning and forecasting as instruments that can enhance the institution attitude/culture towards planning, improving forecast accuracy to achieve effective planning and forecasting.
- iii. The study also recommends that in order to tackle the limitations affecting the performance of planning and forecasting in ADSU, there is need for involvement of principal officers and management in decision making process. Also there is need for the management of the institution to carry out proper forecasting analysis in preparing budgets in advance, because volumes and exchange rates may probably change; their forecast should be realistic when trying to achieve pre-determined targets.

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# USE OF SOCIAL MEDIA FOR ACADEMIC PRACTICES IN HIGHER EDUCATION AND ITS PROS & CONS: A REVIEW

**Sri Manoj kumar Behera**

*Assistant Professor, P.G. Department of Commerce, Vikram Deb (Autonomous) College, Jeypore*

## ABSTRACT

*Social media is a set of information technology applications based on web services. It is also known as Web 2.0. This enables the users to create and share the content actively in an open platform. The new generation students are being called as millennial who uses the social media (Facebook and twitter) in particular for their social interaction as well as for the learning. Now a day, it has been found that social media are being used significantly in higher education as the educators or instructors are looking forward to use the technology for the better communication and promote easy learning for the students. In this regard many scholars argue that the social media should integrate into the academic practices in the higher education as an educational tool. Whereas there is no significant evidences are available in the literature regarding the empirical studies in this area. However, the empirical evidences available are fails to support the claim as most of the existing empirical studies in this area are done on the basis of the self-reported data like surveys and questionnaires and some study has done on content analysis. In this paper, the researcher tries to review and summarise the existing studies and to propose the future areas of the research and also discusses the pros and cons of the said topic.*

**KEY WORDS:** *social media, web 2.0, higher education, academic practices etc.*

## INTRODUCTION

There will be few people who were unaware of the emergence of the social media, particularly the applications such as Facebook, twitter, LinkedIn, YouTube and Wikipedia etc. even the casual users of internet will now be aware of the various social sites and expose to the virtual world. Since 2006, these social sites are plays the dominant role among the digital technology is used around the world. Though there are variations in the cultural or geographical within the world whereas the people from different areas uses different social sites but the social media principles remain same. That is to interact with each other, share the contents, music, videos, textual contents etc. possibly the main characteristic of all the social media sites is to harnessing the collective actions of users in online communities i.e, mass socialisation (Shirky, 2008). The growth of social media has changed the ways the end users are experienced the internet. It is no longer a one-way communication technology where the individuals only download the data and other resources. Instead, the social media is now helps the internet users to connect many-many connectivity rather than one to many. Social media are more open rather than closed applications by the help of these end users can easily share, rate, remix and chat with friends and trends.

The internet is totally different today to that of 10 years back.

During these developments in the technology, the educational institutions are expected to find themselves in the digital world and to use the social media application for the betterment of the academics practices. As it has been observe that there is always a gap between the technological users and the rest of the society can be mark out from the introduction of film and radio in the 20<sup>th</sup> century. Without any doubt the social media will remain an area of expectation and overemphasis. Therefore it is important for the higher educators or the educational institution to consider social media in an objective manner. This study is emphasis on what are the features of social media and its significance to higher education. How these social Medias are being used by the educators and educational institution of higher education and what are the necessary changes need to make by the higher education to cope up with this fast changing digital world.

## METHODOLOGY

The study is based on secondary data and it has been collected from the well-known specialised databases like EBSCOhost, Web of Science, Google scholar, science direct etc. in addition to that Google scholar is being used to collect the existing study by



searching by this key words like social media, role of social media, social media in higher education etc.

### **Significance of social media for higher education**

According to Halpin et.al (2010) the web has always provides the services like exchange messages , maintain personal profiles, create list of friends and write in the blogs like journal entries etc since the early 70s and it has always been social. But the change in technological world challenges the web 2.0 to re branding and re versioning itself. Current application of social media is different from the earlier internet services in term of scale of use. As compare to earlier number of users of internet, now the users of social media has drastically changes and increases like anything. So it is a challenge for the new social media applications to be benefiting the mass users and giving collective benefit and social significance. The wide applications of social media can create opportunity as well as the problems for us. To supporting to this Christakis et. all (2009) said in his paper that as a part of social network, we can go beyond ourselves for become good or bad, and became a part of something much larger.

### **REVIEW OF LITERATURE**

In spite of most discussions on social media have a habit of focusing either on prosaic or very reflective (e.g. in Iran and Egypt, social media effected by making them narcissism or making them to support the popular revolts). The question remains the same what is the significance of social media in higher education? From the studies it has been found that number of educationalist are growing in implication of social media for educational practice and provision in particularly in higher education. This can be discussed under three different lines.

### **Social media use by students in higher education**

According to Browning et. all (2011), the baby boomers, millennial and generationXers (all college students) are habituating of using various technologies in many aspects of their lives. Today's student using computers, laptops, tablets, smart phones daily basis for chatting, browsing, messaging, content developing and spare more time on the social networking sites like Facebook and twitter etc. and also exposed themselves for online learning, sharing and much more (Cassidy et. al(2011).The recent researches reveals that, now a day most of the students and faculty are using different technologies and platforms in their daily lives, particularly social media (Facebook, twitter, YouTube etc.) (Browning, et. al.,2011; Chen, et. al., 2012). However the percentage of users using social media for academic purposes are found to be very low (Chen et. al, 2010;Lenhart, et.al., 2010;Tiryakipglu, et.al.,2010).

According to the report of Pew Research Centre, America highlights the use of social media by the individuals in United States in 2009. It reveals that the numbers of users registered in various social sites are increasing to the prior years. Out of all the respondents 73% of the users are choosing Facebook as their social networking site. 48% of respondents maintain their profile in LinkedIn and MySpace.19% of respondents are using Twitter and 4% respondents use social media as their second life. From this research it has been found that only 30% people use the social media for sharing of self-created images, videos and arts. Whereas only 15% people use for remixing the contents like songs, images etc. 11% people use blogging just to inform or update the information to the readers on some topic or events.

Liu (2010) studied the use of different social media by the students and their perception towards the social media through an online survey of 221 students. He identify that the most of the students are using 16 media tools such as Facebook, LinkedIn, Twitter, YouTube, Wiki, Blogs, Net log etc. this study reveals that out of all respondents 70% are having proper knowledge about Facebook, YouTube and wiki. 25% people were not knowledgably regarding other media tools like Blogs, Net log etc. this study also reveals the reason of using social media by the students. According to the study, 85% students use social media for social engagement, 56% for their communication with friends, 47% use for relationship building. However, only 10% of students mentioned about the use of social media for academic purpose. In supporting to that another study by Browning, et. al. (2011) reveals the perception of the students regarding social media which is very strong and favourable perception for consider social media as the way of deliver course content.

Another study conducted by Poellhuber, et, al. (2011) aimed at to find out the use and interest in social media by the students. He got 3462 respondents through online questionnaire. The result highlights that significant percentage (69%) of users are expert and advanced in using social networking, 52.9% are good in video sharing, 33.7% use for photo sharing and only 25.4% use the blogging tool. The percentage of female students is high in use of social media technology (Poellhuber, et.al (2011) whereas male students have generally more competence and positive attitude towards the use of technology (Jackson et.al, 2001; Miller, et. al, 2000). The study reveals that most of the students between the ages of 18-24 are using social media and having the expertise to use these applications (Poellhuber et.al (2011). As the technology changes and the attitude of students changes the number of student start using social media for academic use are surpassed by its use for other purpose like social engagement, communication and relationship building etc.(Lenhart, et. at.(2010).



From the above literature it has found that the students are start using social media for their academic purpose and Facebook and YouTube are the most used social media application by the students (Guy, 2011; Poellhuber et. al 2011).

### **Use of social media by faculty in higher education**

According to the faculty survey of student engagement (FSSE,2010) the educators have been found to be slow to use social media for academic practice. However the growth of social media usage is increasing worldwide for personal use only. This survey reveals that 80% of faculty out of 4600 faculty members never had use social media. Like Google Docs, Wikis, Blogs or Virtual worlds. Chen & Bryer (2012) studied the perceptions and experiences of 57 faculty members across the United States. This study indicates that the entire faculty are using social media either for personal, research or professional purposes. Majority of the faculty members are using Facebook for personal purpose and Linked In for professional purpose. Furthermore the uses of social media by the faculty member in academics were designed informal and self-regulated to classroom teaching only where participation was an option and the quizzes and tests are absent. This study reveals the issues which prohibiting the use of social media in the higher education are faculty workloads, time constraints, privacy issues, cyber security and cyber bullying.

### **Social media used in distance and traditional education**

Brady et. al (2010) studied the 52 graduates of North Carolina State University to examine their attitude towards the social media in educational practices. One education network was created for the college education to use in distance learning for the students. An online survey was conducted to identify the perception of students regarding the education network site for their education. This survey shows that 70% of the participants say social site is more frequent collaboration as compared to face to face communication. 82% said that the social site was beneficial for communication outside the classroom.42% said that social networking application allowed them to communicate freely with the faculty 50% of the students said that social networking was more convenient for sharing and discussing ideas and information than the face to face classes.

Manan et, al(2012) explored the experiences of the students in the university of Malaysia regarding the use of Facebook as a medium of sharing information and education. The study shows that majority of the students are enthusiastically accepted that the Facebook is more interesting and enjoyable learning tool. In addition to that the

students are reported that the different approach in the educational process enhanced their understanding of theories and concepts. The increase in the interest of social dimensions of learning has directed the educators and educational institutional to study the integration of social media applications in both conventional and distance learning programmes.

There is an on-going debate regarding the integration of social media in higher education. Some people advocates the benefits of using social media in higher education whereas critics are focusing on the regulation or the removal of social media applications from the classroom teaching. Therefore middle ground has become a challenge for the integration of social media in education.

### **Use of social media in educational practice: pros and cons**

#### **Pros**

The supporters argue that the present day college students are habituated to social media like a convention. Social media allow the students and educators to exchange their ideas, discussions and collaborations. As an educational tool, the social media helps the students and teachers to engage and interact in this social platform (Lederer, 2012;Turkle, 2004) . In supporting to this Lederer, (2012) summarises various benefits of social media in particularly in the education. The scholar outlines that social media allowing students to interact freely with the faculty in a less intimidating environment. So social media becomes more effective way to increase student engagement and helps to develop communication skills. Moreover she believes that social media can help the educators to solve the student's problems even from the home, answer the student's questions, can check the work assignments, share the lesson plans and message the updates in the lessons and also helps to inform the upcoming events, websites and multimedia contents. Finally she points out that college students can use social sites to find employments by register themselves in a professional web presence, can send the resume and able to find out potential employers.

#### **Cons**

Despite of all the benefits of social media discussed in the previous paragraph, the critics argue that there are disadvantages of using social media in the class room or in the educational practice. Besides that the some educators believes that social media applications are not always beneficial or appropriate for the teaching practices (Waycot, et, al, 2010). In support of Lederer (2012) suggest that some time social media (Facebook, Twitter and YouTube) can be cause distraction from the study in the class room which causes disruptive to the learning process. Secondly, she argues that social media discourage face to face communication this leads to the lacking of social skill in students. Lester (2010) cited another





challenges for social media being an educational tool is suitability and appropriateness in the curriculum. For better integration social media should be a part of curriculum and not just a means of communication. Secondly Lester tries to explain the technology infrastructure is also a challenge for social media integration to the education. Third party involvement in the educational practice in terms of web based innovations is major concerns for the educational institutions. Apart from this the cost for develop own social networking site is high for most of the educational institutions.

### Limitation

This study is only focuses on the research articles found out by applying a few keywords in research articles are not based on common lists, it is highly likely that some of the literature was missed. As the area of social media is very vast and here in this paper all the areas are not being discussed for the time factor.

### CONCLUSION

The literature review explain that social media helps for academicians for a lot. The current review shows the diverse perceptions and experiences of students and educators regarding the social media usage in educational practices. Many studies reported that there is huge willingness among the students to introduce social media into their learning process. Apart from this some majority of the faculty were support the inclusion of social media technology in the academics but also provides some guideline and concerns regarding careful integration of social media. The existing published research on the use of social media in academics is limited to the chats, blogs, search and discussions only therefore there is always a need for further explorations in determining that how social media applications can be used for teaching practices. There are ample opportunities for the scholars and educators to continue to study the current issues cited in this article. Perhaps the most debateable question remains that is does the presence of social media in the higher education reflects as an educational tool or does it reflects the changes in the way of students learning process. I believe this could be a proposition for further study that must be an empirical one.

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# FARMART: COMPLETE SOLUTION OF SMART FARMING

Lucky Yadav<sup>1</sup>, Mr.Karthick.S<sup>2</sup>

<sup>1</sup>Student of B.Tech (CSE) SRM Institute of Science and Technology NCR Campus,

<sup>2</sup>Assistant Professor of BTech CSE Department in SRM Institute of Technology NCR Campus

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## ABSTRACT

*With the increase in technology related to IoT, the concepts are being readily applied to Smart Agriculture that can help in providing data about the land as per the provided input. The farmart is a complete solution of smart farming. Which is developed for the farmers to optimize use of water for agricultural crop. As water supply is becoming a scare in today's life it is important to adopt the smart solution in farming also. The project describes how irrigation can be handle smartly using IOT. This project can help farmers to save their time and give complete information about the soil and climate by which farmers can decide when crop needs water and as it's a smart farming it can be done automatically by the farmart. The primary aim of the project is used for detecting soil moisture and climate condition and depending on the condition it sprinkle the water in field. And this entire information is sent to user's mobile phone through SMS. This system involves using a WSN with different sensor which help farmart to take action. And this whole system is programmed into a microcontroller which control the irrigation system and quantity of water being used. And then send this information to user with the help of duplex communication channel working on an interface of cellular-internet which allow user to get every information on his phone through an app and a webpage.*

## 1. INTRODUCTION

Smart farming is a model which consist of modern and smart technology for increasing the quality and quantity of the product. Farming is backbone of our country economy and 70 percent of people in our country depends on farming. Most of farming and agriculture methods work on mere predicting the weather, which in case the prediction fails, the farmers are left with huge loss.

The main objective of designing a smart farming method is to make a decision-making system for farmers and help them in agriculture so that productivity increases. Smart farming saves the time and money of farmers and help them to get huge profit with less effort. IoT based smart farming helps farmers to achieve data about the field by using sensors as farmers in 21<sup>st</sup> century has access to modern equipment's and technologies like GPS, Soil Sensors, IOT based product.

The research aimed on designing a smart Farming system applying the technology of Internet of Things, with Agriculture system, to monitor the soil moisture, temperature and the Humidity level on

a very low cost, to make live monitoring easy and by analysing the data from system the water pump switches-on and off automatically and the whole process information and data send to farmers mobile phone through SMS, E-mail, a dedicate app and a webpage.

## 2. LITERATURE SURVEY

Joaquín Gutiérrez et al. (2014), The research involves optimizing the usage of water for crops. The authors developed an algorithm with threshold soil moisture and temperature values, programmed into a gateway using micro-controllers for controlling the quantity of water usage.

Shakthipriya N. et al. (2014), reviewed a number of state-of-art farming methods detailed in numerous studies which involves the wireless sensor technology. The research was centred on values of soil moisture, to turn on the sprinklers during the time of water scarcity.



**G. Meena Kumari et al. (2014)**, details an approach proposing to monitor and control the parameters of greenhouse in agriculture precision using Wireless Sensor Network, and the related technology.

**S. Sivachandran, et al. (2014)**, the authors under the research proposed a soil analysing device which measured the soil pH values, and helps in detailing the soil nutrients levels. Their systems used a thermal printer, a power supply, sensors, microcontroller unit, display, and signal conditioning. The device designed by them helps in predicting the soil sequence as per the nutrient values.

**Chandan Kumar Sahu, et al. (2015)**, the authors proposed a model to control and supervise the direction and flow of water. Their approach had a soil moisture and a DHT11 sensor. Their device proposed a way of selecting the water direction and the related data can also be sent to the Gmail account or on the phone of the farmer.

**Ritika Srivastava, et al. (2020)**, in their study offered an efficient support system for decision making using WSN that can help in handling different farm activities, which provides useful data related to their land like the Humidity content, Soil moisture, and Temperature.

**Anand Nayyar, Vikram Puri et al (2016)**, aimed their research on proposing a Smart Stick based in IoT technology which can help the farmers to get live monitoring data of the environment temperature and content soil moisture, on very low cost.

### 3. METHODOLOGY

#### 3.1 Internet of Things

IoT is described as a network of physical objects that are embedded system and sensors for exchanging data between them and other devices over internet. IoT helps in making many technologies around the world smart and responsive, merging the physical and digital frameworks

#### 3.2 Cascading Style Sheet (CSS)

CSS is a language which can be used in describing a document presentation coded in HTML.

#### 3.3 Java Script (JS)

Another programming language which confirms with the specification of ECMS Script. It helps in enabling the interactive web pages and is an important part of web application

#### 3.4 PHP

A Server-script language program which is a powerful tool to design interactive and dynamic web pages.

#### 3.5 Structured Query Language (SQL)

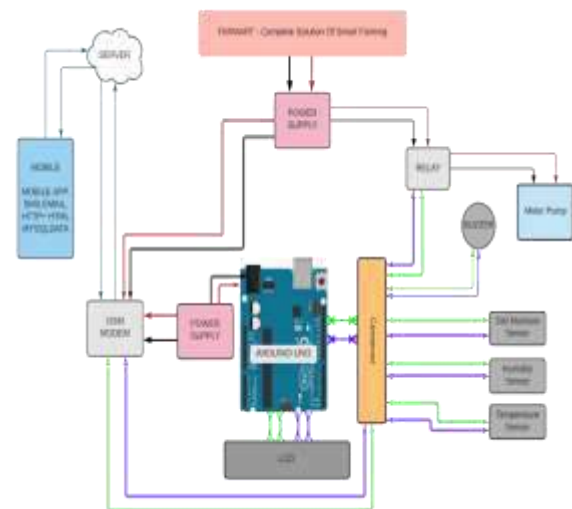
This was designed to manage data in the relational system of data base management.

## 4. IMPLEMENTATION

In the following part of the paper, a smart agriculture system is designed using IoT Technology to monitor live values of Moisture, temperature and humidity using Arduino, Sensors and other equipment.

### 4.1 Working of Farmart

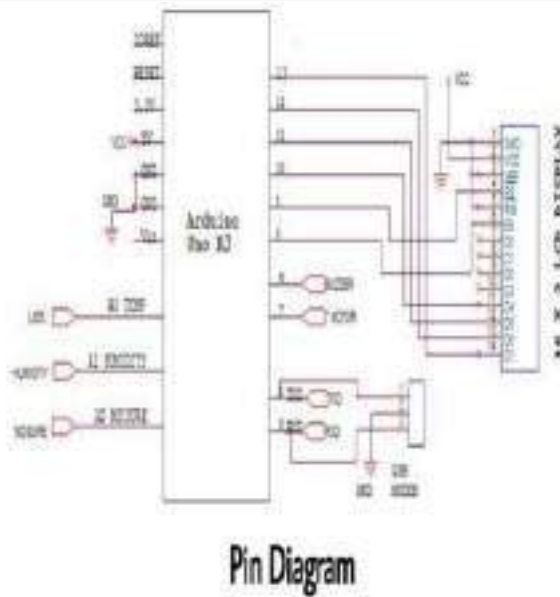
Smart Farming Based Agriculture IoT System- FARMART is regarded an Internet of Things enabled device aiming on monitoring the live data about the environmental parameters like the Moisture, humidity, Temperature, and other values according to the type of sensors used in the system. Agricultural IOT smart system can also send information to other devices as well like Tablets, Smart phones, etc. However, the app and a webpage and the data generated by the sensors analysed and if soil is dry and temperature is high automatically the water pump switch on after some time the reading is taken again and if the soil is wet the water pump automatically off and a message and a mail is send to the farmer using GSM modem and this data via sensors could be viewed and shared anywhere easily with the consultants of agriculture siting remotely through the android app and webpage.



**Figure 1: Proposed Diagram Of FARMART**

### 4.2 Components

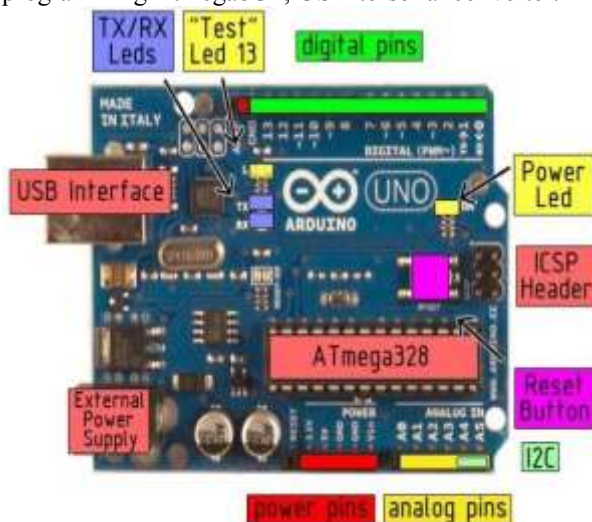
Different components like the sensors and modules used in the FARMART system are discussed.



**Figure 2: Circuit Diagram of System**

#### 4.2.1 Arduino

A Micro-controller chip called the Arduino Uno is based on ATmega328. It is comprised of analog inputs, 14 Digital output and input pins (with 6 PWM outputs pins), a USB pin, 16MHz crystal oscillator, a reset button, a power jack, an ICSP header. An Arduino chip is comprised of every requirement needed to support a micro-controller, to connect in to the computer in a simple manner with a power jack, a USB pin with a battery, an AC-to-DC converter. This Arduino Uno chip is different from other boards as it does not use another USB-to-serial FTDI driver chip. As the Uno chip features a programming Atmega8U2, USB-to-serial converter.



**Figure 3: Arduino UNO**

#### 4.2.2 GSM Modem

It is a specialized kind of modem involving a SIM card holder, operating on a mobile operator subscription, in the same manner as that of a mobile phone device. A GSM model from the perspective of

a mobile operator works in the same way as that of a mobile phone.



**Figure 4: GSM Module**

#### 4.2.3 Sensors

Primarily only three types of sensors are connected in such devices:

- Humidity sensor:** These types of sensors are getting more and more importance, in different fields of control and measurement technologies. Manufacturers are attempting to improve the long-term drift and accuracy of the sensors, which can help in increasing their durability to be applied in different devices and also simultaneously reduces the price and size of the component.
- Temperature Sensor:** LM35 sensor series is an integrated circuit with output voltage linearly proportional to the centigrade temperature ( $^{\circ}$ Celsius). These sensors have an advantage over the  $^{\circ}$  Kelvin calibrated temperature sensors, as the users are not required to subtract large values of constant voltages from the output for achieving Centigrade scaling.
- Soil Moisture Sensor:** VH400 probes and sensors offering low-cost monitoring of the water and soil content. As a probe measured the dielectric soil constant using transmission line method, it is insensitive to water salinity, and is not prone to corrosion, same as the conductivity-probes. These probes are rugged, small in size and works on low power. This sensor is connected to the Nova5000, Multi-Log-PRO or Tri-Link data loggers.



Figure 5: Sensors

#### 4.2.4 Relay

A Relay power is controllable device, which is equipped with 4-outputs which helps in creating a IoT framework with reliable and safe power control. Using a power relay can help in easily controlling the power going to the system with Raspberry Pi, Arduino, Microcontroller, and a single-board computer.

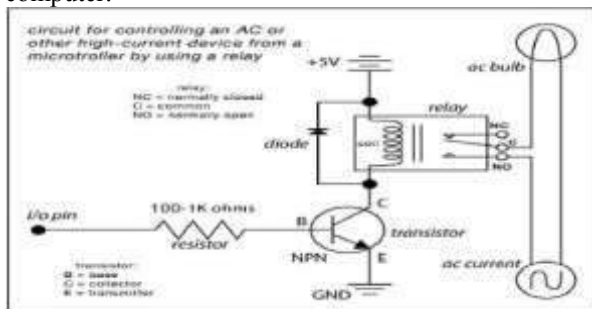


Figure 6: Relay Circuit Diagram

#### 4.2.5 Liquid Crystal Display

An LCD, is a board used in different portable devices like computer, and in digital devices like watches. An LCD display uses two polarizing material sheets with a crystal liquid solution between the sheets. When current passes through this liquid, it causes the crystal to align together, so that the light cannot pass through these sheets. Therefore, every crystal act as a shutter, which either allows the light to block or pass through them. RCM2034R is a TN type reflective liquid crystal module with a built-in LSI driver/controller and display capacity of 1 line, 16 characters.

#### 4.2.6 Buzzer

To mount on a PCB, a loud output buzzer is used, with following features:

Level of Sound Pressure(30cm): 85dB @ 5Vdc

Current Consumption: 15mA @ 12Vdc

Operating Voltage: 1.5-27Vdc

Rated Frequency: Continuous 4KHz

#### 4.2.7 Power Supply

In the project, a 9V transformer is used to provide a continuous power supply. A continuous power supply is used, as in case if a battery is used the total current would be lost, hence an AC transformer is used. An AC transformer helps in providing an input to a Bridge Rectifier, this converter helps in converting AC to DC. After this 1 filter capacitor is used with 1000uf/25v in a parallel geometry. The main aim of using a capacitor is to reduce any alternating occurring peaks. Nothing but a filtering that repulls. After the processing, a LM7805 Regulator is used in most of the digital logic circuits and processors required a 5V power supply. Hence, for using these parts in the device, 5V regulated source is required. First, a positive lead of the unregulated DC power supply is connected, after which the negative lead is connected to a common pin. The power is then turned ON, and we get 5V supply from the Output pin. In the figure below, red colour led is used to indicate the power.

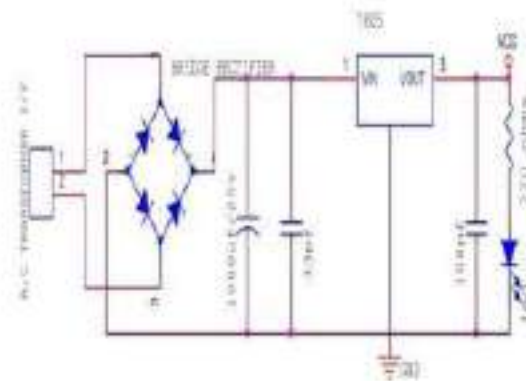


Figure 7: Power Supply Board Circuit Diagram

## 5. RESULT

The following Figure 8 shows the whole system which was successfully run and the reading has been taken by the different sensors and data is analysed if soil is not wet and temperature is high the water pump automatically starts and then when the water sufficient in the soil the water pump switches off and data is send to the farmer.





**Figure 8: FARMART: IOT Based Smart Agriculture System**

Webpage images  
[https://iotwaterquality.com/iot\\_farming/index.php](https://iotwaterquality.com/iot_farming/index.php)

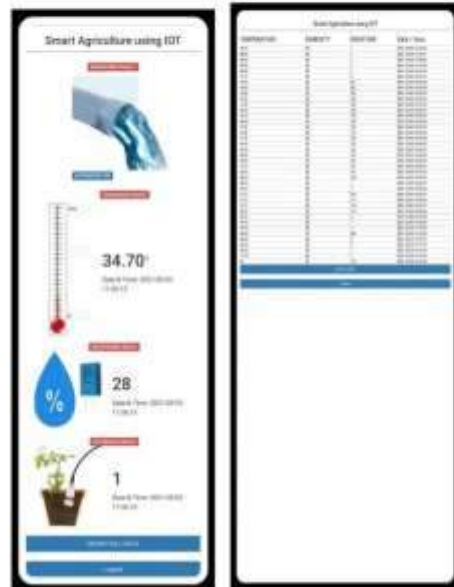


**Figure 9: Webpage Screenshots**

The following figure 9 shows the webpage images as the reading is taken the table is design to feed the data with date and time and in page 1 the live data is shown and in page 2 history of past data

is shown. The farmer has to reach the given URL login their account and they will get the live data.

## Android Application Images Smart Agriculture using IOT



**Figure 10: Android Application Screenshots**

The following figure 10 shows the Android app images as the reading is taken the table is design to feed the data with date and time and in screen 1 the live data is shown and in screen 2 history of past data is shown. The farmer has to reach the given app which is Smart agriculture using IOT login their account and they will get the live data.

## 6. CONCLUSION

A smart Farming system is designed in this present research using the technology of Internet of Things, with Agriculture system, to monitor the soil moisture, temperature and the Humidity level using Android framework, with HTML and Arduino. The designed system shows higher accuracy and efficiency to fetch live data for the soil moisture level, temperature and humidity. The novel farming system presented in the paper, helps the farmer to increase their yield and helps them to take care of the produce, as the system also helps the farmers in getting accurate live feed for the outer temperature, soil moisture and humidity with 99% recorded efficient results and will also automatically irrigate the field.

## 7. Future Scope

In future the system can also include some more sensors for fetching more data, specially to control pest. An IOS application can also be design with new feature in android application and we will find more ways and make it easier to understand.





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# JOURNAL WRITING: A TECHNIQUE TO ENHANCE SELF ESTEEM OF THE PROSPECTIVE TEACHERS

**Dr. Archana V Katgeri**

*Assistant Professor, Hansraj Jivandas college of Education, Khar (W), Mumbai, India*

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## ABSTRACT NEED

*Teachers are the pillars of education system. They are in direct contact with the young students on day-to-day basis who can be moulded and shaped in the right way at an impressionable age. Teachers have a phenomenal influence on the minds of the students. Teachers' well-being has a great impact on students' well-being. Thus, it is imperative for the teachers to hold high self-esteem as they are the role models for their students. Also, in turn they can successfully prepare the students in developing positive self-esteem. Hence training the prospective teachers in ways to build high self-esteem is the need of the hour. With this objective in mind an experimental study was conducted to enhance the self-esteem of the prospective teachers. An intervention program was put into effect which included the technique of journal writing to enhance the self-esteem. The major findings of the study showed that the intervention program has brought a remarkable change with respect to the self-esteem of the prospective teachers. The journal writing technique has helped the participants to critically reflect on their thoughts, views, beliefs, and actions. Thereby giving them an opportunity to bring a change and improvement in their future behaviour.*

**KEY WORDS:** - *Journal writing, Self Esteem, Prospective Teachers.*

## INTRODUCTION AND CONTEXTUAL BACKGROUND

The fast changes in today's world present new challenges and greater demands on our education system. Thus, it has become a necessity to change and improve the preparation of the prospective teachers to function efficiently in the field of education. It is seen that an individual's performance to a great extent is determined by his or her personality. Personality is the typical pattern of thinking, feeling, and behaviours that make a person unique. When we say that someone has a good personality, we mean that they are friendly, interesting, and pleasant to be with. Each person wants to be charming to others. Also, approximately 85 percent of your success and happiness is basically a result of good interpersonal skills. Personality comprises of our self-concept and self-concept is made up of our self-esteem and our self-image. Self-concept is the sum of the ways in which we think about ourselves and self-esteem is referred to as how highly we think about our abilities and our self.

The word esteem means that someone or something is important, special, or valuable. Self means you. So, Self-Esteem refers to the extent to which we like accept or approve of ourselves or how much we value ourselves. It involves a degree of evaluation and we may have either a high or a low self-esteem of ourselves. Persons with high self-esteem have a positive view of themselves. Thus, they have better confidence in their own abilities' ad potential. They accept themselves the way they are without worrying much about what others think of them. These individuals have an optimistic outlook towards life and can perform competently in their work.

Persons with low self-esteem have a negative view of themselves. Thus, they lack confidence in their own abilities and potential. They always keep comparing themselves with others and want to be like them. Most of the time they suffer from inferiority complex and are not ready to accept the way they are. This in turn lives them with a pessimistic attitude towards life and are constantly



under the fear of not being able to perform efficiently in any endeavors in life.

While we can only enhance our looks to a certain extent, but definitely it is possible to improve one's personality as much as we want.

William James is believed as the creator of the self-esteem movement. According to James self-esteem is equal to success divided by our pretensions. Pretensions refer to our goals, values, and our belief about our potential. It is observed that if our level of success exceeds our expectations, then we might view ourselves as successful and feel good about ourselves, which automatically raises our self-esteem. On the other hand, if our achievements do not meet our expectations, then we may see ourselves as a failure and this will tend to lower our self-esteem. Stanley Coopersmith has significant contribution in the study of self-esteem. He believed that self-esteem begins early in life in childhood. According to Coopersmith our self-esteem builds up, or declines throughout our lives, based upon our early childhood experiences, which may be positive or negative. Morris Rosenberg, a contemporary of Coopersmith, also studied self-esteem. His study focussed on the development of self-esteem in the adolescent years. Another renowned psychologist Rosenberg believes that self-esteem develops more in the adolescent years. His theory of self-esteem was based upon the premise that during adolescence, we often compare ourselves to others, which causes us to continually evaluate and re-evaluate how others see us or think about us. Thus, these theories are based more on the role our self-esteem plays in our lives and on our psychological well-being.

### Rationale of the study

Self-esteem is a passport for success in life. In today's materialistic and competitive world everyone wants to be at the top. A lack to self-esteem means less confidence in your abilities and chances of failure are more. The individual is not able to make right decisions and mostly is controlled by others. A teacher needs to have high self-esteem as they are the role models for their students. Thus, it is important to train the prospective teachers and make them proficient to cater to the needs of the students. With this objective in mind an experimental study was conducted to enhance the self-esteem of the prospective teachers.

### Statement of the Problem

The problem of the study focusses on developing a program to enhance the self-esteem of the prospective teachers and studying its effectiveness.

## VARIABLES OF THE STUDY

### Dependent variable

Self-esteem

### Independent variable

Intervention program to enhance the self-esteem of prospective teachers.

### Operational Definitions

**Self-esteem:** For the present study, self-esteem is defined as an ability of the individual to value and respect oneself.

**Journal writing:** For the present study, is defined as a technique for reflecting on the daily actions, thoughts, feelings and thinking.

**Prospective teachers:** For the present study, is defined as soon to be teachers who are currently undergoing the two-year B.Ed. program offered by Mumbai University.

### Objectives of the study

- 1) To conduct a pretest to know the self-esteem of the prospective teachers at the start of the program.
- 2) To develop an intervention program to enhance the self-esteem of prospective teachers.
- 3) To study the effectiveness of the intervention program on prospective teachers in terms of
  - i. Increasing their self esteem
  - ii. Better understanding of self.
- 4) To conduct a posttest to know the self-esteem of the prospective teachers at the end of the program.
- 5) To find the difference in the pre and posttest to measure the self-esteem of prospective teachers.

### Hypothesis of the Study

1) There is no significant difference in the pre-test and post-test scores on self-esteem of the prospective teachers after the implementation of the intervention program.

### Scope and Delimitations of the Study

The present study focuses only on enhancing the self-esteem of the prospective teachers from Hansraj Jivandas College of Education.

### Method of the study

For the present study, single group pre-test –post-test experimental design is used to test the effectiveness of the intervention program to enhance the self-esteem of prospective teachers. Pre-test was administered before the application of the treatment variable and post-test at the end of the treatment variable. Pre-test and post-test scores were compared and subjected to test of significance of the difference between the means of two tests.

The single group pretest-posttest design is represented as follows:

O1 X O2

Where O1 is the pretest



O2 is the posttest

X is the treatment variable

**Sample and Sampling Technique**

For the present study, the population comprises of 50 students of first year Bachelor of education college in Mumbai who are the prospective teachers. The sample was selected by incidental sampling technique.

**Tools for the Data Collection**

Rosenberg Self-esteem scale: A 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self. The scale is believed to be uni-dimensional. All items are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree.

Scoring Key: The scoring for the self-esteem tool is as follows: -

Items 2, 5, 6, 8, 9 are reverse scored. Give “Strongly Disagree” 1 point, “Disagree” 2 points, “Agree” 3 points, and “Strongly Agree” 4 points. Sum scores for all ten items. Higher scores indicate higher self-esteem.

The intervention program was developed by the researcher to enhance the self-esteem of the prospective teachers. The researcher developed the intervention program based on the ADDIE model which consists of five phases: Analysis, Design, Development, Implementation and Evaluation.

For the experimental study, the data was collected from 50 student teachers for over a period of one

month. Before commencing the program, pre-test was administered to measure the level of self-esteem and at the end of the program the post-test was administered to measure the same.

Inferential analysis: - The statistical technique used was the t-test for testing the following hypothesis:

There is no significant difference in the pre-test and post-test scores on self-esteem of the prospective teachers after the implementation of the intervention program.

**MAJOR FINDINGS**

**Hypothesis:**

The hypothesis testing was done by using Single group ‘t’ test to check the effectiveness of the intervention program to enhance the self-esteem of the prospective teachers.

**Testing of the hypothesis 1**

There is no significant difference in the pre-test and post-test scores on self-esteem of the prospective teachers after the implementation of the intervention program.

The statistical technique used to test this hypothesis was Single Group ‘t’ Test

**TABLE 1.1**  
**DIFFERENCE IN THE PRE-TEST AND POST-TEST SCORES FOR CC**

Single Group	N	Mean	SD	Obtained t-ratio	Tabulated t-ratio	I.o.s
Pre-test	50	28.38	4.20	6.73	2.75	0.01
Post-test	50	33.6	3.05			

**Interpretation**

Table 1.1 shows the obtained ‘t’ is greater than the tabulated ‘t’. Hence the null hypothesis is rejected. There is a significant difference in the pre-test and post-test scores on self-esteem of the prospective teachers after the implementation of the intervention program.

**Conclusion:** There is significant difference in the pre-test and post-test scores of prospective teachers’ self-esteem. The post-test mean score is higher than the pre-test score of the group. This implies that the intervention program has helped in enhancing the self-esteem of the prospective teachers.

**Discussion:** In the present study the intervention program has brought a remarkable change with respect to the self-esteem of the prospective teachers. The journal writing technique for a period of one

month on daily basis has helped the participants to critically reflect on their thoughts, views, beliefs, and actions. Thereby giving them an opportunity to bring a change and improvement in their future behaviour.

**Observations and reflections by the researcher**

The participants wanted to know their level of self-esteem. The pretest was conducted and the scores for self-esteem was obtained. Later the participants were oriented to the activity of journal writing on daily basis for a period of one month. Initially they were little hesitant in expressing their true feelings. But by the end of first week, they realized the importance of pouring their hearts out in form of the journal writing. They could see the change in their thought process and their behavior. As the program progressed, participants showed interest in the activity of maintaining the journal. By



the end of second week the students came and conveyed how happy they were with this activity and the positive change that they and others around them noticed. The students who otherwise were always dependent on others for making decisions, had started taking decisions for themselves. Few students also shared that the activity has helped them to a great extent to have a control over their anger and thereby improved their interpersonal skills. The researcher observed that slowly the participants developed more respect and self-acceptance. Few participants were very rigid and reluctant when it came to detailing their thoughts on daily basis but eventually, they also changed their attitude and wholeheartedly participated in the activity. The participants were adults and mature enough to understand the purpose of such programs. The researcher could see the activities helped the participants to know themselves better in terms of their capabilities and potential. Towards the end of the program the participants expressed that the one-month challenge compelled them to revisit their daily life and realize what is important. They were willing to continue this journal writing even after the experiment is over as it has brought tremendous change in them and has developed their self-confidence, helped to enhance their writing skills and also proved to be extremely liberating and relaxing way of calming down the unstable mind. Thus, the researcher is of the opinion that such techniques should be conducted on regular basis with the teachers as it gives some time from the routine mundane tasks to think, reflect and introspect the various situations in and outside the classroom which is very important to bring a positive change in the socio emotional climate and make a conducive environment for learning. At the outset, the researcher was very satisfied with the outcome of the intervention program.

### Implications of the Study

Self-esteem plays a very important role in the personality development of the individual. Having Low self-esteem may prove to be a great barrier in the life, hence having a high self-esteem is the need of the hour. Therefore, the techniques for enhancing the self-esteem occupy a pivotal position in one's life. There are different ways and techniques which need to be introduced to the prospective teachers for developing self-esteem. So that these teachers will later train the young generation to follow good practices in life which will induce a positive change in them and make them a better person to handle the challenges in their personal life and as a student also. The B.Ed. program which is meant to train the prospective teachers should have such activities included in the curriculum.

Also, workshops can be arranged for in-service teachers so that they are oriented to the importance of maintaining high self-esteem for their profession.

### CONCLUSION

Journal writing on daily basis facilitates in taking care of our mental wellbeing. Taking out some quality time from your daily routine and spending time with your own thoughts and feelings has a myriad of benefits. Journal writing will help a person to work through the problems and allows you to look at the situation objectively. It helps you to reassess the situations and when you are faced with similar situation in future, the person is in a better position to handle it without getting stressed, frustrated, and running away from it. A person with high self-esteem is open minded and ready to accept the challenges in life. Teachers with high self-esteem know about their teaching capabilities and find it easy when it comes to handling the diverse population in the classroom. They are highly enthusiastic and full of positivity and pass on the same to people around them. These teachers may also be able to rebound from setbacks and more willing to experiment with new ideas and techniques in the teaching-learning process. On the other hand, teachers with low self-esteem may rely more on controlling teaching style and are very critical in their approach which is not healthy when interacting with the students. Thus, holding high self-esteem is a prerequisite for a teacher.

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# A STUDY ON CUSTOMER PREFERENCE ON E-SHOPPING WITH SPECIAL REFERENCE TO GUDALUR TOWN

**Dr. A. Jaganathan**

*Head, Dept. of Business Administration with Computer Applications,  
Government Arts and Science College, Gudalur, The Nilgiris – 643212 Tamil Nadu,*

## ABSTRACT

*Online markets are dynamic. Online markets are part of the information and communications technology-intensive service sector which has exhibited an acceleration of labour productivity growth in many countries. A qualitative indication of the dynamic character of online markets is given by evidence of the range of experimentation in terms of business models, the rate of growth of successful platforms and the level of ongoing innovation and disruptive change in areas such as growth of mobile internet and devices and of the social web. A study on customers' awareness, opinion, period of purchasing, reason for purchase, the price of product and their satisfaction towards the product in E-shopping.*

**KEY WORDS:** *Consumer, Internet, Online, Shopping.*

## INTRODUCTION

Online or E-shopping is the process whereby consumers directly buy goods or services from a seller in real-time, without an intermediary service, over the Internet. It is a form of electronic commerce. An online shop, e-shop, e-store, Internet shop, web-shop, web-store, online store, or virtual store evokes the physical analogy of buying products or services at a bricks-and-mortar retailer or in a shopping center. The process is called business-to-consumer (B2C) online shopping. When a business buys from another business, it is called business-to-business (B2B) online shopping.

Online shopping is the process whereby consumers directly buy goods or services from a seller in real-time, without an intermediary service, over the Internet. It is a form of electronic commerce. The sale or purchase transaction is completed electronically and interactively in real-time such as in Amazon.com for new books. However in some cases, an intermediary may be present in a sale or purchase transaction such as the transactions on eBay.com. An online shop, e-shop, e-store, internet shop, web shop, web store, online store, or virtual store evokes the physical analogy of buying products or services at A bricks-and-mortar retailer or in a shopping centre. The process is called Business-to-Consumer (B2C) online shopping. This is

the type of electronic commerce conducted by companies such as Amazon.com. When a business buys from another business it is called Business-to-Business (B2B) online shopping.

A large percentage of electronic commerce is conducted entirely in electronic form for virtual items such as access to premium content on a website, but mostly electronic commerce involves the transportation of physical items in some way. Online retailers are sometimes known as e-tailers and online retail is sometimes known as e-tail. Almost all big retailers are now electronically present on the World Wide Web.

Online marketplaces such as eBay and Amazon Marketplace have significantly reduced financial and reputational barriers to entry for SMEs wishing to trade online. These marketplaces provide web presence, marketing and payment services and, in the case of Amazon, fulfilment. This allows SMEs to focus on their core competencies e.g. managing supplier relationships. Moreover, SMEs have choices online, as these marketplaces compete with each other (some retailers sell across several marketplaces) and retailers' own websites. They also compete with paid search providers and others in providing marketing to SMEs.

Customer ratings are a key element of the



marketplaces, enabling SMEs to build a reputation at low cost relative to the offline environment. This element of reputation may be achieved quickly (just one piece of feedback generates aerating) and is tied to particular platforms (i.e. ratings are non-transferable).

### HISTORY OF E-SHOPPING

In 1990, Tim Berners-Lee created the first World Wide Web server and browser in UK. It opened for commercial use in 1991. In 1994 other advances took place, such as online banking and the opening of an online pizza shop by Pizza Hut. During that same year, Netscape introduced SSL encryption of data transferred online, which has become essential for secure online shopping. Also in 1994, the German company Inter-shop introduced its first online shopping system.

In 1995, Amazon launched its online shopping site, and in 1996, eBay appeared. Originally, electronic commerce was identified as the facilitation of commercial transactions electronically, using technology such as Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT). These were both introduced in the late 1970s, allowing businesses to send commercial documents like purchase orders or invoices electronically. The growth and acceptance of credit cards, automated teller machines (ATM) and telephone banking in the 1980s were also forms of electronic commerce. Another form of e-commerce was the airline reservation system typified by Sabre in the USA and Travicom in the UK. From the 1990s onwards, electronic commerce would additionally include enterprise resource planning systems (ERP), data mining and data warehousing.

In 1990, Tim Berners-Lee invented the Worldwide Web web browser and transformed an academic telecommunication network into a worldwide every man everyday communication system called internet/WWW. Commercial enterprise on the Internet was strictly prohibited by NSF until 1995

Although the Internet became popular worldwide around 1994 with the adoption of Mosaic web browser, it took about five years to introduce security protocols and DSL allowing continual connection to the Internet. By the end of 2000, many European and American business companies offered their services through the World Wide Web. Since then people began to associate a word "E commerce" with the ability of purchasing various goods through the Internet using secure protocols and electronic payment services.

### NEED FOR E-SHOPPING

Few developments have altered India's lifestyle more quickly and more completely than the Internet. Online access has enabled people from all walks of life to bring entire libraries, entertainment venues, post

offices and financial centers to a workplace, to a desktop or to a shirt pocket. The Internet's largest and most meaningful impact may very well be on the way consumers shop for everything from gifts, gadgets and groceries to clothing, cars, and cruises. The ease and selection that the Internet provides to shoppers has changed the face of retailing. More and more, consumers visit a store's Web site to make their choices before traveling to the store itself; and in a rapidly swelling tide, many

shoppers are bypassing the store altogether and ordering online directly from the Web sites of their favorite brands and outlets. Companies like Sephora, Sears and Crate & Barrel have increased the range and quantity of products available at their online stores and are sending online coupons and sale announcements via e-mail directly to their customers. Because online stores are open 24 hours a day, seven days a week, and their

inventories are often more complete than those of their brick-and-mortar counterparts, the Internet makes it easy for shoppers to compare products within or between stores, to read product reviews from other customers, to access vendor return policies and to find warranty information.

### OBJECTIVE OF THE STUDY

- To study on the customer preference towards purchasing products in E-Stores
- To obtain the idea of which is the attracting factor in people's mind.
- To obtain details about the logistic services which the consumers prefer in getting the products being ordered.
- To provide suggestions on the changes needed after a detailed study.

### STATEMENT OF THE PROBLEM

Today the whole market system has a great classification. Especially in the place of E-Shopping the number of customers has emerged to a great extent. Customers have the choice to purchase either in the town itself or through E-shopping. There are various factors that influence them to purchase through this mode. Hence the problem is how we can increase the present number of customers existing in the town. Marketing plays an important role in all these aspects.

### SCOPE OF THE STUDY

The study focuses on the various factors that influence customer preference towards purchasing goods and services. It also covers the expectation of the people living in the locality towards the e-shopping



stores and the way they prefer it to normal direct retail purchasing. The products that come under the study includes books, fashion accessories like watches, shoes, shirts, bottom wear, glasses, etc. This also includes the cons about the service being provided.

### NEED FOR THE STUDY

Everyone using mobile phones do use internet. Therefore the major pass time in internet is using various e-shopping websites to check out the prices of various commodities and to purchase it if it is available at low price. E-shopping provides as a mode of relaxation to people's mind. So there is a need to study

- What services are provided by various websites nowadays and how they can provide better services to the subscribers?
- To understand different aspects of customer views and satisfaction.
- What new services are being provided by the various E-Stores?

### RESEARCH METHODOLOGY

The objective of the present study is to understand to study on the customer preference towards purchasing products in E-Stores in gudalur and also to find out the

### DATA ANALYSIS AND INTERPRETATION

#### 1. Gender of the respondent

S.No	Gender	No. of Respondent	Percentage
1	Male	45	56.25
2	Female	35	43.75
Total		80	100

Source: Primary Data

From the above table it is inferred that most of the respondents are male 56.25 percentages and female are

consumer preferences, reason for purchased. The researcher adopted a sampling technique where the population is based on easy availability. This sampling method is called convenience sampling. A sample of size 80 is taken for this study. In this study, the researcher uses two methods for data collection. They are Primary data collection and Secondary data collection. The statistical tests used in the study Simple Percentage analysis method. The study was conducted during the year 2019 - 2020.

### LIMITATIONS OF THE STUDY

- The users or customers of E-stores are geographically widespread and hence contacting them is time consuming.
- The sample size of customer is limited to 80 because of time and cost factor.
- The information collected may not be sufficient and reliable in terms of total market conditions in India as Gudalur in The Nilgiris represent only a portion of the national market.

less comparing to males as they form about 43.75 percentages of the total respondents.

#### 2. Priority on purchase of the e-stores of the respondents

S.No	E-Stores	No. of Respondent	Percentage
1	Amazon	30	37.5
2	Flipkart	30	37.5
3	Snap deals	15	18.75
4	e-Bay	5	6.25
Total		80	100

Source: Primary data

From the above table it is inferred that the respondents prefer Amazon and Flipkart stores as they contribute a total of 75 percentage of the total and the

rest 25 percentages is shared by snap deal and e-bay as 18.75 percentage and 6.25 percentage respectively.



3. Preference to purchased products of the respondents

S.No	Products	No. of Respondent	Percentage
1	Fashion Accessories	26	32.5
2	Medicines And Essentials	29	36.25
3	Household Things	17	21.25
4	Automobile Products	8	10
Total		80	100

Source: Primary data

From the above table it is inferred that the respondents prefer essentials and medicine products as they contribute to 36.25 percentage and the second preference is given to fashion accessories as they are

32.5 percentage of the total and the next the household things are given importance in front of automobile products as they form 21.25 percentage and 10 percentage respectively.

4. Preferred mode of payment by the respondents

S. No	Mode of Payment	No. of Respondent	Percentage
1	Credit Card	10	12.5
2	COD (Cash On Delivery)	70	87.5
Total		80	100

Source: Primary data

From the above table it is clear that respondents wish to pay cash only on delivery and not before in hand. COD payment has a huge response from 87.5

percentage of the respondents and only 12.5 percentage prefer to pay by credit card.

5. Expected the offer and speciality in e-shopping by the respondents

S.No	Offer	No. of Respondent	Percentage
1	Low Price	30	37.5
2	Combo Offer	5	6.25
3	Free Delivery	40	50
4	Free Coupon	5	6.25
5	Credit Facility	0	0
Total		80	100

Source: Primary data

From above table Majority of the respondents wishes for free delivery as it is 50 percentages out of total. Rest comes to low price offer as it contributes to

30 percentages and it is followed by combo offer and free coupon, as they combine to form 10 percentages

6. Reason for purchasing in online by the respondents

S.No	Reason	No. of Respondent	Percentage
1	Quality	20	25
2	New Trend	12	15
3	Money Saving Motive	30	37.5
4	Variety Of Collection	8	10
5	Less Time Consuming	10	12.5
Total		80	100

Source: Primary data

From above table reveals that the majority of the respondents do for money saving motive as it is 37.5 percentages out of total. Rest comes to quality as it

contributes to 25 percentages and it is followed by new trends, variety of collection and time saving, as they combine to form 37.5 percentages.

7. Period for the respondents purchase using e-shopping



S.No	Duration	No. of Respondent	Percentage
1	Less Than 6 Months	30	37.5
2	6-12 Months	25	31.25
3	1-2 Years	10	12.5
4	2-4 Years	10	12.5
5	More Than 4 Years	5	6.25
Total		80	100

Source: Primary data

It is clear from the above table that only few people 6.25 percentage are using E-Shopping from more than 4 years. Majority comes in fresher's who

have started to use, as they contribute to 37.5 percentage and 31.25 percentage. 25 percentages people use E-Shopping from 1 to 4 years.

#### 8. Awareness the respondents come to know about e-shopping

S.No	Awareness	No of Respondent	Percentage
1	Newspaper	12	15
2	Friends	23	28.75
3	Internet	30	37.5
4	Television	12	15
5	Other Modes	3	3.75
Total		80	100

Source: Primary data

It is clear from the above table that most of the respondents Awareness about e-shopping only through internet and by friends, as they form nearly 66.25

percentages of the total respondents and the rest is covered by television, newspaper and other modes as they form the remaining 33.75 percentages of the total respondents.

#### 9. How often do the respondents purchase from e-store

S.No	Rating	No. of Respondent	Percentage
1	Once in a Week	35	43.75
2	Once in a Month	19	23.75
3	Once in 2 Months	8	10
4	Once in 6 Months	16	20
5	Once in a Year	2	2.5
Total		80	100

Source: Primary data

Based on the given table, the respondents keep purchasing regularly like once in a week as they form about 43.75 percentages and in the sense of purchasing once in a month, the respondents percentage is 23.75 percentages. Like purchasing once in 2 months, 6 months and a year, it contributes to 32.5 percentages.

#### FINDINGS

- Most of the respondents are male and educated people.
- Amazon and Flipkart prove to be the leading E-Stores who remain to be the people's choice while purchasing. Through E-Shopping.
- Medicines and essential needs along with the fashion accessories are the most purchased

products in Gudalur.

- Cash on Delivery is the preferred type of payment by the people than using Credit card payment before in hand.
- Majority of the people in Gudalur town wish to purchase fresh and new products instead of used products.
- Free delivery is the most expected deal by the people who are purchasing in Online.
- The reason behind doing E-Shopping is Money saving motive. Even though there may be several other reasons, this plays a major role behind everything.
- Only through recent time, the E-Shopping has been emerged in Gudalur. Fresher's of having





experience less than a year are more in number compared to all others.

- Internet is the mode of promotion that has influenced the people in Gudalur. The more the number of internet users, the more is the users purchasing through E-Shopping.
- People in Gudalur feel that the service being provided by various E-stores is excellent and good and they are satisfied by it.
- Most of them also purchase regularly. i.e., once in a week
- The preferred day of delivery is 2-3 days from the day of order and hence they wish for a soon and quick delivery like everyone does.

### SUGGESTIONS

The facility provided by the E-Stores should be advanced as the expectation of people is more compared to the service being provided. Also the mode of expressing their offers and services must be conveyed as per people's choice. A poll can be conducted by every E-Store to their subscribers to know how they could alter themselves for better sales and service.

The quality of the products must also be standardized and should be up to the expected level. The level of duplicate products must be reduced or even abolished from their list; a complete assured product must only be sold by the E-Stores. The classification of the products and services must also be as it is flexible and of a great convenience to the users.

### CONCLUSION

Consumers across the globe are increasingly swapping crowded stores for one click convenience, as online shopping becomes a safe and popular option. Also, it is proving to be the next big thing in the market as the youngsters are more attracted to the new style and trend in the society. Thus the E-Stores must favour their customers according their needs and must prove to be a great support for their wide acceptance. If there is continuity in the relationship and understanding between the customers and the E-Stores, it will surely flourish in the future and will be a great gift for the people.

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# ROLE OF LESHA KALPANA AS A TEXTUAL TOOL IN UNDERSTANDING VIMANASTHANA OF CHARAKASAMHITA

Dr. Teke Asmita Ravindra<sup>1\*</sup>, Dr. Chetan M.<sup>2</sup>, Dr. Samhita Ullo<sup>3</sup>

<sup>1</sup>Post Graduate Scholar, Department of Ayurveda Samhita and Siddhanta, SDM. College of Ayurveda and Hospital, Hassan, Karnataka, India

<sup>2</sup>Professor, Department of Ayurveda Samhita and Siddhanta, SDM. College of Ayurveda and Hospital, Hassan, Karnataka, India

<sup>3</sup>Assistant Professor, Department of Ayurveda Samhita and Siddhanta, SDM. College of Ayurveda and Hospital, Hassan, Karnataka, India

\*Corresponding Author : Dr. Teke Asmita Ravindra,

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## ABSTRACT

### Introduction

Lasha Kalpana is the textual tool one among the Saptavidha Kalpana used for better understanding and proper interpretation of Shastra. To put knowledge in a summarized and precise manner, Acharya used peculiar methodologies while composing Shastra in the form of Sutras. By applying Lasha Kalpana to Ayurvedic Classics, guides the author and reader, brings the awareness of subject. Though Tantrayukti serves this purpose, Lasha Kalpana can be helpful to get Shastra's unambiguous meaning and interpretation.

### Objectives

1. To study the concept of Lasha Kalpana.
2. To apply the Lasha Kalpana to Vimanasthana of Charakasamhita.

### Methodology

Literary sources of Lasha Kalpana collected and reviewed from the available sources. Lasha Kalpana employed in the verses of Vimanasthana was identified as per definition mentioned by Arunadatta and analyzed. Results tabulated and detailed interpretation of identified verse of Vimanasthana under the purview of Lasha Kalpana was carried out and conclusion drawn.

### Result and Discussion

The Lasha Kalpana observed manifold applicability to enlighten the Vimanasthana in term of understanding the literary construction, Leshokta, Anukarthartha and Sandigdhartha of sutras and to interpret the concepts for its practical utility. Vimanasthana is a very unique section which plays the role mainly for diagnosis of disease and treatment purpose. Application of Lasha Kalpana to this Sthana aid comprehension of subject specified understanding.

### Conclusion

Present study effectively emphasizes the very need of the compositional tool Lasha Kalpana to systematically study a Shastra, to understand literary construction, analysis and interpretation and also serves its utility for practical application of analyzed concepts.

**KEY WORDS:** Tantrayukti; Lasha Kalpana; Vimanasthana.



## INTRODUCTION

*Ayurveda* science, the knowledge of longevity is the traditional healing modality of the Vedic culture in India. In ancient time this science was in the form of *Shruti* (what is heard) and *Smruti* (memorization) heritage; as there were not availabilities of technologies. This *Vangamaya* tradition of learning science<sup>1</sup>, in course of time created to literary tradition known as *Samhita*. That time period verses were abided by the rules of Sanskrit language as the knowledge of Sanskrit language was the prime education. This leads to formation of *leshokta* (partly explained), *Anukta* (not mentioned) verses; so meaning of some verses remained hidden. Hence for the better understanding, *Aacharya* has used various methodologies to make *Samhita* study easier<sup>2</sup>. The textual tool *Lesha Kalpana* aids to fulfil above.

The *Vimanasthana* of *Charaka Samhita* is the conglomeration of basic principles of *Ayurveda* deals with specific knowledge of *dosha*, *bheshaja* etc. and many concepts which play role in diagnosis of disease and treatment<sup>3</sup> and hence it can be considered as the most important Section. By knowing it knowledge of them needed for physician can be met with. So for that *Vimanasthana* is considered for present study.

## REVIEW OF LITERATURE

*Aacharya Arunadatta* in the '*Sarvangasundara*' commentary of *Ashtanga Hridaya* has mentioned various methodologies under *Tantraguna* like *Tantrayukti*, *Tatchhilya*, *Arthashraya* and *Kalpana*<sup>4</sup>. *Kalpana* is a device which helps to understand the structural construction and specific style of writing adopted by author. These are *Pradhanasya*, *Pradhanena*, *Guna*, *Lesha*, *Vidya*, *Ajna* and *Bhaskhya Kalpana* known as *Saptavidha Kalpana*<sup>5</sup>. The *Lesha Kalpana* is a methodology one among *Saptavidha Kalpana* adopted by the author for the better understanding of the Science.

By the application of this *Kalpana* to verse hidden, unexplained matter can be identified and interpretation will help for the conceptual and clinical applications.

### Lesha Kalpana –

The word meaning of *Lesha* is a small part, bit or portion, a particle, an atom, a very small quantity<sup>6</sup>. *Aacharya Arunadatta* has mentioned it as, when the *Sutra* is described partially or not described in detail; some topics are not elaborated due to their vastness or any other reasons, such topics can be understood based on described fact which is depending on aphorism. If brief note is given but have to think elaborately by references and experience is the *Lesha Kalpana*<sup>5</sup>.

### Need of Lesha concept in Tantra:

*Ayurveda* texts are composed in a typical *Samhita* form where *Samhita* refers to rule based combination of verse and prose<sup>7</sup>, targeted for the recitation and memorization of verse easily. The composition of verse has some guidelines.

*Aacharya* in *Mugdhabodha* commentary of *Vayupurana* has defined the verse as, verse form follows some obvious reservations of expression i.e. elaboration. Thus in *Samhita* didn't find discussion of each and every detail of subject. The text discusses about some representative samples and expects the reader to derive more on the basis of explained<sup>8</sup>. *Aacharya Vagbhata* has also mentioned that, wise Physician should use his own intellect to understand the remaining things based on the explained one<sup>9</sup>.

In *Charakasamhita* it is quoted that, It is the *Tantrashailli* (style of writing) adopted by author where the thing mentioned in *sankshepa* (brief) is the *leshokta* are elaborated and those which are in *vistara* (elaborated) are made in brief in the text everywhere according to the need of *Samhita*<sup>10</sup>.

### Reasons for the Lesha sutra in Tantra:

The reasons can be categorized under Personal reasons and Technical reasons<sup>11</sup>.

#### a) Personal reasons :

Sometimes author may not feel the need of elaboration of some specific topic as then the disciple can easily pick up the unsaid because of the proximity with teacher and other context.

#### b) Technical reasons :

##### Writing style of texts-

All ancient texts are composed in the *Samhita* form. As the definition of *Samhita* is '*parah sannikarshah samhita*'. This *Samhita* form expects and enjoys being 'in brief' and this comes with its style of representation.

*Aacharya Charaka* has mentioned that, there is no limit for *vistara* (elaboration) hence wise Physician can elaborate the topic where it is *leshokta* or *anukta* and it is sufficient for less intellectual person to practice. *Aacharya Vagbhata* has also accepted this form for '*geyata*' (easy to recite). Thus, it has also brought about the *Lesha* form.

### Limits of Tantra-

The ancient text discusses *Ayurveda* in general, but they have focused perspective of domain.

E.g. *Charaka Samhita* is explained with consideration of *Adhikarana* (main heading) as *Kayachikitsa*. *Sushruta Samhita* is explained with consideration of *Adhikarana* (main heading) as *Shalya tantra*. Hence they have limited themselves to their *Adhikarana* only and have left apart the things which are out of main heading. Such left out topic become '*leshokta*' for that particular text. Here, the verse '*paradhikareshu na vistarokti*'<sup>12</sup> where *Aacharya*



mentioned that it is not my *adhikarana* so it is not elaborated.

#### Identification of Leshokta:

Very general guidelines to identify the *Leshokta sutras* are 'aadi, aadayah, sankshepatah, iti, evam, aadibhihi, lakshanaodaharanartham, yathoktam, uktani bhagashah, purvavat, vividhaihi, idrusham',<sup>13</sup>. These words which come in *sutras* specifically suggest 'Leshokta'.

#### General methods of decoding<sup>14</sup>:

The general methods which can be considered as methods of elaboration of any *Sutras* are mentioned by *Aacharya Charaka* are, *Vakyashah*, *Vakyavayavashaha* and *Arthavayavashah* understanding of *sutras*. This guideline is not exactly refers the elaboration of *Lesha sutra* but can be considered as how to elaborates it.

#### General Steps of elaboration of Lesha Sutra<sup>15</sup>:

By applying these methods *Lesha sutras* can be elaborated.

1. Literary meaning
2. Discussion
3. Leshokta Sutra
4. Elaboration
  - a) To fix the position of sutras as a base for further elaboration
  - b) Swa-Tantravalokana- compilation of references from *leshokta sutra Grantha*
  - c) Para-Tantravalokana- compilation of references from other *Grantha*
  - d) Elaboration based on the above.

#### Similarity of Lesha Kalpana with other Tantraguna

By the overlook, this *Kalpana* is having similarity with the other *Tantragunas* like *Vakyashesha*, *Uddesha* and *Pradesha Tantrayuktis*. Here, *Lesha Kalpana* differs from *Vakyashesha Tantrayukti*, where few words are omitted in a *sutra* and supply of missing words gives complete and clear knowledge of that *sutra*. In the *Lesha Kalpana* partial information is given, meaning of entire *sutra* has to be inferred from partial explanation. The *Uddesha Tantrayukti* is a concise statement which is elaborated in the form of *Nirdesha Tantrayukti* at some other place. In the *Pradesha Tantrayukti* only a part of topic is explained due to the vastness of it in the *Samhita*<sup>16</sup>. Hence description of *Lesha Kalpana* is overlapping with the *Pradesha Tantrayukti* in some way.

#### Aims and objectives:

1. To study the concept of *Lesha Kalpana*.
2. To apply the *Lesha Kalpana* to *Vimanasthana* of *Charakasamhita*.

#### METHODOLOGY

Literary sources of *Lesha Kalpana* collected and reviewed from the available sources. *Lesha Kalpana* employed in the *Sutras* of *Vimanasthana* was

identified as per definition mentioned by *Arunadatta* and analyzed. Results tabulated and detailed interpretation of identified *sutras* of *Vimanasthana* under the purview of *Lesha Kalpana* was carried out.

#### RESULT

Total thirteen *Lesha Kalpana* identified based on definition mentioned by *Arunadatta*. The result has been tabulated in terms of context, reference and the words by which it has been considered under *Lesha Kalpana*. The use of words like '*anyat, anyebhyo, aadibhihi, anyashcha, anyaani uktaani, katichit prakara, aad?*' etc. are observed in *Vimanasthana* mainly suggested that, *sutra* contain *Leshokta* matter.

A list of various *Lesha Kalpana* found throughout the *Vimanasthana* is mentioned in Table No.1

#### DISCUSSION

The *Samhita* type composition form of *Ayurveda* texts led down to form *Leshokta* or *Anukta Sutra*. *Lesha Kalpana* shows the avoidance of *Tantradosha* (faults) in the texts like *Atigrantha Vistara, Punarukta Dosha*. Explained matter is sufficient to practice for less intellectual person, *Anukta* or *Leshokta* can be understood by high intellectual persons<sup>17</sup> hence *Lesha Kalpana* is useful for all types of intellectual persons. As the *Lesha Kalpana* is the method adopted by author, shows its utility mainly for gaining the *Vakyartha* (to understand the entire sentence or Verse).

The literary study revealed that manifold applications of *Lesha Kalpana* are useful to enlighten the *Vimanasthana* while reading. It provides both conceptual understanding as well as practical applications. By understanding of this Physician can use these applications in *Vyadhi nidana* and *Chikitsa*.

E.g.1. In the '*Rasavimanam Adhyaya*', in the context of *Ashtavidha Aahara Vidhivishesha Aayatana* (directions for ingestion of food), *Aacharya* has explained about the *Karana aayatana*. Here, the *Samskara* (alteration in original quality) which will be done to change the qualities of natural drug is known as *Karana* and mentioned many procedures by which the alteration of qualities in a drug can be achieved<sup>18</sup>. Like - '*Jalasyoga, Agnisannikarsha, Shoucha, Manthana, Desha, Kala, Vasana, and Bhavana*'. In the verse the word '*aadibhihi*' suggests that, there is other many other procedures for the alteration of qualities in drugs. Due to fear of vastness these are not mentioned but wise Physician should understand these by the explained part. This is the *Leshokta sutra* where most commonly practiced procedures are mentioned and uncommon procedures have to be understood by the explained one.

These procedures can be included as '*Peshana, Abhimantrana*<sup>18</sup>, *samana guna prayoga, viparita guna prayoga, samana guna samyoga* of





*dravya, viparita guna samyoga of dravya*. *Aacharya Hemadri* mentioned the procedures like *Vidalikarana, Nistushikarana* for the alteration of qualities in a drug<sup>19</sup>. Here Physician can use these procedures as per suitability, disease, constitution, place etc. and plan the food and medicine as a diet and treatment respectively.

E.g.2. In the '*Trividhakusheeyam Vimanam Adhyaya*', *Aacharya* explained the *aamapradoshaja vikara* (diseases due to undigested food) and their treatment. Here, after explaining the treatment, *Aacharya* advised that, the person should always think about what is beneficial and harmful food to body. This is based on the *ashtavidha aaharavidhi vishesha aayatana*. These are causes for the benefits of *Aaharavidhi* like intake of warm, fresh food etc. *Aacharya* advised that, if the person takes the food by the proper examination of these *aayatana, aama* (undigested food) will not be formed and thereby the diseases due to undigested food can be avoided.

In this verse '*anyashcha iha kashchit*' word refers to other beneficial methods which do the *aamakshaya* (digests the undigested food). This is the *Leshokta sutra* where the common beneficial factors are mentioned and specific have to be understood by explained one. These can be understood as a various diseases which are *aamashaya samuttha* (originated from *aamashaya*) like *Arsha, Grahani, Atisara, jwara, chhardi* etc<sup>20</sup>. These diseases are mainly caused by *Agni dushti* (deranged digestion power) and *aama dosha* and their treatment mainly concentrates to do the *Agni dipana* (increase the digestion power) and

digests the undigested food. Hence *aamakshayakar chikitsa* can be adopted to get the benefits of food<sup>20</sup>.

*Aacharya Vagbhata* also mentioned that, the person should take the light, food containing all six *Rasas* without disrespect of food. The causes which increase the *aama* like *Samashana, Adhyashana* and *Vishamashana* should be avoided<sup>21</sup>.

Other partially explained verses observed in *Vimanasthana* also revealed its utility in conceptual understanding and the practical applications. As *Vimanasthana* is a very unique section, Physician can apply these applications in the diagnosis of disease and plan the treatment accordingly which will definitely aids comprehension of subject specified understanding.

## CONCLUSION

Conceptual review on *Lesha Kalpana* revealed avoidance of the *Tantradoshas* like *Grantha vistara* and *Punarukti dosha* by the form of *Lesha Sutras*. This *Kalpana* serves the *prayojana* of compositional tools like to gain the *Vakyartha*. Many concepts in *Vimanasthana* which are partially explained or not explained can be better understood by the application of this *Kalpana* and thereby are helpful in the clinical practice. Applications of *Lesha Kalpana* observed in *Vimanasthana* effectively emphasizes the very need of the this tool to systematically study a *Shastra*, to understand literary construction, analysis and interpretation and also serves its utility for practical application of analyzed concepts.

**Table No.1 Lesha Kalpana observed in Vimanasthana of Charaka Samhita.**

Sl No.	Reference	Context	Observed by words
1	Cha. Vi.1/14	<i>Dravya prabhava</i>	<i>Anyat api dravyam</i>
2	Cha. Vi.1/15	<i>Dravya prayoga nishedha</i>	<i>Anyebhyo dravyebhyah</i>
3	Cha. Vi.1/21(2)	<i>Karana</i>	<i>Aadibhihi</i>
4	Cha.Vi 2/14	<i>Aama pradoshaja chikitsa</i>	<i>Anyashcha iha kashchit</i>
5	Cha.Vi.3/22	<i>Janapadodhwamsa hetu by Rakshasa</i>	<i>Anyat apachara</i>
6	Cha. Vi. 4/7	<i>Pratyakshya gamya bhava</i>	<i>Anye api, anyaani uktaani</i>
7	Cha.Vi.5/7	<i>Stroto vijnana</i>	<i>Katichit prakara</i>
8	Cha. Vi. 5/10	<i>Pranavah strotas dushti hetu</i>	<i>Strotamsi anyaisch darunaihi</i>
9	Cha. Vi. 6/3	<i>Vyadhi asankhyeyata</i>	<i>Bahutwam api sankhyeyam syat asankhyeyam va</i>
10	Cha. Vi. 7/20	<i>Shirogata krimihara dravya</i>	<i>Upapaadya apamargatandulina</i>
11	Cha. Vi. 8/40	<i>Anumana vadamarga</i>	<i>Ishtam cha kevala jnana</i>
12	Cha. Vi. 8/137	<i>Aasthapana basti dravya</i>	<i>Aadi</i>
13	Cha. Vi. 8/150	<i>Anuvasana upayogi dravya</i>	<i>Sarvatah tailam pradhanyat</i>

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# EFFECTS OF BEHAVIOUR CONTRACTING TECHNIQUE ON SECONDARY SCHOOL ADOLESCENTS' ATTITUDE TOWARDS PREMARITAL SEX

Anagbogu, Mercy Aku<sup>1</sup>; Anyamene Ada<sup>2</sup>; Ezeani, Maritha Ifeyinwa<sup>3</sup>

<sup>1</sup>Professor, Department of Guidance and Counselling, Nnamdi Azikiwe University,  
Akwa, Anambra State, Nigeria

<sup>2</sup>Professor, Department of Guidance and Counselling, Nnamdi Azikiwe University,  
Akwa, Anambra State, Nigeria

<sup>3</sup>PhD Research Scholar, Department of Guidance and Counselling, Nnamdi Azikiwe University,  
Akwa, Anambra State, Nigeria

## ABSTRACT

*Adolescents' attitude towards premarital sex has become a worrisome societal problem in Nigerian society, both to the students' development and their over-all well-being. This study investigated the effects of Behaviour technique on secondary school adolescents' attitude towards premarital sex. The design for the study is quasi-experimental, non-randomised pre-test and post-test, control group research. The sample comprised 64 students purposively selected from a population of 260 students. A standardised instrument "Premarital Sexual Permissiveness Scale (PSPS)" was used for data collection. The internal consistency reliability coefficient for the instrument is 0.73. Data was collected through direct delivery of the instrument to the respondents. Mean scores were used to answer the research questions, while the null hypotheses were tested using Analysis of Co-variance (ANCOVA). The norm of the instrument guided the decision. The finding of the study revealed among others that contracting technique is effective in reducing adolescents' permissive attitude towards premarital sex. The findings further revealed that the differences in the effect of Behaviour Contracting technique on male and female secondary school adolescents with permissive attitude towards premarital sex are not significant. Based on the findings and implications of the study, it was recommended that Guidance Counsellors should adopt the use of the techniques in counselling and therapy among secondary school students to modify their permissive attitude towards premarital sex.*

**KEYWORDS:** *Adolescents, attitude, behaviour contracting, technique, premarital sex*

## 1. INTRODUCTION

Attitude towards premarital sex is a critical issue among the adolescents which have the tendency to be exposed to various health hazards such as teenage pregnancy complications arising from induced abortions, sexually transmitted infections (STIs), including HIV/AIDS. Pre-marital sex today has become a moral issue in institutions of learning. Students tend to engage in promiscuous behaviours without even at first recognizing just how dangerous it could be. Sex for these students is usually perceived as the ultimate source of pleasure.

The word sex in this study is used as a short term for sexual intercourse. In this perspective, sex includes the feelings or behaviours resulting from the

urge to gratify sexual desire. Sex according to Ayodele, Omolayo and Bose (2012) includes embracing arousal and activities associated with sexual feelings, fantasies, masturbation, foreplay or intercourse for the purpose of pleasure and reproduction. It usually takes place between married people. However, when people engage in sex while they are not yet married, it is termed premarital sex.

Premarital sex may have different connotations to different people and groups, but the definitions are analogous. According to Ayodele, et al. (2012), premarital sex refers to sexual activity practiced by people who are unmarried. Similarly, Sprecher, Treger and Sakaluk (2013) saw premarital sex as sexual relations between two people prior to



marrying each other. However, in the context of this study, pre-marital sex is seen as erotic or sensual behaviours or activities that adolescents engaged in without being married.

Adolescent in the context of this study is a child, either male or female within the age group of 13 to 19 years and schooling in secondary school. The adolescents' behaviour towards sex is determined to a large extent by the way they think or feel about sex hence their attitude towards sex is one of fantasy and exhilaration. Attitude according to Hornby (2015) means the way one thinks and feels about somebody or something. Therefore, attitude towards premarital sex in the context of this study thus refers to a positive or negative evaluations or feeling for or against any activity that is related to sex before marriage.

According to Adegoke (2014) and Wells and Twege (2015) noted, the perception of adolescents over the years about premarital sex have been changing and acceptance of premarital sex as normal has become more apparent. The situation where premarital sex is now practiced without hindrance contrasts the traditional Nigerian societal norm in which premarital sex was regarded as being sordid and forbidden and sex was an exclusive reserve for the married. Thus, it was common feature in most Nigerian cultures then for the unmarried persons to stay away from sexual practices until their marriage night (Egbunugha, 2005). This however was achieved through social punishments such as songs of contempt and degradation meted to girls whose loss of virginity was discovered at marriage night.

However, in recent times, such social punishments has not seems unattainable as the era of sustained virginity till marriage appears to be gradually fizzling away, making room for a more permissive sexual culture that tends to accept premarital sex as a norm. Consequently, there has been an increasing interest, inquiry and curiosity in premarital sexual activities among the present day adolescents. For instance, it has been observed in studies (Adegoke, 2013; Alarape, Olapegba & Chowwen, 2008) that the rate of premarital sexual activities among adolescents and young adults in Nigeria is quite high and the continuous increase in the behaviour has become quite worrisome. This is because such unwholesome behaviour tends to endanger the lives of the adolescents by exposing them to increased sexual health risks which could lead to various psychological, academic and reproductive health problems.

Some of those problems as Ayodele, et al. (2012) noted include contraction of HIV/AIDS and other sexually transmitted infections (STIs), early motherhood, unintended pregnancy, induced abortion, maternal mortality and other reproductive morbidity. These afore-mentioned health risks or

challenges according to Rena (2016) could have serious influence on the physical development as well as academic achievement of the adolescent.

Thus, the problem of premarital sex if left unaddressed or unattended to could have an all-rounder effect in the lives of adolescents, especially those in the secondary schools. So far, guidance counsellors in schools are making use of various counselling strategies to modify issues related to premarital sexual activities in schools. Notwithstanding the effort made so far, such problem seem to have persisted. The reason could be attributed to the efficacy of the behavioural modification techniques used to address challenging behaviours.

Behaviour contracting is a behaviour modification technique used in schools to help monitor and modify student's behaviour. According to Simonsen, Fairbanks, Briesh, Myers, and Sugai (2008), it involves creating a written document between the teacher and the student that specifies target behaviour, a set criterion for performance of the target behaviour, and the consequence available to the student upon meeting that criterion. So, as a contract, it outlines the individual counselee's behavioural obligations in meeting the terms of the contract, as well as the counsellor's obligations once the client has met the agreement.

Furthermore, behaviour contracting includes a listing of the specific student behaviours that are to be increased and the inappropriate behaviours to be reduced (intervention central, 2011). It also includes the reinforcers or actions of the adults when those behaviours happen. The contract also includes a section explaining the minimum conditions under which the student can earn a "reward" for showing appropriate behaviours, which can take the form of a sticker, privilege, special activity or another reinforcer agreed on by the student (Cooper Heron, &Heward, 2007)

This technique, behaviour contracting is widely used in schools in the western countries and is noted to present a positive goal-oriented method to motivate behavioural change. The technique has demonstrated effectiveness for individual or small groups of students with different behavioural problems (Hawkins et al., 2011), in addition to being efficient and effective in eliciting more appropriate school and home behaviours in students.

Behaviour Contracting as depicted in literature is a technique that have shown to be effective in the treatment of many forms of socially undesirable behaviour (Egger, Springer & Gooding, 2015; Selfridge, 2014), attribution behaviour, aggression, depression, anxiety, unhappiness, low self-concept and low self-esteem (Miller, Brownell & Smith, 2009), hence, these techniques would likely be effective in modifying the attitude of adolescents towards premarital sex. It is based on these assertions



that this study is being carried out to investigate the effects of behaviour contracting technique on secondary school adolescents' attitude towards premarital sex.

### STATEMENT OF THE PROBLEM

The issue of premarital sex tend to be a challenge to many adolescents all over the world today. Young people seem to have exalted notions about sex such that the prevalence of pre-marital sex among students is now a serious social problem both within and outside Nigeria. For instance, it has been observed that there seem to be much prevalence of premarital sexual indulgence among secondary school adolescents in Onitsha North Local Government Area, which may be associated with lots of sexual health risks. The adolescents' indulgence in premarital sexual practices may stem from their unwholesome attitude which exposes them to various sexual health challenges ranging from sexually transmitted Infections (STIs), unintended pregnancy, induced abortion and other reproductive morbidity.

Although a lot of research efforts have also been made, however, such efforts were geared towards determining the causes, consequences, attitude of adolescents and factors influencing their sexual engagements. None of these research efforts however was geared toward treatment approach to investigate psychological techniques that could help the counsellors and therapists in working with adolescents with such unwholesome attitude towards premarital sex. This therefore, prompts this study, to investigate the effect of Behaviour Contracting technique on the attitude of secondary school adolescents towards premarital sex in Onitsha North Local Government Area, Anambra State.

### 2. OBJECTIVES OF THE STUDY

The main purpose of this study is to investigate the effect of Behaviour Contracting technique on secondary school adolescents' attitude towards premarital sex. Specifically, the study intends to determine:

1. The effect of behaviour contracting technique on secondary school adolescent's attitude to premarital sex.
2. Differences in the effect of behaviour contracting technique on male and female secondary school adolescent's attitude towards premarital sex.

### SIGNIFICANCE OF THE STUDY

School counsellors will find this study beneficial since it will provide them an effective tool to deal with the academic and health hazards which these adolescents who are sexually active are confronted with. They could achieve this through the use of their wealth of knowledge and experience and

appropriate therapeutic techniques as helping professionals to make those students change their attitude in a more positive direction. It will also make the counsellors to see the need for organizing regular or periodic individual and group counselling. They will use such gathering as a forum where these students will be properly educated on matters of sexuality and its attendant problems.

### Research Questions

The following research questions guided the study.

1. What is the effect of behaviour contracting technique on secondary school adolescents' attitude towards premarital sex when compared with those exposed to conventional counselling?
2. What is the difference in the effect of behaviour contracting technique on male and female secondary school adolescents' attitude towards premarital sex using their post-test scores?

### Hypotheses

The following null hypotheses were stated and tested at 0.05 level of significance.

1. There was no significant difference in the effect of behaviour contracting technique on secondary school adolescents with who received treatment using behaviour contracting and those exposed to conventional counselling.
2. There was no significant difference in mean post-test scores of male and female adolescents who received treatment using behaviour contracting and those in the control group.

### 3. METHODOLOGY

This study is a non-randomized pre-test, post-test, control group quasi-experimental research, involving two treatment conditions (Experimental and Control group) on students attitude towards premarital sex.

### Research Setting

The study was conducted in Onitsha North local government of Anambra State, Nigeria. Many young people in this area, especially the adolescents in secondary schools while unsupervised seemed to assume more responsibility for their own sexual standards and behaviour, to the extent that more girls and boys now accept premarital coitus once there is an emotional involvement with the partner with or without commitment to marriage in the future. There have also been cases where the girls got pregnant out of marriage and had to drop out of school. With such situation in the area, there is need for a study of this



nature to determine the best treatment approach to address the issue.

#### 4. PARTICIPANTS

The sample of the study comprised 64 students selected from a population of 260 students. The population comprised all the students identified with permissive attitude towards premarital sex.

#### 5. INSTRUMENT FOR DATA COLLECTION

The instrument that was used for assessment of secondary school students' attitude towards premarital sex is Premarital Sexual Permissiveness Scale (PSPS). The instrument was developed by Reiss (1967). The original PSP questionnaire was based on one used in a study by Reiss (1960) at an Iowa college, USA. The same instrument has been used in Nigeria by Ojedokun (2009). This scale measures the level of premarital sexual permissiveness that an individual accepts. It allows one to precisely place a respondent on the cumulative, low to high, scale of permissiveness. The scale consisted of 12-items on a five-scaled response options asking about the person's acceptance of kissing, petting, and intercourse in relationships involving no affection, strong affection, love, or engagement. An internal consistency reliability coefficient of 0.73 was obtained for this study.

#### Experimental Procedure

The researcher obtained the approval of the schools' management for carrying on with the research through a consent letter that was given to the school management. The experimental training sessions then took place at the two schools chosen for the study. The researcher, with the assistance of the guidance counsellors in the schools conducted a training programme which held for eight weeks for both the treatment and control group. The treatment sessions were carried out in the school's counselling centres. The day and time for each group's training

was established and maintained throughout the treatment.

Each training session lasted for 45 minutes using the counselling scheduled periods as specified by the schools.. Each of the groups received training for the eight weeks. After the eight weeks of treatments, PSPS was re-administered on all the participants in both the experimental and control groups. The scores obtained recorded and tagged post-test. The post-test scores along with the earlier elicited pre-test scores were then collated and statistically analysed.

#### Control of Extraneous Variables

Measures were put in place to control the likely effect of extraneous variables such as participant's mood, location, discrimination, method, and time of the day which if not well controlled may contaminate the study and possibly interfere with the findings.

#### Statistical design

The completed instruments were scored following the scoring instructions provided in the instrument's manual. Responses to the 12 individual items were summed to create an overall score for the scale. Scores on the 12-item scale ranged from 12-60. Scores that are above the norm 30.0 were seen as indicative of having a positive attitude towards premarital sex. The scores were collated and analysed using SPSS version 23. Research questions were answered using the mean while the null hypotheses were tested using the Analysis of Co-variance (ANCOVA).

#### 6. RESULTS

The data analysed are presented as follows:

##### Research Question 1

What is the effect of behaviour contracting technique on secondary school adolescents' attitude towards premarital sex when compared with those exposed to conventional counselling?

**Table 1: Pre-test and Post-test attitude towards premarital sex mean scores of adolescents treated with behaviour contracting technique and those treated with conventional counselling (Norm= 29.50)**

Variables	N	Pre-test Mean	Post-test Mean	Reduced Mean	Remark
Behaviour Contracting Tehnique	34	41.74	24.59	17.15	Effective
Control	30	43.33	38.37	4.96	

Table 1 revealed that the adolescents with permissive attitude towards premarital sex, who were treated with behaviour contracting technique, had pre-test mean score of 41.74 and post-test mean score of 24.59 with reduced mean 17.15 in their permissive

attitude, while those in the control group who received conventional counselling had pre-test mean score of 43.33 and post-test mean score of 38.37 with reduced mean 4.96. Therefore, with post-test mean score of 24.59 which is below the norm of 29.50,





behaviour contracting technique is effective in reducing adolescents' permissive attitude towards premarital sex.

**Research Question 2**

What is the difference in the effect of behaviour contracting technique on male and female secondary school adolescents' attitude towards premarital sex?

**Table 2: Pre-test and Post-test attitude towards premarital sex mean scores of male and female adolescents treated with behaviour contracting technique and those treated with conventional counselling.**

Variables	N	Pre-test Mean	Post-test Mean	Reduced Mean	Remark
Male	44	43.74	30.41	13.33	
Female	20	42.33	32.15	10.18	

Table 2 revealed that the male adolescents with permissive attitude towards premarital sex, who were treated with behaviour contracting technique, had pre-test mean score of 43.74 and post-test mean score of 30.41 with reduced mean 13.33 in their permissive attitude, while the female adolescents who were treated with behaviour contracting technique had pre-test mean score of 42.33 and post-test mean score of 32.15 with reduced mean 10.18. Therefore, with reduced mean score of 13.33 for male which is above the reduced mean score of 10.18 for female, behaviour contracting technique

was more effective in reducing male adolescents' permissive attitude towards premarital sex.

**Testing the Null Hypotheses**

**Null Hypothesis 1**

There is no significant difference in the effect of behaviour contracting technique on secondary school adolescents' attitude towards premarital sex when compared to those who received treatment using conventional counselling.

**Table 3: ANCOVA on the attitude towards premarital sex post-test mean scores of adolescents treated with behaviour contracting technique and those who received conventional counselling**

Variables	Sum of Squares	df	Mean Square	Cal. F	Pvalue	Decision
Corrected Model	2941.014	2	1470.507			
Intercept	183.848	1	183.848			
Pretest	2.556	1	2.556			
Treatment_Group	2127.638	1	2127.638	94.332	.000	S
Error	1375.846	61	22.555			
Total	65635.000	64				
Corrected Total	4316.859	63				

**P<0.05**

Table 3 shows that at 0.05 level of significance, 1df numerator and 63df denominator, the calculated F is 94.332 with Pvalue of 0.000 which is less than the stipulated .05 level of significance. Therefore, the null hypothesis is rejected. So, the effect of behaviour contracting technique on secondary school adolescents with permissive attitude towards premarital sex is significant.

**Null Hypothesis 2**

There is no significant difference in mean post-test scores of male and female adolescents who received treatment using Behaviour Contracting technique and those in the control group.



**Table 4: ANCOVA on the Attitude towards Premarital Sex Post-Test Mean Scores of Male and Female Adolescents Treated With Behaviour Contracting Technique**

Variables	Sum of Squares	df	Mean Square	Cal. F	Pvalue	Decision
Corrected Model	840.703	2	420.351			
Intercept	115.612	1	115.612			
Pretest	799.030	1	799.030			
Gender	27.327	1	27.327	.480	.491	NS
Error	3476.157	61	56.986			
Total	65635.000	64				
Corrected Total	4316.859	63				

**P>0.05**

In table 4, it was observed that at 0.05 level of significance, 1df numerator and 63df denominator, the calculated F is 0.480 with Pvalue of 0.491 which is Greater than the stipulated .05 level of significance. Therefore, this fifth null hypothesis is accepted. Thus, the difference in the effect of Behaviour Contracting technique on male and female secondary school adolescents with permissive attitude towards premarital sex is not significant.

## 7. DISCUSSION

Findings of this study were discussed as follows:

### **Effect of Behaviour Contracting technique in reducing adolescents' permissive attitude towards premarital sex**

Findings of the study revealed that Behaviour Contracting technique is effective in reducing adolescents' permissive attitude towards premarital sex. This shows that the technique when applied in treatment was able to reduce the permissive attitude of the secondary school adolescents. The finding equally revealed that the effect of behaviour contracting technique on secondary school adolescents with permissive attitude towards premarital sex is significant. This means that the effect of the treatment using the technique is weighty and substantial. This finding agrees with Cutrell (2010) and Dodge, Nizzi, Pitt, and Rudolph (2007) whose study highlighted the effectiveness of behavioural contract in decreasing inappropriate behaviour of students and improving students' responsibility.

Dodge, et al. also noted that using a behavioural contract with a student is that it provides explicit expectations, structure, consistency, routine, and organization for everyone involved, including the teachers, students, administrators, and parents. In doing this, the expectations and responsibilities for both the student and adults are clear, and the process of negotiation can be beneficial to the insight of the student about his or her behaviour.

More so, Selfridge (2014) examination of the effects of behaviour contract in the elementary general education classroom suggests that the behaviour contract was successfully implemented to increase a desired behaviour (engagement) with students in the general education classroom. The possible reason for this finding is that behaviour contracting can be a very powerful tool for motivating struggling learners to apply a skill or knowledge that they already possess but otherwise fail to use. In the same way, students are confronted with peer pressure and some fall into promiscuous behaviour without even at first, recognizing just how far they have fallen. The finding of this study thus suggests that Behaviour contracting can make a difference in the experience that students have in their classrooms. A decrease in the permissive attitude towards the inappropriate behaviours could allow the students learn more in their education classroom because more of their time will be focused on academic work.

Another important possible reason for this finding could also be attributed to the consistent daily contact that the resource Counsellors had with each participant. Throughout the study, the students developed a stronger relationship with the resource counsellor. It was noticed that the students began visiting the resource counsellor throughout the day to check in with her and tell her of their positive behaviours in the classroom. They obviously felt a connection to her, which may have also contributed to the decrease in problem behaviours.

### **Differences in the Effect of Behaviour Contracting technique in reducing male and female adolescents' permissive attitude towards premarital sex**

Findings of this study also revealed that the difference in the effect of Behaviour Contracting technique on male and female secondary school adolescents with permissive attitude towards premarital sex is not significant. This simply shows



that the male and female experience of the training programme using the Behaviour contracting technique did not produce meaningful difference in its effects. Both male and female responded in a similar manner. The possible reason for this finding is that Behaviour Contracting can be used as a flexible tool for managing a highly individualized program or for one student in a specific situation. Going by such notion, one would understand that male and female would probably respond to the training programme as an individual and not as male or female.

Although it has been suggested that men and women are likely to hold different psychological contracts (Freese & Schalk, 1996; Scandura & Lankau, 1997), their response to the treatment programme in this study did not seem to reflect that notion. The reason possibly could be because the treatment was not gender-based. The goal was to discuss the root cause for the behaviour and alternative reactions that the student can make to have reduced permissive attitude towards premarital sex. The student and the Guidance Counsellor establishes the alternative attitude that could lead to alternative behaviours and also the consequences that they will face for not following through with these behaviours, which are then written down in the form of a contract.

## 8. CONCLUSIONS

Based on the findings of this study, it is concluded that:

Behaviour Contractive technique has significant effect on secondary school adolescents' permissive attitude towards premarital sex. Therefore, the technique could be used by the school Guidance Counsellors in administering therapy to adolescents identified with such permissive attitude towards premarital sex.

## 9. RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. Counsellors and therapists should adopt the use of the Behaviour contracting technique in counselling and therapy among secondary school students to modify their permissive attitude towards premarital sex.
2. The school teachers should collaborate with the school Guidance Counsellor in identifying the "at risk" students and making appropriate referral to the Guidance Counsellor for assistance

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## NOMOPHOBIA: A META-ANALYTIC REVIEW

**Fathimath suhara KT\* Maneesha.K.P\* Sannet Thomas \*\***

*\*I MSc psychology students, Yuvakshethra Institute of management studies, Palakkad, Kerala-678631*

*\*\*Assistant professor of Yuvakshethra Institute of Management studies, Palakkad, Kerala -678631*

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### ABSTRACT

*Nomophobia is No mobile phone phobia. It is described as the dread of being besides a bendy device or past adaptable cell phone contact. Nomophobia is on the ascent over the globe. Here the inspector prepared to journey the contemplates directed in India simply as outside to have a good sized comprehension on the thinking of nomophobia, its estimations, system of consider, associated ideas, proposals etc. The professionals used meta-examination as the system for shifting closer the issue. Ten ponders which met the idea measures had been picked for this consider. Revelations of the reflect on consideration on offers the thinking that nomophobia is primary among all age packs, the majority of the contemplates directed in school understudies. Nomo phobic humans have physical, social and mental issues. Mental troubles consolidates stretch, disquiet, wretchedness, bitterness and so forth Causal elements of nomophobia is ordinary round the planet.*

**KEYWORDS:** *Nomophobia*

### INTRODUCTION

New technological gadgets and virtual communication are essential asset to the world. Computers, tablets and cell telephones (smart phones) are presenting comfort to human beings - specially to young humans in each section of their lives such as; connecting to the Internet, taking photos, listening to radio and music, following the news, discovering addresses and route, making reservations, banking, shopping, playing games etc. At the same time the developing technological units and virtual communication produce each pons and cons to the world, cons encompass social problems like social isolation, economic/financial issues like large money owed incurred to buy or use clever phones. It can additionally purpose each physical and psychological pathologies like damages related to electromagnetic field radiation, auto accidents, distress linked to the concern of no longer being capable to use new technological devices. When the use of these gadgets increases the severe feeling of anxiety and misery additionally increases telephone addiction its known as nomophobia. Nomophobia is viewed a

modern age phobia currently as a derivative of our interactions with cellular phones (Yildirim and Correia, 2015). Nomophobia is an acronym for no cellular cellphone phobia, it is the concern of being unable to use one's cell smartphone or being unreachable via one's mobile phone, and refers to the feelings of discomfort or anxiousness experienced by way of individuals when they are unable to use their mobile telephones or make use of the affordances these units provide. An adjective, the time period Nomo phobic is used to describe the characteristics of behaviours' related to nomophobia. Mobile Phone Phobia (nomophobia) may be viewed as one of the troubles experienced through a society. Nomophobics trip anxiousness which people face when they feel they may want to now not get sign from a cell tower, run out of battery, forget about to take the phone with them or genuinely do not receive calls, texts or electronic mail notifications for a certain duration of time, Ringxiety (a portmanteau of ring and anxiety) is also known as, Phantom vibration syndrome", phantom ringing, hypovibrochondria fauxcellarm, which capability a false sensation of ringing of





mobile phones. The most everyday symptoms of nomophobia pronounced that headache and lethargy, thermal sensation within the auricle and behind/around the ear, impaired attention and facial dermatitis. SecurEnvoy, (2012) described Nomophobia is a time period which is used to describe “the fear of being out of cellular phone contact” and the “anxieties cell telephone customers suffer”. King, Valence, Silva, Baczynski, Carvalho & Nardi,( 2013) defined nomophobia is viewed a ailment of the modern world, and has only recently been used to describe the pain or anxiousness triggered by means of the non-availability of an MP [mobile phone], PC [personal computer] or any other virtual verbal exchange device in men and women who use them habitually .Similarly, King, Valenca, Silva, Sancassiani, Machado and Nardi (2014) considered nomophobia as a present day fear when one is unable to communicate by means of the use of a cellular smartphone or Internet. It is “a situational phobia associated to agoraphobia and consists of the fear of becoming ill and no longer receiving immediately assistance” .Yildirim (2014) asserted that it as a concern of now not being able to use a smartphone or a mobile telephone and/or the offerings it offers. It refers to the worry of now not being in a position to communicate, losing the connectedness that smartphones allow, now not being able to get admission to facts thru smartphones, and giving up the convenience that smartphones grant (Yildirim, 2014; p. 74). King et al., (2014); Yildirim & Correia, (2015) referred it as a worry and soreness from not having get right of entry to to one's mobile system is a phenomenon that has end up extra recognized. In the literature of mobile phone smartphone dependency. Han et al defined nomophobia as a smartphone separation nervousness and argued that when a user perceives the smartphone as an prolonged self, he or she is more possibly to get attached to the system which in flip lead to nomophobia through promoting proximity searching for.

**OBJECTIVE**

To analyse research studies on nomophobia and to have a deep understanding on the concept of nomophobia and its related concepts.

**METHODOLOGY**

Literature search

A pc based totally statistics search was carried out on the Info Net- a laptop database, which affords abstracts and full paper of articles. Studies from January 2015 up to October 2019 have been protected in the search. Google scholar, Science Direct, PubMed, J stor, Springer, Wiley, Taylor and Francis were searched the use of “nomophobia” as key-word to search for papers posted from January 2015 to October 2019. Many studies have been recognized by using the above keywords. Study abstracts obtained had been read to eliminate research that were not worried with nomophobia. These steps produced a pool of 10 studies that met inclusion criteria.

Inclusion criteria

The study aimed at understanding the concept of nomophobia. Only full text studies were included. Qualitative studies, reviews, articles which focus mainly on nomophobia were also included. Another inclusion criterion was that study must be written in English language and finally the study must have been conducted between January 2015 and 2019.

**Procedure**

First of all the selected studies were arranged according to the year of publishing (from 2015 to 2019), then extracted major findings of the studies and then each study was analysed qualitatively. These selected studies were arranged according to the publishing year. Then they are consolidated and analysed using content analysis.

**RESULT AND DISCUSSION**

The collected studies were arranged in the order of publication and analysed using already identified factors and some factors were also emerged during the analysis process. The arrangement of selected studies and their classification were presented in table 1.

SN	Author(s) and year	Name of the study	Major findings
1	Caglar Yildirim Evren Sumue Muge Adnan and Soner Yildirim (2015)	A growing fear: Prevalence of nomophobia among Turkish college students	The results revealed 42.6% of young adults had nomophobia, and Their greatest fears were related to communication and information access. The study also found that



			gender and the duration of smartphone ownership had an effect on young adults' nomophobic behaviours, whereas age and the duration of mobile phone ownership had no effect.
2	Pavithra MB, Suvarna Madhukumar and Mahadeva Murthy TS (2015)	A study on nomophobia mobile phone dependence, among students of a medical college in Bangalore	Majority (74%) of the students spent Rupees 300-500 per month on mobile recharge. About 23% students felt they lose concentration and become stressed when they do not have their mobile around, 79(39.5%) students were Nomophobic in this study and another 27% were at risk of developing Nomophobia.
3	Neelima Sharma, Pooja Sharma, Neha Sharma and R. RWavare(2015)	Rising concern of nomophobia amongst Indian medical students	Students were having possession of at least one mobile phone with activated internet services in 87% of students. 34% were having two mobile phones, while 4% had more than two mobiles. 61% students had to recharge the internet services once a month, 28% twice a month, while 11% students had to recharge it more than three times a month. 73% of students were nomophobics. 21% of nomophobics experienced anxiety. 83% of students experienced panic attacks when their mobile phone was misplaced. Headache and lethargy were the commonest side effects that were experienced by 61% of students



4	Ibrahim Arpacı , Mustafa Baloglu, Hatice Irem Ozteke and Sahin Kesici (2017)	Individual Differences in the Relationship Between Attachment and Nomophobia Among College Students: The Mediating Role of Mindfulness	The structural equation model shows that the positive direct effects of avoidant (.13, P=.03) and anxious attachment (.48, P<.001) on nomophobia were significant. The negative direct effects of avoidant (-.18, P=.01) and anxious attachment (-.33, P<.001) on mindfulness were also significant. Moreover, mindfulness has a significant negative effect on nomophobia for women only (-.13, P=.03). Finally, the Sobel test showed that the indirect effects of avoidant and anxious attachment on nomophobia via mindfulness were significantly higher than men (mean 63.59 [SD 15.97]) in anxious attachment (F1=7.93, P=.01, partial $\eta^2$ =.02). Gender differences in mindfulness were not significant (F4, 448=3.45, P=.69). On the other hand, results do show significant gender differences in nomophobia (F4, 445=2.71, P=.03, Wilk $\lambda$ =.98, partial $\eta^2$ =.02) where women scored significantly higher than men.
5	Deniz Mertkan Gezgin, Nazire Burcin Hamutoglu, Gozde Sezen-Gultekin and Tuncay Ayas (2018)	The Relationship between Nomophobia and Loneliness among Turkish Adolescents	Levels of nomophobic behaviors of adolescents were at a moderate level. While there was not a statistically significant correlation in terms of the duration of smartphone ownership and



			<p>monthly mobile internet GSM quota, a significant difference was found in terms of the duration of mobile internet ownership, the duration of daily mobile internet use, and daily smartphone checking time. Finally, there was a statistically significant relationship between nomophobia and loneliness, and it can be ascertained that loneliness of adolescents predicts their nomophobia levels to a certain extent.</p>
6	Burhanettin Ozdemir , Ozlem Cakir and Irshad Hussain (2018)	Prevalence of Nomophobia among University Students: A Comparative Study of Pakistani and Turkish Undergraduate Students	<p>According to multivariate effects results, the main effect of gender on self-esteem and nomophobia was statistically significant which indicates that differences between male and female students with respect to self-esteem and nomophobia were significant. The study demonstrated differences between Turkish and Pakistani students' score on nomophobia, loneliness and self-happiness were significant, while difference on self-esteem across countries was not statistically significant.</p>



7	Jessica S. Mendoza , Benjamin C. Pody , Seungyeon Lee , Minsung Kim and Ian M. McDonough (2018)	The effect of cell phones on attention and learning: The influences of time, distraction, and nomophobia	Findings indicate that having cell phones in a short lecture has its largest impact on attention and learning 10E15 min into the lecture. This study provides novel insights into the interactions between technology and learning to help educators and students optimize learning.
8	Gabriel Aguilera-Manrique, Vero Anica V. MaArquez-HernaAndez , Tania Alcaraz-CoArdoBa , Genoveva Granados-GaAmez1,2 <sup>3</sup> , Vanesa GutieArrez-Puertas and Lorena GutieArrez-Puertas (2018)	The relationship between nomophobia and the distraction associated with smartphone use among nursing students in their clinical practicum	A positive correlation between the use of smartphones and the total score of nomophobia Was found. In the same way, there was a positive correlation between opinion about smartphone restriction polices with each of the dimensions of nomophobia and the total score of the questionnaire
9	Azra Daei, Hasan Ashrafi-rizi, and Mohammad Reza Soleymani (2019)	Nomophobia and Health Hazards: Smartphone Use and Addiction Among University Students	The incidence rate of nomophobia among the students was moderate (3.1), and 73% of the students were moderate smartphone users. Nomophobia had a significant relationship with gender, age group, and level of education; and the frequency of using smartphones had a significant relationship with age group and level of education. There was a positive correlation coefficient between nomophobia and the frequency of using smartphones. The mobile phone use predicted nomophobia with a beta coefficient of 0.402 (P < 0.05).





10	G. Jilisha, J. Venkatachalam, and Jeby Jose Olickal (2019)	Nomophobia: A Mixed-Methods Study on Prevalence, Associated Factors, and Perception among College Students in Puducherry, India (2019)	Among the 774 participants, 23.5% had severe nomophobia scores. Older age, male gender, duration and frequency of smartphone usage, use for social networking, checking without reason, and checking Smartphone after waking up in the morning were significantly associated with nomophobia. The in-depth interview showed attributes of addiction among the students, like dependency and compulsive behaviour. Students also experienced anxiety and frustration when they had to part with their smartphones.
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The evaluation of studies published that most of the studies have been conducted amongst college students, clinical students, nursing students, and young adults. When analysing the type of study, it can be seen that majority of the research had been exploratory or qualitative in nature and some used each quantitative and qualitative approach. A very few research had been of experimental type.

Most of the studies had been aimed to learn about the dimensions of nomophobia, incidence of nomophobia, factors affecting nomophobia, grasp of nomophobic symptoms and controlling elements for nomophobia. According to the investigator there are four dimensions of nomophobia. These dimensions are: (1) now not being capable to communicate, (2) dropping connectedness, (3) not being capable to get entry to statistics and (4) giving up convenience. Studies on Turkish college students disclosed that the college college students said higher stages of worry for the two dimensions of nomophobia, namely “not being to communicate” and “not being in a position to get entry to information”, attesting to the importance of communication and statistics get admission to for young adults. Researchers located that 23.5% had occurrence nomophobia amongst university students in puducherry India. Alahmari et al. found a occurrence of 22% for severe nomophobia amongst undergraduate college students in Saudi Arabia. Oksman & Turtiainen, 2004; Toda et al., 2006; Choliz, 2010; King et al., 2013; Sharma et al., 2015; Tavalacci et al., 2015; Yildirim et al., 2015;

Adnan & Gezgin, 2016; Gezgin et al., 2017) found that prevalence of nomophobia and its relationship between the other psychological structures.

Factors associated with nomophobia are gender and age. G Jilisha et al discovered association between male gender and or work. Azra Daei et al 2019 discovered that statistically large relationship between nomophobia disease and gender, and that its prevalence was once higher in men than in women. The effects of this study are consistent with these of a learn about by means of Majidaei et al., Emelin et al. Yaseminejad et al., and Yildirim et al. Psychological studies exhibit that 70% of girls and 61% of guys are afraid of being besides a mobile phone. Study of Arpaci et al. confirmed considerable gender variations in nomophobia, the place female scored extensively greater than men. In contrast, research via Zamani et al., Adawi et al., and Pavithra et al. showed no relationship between nomophobia disease and gender. Azra Daei et al 2019 located that nomophobia and the frequency of over use of mobile cellphone had a statistically enormous relationship with age. Between inconsistent studies, the find out about carried out by means of Yildirim et al. and Argumosa-Villar et al., which showed that age did no longer have any outcomes on individuals’ nomophobic behaviors is noteworthy. Study carried out by Emelin et al. discovered a correlation between age and immoderate use of cell phones. Farooqui and Gothankar trust that the age which can be most affected by using nomophobia is between 20 and 24



years due to the fact young human beings hire new applied sciences and equipment faster than different people. G Jilisha et al determined that (38%) university college students in puduchery India felt that smartphone use hampered the academic performance. Similar end result used to be recorded through Pavithra and Suwarna Madhukumar where 43% of medical undergraduate s expressed worries regarding their lecturers due to uncontrolled smartphone usage. Farooqui et al. Pooja et al. and Chandak et al. also observed a comparable good sized affiliation among undergraduate and postgraduate degree students and amongst clinical undergraduates. Hours of use of cell cellphone predicts nomophobia .Azra Daei et al 2019 determined that frequency of over use of cell cellphone expected nomophobia, Pavithra et al. confirmed that nomophobia ratings were greater in college students who used their smartphones greater than three h a day. Adawi et al. confirmed that nomophobia was related with the quantity of hours spent on cellular phones. In contrast, the findings of the study via Emelin et al. confirmed that the frequency of UMPs was now not a predictor of mental dependence, and that the frequency of UMPs should no longer have a considerable relationship with mobile smartphone dependence

Hours of smart smartphone use among 35% of the medical postgraduates who used their smartphones for extra than 3 hours in contrast to these who used much less than 3 hours. A find out about carried out in Saudi Arabia among fitness science beneath graduates also determined an association between nomophobia and make bigger in smartphone usage. Significant danger for nomophobia are also found by many investigators .G Jilisha et al discovered that a massive threat for nomophobia in college students whose cause of maximum use was once social networking and texting. Studies with the aid of Kanmani et al. and Pavithra and Suwarna Madhukumar have additionally found social networking having the best share of customers amongst medical undergraduates, ranging from 56% to 77%. Studies from Turkey and Spain also had said social networking as the most ordinary undertaking amongst smartphone users. Smartphone is an vital tool which can link extraordinary people, especially household and friends. This turns into greater evident when younger adults have to remain away from home for higher training however would possibly be in need of help to reduce their smartphone usage physical symptoms was seen amongst clinical postgraduates by means of Chandak et al. G Jilisha et al located that fitness effects via the usage of a smartphone additionally (37%). Khan's study, conducted among undergraduates in Saudi Arabia, also confirmed a extensive relationship between fitness problems and the length of use smartphone. Studies derived the

factors of nomophobic behaviour. That are easy to communicate, connectedness, comfort etc. This study is correlated with the issues of a Turkish find out about by means of Caglar Yildirim, such as the incapacity to communicate, inconvenience, and data accessibility. G Jilisha et al also discovered that nomophobic behaviour that are connectedness, get right of entry to information, staying updated, relieving boredom, convenience, etc.

Lidia et al. study located that personality trait self-esteem having a necessary have an effect on nomophobia.

Jilisha et al discovered that smartphone as an imperative technology, a popularity symbol, and a device for social acceptability. This may circuitously suggest a need to have admire among others in the society. Lapointe et al. described attributes of dependancy such as withdrawal, preoccupation, etc., which had been in accordance with the codes dependency and loss of control determined in our study

## CONCLUSION

Reviewing the literature has delivered a deep appreciation on the idea of nomophobia, its dimensions and symptoms. From majority of studies it can be realized that all authors approached the trouble and seen from one-of-a-kind angles. Nomophobia is frequent amongst all the age group, however normally considered in younger adults. It reasons physiological, psychological and social problems. Nomophobia, or no cell smartphone fear, is a truth in today's society where smartphone use has a massive function in people's health/wellbeing and their adjustment to the world they stay in.

Symptoms of nomophobia include stress, anxiety, depression, loss of control, aggression, irritability etc. controlling elements of nomophobia include restrict from family, security concern, destructive fitness effects etc. Prevalence of nomophobia can be viewed in all age companies and gender .There are four dimensions of nomophobia that are not being able to communicate, losing connectedness, no longer being in a position to get admission to records and giving up convenience. Smartphone as a fundamental device which can link special people, especially household and friends. Over use of mobile smartphone will increase the hazard for nomophobia.

## IMPLICATION AND SUGGESTIONS

Increasing use of smartphones and nomophobia is increasing amongst adolescents. To prevent or reduce the terrible impact of nomophobia, it is essential that teachers, families, and society have an recognition of the hassle and be geared up with expertise to help the victims of it. Should provide attention to adolescents that, smartphones are necessary however can't exchange actual



relationships. Families and teachers ought to apprehend the results of smartphones on adolescents.

It may appear attractive for lonely human beings to establish relationships and socialize via the use of smartphones; however, it ought to be kept in thought that loneliness will hold growing over time. encourage youth to have new hobbies, participate in sports they like or play music, read, and take part in cultural things to do watching a film, going to drama, to musicals and so forth so that humans preserve themselves away from smartphones, it helps them with socializing, overcome the fear of incapability to use a smartphone, and stroll away from the feeling of loneliness

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# AN EXPLORATORY RESEARCH STUDY OF MARKETING STRATEGIES OF IDBI FEDERAL INSURANCE CO. LTD

Himanshi Goyal\* Dr. Navneet Joshi\*\* Sanjive Saxena

\*PGDM(IB) Student,

\*\*Professor,

\*\*Associate Professor

Jagan Institute of Management Studies, sector-5, New Delhi -110085

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## ABSTRACT

*This paper covers the exploratory research study on the marketing strategies of IDBI Federal Insurance, Company. In the Indian context, Insurance companies are playing a major role in the development of Indian economy. With the entry of many private players in the insurance industry, the competition has risen manifold and hence insurance companies are coming out with innovative marketing strategies to woo the customer. This was the reason for narrowing down the scope of the research work. The present paper is an exploratory research study on the marketing strategy of IDBI Federal Insurance Company. The paper seeks to address the following objectives (a) To determine the marketing strategies of IDBI Federal Life Insurance Co. Ltd (b) To determine the means and mechanism deployed by IDBI Federal Life Insurance Co. Ltd. Applying the marketing mix and to determine the effectiveness of the strategy and (c) to understand the reasons which provide competitive advantage to IDBI Federal Life Insurance Co. Ltd. The paper is developed on the basis of elementary primary and secondary data available in the Internet and other documents and journals. The design of the paper follows a structured approach. The literature review resulted in the generation of the research objectives. The primary data was collected by means of Google Forms and MS Excel was used for data analysis. Descriptive Statistics is used to arrive at the findings and interpretation. The findings indicate that the majority of the people seek insurance cover for the purpose of having risk cover and availing several benefits associated with the life insurance policies. Further, the findings indicate that there is a need to capitalize social media platform for generating awareness to drive the market growth.*

**KEY WORDS:** IDBI, Insurance, Marketing, Policies, Strategies

## INTRODUCTION

The insurance industry of India, is one of the industry which impacts the economic growth of the country. The government has permitted many of the private players to enter the insurance market and contribute to the economic growth. Hence, today the industry is at the cross roads due to the fact that CORONA has shrunk the economy and also, many of the people see insurance as a well-planned strategy to avail the tax benefit rather than view insurance as a means and mechanism to provide assurance during the times of crisis. With the growth of the insurance industry, a need was felt to regulate the functioning of

the Insurance companies, hence IRDAI was formulated to provide a systematic functioning of the insurance companies and hence many of the insurance companies began to focus on the marketing strategies to beat the competitors. With the growth of the insurance sector, several new areas and avenues began to come up. At present, the insurance industry of India consists of 63 insurance companies of which 24 cater to Life Insurance while 39 cater to non-life insurance such as car insurance, marine insurance, house insurance and the like. Further, there is also division in terms of public sector and private sector insurance companies.





## LITERATURE REVIEW

The market penetration is the most important index for the government as well as for the private sector insurance companies. This is on account of the fact that several projections and launch of several new insurance products are carried out with the help of understanding of the market size.

The following highlights the glimpse of the market size in the Indian context. On the basis of which several marketing strategies are devised by the insurance companies.

- Government's policy of insuring the uninsured has gradually pushed insurance penetration in the country and proliferation of insurance schemes.
- Gross premiums written in India reached Rs 5.53 trillion (US\$ 94.48 billion) in FY18, with Rs 4.58 trillion (US\$ 71.1 billion) from life insurance and Rs 1.51 trillion (US\$ 23.38 billion) from non-life insurance. Overall insurance penetration (premiums as % of GDP) in India reached 3.69 per cent in 2017 from 2.71 per cent in 2001.
- In FY19 (up to Jan 2019), premium from new life insurance business increased 3.91 per cent year-on-year to Rs 1.59 trillion (US\$ 22.04 billion). In FY19 (up to Jan 2019), gross direct premiums of non-life insurers reached Rs 1.39 trillion (US\$ 19.28 billion), showing a year-on-year growth rate of 12.65 per cent.

An extant review of literature resulted in the existence of the following types of insurance provided by the various insurance companies and that separate means and mechanisms are deployed for carrying out marketing strategies.

### Life Insurance

This is the insurance product wherein the company provides the insurance to the human being who is generally the policy holder. Also, the person can take the policy in the name of his child or any other family member provided the rules and regulations are met. The insurer pays the fixed amount of insurance at the time of death or at the expiry of the certain period. The insurance companies focus their marketing strategies towards highlighting the advantages and the perils associated with the threat to life

### Property Insurance

This is the insurance product wherein the insurance is carried out in the name of the property. The terms and conditions of this insurance covers the various types of risk that are involved to the property in question. The marketing strategies of the insurance companies are targeted towards the happening of the risk due to unforeseen circumstances. The premium of this type of insurance is dependent on the extent of the risk cover as sought by the property holder.

### Marine Insurance

This is the insurance which deals with the perils and the risk associated with the goods which are being transhipped by sea to far off places. The marketing strategies of the various companies are targeted to the perils of travelling through the sea. The premium is based on the type of the ship, the route taken, the goods being transported and other factors such as weather as all these are the contributors to the risk coverage.

### Fire Insurance

This is the insurance which is provided by the companies in dealing with the risk associated with the losses on account of fire. The marketing strategy of the insurance companies deals with the aspects of the losses arising out the happening of fire in the premises or any other building for which the insurance is sought. The premium is based on several factors such as the design of the premises, the type of the premises such as commercial, residential and the like.

### Car Insurance

This is the insurance which is provided to the holder of the car. This is similar to property insurance except that the scope is small. The marketing strategy deployed by the companies include aspects such as the type of the car, the risks associated with the car while driving and the like. The amount of the premium is dependent on the aspects such as year of manufacturing, the type of registration of the car and the like.

### Research objectives

The following are the research objectives which are arrived from the literature review

- To determine the marketing strategies of IDBI Federal Life Insurance Co. Ltd
- To determine the means and mechanism deployed by IDBI Federal Life Insurance Co. Ltd. Applying the marketing mix and to determine the effectiveness of the strategy
- To understand the reasons which provide competitive advantage to IDBI Federal Life Insurance Co. Ltd.

## RESEARCH METHODOLOGY

The research methodology adopted in this research work included the blended work of grounded theory approach in the form of collection of primary data for determining and understanding the problem and consequently collecting the data.

The primary data was collected by means of questionnaire. The questionnaire was split into parts. One part collected the demographic information while the other part collected the responses of the





respondents. The sample size was limited to the tune of 50 and the target respondents included the residents of Shahdara, Delhi. The data was collected by means of Google forms and MS Excel was deployed for the purpose of statistical analysis. Descriptive analysis was used in the process. The prime reason for using descriptive analysis was the fact that the secondary data was used more as compared to primary data.

The secondary data was collected by means of resources available in the internet and other documents.

### FINDINGS

The marketing mix of IDBI Federal Life Insurance Co. Ltd. is the combination of marketing activities that it engages in so as to best meet the needs of its target market.

In the case of designing product portfolio or the product mix several aspects are taken into consideration namely child insurance, Group micro insurance, life insurance, term insurance and the like.

In order to increase the customer base and to improve the visibility in the market, IDBI Federal has around thousands and thousands of insurance agents all over India to manage their regional customers effectively. IDBI Federal has over 1201 branches all over India to cater to increasing customer base.

For pricing of the products, IDBI Federal Life Insurance Co. Ltd. provides various benefits to its customers such as Double tax benefit under section 80(C) and 10(10D), bonus, terminal bonus, loyalty points and the like

For promotion and increasing the visibility IDBI Federal has also adopted various marketing strategies such as commercial advertising, Event conduction and the like.

### DATA ANALYSIS AND INTERPRETATION

#### Personal Data

- Marital Status:

Options	Response
Married	75
Single	25

- Educational Qualification:

Options	Response
Illiterate	10
School level	15
College level	35
Professional	40

- Occupation:

Options	Response
Govt. employee	18
Private employee	22
Business	45
Others	15

- Family income:

Options	Response
< 2,00,000	10
2,00,000 - 4,00,000	25
4,00,000 - 6,00,000	50
> 6,00,000	15

- State your level of awareness about life insurance.

Options	Responses
Very low	2
Low	3
Medium	15
High	40
Very High	40



- Rank your awareness about various insurance companies.(1-5)

Options	1	2	3	4	5
IDBI Federal	40	20	18	12	10
SBI Life	25	24	31	12	8
LIC	58	22	10	8	2
HDFC	15	15	32	18	20
ICICI	20	20	18	30	12

- How long you have been aware of life insurance policies?

Options	Response
< 5 years	10
5 - 10 years	15
10 - 15 years	20
> 15 years	55

- What type of policies you are aware of? (multiple options)

Options	Response
Endowment	80
Money back	60
Children's plan	40
Pension plan	20

- From which source you are aware of insurance companies?

Options	Response
Newspaper	25
Television	30
Agents	20
Development officers	5
Friends	20

- Which media attracted you for advertisements of life insurance companies? (1-5)

Options	1	2	3	4	5
Newspaper	30	20	28	12	10
Magazine	22	15	10	33	20
Posters	5	12	20	28	35
Television	35	37	8	12	8
Agents	32	40	8	15	5

- Do you know about IDBI Federal Life Insurance Co. Ltd.?

Options	Response
Yes	73
No	27

- How did you know about IDBI Federal Life Insurance Co. Ltd.?

Options	Response
Printed media	18
Television	32
Agents	18
Friends	32

- Do you feel these advertisements helps people to educate about their products?

Options	Response
Yes	55
No	45



- What is the first thing that comes to your mind when you think/heard about IDBI Federal?

Options	Response
IDBI bank	50
Logo	10
Financial institute	20
Insurance industry	20

- Are you aware about various products of IDBI Federal Life Insurance Co. Ltd.?

Options	Response
Yes	50
No	50

- About how many products did you know? (multiple options)

Options	Response
Income insurance	70
Wealth insurance	80
Term plans	150
Retirement plans	50
Child plans	100
Saving plans	90

- Do you have any policy with IDBI Federal Life Insurance Co. Ltd.?

Options	Response
Yes	40
No	60

- If yes, what type of plan do you have? (multiple options)

Options	Response
Income insurance	2
Wealth insurance	15
Term plans	25
Retirement plans	3
Child plans	30
Saving plans	12

- State the reason for taking the policy. (multiple options)

Media	Response
Savings	60
Wide risk coverage	30
Tax benefits	81
Image and popularity of policy	38
Known agent	8
Fulfillment of future funds need	85

- What are the influencing factors of a company you consider before taking policies? (multiple options)

Media	Response
Reputation of company	46
No. of branches	19
Location	35
Service quality	90
Variety of products	50



Assistance by agents	76
Simple procedure & formalities	69
Amount of Risk Cover	150
Maturity Sum Assured	118
Premium Amount	88

### Final Interpretation

According to the data collected, premium amount, maturity sum assured and amount of risk cover along with service quality with 12%, 16%, 20% and 12% respectively are the most influencing factors for taking policy from IDBI Federal.

### Limitation

The limitation that came out from the study is the small sample size. Had the sample size been large, more findings and new variables discovery would have provided a new direction to the research.

### CONCLUSION

The marketing of IDBI Federal Insurance Co. is based on application of the basic principles of marketing theory. On a closer look it is observed that even despite of the tough competition it has been able to hold a good standing in the market on account of the fact that it has been constantly upgrading the processes and studying the market for lead generation. This is the key to sustaining the market.

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# THE STATE OF INDUSTRY IN TURKESTAN IN THE EARLY YEARS OF SOVIET RULE

**Urol K. Khudoykulov**

*The Associate professor of History Faculty of National University of Uzbekistan*

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## ABSTRACT

*The article deals with the history of the industrialization of Turkestan in the 20<sup>th</sup> years of the XX<sup>th</sup> century. Outlines the main directions of the policy of the Bolshevik regime of the Soviets in this area. And also the history of construction of industrial enterprises in the region is given.*

**KEY WORDS:** *industry, Turkestan, economy, soviet, Bolshevik regime, Constitution, NEP (New Economic plan), law, machinery and power plants*

## DISCUSSION

Bolshevik regime needed certain conditions for large-scale industrialization, which initially required the development of the mining industry, metallurgy, the construction of machinery and power plants, as well as urgent work to promote the development of agriculture. The effectiveness of work in the field of industrialization largely depended on the unimaginably complex international relations of the post-World War I period.

The transition period of the economy in the early years of Soviet power was a complex process, which was 1) patriarchal, that is, the main part of which was natural farming; 2) production of small market-related products, mainly by middle-class farmers; 3) private economic capitalism; 4) state capitalism; 5) characterized by socio-economic forms such as socialism, which in the Soviet state at that time consisted mainly of socialist, low-productivity, capitalist forms[1].

The Soviet Constitution of 1918 stated that one of the main tasks of the new state power was to “determine the foundations and the general plan of all and certain branches of the national economy”. The ongoing civil war, the general crisis in industry, the shortage of raw materials, prompted Soviet Russia, first of all, to use fuel and water wisely, and secondly, to move to a more “improved” form of state economy – the planned economy.

Although the Soviet government tried to pay close attention to the development of industry in the national republics in the first year of the NEP,

since 1913 more than three-quarters of all industry was concentrated in Moscow, St. Petersburg, Ivanovo, the Urals, and in Turkestan, the Far East, and other remote countries[2].

In the early years of the Soviet regime, the low pace of industry and production in the country, as well as the rarity and scarcity of assets, led to the fact that the industrial sector remained at a much lower level than the Union.

After the First World War, as in Turkestan's agriculture, its industrial sectors and transport were completely destroyed, and the gross industrial output of the province in 1920 decreased by 80% compared to 1914. In 1920, industrial production in the Soviet country was about 7 times less than before the war. Cast iron production in 1921 amounted to 1,163,000 tons, which was only about 3% of the smelting of cast iron in the pre-war period. Initially, by 1920, it was planned to increase coal production by 7.2 times, cast iron production by 68 times, copper smelting by 273 times, and oil production by almost 3 times[3].

For Russia's economic life, Turkestan is a country with promising opportunities rich in textile raw materials<sup>3</sup>. Turkestan has a low permanent labor force, agriculture, especially in the cotton-growing districts, is almost complex, it is impossible to irrigate lands by artificial (mechanical) water supply or a system of hydraulic structures, mechanized construction without dams and canals.





Growth indicators of industries[4]

Area	1913 year	1920 year
Cast iron smelting (mln. tons)	4,2	0,116
Steel production (mln. tons)	4,2	0,194
Copper production (mln. tons)	31,1	0,3
Coal production (mln. tons)	29,1	8,6

On December 29, 1920, the VIII All-Russian Congress of Soviets announced the end of the Civil War and the beginning of the transition to the restoration of peaceful economic life. The Congress discussed issues of heavy industry, transportation, and agricultural recovery, which were developed by a special commission, and G.M. The popular Russian electrification plan outlined in Krjijanovsky's report is called the GOELRO plan. The Congress also discussed the GOELRO plan, which was approved as the first long-term plan for the national economy of the Soviet state[5]. Later, on February 22, 1921, with the adoption of the "Regulations on the State General Planning Commission", abbreviated as Gosplan, the initial and all efforts were included in the planning system of the Union bodies[6].

The All-Russian Central Executive Committee, the Council of People's Commissars and the Supreme Soviet of National Economy are charged with the task of using joint forces in the implementation of the industrialization plan, as well as developing measures to empower the whole industry[7].

The Soviet government sought to radically change all systems of the national economy through industrialization, to eliminate the disproportion inherited from the past and to create a complex that could meet the new goals and objectives of development, to create a number of new industries for industrial reconstruction, to electrify production. Planned a "complete reconstruction". In developing the fuel balance, it also envisaged concrete measures to dramatically increase its production and rational placement in the country.

Although industrialization has been carried out at an unprecedented rate, it has been said, not only because of the zeal and enthusiasm of the people, but also because of a number of unknown aspects hidden from the public. Most of the builders were prisoners of war, not mobilized "construction-labor offensive armies" ("stroytrudarmiya"). During the implementation of the program, the rare treasures of the country's culture were largely sold abroad. Also, in many parts of the country, especially during the famine in the Volga region and Ukraine, grain was sold abroad[8], according to some historians. and it would not be possible"[9].

A number of works published in recent years have argued that GOELRO is a promising plan for

the development of economic sectors and the electrification of economic regions, which can not be called a plan for electrification. In particular, historian N.S. Simonov (Russia) wrote in a monograph that "10 years after the plan was adopted (1920), Russia plans to increase industrial production to 80% of the 1913 level, the textile industry to 47%, the chemical industry to 15%, and ferrous metallurgy and machinery to 100%. by 1930, electricity production was expected to be at least 8.8 billion kWh[10].

In order to fulfill the plans for 1919–1920, a mechanical plant was established in Tashkent to repair transport and mechanical and foundry-mechanical plants on the basis of old semi-handicraft enterprises. In the same year, the repair of diesel engines of the Tashkent tram, as well as power plants in Fergana, Andijan and Samarkand began. All of this was launched as early as the late 1920s[11].

Construction of the Khilkovo cement plant was resumed in 1921. The construction of the Fergana silk factory and a hydroelectric power station in Tashkent has begun. The Bekabad cement plant, 9 power plants, 2 metallurgical plants, 2 sewing and 1 silk factories, built in 1924 on the territory of present-day Uzbekistan, were put into operation, etc.[12].

It was on such a backward technical and economic basis that the Soviet state pursued a policy of electrification, and in practice the GOELRO plan was to serve as a basic plan for the development of the national economy for several years to come. Although it is aimed at achieving accurate and clear indicators for the overall direction of development of the national economy and its individual sectors, but as a master plan, the GOELRO plan made its final predictions for individual years and stages of economic development only ten to fifteen years ago (1913)[13].

The "NEP direction", which is a leader in the socialist sector of industrial production, was aimed at large-scale restructuring of management in industry and enterprises on the basis of strict planning and the introduction of economic accounting, which would ensure the som control and some expansion of production democracy[14].

From 1923 to 1924, according to the data on the emergency expenditure of open loans, mainly in the financing of the national economy, throughout the Union, 93853 thousand rubles were distributed to all industries[15].



One of the components of the application of reforms in industry was the Leninist idea of “state capitalism”[16]. It provided for the temporary restoration of non-socialist forms of management, but important areas, primarily large-scale industry, remained in the hands of the state, which was the main executor, owner and manager of socialist reconstruction. This hindered competitive forms of ownership and facilitated the unilateral development of industry under state control.

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# EDUCATIONAL EXPENDITURE IN INDIA: AN ANALYSIS OF GOVERNMENT SCHEMES AND PROGRAMMES

Irfana PP<sup>1</sup>

<sup>1</sup>Doctoral Scholar, Department of Economics, St. Joseph's College (Autonomous) Devagiri, Calicut, Kerala, India.

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## ABSTRACT

*The study concentrates on the educational expenditure in India with a prior attention to the schemes and programmes introduced by the central government. Free and compulsory education for children between 6 to 14 years is a mile stone in the education sector. The government has introduced several programmes for the inclusiveness of all sections in to the mainstream. The enrolment of marginalised section was mainly by the impact of the step taken by the central government. The study tried to give an analytical view of the extensiveness with respect to the money spent by the government to create a successive story in the field of education. Various programmes were introduced by the central government to ensure education for all. Different schemes are implemented with a unique objective to give a perfect platform for educating the people; especially it is shown in the field of higher education. Many of the students are a part of the central schemes to fulfil their dream career through scholarships and education loans provided by the government. A large number of marginalised community were attracted by the Scholarships and educational loans provided by the government. As an impact of this, a drastic change was happened in the field of education.*

**KEY WORDS:** Education, Expenditure, Central Government, Social Sector Development.

## INTRODUCTION

Education is the strongest and sharpest weapon to change the society. The type of education acquired will surely be reflected in the views or words we exhibit. If we learn religious education then we will be more religious or if we learn moral education, we will behave with keeping more moral values or if we learn more social principles then we will tend to treat all the people equally. Finally all these kinds of education will change our perspective on how we treat others. The point is that education is an important tool to build a wonderful sculpture and the sculpture will unite our society with love, care and unity.

Education is an important tool for social transformation. Baba Saheb Dr. B. R. Ambedkar was opined that education was the first and foremost weapon to conquer the world of equality. Education is the base for building a better standard of living, equal treatment to all in the society and even better employment opportunities. In this regard the importance of education and educational expenditure in India is much more important. After liberalisation

government was gave more attention to provide a better social sector development. As a part of it government of India announced large number of schemes and programmes for various fields. Each scheme has a crystal clear objective and provides much more concentration to fulfil this. The central government as well as the state government is giving much attention to pursue the programmes for the development of entire society as well. The government is ensuring a chance to uplift by various schemes and programmes with varieties of facilities.

The study is focused on some aspects in education sector. The development of education is a necessary condition for transforming the society from deprivation to development. The main aim is to identify various schemes existed in the educational sector. There are central sector schemes and centrally sponsored schemes to ensure better facilities and inclusive development strategy in the education sector. The study concentrated on the government schemes and programmes for the development of education and the public spending by the government in this field. There are a large number of educational



programmes are there for facilitating better education to all. Here various government schemes as well as government spending on education are considered because development of education is a pre-requisite for the overall development of a country. Trends in educational expenditure in the contemporary scenario are shown by some of the central sector schemes for education and centrally sponsored schemes for education.

### OBJECTIVES

The important area covered under this study is summarised to the following objectives. Which are given below.

- To identify various government schemes for the development of education sector.
- To channelize the central government transfers to various educational schemes.
- To analyse the role of government schemes on the development of education.

### METHODOLOGY

The study is purely based on the secondary data on educational expenditure in India. The data presented in this study are self-explanatory on the educational expenditure in India by the government. The study only considers the spending of central government. Mainly the public spending on various governments schemes or programmes for facilitating education to all. Some schemes on the education sector is operated and funded by both the central government as well as the state government, but here takes only the central governments expenditure on education. The study gives much priority to the schemes on educating the people by the central government. The study follows centrally sponsored schemes and central sector schemes on education provided by the government. These schemes are deliberated as the mile stone for the development deep rooted for facilitating better life. The study identifies various educational programmes by the central government and portrait the total educational expenditure in India. The paper itself provides an explanatory analysis of educational expenditure and various schemes existing in India. A holistic approach is considered for the study so the overall expenditure and major schemes are discussed here. The brief analysis over the schemes and expenditure are carried out for providing an understanding over it.

### RIGHT TO EDUCATION (RTE) ACT 2009

The Constitution (86<sup>th</sup> Amendment) Act, 2002 inserted Article 21 – A in the Constitution of India provide free and compulsory education of all children in the age group of 6 -14 years as a fundamental right in such a manner as the state may , by law, determine. The right of children to free and compulsory education (RTE) Act, 2009, which

represents the consequential legislation envisaged under Article 21 – A, means that every child has a right to full time elementary education of satisfactory and equitable quality in a formal school which satisfies certain essential norms and standards.

Article 21 – A and the RTE Act came into effect on 1 April 2010. The title of the RTE Act incorporates ‘free and compulsory’. Free education means that no child, other than a child who has been admitted by his or her parents to a school which is not supported by the appropriate government, shall be liable to pay any kind of fee or charges or expenses which may prevent him or her from pursuing and completing elementary education. ‘Compulsory education’ casts an obligation on the appropriate Government and local authorities to provide and ensure admission, attendance and completion of elementary education by all children in the 6-14 age groups. With this, India has moved forward to a rights based framework that casts a legal obligation on the Central and State Governments to implement this fundamental child right as enshrined in the Article 21A of the Constitution, in accordance with the provisions of the RTE Act. The RTE Act provides for the:

- Right of children to free and compulsory education till completion of elementary education in a neighbourhood school.
- It clarifies that ‘compulsory education’ means obligation of the appropriate government to provide free elementary education and ensure compulsory admission, attendance and completion of elementary education to every child in the six to fourteen age group. ‘Free’ means that no child shall be liable to pay any kind of fee or charges or expenses which may prevent him or her from pursuing and completing elementary education.
- It makes provisions for a non-admitted child to be admitted to an age appropriate class.
- It specifies the duties and responsibilities of appropriate Governments, local authority and parents in providing free and compulsory education, and sharing of financial and other responsibilities between the Central and State Governments.
- It lays down the norms and standards relating inter alia to Pupil Teacher Ratios (PTRs), buildings and infrastructure, school-working days, teacher-working hours.
- It provides for rational deployment of teachers by ensuring that the specified pupil teacher ratio is maintained for each school, rather than just as an average for the State or District or Block, thus ensuring that there is no urban-rural imbalance in teacher postings. It also provides for prohibition of deployment of teachers for non-educational work, other than decennial census, elections to local authority, state legislatures and parliament, and disaster relief.





- It provides for appointment of appropriately trained teachers, i.e. teachers with the requisite entry and academic qualifications.
- It prohibits (a) physical punishment and mental harassment; (b) screening procedures for admission of children; (c) capitation fee; (d) private tuition by teachers and (e) running of schools without recognition,
- It provides for development of curriculum in consonance with the values enshrined in the Constitution, and which would ensure the all-round development of the child, building on the child's knowledge, potentiality and talent and making the child free of fear, trauma and anxiety through a system of child friendly and child centred learning. (Ministry of Human Resource Department, 2019 February 11)

## EDUCATIONAL EXPENDITURE IN INDIA

The government has taken much more effort for the development of agriculture, small scale industry, power, irrigation, education and health after liberalisation. The decentralisation process become more effective and it ensures the plan and non – plan activities with similar concerns over the transfers. The state revenue contributes much more to the development of these sectors than the centres contribution to this. The interesting fact is that these all are the responsibility of states and state will ensure much more funds to these sectors as per their requirements and needs. Even though the prime responsibility of centre is centre's support to the states for the development of these areas with a strong backup of adequate funds. Government of India provides funds for the execution of various programmes under various heads through different channels like Finance Commission, Planning Commission (now it is NITI Aayog) and Central Ministries. All these funds are transferred through budget allocation by the central government. The Central Government provides its major support and actions on key sectors through the budget spending. The entire spending on the basic areas of the economy are flow through this budget expenditure under various heads as revenue expenditure and capital expenditure on it. Here the budget expenditure on education sector is shown in the Table – 1 (see Appendix). The table describes the educational expenditure as ratio to the aggregate expenditure of the centre. It also expresses the educational expenditure to what percentage of Gross Domestic Product (GDP).

Table – 1 (see Appendix) shows a fluctuations in the educational expenditure as ratio to aggregate expenditure over the years. It is same in the case of educational expenditure as percentage to GDP. Up to 2010 it shows a declining trend and then it improves and then displays a stagnant phase in the spending

process. It explains a creeping development in the education sector.

Education is one of the important sectors contributing more in the social sector development of the states. That means it plays a vital role in the development of states and the development of its population. So for the betterment of primary, secondary and higher education we need more funds. The central Government is giving priority for higher education by providing more schemes and programmes. Table - 2 (see Appendix) gives a clear picture about the educational expenditure made by the government from 2000 – 01 to 2018 – 19. It supports the percentage data given in the Table – 1 and the Table – 2 (see Appendix) clearly picture the flow as well as yearly movement of educational expenditure and we can see the magic when we compare both table – 1 and table – 2 (see Appendix). that the year wise spending on education shows an upward movement only but the educational expenditure as percentage to GDP displays upward as well as downward movement of the expenditure. The yearly expenditure on education increasing but the percent to GDP is not showing a stagnant upward movement. Here the noticing point is that the yearly rise in the educational expenditure is not relevant, the significant point is how much of GDP is spend for the development of educational sector. The rise in amount is not a concern but the percentage rise in it is a matter of development and we can say that the rise in amount spends on education is just an increase in the spending not the development on it. Here, for a developing economy the development of all the sectors are relevant than a growth in sectors.

## SCHEMES INTRODUCED FOR THE DEVELOPMENT OF EDUCATION

In order to uplift the society through education, the central government has introduced varieties of schemes with various objectives. Schemes can be sub divided into three that is

- Schemes for Elementary Education
- Schemes for Secondary Education
- Schemes for Higher Education

The central government has divided the schemes under various heads for the smooth handling of it. The categorisation is depends on the type of education it provides under the specialised scheme. Each scheme is targeted different category of children and ensures the education of the mentioned category so each scheme is catering the needs of diverse groups. There are a large number of schemes existed in the development of education, but some schemes are merged with another, not working, catering the same category, similar programmes are there and some are stopped. The schemes in education sector are mainly Centrally Sponsored Schemes and Central Sector Schemes. Which are introduced by the central government for the





upliftment of education for all in the society. Some of the important schemes are given in Table – 3(see Appendix).

The other important areas or targets covered by the schemes are providing financial and other supports to the World class Central Universities, degree colleges in educationally backward districts, incentivising state governments for expansion of higher education institutions, interest subsidy on educational loans for students from economically backward sections to pursue technical or professional education, supporting uncovered state universities and colleges, strengthening science based higher education and research in university, inter universities research institute for policy and evaluation etc.

**CHALLENGES FACED BY THE EDUCATIONAL SYSTEM**

We have a number of centrally sponsored schemes and central sector schemes to facilitate better education to all categories of people in the society. The right to education act ensures free and compulsory education of children the age of 6 to 14. The government introduced various schemes with wide varieties of objectives. It aims to incorporate all in the mainstream of education by giving much attention to the backward section. Government targeted to adopt inclusiveness in education sector through the above mentioned schemes. There are so many challenges that push back the schemes into behind the screen. Some of the challenges faced by the government schemes in education are pointed out in the following bulletins.

- Privatisation of education.
- Shortage of government funds.
- Poor implementation.
- Absence of proper checking and correction mechanism.
- Inadequacy of trained practitioners.
- Redtapism.
- Political ideological differences.

- Wastage of resources.
- Type of education that acquire (general education).
- Out dated systems.
- Lack of planning and coordination.
- Political intervention and corruption.
- Absence of field level evaluation process.
- Lack of effective evaluation mechanism.
- Lack of awareness about the schemes.
- Poor response by the people.

**CONCLUSION**

Education is a pre-condition for feed the society in a better way. It facilitates the society to earn better standard of living by providing employment opportunities. It also helps us to teach moral values. Now a days there are a lot of programmes or schemes introduced by the government for educating the marginalised or excluded masses in the society. The government has spent more on the education by providing financial assistance to those who have suffered its lack. The public spending on education is increased year by year and newer policies are introduced for adopting inclusive development strategy. We have a number of government schemes for educational development of the society but the problem is that some schemes are not functioning under proper governance, some are inefficient to meet the objectives under the programme, in some cases funds are inefficient to meet the expenses, Unable to reach the exact beneficiaries, some schemes are not familiar to the common people, inefficient implementation causes difficulty in accessibility, some are not much competent to the parallel programmes. If we overcome these difficulties then the government will be the sole supplier of a better education to its society thereby better employment, standard of living and that will leads to the improvement in national income finally we realize the dream of a developed economy.

**APPENDIX**

**Table- 1  
 Expenditure on Education - As Ratio to Aggregate Expenditure**

Year	Educational Expenditure - Ratio (All States & Union Territories)	% to GDP
2000 - 01	17.4	2.8
2001 - 02	16.2	2.6
2002 - 03	15.1	2.5
2003 - 04	12.6	2.3
2004 - 05	12.7	2.3
2005 - 06	14.2	2.2
2006 - 07	14.0	2.2
2007 - 08	13.8	2.2
2008 - 09	14.3	2.3
2009 - 10	15.3	2.4
2010 - 11	16.6	2.5



2011 - 12	16.3	2.5
2012 - 13	16.4	2.5
2013 - 14	16.5	2.6
2014 - 15	16.0	2.6
2015 - 16	15.3	2.6
2016 - 17	14.7	2.6
2017 - 18	15.0	2.6
2018 - 19	14.4	2.5

Source: State Finances: A Study of Budgets

**Table - 2**  
**Total Educational Expenditure in India from 2000 - 2001 to 2018 - 2019**  
 (Rupees in Lakh)

Year	Total Expenditure	Year	Total Expenditure	Year	Total Expenditure
2000 - 2001	5878291	2006 - 2007	8957829	2012 - 2013	24540153
2001 - 2002	5909545	2007 - 2008	10077529	2013 - 2014	27353492
2002 - 2003	6125331	2008 - 2009	12127626	2014 - 2015	31542573
2003 - 2004	6427986	2009 - 2010	15167029	2015 - 2016	34949413
2004 - 2005	6937113	2010 - 2011	18761733	2016 - 2017	38692595
2005 - 2006	7814737	2011 - 2012	21606660	2017 - 2018	43124984
				2018 - 2019	49792300

Source: Handbook on statistics of Indian economy

**Table - 3**  
**Schemes Introduced for the Development of Education**

Sl no.	Name of the scheme
1	Sarva Shiksha Abhiyan
2	Mid-Day Meal Programme
3	Programme for Strengthening of Teachers Training Institute
4	Schemes for Infrastructure Development of Private Aided/Unaided Minority Institutes(IDMI)
5	Mahila Samakhya
6	Strengthening for Providing Quality Education in Madrassas(SPQEM)
7	Rashtriya Madhyamik Shiksha Abhiyan(RMSA)
8	Inclusive Education for Disable at Secondary Stage (IEDSS)
10	Scheme for Incentives to Girls at Secondary Stage
11	National Merit cum Means Scholarship
12	Scheme for Financial Assistance for Appointment of Language Teachers
13	Scheme for Adolescence Education Programme
14	Scheme for Opening of Girl Hostel
15	Scheme for Model School
16	Scheme for introducing and promoting Information and Communication Technology at School
17	Scheme for Vocationalisation of Secondary Education
18	Saakshar Bharat
19	Scheme for State Resource Centre (SRCs)
20	Jan Shikshan Santhans (JSSs)



21	Scheme for Teacher Education
22	Rashtriya Ucchatar Shiksha Abhiyan(RUSA)
23	Scheme for National Initiative for Design Innovation
24	Scheme for National Research Professorship(NRP)
25	Scheme for Establishment of New Central Universities
26	Uplifting and promoting National Tribal University
27	Schemes for Apprenticeship Training
28	Support for Distance Education and Web Based Learning(NPTEL)
29	Technology Development Mission
30	National Program for Education of Girls at Elementary Education (NPEGEL)
31	Beti Bachao, Beti Padhao
32	Kasturba Gandhi Balika Vidyalaya
33	Saakshar Bharat Mission

Source: Annual Report of Department of Social Justice and Empowerment

**Table - 4**  
**Popular Educational Schemes in India**

Sl. No	Name of the scheme	Specification
1	Sarva shiksha Abhiyan (SSA)	<ul style="list-style-type: none"> <li>• Introduced in 2001.</li> <li>• Providing Universal Elementary Education (UEE).</li> <li>• Both central government and state government are work together.</li> <li>• Covers the children between the ages 6 to 14.</li> <li>• Includes children from all social groups.</li> </ul>
2	National Program for Education of Girls at Elementary Education (NPEGEL)	<ul style="list-style-type: none"> <li>• Introduced in 2003.</li> <li>• Initiated by government of india.</li> <li>• It is a part /component of SSA.</li> <li>• Providing extra support for girl's education.</li> <li>• Gender sensitive project.</li> <li>• Ensure good education for girls at elementary level.</li> <li>• Focus is to break gender stereotype system.</li> </ul>
3	Mid-Day Meal Programme	<ul style="list-style-type: none"> <li>• Introduced in 1995.</li> <li>• Otherwise known as National Programme of Nutritional Support to Primary Education.</li> <li>• Objective is to remove classroom hunger among children.</li> <li>• Ensure to provide adequate nutrition to the children.</li> <li>• It increases the attendance and enrolment of children.</li> </ul>
4	Beti Bachao, Beti Padhao	<ul style="list-style-type: none"> <li>• Introduced in 2015.</li> <li>• It is a popular central government scheme for girl education.</li> <li>• Ensure education for girl children.</li> <li>• Aims to remove discrimination in girl education and provide assistance for education.</li> <li>• Programme is used to eradicate gender discrimination.</li> <li>• It spreads the awareness for girl education.</li> <li>• Main aim is to protect girl child from female foeticide and infanticide.</li> </ul>
5	Kasturba Gandhi Balika Vidyalaya	<ul style="list-style-type: none"> <li>• Introduced in 2004.</li> <li>• Objective is to setting up of residential schools for girls belonging to minority communities at the upper prim ary level.</li> <li>• This scheme provides reservation of 25% to girls from BPL families and 75% to girls from ST, SC, OBC and other backward communities.</li> <li>• Aims to give quality education to girls from disadvantaged groups.</li> </ul>
6	Schemes for Infrastructure Development in Private Aided/Unaided Minority	<ul style="list-style-type: none"> <li>• Aim is to improve the quality of education.</li> <li>• This scheme is started to ensure better infrastructure in unaided/aided minority schools.</li> <li>• The preference of coverage of this scheme is the places having more than 20 per cent minority population.</li> <li>• It treats special educational needs, encourages educational facilities,</li> </ul>



	Institutes(IDMI)	girls needs in schools and other infrastructure facilities in schools to the children from backward section.
7	Rashtriya Madhyamik Shiksha Abhiyan (RMSA)	<ul style="list-style-type: none"> <li>• Introduced in 2009.</li> <li>• Launched to improve the accessibility and quality of secondary education.</li> <li>• It ensures secondary education without any discrimination in gender, caste, religion, socio- economic differences and disability.</li> </ul>
8	National Scheme of Incentives to Girls for Secondary Education	<ul style="list-style-type: none"> <li>• Introduced in 2008.</li> <li>• It is a centrally sponsored scheme.</li> <li>• Aims to increase the enrolment of young girls to the secondary education.</li> <li>• Married girls, girls studying in private unaided schools and central government schools are excluded.</li> <li>• It promotes the secondary education of girl child in the age group 14-18, those who passed class VIII to encourage the secondary education.</li> </ul>
9	Saakshar Bharat Mission	<ul style="list-style-type: none"> <li>• Introduced in 2009.</li> <li>• Motive is to increase the national literacy rate to 80 per cent.</li> <li>• Concentration is given to education of adult women.</li> <li>• Reduce the literacy gap between male and female and keeps a distance not more than 10 per cent.</li> </ul>
10	Rashtriya Uchchar Shiksha Abhiyan(RUSA)	<ul style="list-style-type: none"> <li>• Introduced in 2013.</li> <li>• It is a centrally sponsored scheme.</li> <li>• Scheme for the development of higher education in India.</li> <li>• It provides strategic funding to the higher educational institutions in the country.</li> <li>• The funding pattern in the ratio of 60:40 by centre and state respectively for General Category States and 90:10 for Special Category States.</li> <li>• The scheme was purely norm and outcome based.</li> <li>• Objective is to improve the overall quality and improve the equality in higher education.</li> </ul>

Source: Department of School Education and Literacy, Ministry of Human Resource Development.

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## ANALYSIS OF COMPOSITIVE ARMATURES

Otakulov Bahromjon Adhamovich Phd<sup>1</sup>., Solijonov Hojiakbar Solijon o'g'li<sup>2</sup>

<sup>1</sup>Docent of Fergana Polytechnic Institute, "Production of Building Materials, Products and constructions" Department, Fergana, Uzbekistan

<sup>2</sup>Assistant of Fergana Polytechnic Institute, "Production of Building Materials, Products and constructions" Department, Fergana, Uzbekistan

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### ANNOTATION

Composite reinforcement is a reinforcement made of glass or basalt fibers impregnated with a polymer-based binder. There are also options for the production of products from carbon and aramid fibers. Depending on the material used in the production, such reinforcing rods are called glass, basalt or carbon fiber. From the outside, the material of manufacture is very easy to identify: fiberglass reinforcement is light with a yellowish color, basalt and carbon fiber rods are black. Like metal reinforcement, the composite rod has a periodic cut to provide the required working conditions as part of the reinforced concrete structure.

**KEYWORDS:** Composite reinforcement, polymer, glass fiber, basalt fiber, carbon fiber, aramid fiber.

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### INTRODUCTION

Today, the world has entered the development of new techniques and technologies. As a result of the development of science and technology, great changes are taking place in metallurgy. New types of products are being produced instead of metal. For example, a material that can best be compared to steel or aluminum alloys is a composite or composite material. According to encyclopedic materials, the meaning of "Composite" is as follows: "Metallic or non-metallic materials with reinforcement in a given direction. One of the modern composite materials is reinforced concrete. It is known that when making reinforced concrete, the concrete is hardened around the steel reinforcement. The result is a kind of monolith, in which the

concrete is mainly compressive, the reinforcement is tensile. Composite reinforcement is used as the most modern composite building material.

### Composite fittings are marked as follows

AK - glass-composite (glass-plastic) fittings based on fiberglass;  
ABK- basalt-composite (basalt plastic) reinforcement based on basalt fibers;  
AUK - composite reinforcement based on carbon fibers;  
AAK - aramid composite reinforcement based on aramid fibers;  
AKK- is a composite reinforcement based on the above fibers.





a) Glass plastic fittings



b) Basalt plastic fittings



c) Carbon fiber armature

**Table comparing the properties of composite reinforcement with Class A-III steel reinforcement**

Classification	A-III (A400S) classic metal luminaire	Composite luminaire
Material	After'lat	Glass fiber bonded with epoxy resin
Elongation strength, MPa	390	1300
Elasticity module, MPa	200 000	55 000
Relative elongation, %	25	2,2
Thermal conductivity, W / (mK)	46	0,35
Coefficient of linear expansion, b, $10^{-6} / ^\circ \text{C}$	13-15	9-12
Zichligi, t / m <sup>3</sup>	7,8	1,9
Resistance to aggressive environments	Corrodes	Stainless material
Thermal conductivity	It conducts heat	Heatproof
Electrical conductivity	Conducts electricity	Dielectric
Produced profiles, mm	6-80	4-20



Length	Stems 6-12m long	At the request of the customer
Lifetime	Based on construction standards	Longevity is not less than 80 years
Replacement of fittings according to their physical and mechanical properties	6A-III 8A-III 10A-III 12A-III 14A-III 16A-III 18A-III 20A-III	4 ASP 6. ASP 7. ASP 8. ASP 10 ASP 12 ASP 14 ASP 16 ASP
Weight, kg (when replaced by )	6A-III - 0,222 8A-III - 0,395 10A-III - 0,617 12A-III - 0,888 14A-III - 1,21 16A-III - 1,58 18A-III - 2,0 20A-III - 2,47	4 ASP - 0,02 6 ASP - 0,05 7 ASP - 0,07 8 ASP - 0,08 10 ASP - 0,12 12 ASP - 0,20 14 ASP - 0,26 16 ASP - 0,35

## CONCLUSION

From this table we can conclude that: Modern composite fittings can meet all technological requirements. Advantages of composite fittings: lightweight, inexpensive and stainless and corrosion resistant.

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## INFLUENCE OF ARTIFICIAL INTELLIGENCE ON ONLINE BUYING BEHAVIOUR

Elizabeth Reshma K.S.<sup>1</sup>, Philip Sam Tharakan<sup>2</sup>, Shiju C.R.<sup>3</sup>

<sup>1</sup>PG Student, Department of Commerce, St. Paul's College, Kalamassery, Kerala, India.

<sup>2</sup>Research Scholar, Department of Commerce, The Cochin College, Kochi, Kerala, India.

<sup>3</sup>Assistant Professor, Department of Commerce, St. Paul's College, Kalamassery, Kerala, India.

### ABSTRACT

*The study focuses on evaluating the influence of Artificial Intelligence on online buying behaviour of the consumers. It is an attempt to know to what extent the consumers are aware about the impact of Artificial Intelligence on the online shopping. The data were elicited from the equal number of male and female respondents using structured questionnaire. The correlation and Yule's coefficient of association were used to test the hypotheses formulated for the study. It is found that there is no significant association between gender and AI awareness on online shopping. The study also shows that the educational level and time spent on internet have significant association with influence of AI on online shopping.*

**KEYWORDS:** Artificial Intelligence (AI), online shopping, buying behaviour

### INTRODUCTION

The tremendous growth of internet has resulted in the growth of e-commerce in the country. Online shopping is a form of electronic shopping which allows consumers to directly buy goods and services from a seller over the internet using a web browser. It evokes the physical analogy of buying products or services at a regular bricks and mortar shopping centre. The ever changing market trends make it difficult for businesses to understand consumer behaviour accurately. A detailed insight is needed to understand buying and consumption pattern of consumers. Machine learning coupled with data analytics can present a crystal-clear picture of consumer behaviour.

Artificial intelligence (AI) is the simulation of human intelligence process by machines, especially computer system. It is true that AI plays a significant role in the background, monitoring consumer sentiments on the internet and social media. These social listening kits, driven by AI engines ensure that consumers easily find their preferences. Consequently, these consumers often receive pop-up advertisements from the relevant websites to find the products they need. It is also able to allow the consumers to save their data on an online domain without many processes such that it becomes comfortable to navigate the internet the next time one uses it.

Subsequently, all consumers are always looking for convenience and a sense of flexibility. The presence of artificial intelligence in the world is allowing people to live their dreams since they can get their duties done from the comfort of their homes. Looking at aspects of shopping, the consumers are able to conduct a long and wide research on the materials they need and even compare prices and reviews to allow them buy the most suitable product for them. Artificial intelligence search engines including Google necessitate the process; making it possible for consumers to shop online. Additionally, their shopping experience is even made easier because customers can conduct online payments and wait to receive their goods at home, this is made possible because machines record and process instructions and provide the relevant information.

### SIGNIFICANCE OF THE STUDY

In this machine era, AI is widely used in marketing by the players in order to capture and survive in this competitive environment. Artificial intelligence has the ability to collect data and decide which content is the most applicable based on things like location, historical data and past behaviour of consumers. AI is changing the way buyers behave. Making sense of all the data and understanding how AI is influencing consumers will help businesses and marketers to stay ahead of the curve. The more



business know about consumers the more they can adapt their business and marketing strategies so that business can give more of what consumers want. AI is able to use machine learning to uncover customer insights that encourage loyalty. Digital consumers have become exhausted by an endless stream of unsuitable product choices. If they can find an online solution that is able to recommend products they enjoy, they are more likely to stick with that solution. AI is able to meet this consumer demand. It can further help in improving the user experience.

## OBJECTIVES

The study is conducted with the following objectives:

- ❖ To evaluate the awareness level of consumers about AI and its impact on purchase decision based on demographic characteristics.
- ❖ To study the influence of AI in online shopping and consumer buying behaviour.

## HYPOTHESES

The study is based on the following hypotheses:

- H<sub>01</sub>: There is no significant association between gender and awareness about AI on online shopping.
- H<sub>02</sub>: There is no significant association between educational level and awareness about AI on online shopping.
- H<sub>03</sub>: There is no significant association between time spent on internet and influence of AI on online shopping.

## METHODOLOGY

### Sampling:

The study is both descriptive and analytical in nature. The influence of AI on online shopping is mainly assessed by eliciting data from the people in the age group between 16 years to 38 years using structured questionnaires. Accessing the internet is considered under different categories like home, work place, public facilities and others. The judgement sampling process was used for selecting the samples for the study.

### Data collection:

Both primary and secondary data were used for the study. Primary data were collected from 92 respondents consist of equal number of male and female gender using structured questionnaires. Secondary data were collected from the websites, magazines, journals etc. The opinions of respondents were collected using structured questionnaires. The opinion of respondents was marked on five point Likert-type scale.

## Tools used:

The data collected were analysed using SPSS. The correlation and Yule's coefficient of association were used to test the hypotheses.

## RESULTS AND DISCUSSION

The user browses on the internet every time AI collects the information related to the user's online behaviour and analyse the data. When respondents search for a particular product they are automatically directed to the related ads or purchasing platform either in social media or search engines whenever they comes online. This significantly influences the buying behaviour of consumers. Reading the consumers' minds through AI and finding their next move will significantly influence their purchase decision positively as it suits to their taste and preference. Thus businesses and marketers can use AI for customising products and thereby increasing the sales volume.

AI reduces the possibility of consumer purchase manipulation and vulnerability. It helps customers on their buying experiences ensuring that they make sensible buying choices because it allows marketing, gift selection, and virtual dressing. Most often, the customers easily identify with items since they are often advertised while they use the internet depending on their search history. Due to this, it becomes easy for consumers to access what they need making AI a very important tool to marketing. Searching for appropriate gift items online can be hard; AI software can blend in data from occasion details, recipient, sentiment and the modern trends to pick ideal gifts. Buyers are also exposed to virtual dressing rooms that allow clothing customization enhancing their experience. Most times, the customers see a three-dimensional model of their selected outfit lessening online shopping guesswork.

The results obtained from the analysis of the data collected were shown below:

### H<sub>01</sub>: There is no significant association between gender and awareness about AI on online shopping.

The results of the study show that the female respondents, the coefficient of association shows that the attributes namely pop-up Advertisements and purchase decision are completely disassociated (perfect negative association i.e., -0.22). It results that, the females are not that much influenced by exposure to online Ads and it doesn't lead them to make purchase decision.

While considering the male category of respondents, the coefficient of association shows that the attributes are completely associated (perfect positive association i.e., 0.297). Consequently male are more influenced by the pop-up Ads and it upshot





them to make purchase decision in online platform than the female.

**H<sub>02</sub>: There is no significant association between educational level and awareness about AI on online shopping.**

Correlation was used for identifying the relationship between educational level and awareness about AI on online shopping. The results from the study also show that these two variables are highly correlated (i.e., 0.75735) As the educational level of respondents increases they are much aware of the fact that their surfing data do has influence on the recommendations or related ads provided by marketers which results in customisation of products.

**H<sub>03</sub>: There is no significant association between time spent on internet and influence of AI on online shopping.**

The study result also depicts that the influence of AI in purchase decisions is directly proportional to the time spend on internet. There is a strong correlation between these two variables (i.e., 0.67232). Respondents who spend 25 + hours in a week are more exposure to advertisements which resulted in impulse or unplanned purchases.

**CONCLUSION**

It can be concluded from the study that there is no significant association between gender and awareness about AI on online shopping. The study also shows that the educational level and time spent on internet have significant association with influence of AI on online shopping. It is true that artificial intelligence is a new trend in the 21st century making it necessary for people to accept and use it to establish benefits. Even though the consumers of AI find it intimidating, they are also embracing its ability to make life easier. The many influences of AI are seen across vast domains including retail, healthcare, crime investigation, and employment among others indicating that it is instrumental to the wellbeing of individuals. It is important for the society to identify the benefits and demerits of AI so that they can give it its appropriate place in the advancing world.

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# AWARENESS OF NATIONAL IDENTITY AND THE DEVELOPMENT OF NATIONAL CONSCIOUSNESS

**Kenjayeva Dilrabo Rominovna**

*Assistant Professor, PhD of Philosophical Sciences, Tashkent State Agrarian University,  
Tashkent, Uzbekistan*

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## Abstract

*This article points out that awareness of national identity is closely linked to national consciousness. Under the influence of the development of national consciousness, the understanding of national identity in the representatives of the nation develops. National consciousness is also not a factor of self-development, but it is also formed in the long historical stages of the formation of the nation, in its specific aspects. These peculiarities are objectively reflected in the national consciousness in the process of nation formation.*

**KEY WORDS:** *awareness, national identity, national consciousness, mentality, development.*

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## DISCUSSION

The strength and power of the national consciousness is that, on the basis of the peculiarities of the nation, it differs from other forms of consciousness and gives the nation spiritual vitality. That is why the national identity, which is reflected in the spirituality and mentality that has become an integral part of the national consciousness, cannot be destroyed by force. They serve to ensure the stability of the nation in all conditions. If we consider that the formation of a nation and the emergence of national consciousness on its soil is a complex process, then the peculiarities of the nation, which have become an integral part of the national consciousness, can be destroyed for a long time.

It should also be noted that the physical destruction of the nation is a very complex problem. If it is "destroyed" in some countries, then, given that today the representatives of the nation live in different countries around the world, they have always been one of the main sources of reshaping the identity of "destroyed" compatriots. Even if the nation is "destroyed", it is possible for the nation to realize its identity and regenerate itself if some of its representatives survive. Because even a minority of the nation's national consciousness, national pride, the nation's destiny, its sense of belonging to the future does not "come out" of the national consciousness, but rather intensifies its desire to take revenge on its organizations for the tragedies of its compatriots, this will lead to the revival of the nation. However, if a nation is destroyed, there is a strong

risk that it will be assimilated. Because the destruction of a nation's manner will eventually lead to its loss of consciousness and self-awareness. A nation deprived of them will not have a chance to regenerate itself.

However, the experience of national development shows that there is no possibility to implement both of the above, especially today. In particular, such negative actions have been reflected in the experience of the tragedies that befell our nation, as the actions aimed at the physical destruction of nations that have made a significant contribution to the spiritual and scientific development of the world have not yielded the expected results.

Returning to the analysis of the processes of tolerance in the national consciousness in the context of the development of national identity, it should be noted that the main focus in clarifying this issue is the various changes in national life in the development of national identity and their development and interethnic relations.

It is clear from the above definitions of national identity by the authors that as a result of the development of this factor, the "tendency" of each nation to defend its interests increases. This, in turn, has a positive impact on the development of nations on the one hand, and on the other hand, can lead to the risk of "conflict" of interests. If this negative situation occurs, national development will be disrupted and the country will be in socio-economic and political disarray. Preventing this process remains a task of practical importance in the



formation of a spirit of tolerance in the national consciousness in the context of growing awareness of national identity.

In our opinion, in order to prevent this negative process, it is necessary to first answer the question by asking what factors are included in the understanding of national identity and what functions they perform as a "conflict of interest". Because the understanding of national identity is theoretically an abstract concept, it manifests its "height" only in the protection of national interests, in the influence of the transfer of power to national development. It is only in the manifestation of these processes in practice that the understanding of national identity becomes a material force and demonstrates its power. Thus, what is reflected in the transformation of the understanding of national identity into a material force and how the national consciousness influences the development of tolerance. As noted above, the factors of national identity awareness and tolerance are theoretically capable of contradictory nature. Because through the understanding of national identity, the nation realizes its responsibility to protect its national interests, to ensure the prosperity of the nation. This self-awareness is a characteristic of a nation, without which a nation cannot rise to the level of a full-fledged nation. Tolerance, on the other hand, simply means being patient and tolerant of the interests of another nation. Logically, the question arises as to how many people should be patient and tolerant of the interests of other nations when it is not possible for their own interests to be fully emphasized?

The answer to this question is that the understanding of each nation's identity does not mean that it seeks to live in isolation from others, but that as the nation's self-awareness grows, so does its self-awareness that there are other interests. In this sense, The following opinion of Prof. A. Ochildiev is noteworthy. He writes: "As our country is multi-ethnic, in our understanding of our national identity as a basic nation, we have a deep respect for the representatives of other nations and peoples, a political-legal, spiritual-moral responsibility to fully support their aspirations to preserve and develop their values. In a word, cultivating a sense of national responsibility is also extremely important. Only then, interethnic harmony, peace and tranquility in our country will be established." [2] However, we must also keep in mind that the process of national identity will not be "smooth" for nations that in the past have lost their values, language, customs, traditions and rituals, and have achieved their independence at a certain stage of historical development. This is because in such a situation, every nation that is freed from dependence will have a much higher level of "neglect" than the realization that there are the interests of other nations, putting their own "self" in the first place. In such circumstances, it will be important to have laws that ensure balance in

interethnic relations and to ensure that they are enforced in real life. At the same time, it is necessary to pay more attention to the formation of a culture of interethnic relations in national education.

Returning to the analysis of the processes of real manifestation of national identity, it should be noted that it is manifested in the nation, through all the factors that can be a "shield" to ensure its existence. If we take into account the main strategic direction of national identity, the main strategic direction of each national identity, the way of ensuring the self-identity of each nation in the sense, they find their expression in the following. For each nation, the followings are prerequisites for development:

- To feel like an independent subject in all processes and relations and to realize that their independence is;

- Striving to preserve and develop the national language, customs, traditions, values;

- Respect for historical memory, heritage, its strengthening, its transmission to future generations;

- The application of such feelings as national pride, honor, dignity of the nation in the actions of the representatives of the nation;

- Understand the priority of national interests over various other interests;

- Loyalty to the Motherland, its preservation, realization that the departure from the Motherland is a great tragedy for the representative of the nation;

- The expression of nationalism in the activities of the representatives of the nation in their daily lives, which contribute to national development;

- The priority of national development, a sense of responsibility for its present and future;

- Recognition of the existence of other nations and their interests in national development and taking it into account in the protection of their own interests.

From the above, it is clear that the real manifestation of national identity is a very complex factor, the formation of which is an event associated with a long historical stage.

As mentioned above, the realization of national identity is the highest stage of development of national consciousness, which you cannot have the status of a national independent. This can be understood through the process of whether or not the factors of real manifestation of national identity are observed. In particular, when does a nation realize itself as an independent entity in all processes and relationships? First of all, it has to do with the development of national consciousness. Comparison of a nation's independence with others is manifested in the fact that it is free from various negative influences in its development, and feels independent in various social, political, spiritual and enlightenment spheres. The most important thing is the independence of the nation, the full exercise of its rights, the guarantee of equality in all relations.



However, we must also keep in mind that this is a complex, but also somewhat controversial process. The question is, will not the desire of many nations to understand themselves as an independent entity eventually lead to their disintegration from within the country? Unless a balance is found in this process, there can be no question of tolerance. If the pursuit of national identity serves to erode the country from within, to exert its influence, it can be seen as a negative process. In fact, the perception of each nation as an independent entity, which occurs in the growth of national identity, is not the separation of nations from each other, but their rapprochement with each other on the basis of equality in understanding their identity. Otherwise, the nation will only be isolated, and its opportunities for development will be limited. In this regard, prof. O. Abdilov's following remarks are noteworthy. "The future of any nation depends in many ways on how the nation develops and understands its national identity," he said. If its "practical and legal progress" takes on the character of a national constraint, there can be no question of an ontomistic direction. [3] Based on the above, it can be emphasized that, first, the nation's perception of itself as an independent entity in all processes and relations is one of the necessary conditions for national development. Without this factor in the national consciousness, the nation will not have the status of an independent subject. Second, the feeling and understanding of the nation as an independent subject does not mean its desire to isolate itself from others, but the feelings of tolerance in a nation that has achieved its full equality also develop and improve objectively. Because there is no place for socio-political and spiritual-enlightenment bases for the national consciousness, which feels its equality among its peers, to have feelings of "concern" for its future. In a nation that has reached such a level, the mentality of treating its own interests in harmony with the interests of other nations and peoples living side by side with it will also develop. However, a nation that realizes that there is a threat to its future, or that there are certain conditions for the emergence of socio-political, spiritual and enlightenment conditions for the consolidation of its interests, develops a spirit of "selfishness" in the pursuit of its own interests. leads to This in turn leads to inter-ethnic tensions and instability in the country. In the development of national identity, it is one of those "subtle" and, in turn, very important issues in the understanding of the nation as an independent entity.

The main mechanism in this process is the realization of the identity of each nation as an independent entity, the creation of an opportunity to feel and achieve its implementation.

It is known that the uniqueness of each nation is manifested through its language, customs, traditions and values. As researcher F. Atamuratova rightly points out, when thinking about customs,

traditions and values, "First of all, it is necessary to pay attention to their epistemological essence. How they originate and what they are applied to has scientific and practical significance. Secondly, since tradition is a product of the activity of the mind, it is also an expression of the worldview, spiritual perfection of man, nation, people. Thirdly, it is necessary to take into account that the concepts of customs, traditions and values are based on a long historical-evolutionary process. They are the "fruit" of such a process. Therefore, they also serve as a spiritual heritage that connects generations with ancestors." [4] That is why language expresses the identity of a nation through customs, traditions and values. Take language, for example. Through it, the nation protects its unique psyche, status and interests. It is also inevitable that a nation deprived of its own language will join others. In this sense, the national language also means the spirituality, culture, political and legal existence of a nation in the broadest sense. Because through language, a nation manifests itself, develops its spirituality and culture, and absorbs them into the minds and hearts of its compatriots, especially the younger generation, as well as forms their national qualities. The national language means that the representatives of the nation have political existence and legal equality, while at the same time achieving their protection.

Historical memory, respect for heritage and the desire to honor it are also manifested through an understanding of national identity. If we connect these ideas with the understanding of national identity, the role of historical memory and heritage in this process becomes even clearer. Indeed, historical memory involves the restoration of certain knowledge about the way of life of the ancestors, the conditions of their influence, and the values they have formed, but also reflects the experiences they have accumulated throughout their lives. Historical memory is one of the important sources of the nation's transformation into a full-fledged subject. In this sense, too, the expression of the nation and confidence in the future develops in harmony with the historical memory.

Historical memory is of great importance as a very important source for the understanding of the nation's identity. It is a set of ideas and knowledge "about the formation and development of the nation, its positive and negative developments." Their preservation in the national consciousness and the fact that they will be passed on to the next generation will inspire confidence in the future of the nation and encourage them to work creatively. Historical memory is theoretically an abstract concept. In practice, it is manifested through its influence on the formation and development of the transformation of real material power. This is reflected in the desire of the representatives of the nation to learn about their past, the historical stage of their ancestors, the events that took place in it.



Historical memory is an important part of the national consciousness, its characteristic feature is that it is preserved in the minds of the representatives of the nation and enriched at every historical stage. In this sense, as the national consciousness develops, the historical memory becomes richer and serves as a spiritual basis for the nation to express its "I". Historical memory and heritage are interrelated, however, they are not concepts that have the same meaning. Inheritance constitutes all the material and spiritual wealth created in the process of nation formation. Historical memory, on the other hand, in the process of formation of national consciousness, as an integral part of it, evolves from one generation of consciousness to another. It is therefore possible to determine its scale only by looking at the levels of attitudes towards the past of the descendants of the representatives of the nation.

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## THE ROLE AND FUNCTIONS OF BELIEF IN HUMAN LIFE AND SOCIETY

Kalandarova Gavhar Sulaymonovna<sup>1</sup>, Mirniyazova Tamara<sup>2</sup>

<sup>1</sup>Assistant teacher,

<sup>2</sup>Assistant Professor

Tashkent State Agrarian University, Tashkent, Uzbekistan

### ABSTRACT

*In this article, the role and functions of belief, its importance in the development of society were analyzed. The functions of belief are the ways in which belief influences people's lives. We adhere to one of the points of view according to which there are four main functions of belief. They are basic in the sense that they can be divided into subfunctions. The functions of belief differ from each other in the answer to the question through what (or - how) they influence the life of people. The article highlights the following functions, such as the worldview function, the political function, the culture-transmitting function and the moral function of belief is a way of influencing belief on people's lives through the promotion of moral norms.*

**KEYWORDS:** *faith, morality, religion, resocialization, humanization, gnoseology, ontology, background knowledge.*

### DISCUSSION

According to the dictionary of etymology, the word "belief" dates back to the late XII century, *bileave*, means "confidence reposed in a person or thing; faith in a belief," replacing Old English *geleafa* "belief, faith," from West Germanic "*ga-laubon*" to hold dear, esteem, trust. The prefix was altered on analogy of the verb *believe*. It means "conviction of the truth of a proposition or alleged fact without knowledge"; it is "sometimes used to include the absolute conviction or certainty which accompanies knowledge".

*Belief* means "trust in God," while faith meant "loyalty to a person based on promise or duty" (a sense preserved in *keep one's faith, in good (or bad) faith*, and in common usage of *faithful, faithless*, which contain no notion of divinity). But *faith*, as cognate of Latin *fides*, took on the religious sense beginning in translations of XIV century, and *belief* had become limited to "mental acceptance of something as true," by XVI century, from the religious use in the sense of "things held to be true as a matter of religious doctrine." [4]

Belief in society implements some important functions, filled with norms and acts as one of the regulators of social behavior. Belief fosters certain qualities in a person. Often these qualities

characterize a believer very positively. We are talking about such qualities as kindness, love, devotion, mercy, etc.

*The comforting and compensatory function* of belief means that belief is able to help a person find new stimuli for life, find new guidelines and ideals in his life. Belief is able to support a person, give him hope and faith.

*The communicative function* of belief is expressed in the ability to expand a person's social circle, thereby saving him from loneliness. Belief is capable of both integrating masses of people and disintegrating.

Belief is a special type of social consciousness, will and being. As a social consciousness, it acts as a collective belief, belief in the supernatural, primarily in God (Gods). As a public will, it acts in the form of certain norms and rules of behavior, partly moral, partly legal, partly purely religious. As a form of social life, it appears in the form of a system of rituals and religious actions (prayers, the sign of the cross, fasting, etc.).

It is difficult to underestimate the role of belief in the life of mankind. Moreover, the history of our species with you can be regarded as the history of belief and the attitude of people towards them, it is not for nothing that there is a definition of man as a





“being who worships the gods.” And although at the “moments of the storm” this definition is subject to substantial doubt.

It is impossible to unequivocally assess the influence of belief on the development of society, since at any moment of time it is possible to identify both positive and negative aspects of belief as a phenomenon and belief as an institution.

## FUNCTIONS OF BELIEF

Having considered the deviations from the “norm”, it is worth going to the norm, that is, to consider the “functions” of belief. The functions of belief are the ways in which belief influences people’s lives. How many functions a belief has and how they are called is not yet a subject of discussion. We adhere to one of the points of view according to which there are four main functions of belief. They are basic in the sense that they can be divided into subfunctions. The functions of belief differ from each other in the answer to the question through what (or - how) they influence the life of people.

**The worldview function** of belief is a way of influencing belief on people’s lives through worldview ideas that are included in the content of belief.

**The political function** of belief is a way of influencing belief on people’s lives through political ideas and political actions of religious organizations.

**The culture-transmitting function** of belief is a way of influencing belief on people’s lives through the attitude of religious organizations to culture.

**The moral function** of belief is a way of influencing belief on people’s lives through the promotion of moral norms.

To be honest, this division is rather arbitrary, since one and the same division or idea can be interpreted as reflecting two, or even all, functions of belief at once. It is especially difficult to distinguish in this context the ideological and moral functions of belief, but an attempt will be made.

In all cases, the functions of belief bring both positive and negative results into peoples lives. Or figuratively speaking, they give rise to both pluses and minuses.

Belief exists not only as a system of ideas, perception and explanation of the world. The power and significance of belief in the life of society is so great that belief, or rather, religious practice, functions as the most important social institution that ensures the appropriate behavior of people. Thanks to institutionalization, belief has become a powerful element of the socio-cultural organization of public life, having played a huge role in the development of mankind.

By uniting supporters into a single social group, belief is an important social organization in any society.

Belief endowed a person with an understanding of the ultimate truths of life, therefore, everyone needed (it was subject to it), regardless of class, place in society. Thus, belief actually formed the basic ideas of people, constituted the sociocultural spiritual fundamental principle of the functioning of all strata of society - the fundamental principle, but no more.

Of the leading social functions of belief, first of all, we must note the integrative one.

We can say that belief played a huge role in the formation and development of most modern, well-integrated societies, because it endowed each member of this society with unified ideas about the ultimate forces of being, unified initial criteria, and rules of the game. Thus, in belief, society found a developed system of generalized ideas that made predictable the behavior of any person in a given system of interactions. Belief as a socio-cultural basis for the integration of society is complemented by national elements formed under the influence of the pre- and non-religious experience of a given people, the characteristics of its historical experience, etc.

The role of belief as a factor in the integration of society, the maintenance and preservation of its stability and integrity has repeatedly manifested itself in history.

In this respect, the relationship between belief and the state is interesting and indicative as a system of institutions of secular power, which, among other things, ensures stability and the value of society.

Any state, especially a developing one, is interested in the approval and insurance of certain values, norms in society that would not only ensure the loyalty of citizens to the state, the established order, but, more importantly, fasten people together, introduce orderliness in their interactions, and contribute to their organization.

Without the integration of society around certain indisputable values, it was difficult and even impossible to carry out the functions of power. That is why the adoption of belief, its introduction, dissemination and, on the other hand, the establishment of state power are closely interrelated.

The role of belief as an integrator of society, the preservation of its integrity and originality is also indicated by the role of the religious factor in the national liberation movement of a particular people. At the time of the heyday of its public authority and influence, belief acted as a universal, all-encompassing regulatory system, introducing its principles and criteria in the regulation of political, economic, artistic, aesthetic, and scientific and educational life of society.

Belief is the reality of human life, in fact, this is how you need to perceive it. The meaning of belief in the life of certain people, societies and states is different. One has only to compare two people: one - adhering to the canons of some strict and closed sect,



and the other - leading a secular lifestyle and completely indifferent to belief.

The same can be applied to various societies and states: some live according to the strict laws of belief (for example, Islam), others give their citizens complete freedom in matters of faith and do not interfere in the religious sphere at all, while others keep belief banned. In the course of history, the issue of belief in the same country can change.

Beliefs can unite people or separate them, inspire them to creative work, to feats, call for inaction, real estate and observation, help the spread of bookishness and the development of art and at the same time limit any spheres of culture, impose bans on certain types of activity, science and so on. The meaning of belief should always be considered specifically in a particular society and in a given period. Its role for the entire community, for a particular group of people, or for a particular person may be different.

In some sources, belief is seen at the same degree as a religion, as in the structural-functional approach. The structural-functional approach to religion has its roots in Emile Durkheim's work on religion. Durkheim argued that religion is, in a sense, the celebration and even (self-) worship of human society. Given this approach, Durkheim proposed that religion has three major functions in society: it provides social cohesion to help maintain social solidarity through shared rituals and beliefs, social control to enforce religious-based morals and norms to help maintain conformity and control in society, and it offers meaning and purpose to answer any existential questions. Further, Durkheim placed himself in the positivist tradition, meaning that he thought of his study of society as dispassionate and scientific. He was deeply interested in the problem of what held complex modern societies together. Religion, he argued, was an expression of social cohesion. [5]

Religion, for Durkheim, is not imaginary, although he does deprive it of what many believers find essential. Religion is very real; it is an expression of society itself, and indeed, there is no society that does not have religion. We perceive as individuals a force greater than ourselves and give that perception a supernatural face. We then express ourselves religiously in groups, which for Durkheim makes the symbolic power greater. Religion is an expression of our collective consciousness, which is the fusion of all of our individual consciousness, which then creates a reality of its own.

The more complex a particular society is, the more complex the religious system. As societies come in contact with other societies, there is a tendency for religious systems to emphasize universalism to a greater and greater extent. However, as the division of labor makes the individual seem more important, religious systems

increasingly focus on individual salvation and conscience.[5]

The primary criticism of the structural-functional approach to religion is that it overlooks religion's dysfunctions. For instance, religion can be used to justify terrorism and violence. Religion has often been the justification of, and motivation for, war. In one sense, this still fits the structural-functional approach as it provides social cohesion among the members of one party in a conflict. For instance, the social cohesion among the members of a terrorist group is high, but in a broader sense, religion is obviously resulting in conflict without questioning its actions against other members of society.[5]

In conclusion, it can be said that it is usually characteristic of beliefs to perform certain functions in relation to society and individuals.

1. Belief, representing itself as a worldview, that is, the concept of principles, views, ideals shows a person the structure of the world, concretizes his place in this world, shows him what the meaning of life is.

2. Belief is a consolation, hope, spiritual satisfaction, support to people. It is no coincidence that people tend to turn to belief in difficult moments in their lives.

3. A person, possessing some kind of religious ideal, is internally reborn and becomes able to carry the ideas of his belief, to establish good and justice (as dictated by this teaching), resigning himself to hardships, not paying attention to those who ridicule or offend him .

4. Belief controls a person's actions through its system of values, spiritual attitudes and prohibitions. It can very strongly affect large communities and entire states that live according to the rules of a given belief.

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# CLASSIFICATION OF THE PHENOMENON OF KINDNESS ACCORDING TO THE LAW OF SUFFICIENT REASON

**Karimov Bobir Sharopovich**

*Doctoral student of the Academy of Public Administration under President of the Republic of  
Uzbekistan, PhD, Assistant professor.*

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## ABSTRACT

*This article highlights the concept and categories of kindness according to the law of sufficient reason. Kindness is not only an irrational but also a rational activity that is followed by a rational decision. The article deals with the issues that kindness is a natural spiritual need and a positive factor, based on a person's level of knowledge, is boundless and relies on norms and gratitude, that a person has a constant desire for kindness, and this desire increases higher and higher, nothing can suppress parental love (kindness).*

**KEYWORDS:** *kindness, showing kindness, loving, sympathy, solidarity, social relations, positivity, the law of sufficient reason.*

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## DISCUSSION

The fact that people show kindness to each other in communication symbolizes closeness, sympathy and solidarity. Kindness instills in a person a positive mood, such as peace, happiness, sincerity, confidence, joy. Kindness is not only irrational but also rational. Studies show that the social significance of the concept of kindness is growing today. Sociological surveys show that people are dissatisfied with their needs for mutual affection and kindness. At the same time, a full understanding of this concept is not without its pitfalls.

It is important to define the categories of this concept, to achieve a clear, positive effect in social relations, to fully understand the concept of kindness, to study such concepts as giving, receiving, raising kindness. Below we provide a scientific analysis of the concept of kindness and clarify the categories that represent it.

According to the law of sufficient reason, preconceived notions are ideas that have been tested, confirmed, and proven in human life. There are such reflections in all the wise thoughts, teachings, proverbs, and theories of general science in folklore. We always use it in our daily activities. Just as every object and event has a real basis, so must the ideas that reflect them. This requirement of the above law is expressed in the formula "If B exists, then A also exists in contrary". This law expresses the ability of

thoughts to be connected in a certain order with consistency, which is one of the most important features of correct thinking.

The love shown to the child in the family; the sincere attitude shown to the bride by the mother-in-law, the family members; the trust, understanding, appreciation, encouragement, etc. expressed by the work team to the workers give the person a final thought - a feeling of kindness for them. But this concluding opinion is also relative. It can be rejected or replaced with a new idea. Stability in thought is always relative. The reason for this "substitution" is that the above-mentioned attitudes towards man have changed, and that there are sufficient grounds for such opinions. Thinking is as infinite as being, it is a mental process. Both showing and receiving kindness for a person are related to his mental process. Although the notions of kindness and compassion have long been revered, we sometimes see that their opposite is violence and anger. Because of this principle, a person's attitude towards the object he believes in will change. The law of sufficient reason states that the process of thinking is based on the truth of a given statement: "He who is not inclined to kindness is inclined to anger," "Living with kindness is a noble virtue." True, in the circle of some people it is not appreciated, but "kindness glorifies its owner because of its impartiality. It is precious to have compassion." True reasoning, such as "the



indifference, unkindness, hypocrisy, and ruthlessness of those close to us, not strangers, kills the confidence in your heart for people" [3], is a logical basis. The given reasoning itself is a logical conclusion.

The logical connection between basis and result must be distinguished from the cause and effect relationship. For example, the statement "Kindness is the basis of sincerity" can be substantiated by the idea that "A sincere person is objective towards the environment". In fact, "an objective view of the environment is not the cause of the initial consideration, but the consequence." Apparently, the rationale is not always consistent with the cause of the event.

Thinkers say that a mother's love for her child is the highest level of kindness. Mankind shows his sincere attitude not only to man, but to all created things by showing kindness. Because of his love, he causes the environment, the unique blessings of nature, the industry of the universe, the wonder of all beings. As soon as a person is born, he feels the love of his parents. As he grows older, he becomes a force that takes a person out of any difficulties due to enjoying the kindness of those around him. Thus kindness is inherited in a certain sense through heredity. In philosophy, a constant normative boundary is followed, based on the idea that "what is beyond the norm becomes the opposite."

Substantiation of opinions is a complex logical process that uses one or more interconnected systems of discussion. In a broad sense, substantiation of any opinion means determining whether there is reliable and sufficient evidence to support the validity of that opinion. As reliable and sufficient evidence, we can cite:

- that kindness is a natural spiritual need of man;
- that it is a positive factor;
- the decisive role of knowledge in this;
- the boundlessness of kindness;
- norm and gratitude are two important factors of this vital criterion;
- that a person is always in need of love;
- increase or decrease in kindness;
- kindness in the eyes, in the palms of the hands;
- such as the fact that nothing can suppress the love of parents.

This convincing and sufficient evidence can be conditionally divided into two. The first of these is that emotional cognition is based on experience, while the second, mental cognition is based on reasoning. If the love of the parents and the environment is emotional, it depends on the individual's ability to live by the experience and teachings of his upbringing, that is, to give kindness and to know and love the environment in the process of mental cognition.

Man's personal experience is limited in space and time, and the information given by his senses is not always accurate. For example, it is possible to ignore the difference between true kindness and false kindness. But, as some philosophers have put it, "kindness that is falsely shown by the eye also seems to act." On the contrary, that is, true kindness is worthy of the name of man, and the noble feelings inherent in humanity are a sign of perfection.

The empirical substantiation of opinions is important. Because cognition begins with live emotional observation, direct observation. Emotional experience connects a person with the outside world. Theoretical knowledge is the essence of the empirical basis. If the kindness shown in youth is an empirical basis for growing up nourished by family love, the theoretical knowledge we acquire is a hoax. The most widely used method in theoretical justification is the deductive reasoning method, that is, reasoning based on general truthful reasoning. Deductive reasoning includes the following in three areas:

First, there are methods of deductive reasoning, such as conversion, substitution, and predicate contrast. In this case, for example, A (general affirmative sentence) is converted to E (general denial): to E-A, A-U (partial affirmation) to O - (partial denial) - O. For example:

A: All people need kindness;

E: There will be no one who does not want kindness;

E: No good person is kindness;

A: All good people are kind and so on.

Second, in the substitution method, A-A, E-E, U-U are substituted, i.e. the place of subject and the predicate are substituted. Example:

A - Sincere people are kind.

A - Kind people are sincere.

E - No bad guy is kind.

E - Not every kind is bad.

Third, the comment given in the method of contrasting the predicate is first converted, and then replaced. The subject of the resulting judgment, that is, the subject, contradicts the predicate of the basic judgment, and the predicate corresponds to its subject.

S-P / P-S. Here S is the subject, P is the predicate.

In this case, the fact that the conclusion S is in the form of negation is the result of the negation of the conclusion connector. In contrast to the predicate, it changes to A-E, E-U, O-U. That is, A-general affirmative judgment, E-general denial judgment, U-partial affirmative judgment, O-partial denial judgment. For example:

A - Kindness is the sign of human perfection.

E - No perfection is without human kindness.





E - Kindness is at the heart of all good deeds done unknowingly.

U- All goodness is from kindness.

O - Some negative situations are from unkindness.

U- Some good deeds are from kindness.

When we express the concept of kindness through a logical determinant:

A - A real person is kind.

E - No one is kind. - The relationship between them is strong.

A - A real person is kind.

O - Some people are kind. - The relationship between them is subordinate.

E - No one is kind.

U- Some people are unkind. - This is also a subordinate relationship.

U- Some people are kind.

O -Some people are unkind. - Contradictory relationship.

The relationship between A and O, between E and U, is also contradictory.

Direct methods of inference allow us to identify the idea that exists in cognition, to correctly understand its essence, as well as to express the same idea in different ways, that is, to form knowledge. Deductive inference is made in the form of a syllogism. The syllogism means to form a third logical conclusion by adding a second comment to one comment. The syllogism is such a form of inference that in it the third of the two rigid considerations, which are logically interconnected, necessarily arises from the new rigorous reasoning. One of the first considerations in this, of course, would be either a general affirmation or a general denial. The new feedback generated is no more general than the original feedback. Accordingly, a syllogism is called a generalization. Example:

1. The strength that makes a person pass any test easily are his good qualities.

2. Kindness- is a feature.

3. Kindness is the power that leads a person through trials.

If it is possible to substantiate a given reasoning in a logical way using other true reasoning, then the given reasoning is true, that is, based. It represents the interdependence between ideas. Adequate basis law uses definitions of concepts from the laws of science as well as axioms as general true considerations.

- Hugging
- Handshaking
- Kissing on the face
- Sweeping the head
- Feeding
- Kissing on the forehead
- Sweeping on the forehead

Axioms are theoretical considerations that are accepted as unproven truths, and they directly substantiate other opinions and considerations. There are also methods of substantiation that are subjective in nature and directly related to the results of experiments or theoretical reasoning. Such methods include reliance on intuition, belief, authority, and tradition. These methods are used more at the level of everyday consciousness.

Intuition represents the ability to reach a straightforward truth without any discussion or proof. Intuition plays a significant role in the cognitive process and does not constitute an appearance other than emotional and mental cognition. Specific thinking represents thinking. Intuition is that man on earth embraces the essence of complex phenomena, the whole of thought, without paying attention to its various parts. At the same time, the individual parts of the process of thinking are not understood to one degree or another, and the result of thinking is clearly stated, clearly understood.

Belief consists of a set of views that have earned a person's trust and therefore determine his or her actions in his or her activities, which will serve as his or her program. Belief may be based on proven considerations or on initial knowledge whose authenticity has not been critically analyzed. Belief, like intuition, is also subjective and changes over time. Of course, when thinking about faith, it is necessary to distinguish between blind faith and belief based on knowledge, which is the result of historical and life experience. Only belief based on scientific knowledge will be a sufficient basis for determining the truth of ideas and opinions. That is why they are firmly entrenched in human life. An example of this is the justification of the difference between true kindness and false kindness. A person who is ready for life, who thinks in all directions, who is mentally calm, quickly notices false kindness. He senses the purpose of the person who expresses false kindness, that he is tasting something, that he is pursuing a goal that is in his best interest by lying. On the contrary, individuals who are not yet so active and inexperienced in society may commit misconduct without realizing false kindness.

Here a mother's love for her child can be cited as sincere affection. Thinkers and scholars have recognized that a mother's love for her child is the highest of all human loves. In our study with mothers in small groups, they said that the following concepts express a mother's love for her child. Including:

- Chatting (sincere, humorous)
- Caressing
- Walking together
- Sincere conversation
- Telling fairy-tales
- Applauding
- Defencing





Lifting	Singing lullaby
Role plays together	Praying
Gifting	Singing a song; learning poems by heart
Waking up carressing him	Sending SMS
Smiling honestly	Sending smile jokes
Saying goodbye by handshaking	Cooking together

In various studies, we have analyzed 76 concepts representing kindness not only for the mother's child but also for other subjects of the relationship as a category of affection.

In our people, the development of kindness in the person of a child on the basis of labor has always been the core of national education. Respect for guests, greeting them by the hosts with a hand on their chests, pouring water on their hands when entering and saying goodbye, holding towels, pouring them tea, arranging the guests' shoes in an orderly manner are the peculiarities of kindness education.

Culture based on kindness has a deep place in the minds of our people as an eternal value. Today, there is a narrow understanding and interpretation of compassion among our contemporaries. Defining its categories through the law of sufficient basis for the comprehensive understanding and expression of this concept is essential in the correct and complete understanding.

The social regulatory feature of kindness is voluntary in its own phenomenon. It has a functional role in shaping the civic consciousness of our people based on democratic principles. Kindness can help shed light on the theoretical underpinnings of the problem in combating any threats. It is one of the important concepts that define the basic criteria of upbringing a harmoniously developed person as a direction of moral norms.

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# PSYCHOLINGUISTIC ESSENCES OF CHILDREN'S SPEECH AT THE AGE OF PRESCHOOL EDUCATION

Akbarova Zukhro Akmaljonovna<sup>1</sup>, Yuldasheva Dilshoda Tulqinovna<sup>2</sup>

<sup>1</sup>Candidate of Philological Sciences, Associate Professor Fergana State University

<sup>2</sup>Master of the Specialty of Preschool Education, Fergana State University

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## ABSTRACT

*This article highlights the opinions on the specifics of speech, speech activity of preschool children, and clarifies the impact of deficiencies and shortcomings in children's speech on child thinking.*

**KEYWORDS:** *speech, speech process, consciousness, thinking, language construction, lexeme, children's speech, sensory education.*

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## DISCUSSION

To trace the developmental stages of any human-specific speech process is not possible. Therefore, it is difficult to describe these stages and correct it in the first stage itself. From a psychological point of view, this process is associated with the acquisition of certain language units and their preparation for the speech process. Speech, sentence structure, and lexeme, which are characteristic of this language, serve the realization of human speech.

The development of human consciousness and thinking is also connected with this process, and children learn language and thinking through speech at the same time, from conscious and unconscious gurgling to mastering the speech process that fully expresses thought.

From this point of view, the development of speech in young children plays an important role in the psychophysiological development of children.

The first year of a child's life is the most responsible period, during which great changes take place in the child's speech. This is reflected in the overall development of the child. The child is born with a ready-made speech apparatus, but he does not speak. There are many reasons for this:

1. A newborn baby (infant) does not have the ability to use his own speech apparatus, this skill must be developed in him.

2. It does not have a subject (object) for speech, it must collect that subject (object).

3. He is not familiar with the word forms of speech, the child must get acquainted with them.

4. Speech is related to thinking, so it is necessary to develop the child's thinking.

5. Speech develops in the way people interact with each other, the baby has not yet established contact with those around him.

Children's speech development should be guided in this direction. It is necessary to influence the development of the child's speech apparatus and the acceleration of the process of speech development. At the same time, scientists have proved in their scientific and theoretical views that the acquisition of full-fledged speech is one of the most important tools in the emergence of a full-fledged mental process in the child and its further development.

Speech in a child begins to form from an early age. The speech acquired during this period serves as the main basis for the child's future mastery of the mother tongue. With the birth of a child, he enters into a verbal relationship with those around him, through which he develops all his strengths and abilities. In preschool education, the educator must pay serious attention to the development of speech in early childhood and systematically organize all work on its development.

During this period, it is possible to organize work on children's speech by answering questions about how the process of speech development in young children goes and what effect it can have on the educator-specialist in a timely manner.



The growing demand for education in recent years has had an impact on the overall development of young children. In order for children to properly understand and solve any task set before them during the period of development and education, they must first have a complete speech. A child's well-formed speech can be the basis for his successful education. Any thoughts and information are reflected in the word. The complete and correct development of speech in a child helps him to grow and form as a social being.

Special research on the development of speech in children and adolescents of Uzbek descent and their sociopsycholinguistic features has not yet been carried out.

A.Umarkhodjaeva's "Some comments on children's speech" and M.Kenjaev & M.Norbosheva's "Development of speech culture in preschool children" are the first works in Uzbek linguistics dedicated to this field.

Learning children's speech in turn is complex and requires long-term observation. In our opinion, a person who enters this field, in addition to a perfect knowledge of linguistics, should know their psychophysiological features, love children infinitely and be among them and compile their diary.

The development of sensory education plays a special role in activating the speech of children of preschool age, whose speech is not fully developed. Proper sensory education from preschool age is the responsibility of every educator, psychologist, speech therapist and speech pathologist.

Impressions are gained by perceiving 9.10 percent of the mental knowledge of children of preschool age. The richer the intuition and perception, the wider a person's perception of the world around him.

Preschool age is a period of development of sensory processes in children. Sensory education is important for a deeper understanding of objects, their grasp, and the presence of different senses when interacting with them.

As preschool children grow older, their life experiences increase, their cognitive characteristics develop as their conditions change, and the requirements for them become more complex.

As children get older, they begin to notice the size, depth or surface of things, bowls or trays, and in the process, the child tries to enrich their vocabulary. They perceive the weight of the dishes, the smoothness of the surface, by feeling hot or cold when touched.

We examined the state of their cognitive abilities when activating the speech activity of children in grades 2-3 who did not fully develop speech.

The test involves 25 children with incomplete speech, who are asked to draw a goal-oriented picture, make objects out of plasticine,

appliques, and compare them according to the color of the objects before drawing.

Children are given changes in nature, winter, spring, summer, autumn, what changes they have during the year, the specifics of each season, the shape of objects, visual aids for measuring, how and why events and things in animate and inanimate nature. The children responded knowingly, seeing and hearing some objects.

The study found that children at grade 2-3 of speech development had difficulty in explaining, vocabulary, and poor speech due to underdeveloped phrasal and connected speech. We have witnessed that children with underdeveloped speech do not develop cognitive abilities as a result of a lack of vocabulary. We know that speech development in children with speech impediments is observed at 3 levels:

In children at the first grade of speech immaturity, speechlessness is accompanied by the imitation of certain sounds, the expression of their thoughts.

At the 2nd grade, phraseological speech (sentence construction) is underdeveloped, and the name, quality, and number in their vocabulary are underdeveloped.

In children at the third grade of speech immaturity, it can be observed that vocabulary and word groups are not well developed. They can't tell by looking at independent pictures. They have difficulty describing things and events around them. They cannot make words by connecting words.

We studied the speech activities of children with incomplete speech and concluded that the development of vocabulary should be done in a sensory manner, i.e., corrective work should be done on vocabulary development, sentence construction, and connected speech development through perception of everything and events.

Scientists have found that stuttering mainly occurs between the ages of 2 and 4, that is, when a child begins to speak.

Then the rate of stuttering among children decreases and increases again when they reach school age. This is because when a child goes to school, he or she falls into a situation that is alien to him or her. At this time, attention to the child increases, the requirements increase (related to reading).

Interestingly, stuttering among children living in rural areas was significantly lower than among children living in urban areas. In addition, stuttering in children is more common in developed countries.

While stuttering is three times more common among boys than among girls. All this, i.e. the growth of children's speech and the appearance of defects in it, also shows how much the child's speech is related to sensory upbringing.



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# PHILOSOPHICAL ESSENCE OF TOLERANCE AND ITS SOCIO-IDEOLOGICAL FEATURES

**Maxmaraximov Alibek Chorshanbievich**

*Master, Faculty of Social Sciences,  
National University of Uzbekistan, Tashkent, Uzbekistan*

## ABSTRACT

*This article clarifies the philosophical essence of tolerance and its socio-ideological features. Furthermore, the importance of tolerance in the system of national development a general definition of toleration that involves three interrelated conditions were discussed.*

**KEY WORDS:** *tolerance, ideology, national consciousness, society*

## DISCUSSION

According to the Encyclopedia of Philosophy, the English words, “tolerate”, “toleration”, and “tolerance” are derived from the Latin terms *tolerare* and *tolerantia*, which imply enduring, suffering, bearing, and forbearance. Ancient Greek terms, which may also have influenced philosophical thinking on toleration, include: *phoretos* which means bearable, endurable, or *phoreo*, literally “to carry”; and *anektikos* meaning bearable, sufferable, tolerable, from *anexo*, “to hold up”.

Today, when we say that someone has a “high tolerance for pain,” we mean that he or she is able to endure pain. This ordinary way of thinking is useful for understanding the idea of toleration and the virtue of tolerance: it underscores the fact that toleration is directed by an agent toward something perceived as negative. It would be odd to say, for example, that someone has a high tolerance for pleasure.

With this in mind, we can formulate a general definition of toleration that involves three interrelated conditions. When an agent tolerates something:

- (1) the agent holds a negative judgment about this thing;
- (2) the agent has the power to negate this thing;
- (3) the agent deliberately refrains from negation.[1]

The first condition requires a negative judgment, which can be anything from disapproval to disgust. Judgment here is meant to be a broad concept that can include emotions, dispositions,

tastes, and reasoned evaluations. This negative judgment inclines the agent toward a negative action toward the thing that is perceived as being negative. This broadly Stoic conception of judgment is a common assumption in discussions of toleration. Defenders of toleration assume that we can, to a certain extent, voluntarily control the expression of our negative reactions by opposing them with different, countervailing, judgments. Although judgments and emotions are both thought to have motivating force, they can be resisted by some other judgment, habit or virtue.

The entity toward which an agent has a negative judgment can be an event, an object, or a person, although with regard to tolerance as a moral and political disposition, the entity is usually thought to be a person. Although we speak of tolerating pain, for example, the moral and political emphasis is on tolerating some other person, a group of people, or their activities.

The second condition states that the agent has the power to negate the entity in question. Toleration is concerned with resisting the temptation to actively negate the thing in question. To distinguish toleration from cowardice or weakness of will the agent must have some capacity to enact his negative judgment. Toleration occurs when the agent could actively negate or destroy the person or object in question, but chooses not to. [1]

The word negate is used here in a broad sense that allows for a variety of negative reactions. Negative actions can include: expressions of condemnation, acts of avoidance, or violent attacks. The continuum of negations is decidedly vague. It is not clear, for example, whether condemnation and





avoidance are negations of the same sort as violent action. Despite the vagueness of the continuum of negative activities, the focal point of the second criterion is the power to negate: toleration is restraint of the power to negate.

The third condition states that the agent deliberately refrains from exercising his power to negate. Tolerant agents deliberately choose not to negate those things they view negatively. The negative formulation, 'not negating,' is important because toleration is not the same thing as positive evaluation, approbation, or approval.

Tolerant restraint of the negative judgment is supposed to be free and deliberate: one refrains from negating the thing because one has a reason not to negate it and is free to act. Good reasons for toleration are plural. They include: respect for autonomy; a general commitment to pacifism; concern for other virtues such as kindness and generosity; pedagogical concerns; a desire for reciprocity; and a sense of modesty about one's ability to judge the beliefs and actions of others. Each of these provides us with a reason for thinking that it is good not to negate the thing in question. As mentioned already, there also may be other non-tolerant reasons for refraining from negation: fear, weakness of will, profit motive, self-interest, arrogance, and so forth.

Although there are many reasons to be tolerant, traditional discussions have emphasized respect for autonomy and pedagogical concerns. Underlying both of these approaches is often a form of self-conscious philosophical modesty that is linked to the value of respect for autonomy. As John Stuart Mill and others have argued, individuals ought to be left to pursue their own good in their own way in part because each individual knows himself and his own needs and interests best. This view does, however, leave us with a lingering problem as toleration can easily slip toward moral skepticism and relativism. It is important to note then that toleration is a positive value that is not based upon total moral skepticism. Proponents of toleration think that toleration is good not because they are unsure of their moral values but, rather, because toleration fits within a scheme of moral values that includes values such as autonomy, peace, cooperation, and other values that are thought to be good for human flourishing. [1]

The issues of tolerance, the system of national consciousness and socio-ideological interests will be further supplemented, which confirms that Uzbek tolerance is a multifaceted and complex structural system. Thus, we are convinced that tolerance as a product of socio-ideological relations is a phenomenon corresponding to a particular cultural-historical state of society. It is a symbol of the society, the image of the environment, which pursues social and ideological interests, and reflects the mentality, human kindness, respect, love,

tolerance inherent in this society. In particular, tolerance as a socio-ideological phenomenon is reflected in the social dialogue of workers and their relations with the state and society, forming a system of socio-ideological interests. Such a relationship is not a substantive approach to the issue, but a proposal to draw the attention of leaders of state and public organizations to an important issue, to pay attention to the problem on the basis of justice or urgency, to reconcile their interests with the interests of society. This form of the phenomenon of tolerance is in the form of an objection or acknowledgment of the content of the idea of processes of managing the development of socio-ideological phenomena, characterized by public logic, conciseness and approach to problem solving through social ideological interests.

The diversity of opinions and views on the content of tolerance confirms that society is closely linked with the task of mass control of people's lives. The way of mass control of changes in social life, human behavior, is essentially composed of several appearances and forms. These are: the system of communication in the order of government agencies and institutions, tolerance expressed in relationships and meetings, obedience, respect for colleagues and leaders; to be patient with issues such as tolerance, which is expressed in everyday life, in relation to ordinary events and happenings, to express their views in a peaceful manner; The basis of tolerance is the manifestation of tolerance-oriented tendencies in the family, in the circle of friends. It also confirms not to put one's own interests above the interests of others, community, state, country, to understand the behavior of others, to be able to accept the opinion of society; the exchange of views on the socio-ideological and personal interests that occur during weddings and celebrations, which are characterized by tolerance, kindness, honesty, faith, compassion, equality, prudence, loyalty.

Continuing on the role of tolerance in the system of national consciousness and socio-ideological interests, we once again quote the views of the famous Eastern philosopher Abu Nasr al-Farabi. Regarding the characteristics of tolerance, he said: "There is no natural or voluntary connection between people, each person must harm the interests of others for his own benefit, one must be a stranger to the other, even if they unite because of necessity, obligation, even if they compromise, only one wins. In doing so, they are forced to come to terms with each other under the pressure of an external force, and if that power is lost, the agreement is lost, alienation reappears, and they disperse. This is one of the animalistic beliefs of humankind." Farabi said that people should live together voluntarily, not forcibly, so that conflicts would end and people could live together. In this way, the socio-ideological environment becomes a process that pursues the



interests of the people, emphasizing that through the connections between people, their personalities become harmonious and their character is enriched with universal feelings. According to Farabi, the interests of the people also form the basis of positive tolerance, such as national consciousness, social ideology.

Farabi describes this situation as follows: "Some people think that the connections between people are based on the commonality of their behavior, nature, verbs and language. Each nation has its own characteristics. Some people think that people's interdependence is based on the commonality of thoughts and places of residence in general." In this way, Farabi puts forward the idea of mutual social unity of people, emphasizing the need to think about the ethno-regional, geopolitical roots of kindness and tolerance for each other. This view is also emphasized by Abu Rayhan Beruni, who shows that the emergence of tolerance is inextricably linked with social relations, people's lifestyles, material needs, interests, demands and goals. For example, it shows that cooperation between people is due to the need for people to get rid of the needs of mutual integration and external threats together. As a result, the dependence of tolerance on the system of social and ideological interests of the national consciousness affects the development of such characteristics as peoples living in mutual respect, deviating from the interests of society and the state, focusing on national traditions, national values and national culture. Finally, the tolerance of our people has formed the spirit of national unity in Uzbekistan.

The concept of tolerance was not only related to not only the past, but also these days.

Tolerance is a moral virtue best placed within the moral domain – but unfortunately it is often confounded with prejudice. Much of the psychological research about tolerance generally and about the development of children's understanding of tolerance of others who are different from them has been examined through research about prejudice – and not through the moral domain. The assumption made is that absence of prejudice by default means a person is tolerant. Prejudice and tolerance are actually theoretically different concepts – and not the opposite of each other. In fact, they coexist in most of us.

Tolerance is difficult to define, which may have led to limiting the study of tolerance in psychology in favour of studying prejudice. But, unlike prejudice, tolerance can be grounded in the moral domain which offers a positive approach to examining relationships between groups of people who are different from each other.[2]

Based on its Latin origin, tolerance, or toleration as philosophers often refer to it, is most commonly viewed negatively as "putting up with" something we dislike or even hate. At the same time

tolerance cannot be indiscriminate. Indiscriminate acceptance in its most extreme form could lead to recognition of questionable practice and human rights violations.

Tolerance as a moral virtue. An alternative way for us to think of tolerance is to place it within the moral domain and recognise that it is what it is, a moral virtue. Many recent philosophers have linked tolerance with respect, equality and liberty. Those such as Michael Dusche, John Rawls and Michael Walzer among others, argue that we should regard tolerance as a positive civic and moral duty between individuals, irrespective of colour, creed or culture.

In other words, it is a moral obligation or duty which involves respect for the individual as well as mutual respect and consideration between people. Tolerance between people makes it possible for conflicting claims of beliefs, values and ideas to coexistence as long as they fit within acceptable moral values.

The idea that tolerance is a moral duty had been acknowledged by earlier civil libertarians, such as John Locke, Baruch Spinoza, John Stuart Mill and others. They argue that tolerant people value the individual, his or her independence and freedom of choice.

When tolerance is placed within the moral domain relating to fairness, justice and respect and avoiding causing harm to others, it can only be viewed as a positive moral virtue. Psychological research supports the idea that tolerance is better placed within the moral domain. [2]

Fairness and empathy are also very closely connected to moral development and reasoning. They are fundamental to any coherent moral philosophy. Psychologists such as Johnathan Haidt believe empathy is the most important motivator for moral behaviour. Others such as Martin Hoffman argue empathy is a motivator of prosocial and altruistic or unselfish behaviour.

Empathic people are sensitive to the thoughts, feelings and experiences of others. They are able to place themselves in someone else's shoes or understand how it would feel to be treated badly. Placing oneself in someone else's shoes is the essence of tolerance.

Some researches proved that people of all ages including children have a strong sense of fairness and empathy towards others different from them in colour, creed or culture. They reject prejudice and intolerance between 70% and 80% of the time affirming tolerance based on fairness and empathy.

Moral values such as fairness, justice, empathy, tolerance and respect are shared, if not universal, values relevant to dealing with human diversity

Tolerance examined as separate concept could have unique implications for education and



social policy. Education aimed at promoting a harmonious society could do well to focus more on the relationship between morality and tolerance. Grounding tolerance in theories of morality allows for an alternative educational approach to promote harmonious intergroup relationships.

Part of this education would involve developing a strong sense of fairness and justice and the ability to empathise with the plight of others who are different in racial characteristics, ethnicity or nationality.

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## ENGLISH LEARNING WITH THE AID OF MOBILE APPS AND ANIMATED MOVIES

<sup>1</sup>Buriyeva Kibriyo Dilshod qizi, <sup>2</sup>Rakhmatullayeva Barno Bakhtiyor qizi

<sup>1,2</sup>Master, Navoi State Pedagogical Institute, Navoi, Uzbekistan

### ABSTRACT

*This article is dedicated to the study of influence of animated movies and mobile apps to the English language learning process among the young learners and results caused by implementing them into the education system. While investigating, there were elicited a number of disadvantages effecting on mind of our young generation.*

**KEY WORDS:** cartoons, sense of perception, mind control, educational mobile apps.

### INTRODUCTION

The modern life is getting improved not day by day, we can even say that it is changing every hour. New technical equipments are modernized very fast. Sometimes we cannot keep up with new inventions in the world. I have noticed that when we watch advertisements of new devices in the internet, we are so impressed that we lost our thoughts. Modern gadgets can manage so many tasks that people feel no need for staining themselves. But modern life is influencing not just material things, but also mental world of every person. Thanks to new demands of society, everybody needs internet connection. Sometimes it is required by authorities in order to be informed. Today, when we talk about the rapid development of economic relations between countries with commercial leadership, the successful maintenance and development of foreign economic relations requires more professionals who know a foreign language, mostly English.

The social order for learning English is growing day by day. As this contingent faces various problems and challenges in the language being studied, foreign language education professionals are tasked with developing new forms and introducing new teaching.

In this case, modern mobile technologies, which have become part of our lives, will help to solve these problems to some extent. Researchers around the world are studying the effectiveness of the use of mobile technologies in the educational process. Methodists are working with IT professionals to develop more and more new sites,

platforms, and mobile apps for learning a foreign language. It has already been proven that the introduction of mobile technologies in the learning process contributes to the creation of a special mobile information learning environment in which information plays a key role. Immediate use of information and continuous feedback is a necessary condition for the development of modern society. In this regard, researchers interpret English language teaching through mobile technology as a modern, individual form of learning. Mobile technology refers not only to the device itself (smartphone, tablet, etc.), but also to educational technologies that allow to expand the format of material presentation; if necessary - the organization of remote individual, pair or group work; providing uninterrupted feedback; includes checking students' independent performance of not only written but also oral assignments.

Although the interest of students in the use of mobile technology in the process of teaching a foreign language is growing, this is not a problem for the "digital generation" of schoolchildren. We decided to offer our own model to add to the teaching process.

The process of using innovative technologies in teaching the subject of complex compounds in secondary education has become the object of work. The aim of this master's dissertation research is to create, theoretically substantiate, and test a methodological model for the integration of mobile technologies into the English language teaching process for older children. Thereby, we have to use



social networks. The flow of information makes us to lost the feeling of time. We frustrate majority of our time with watching unnecessary video materials. Most of times users even don't thing what's the profit of observing this kind of staff. Even if the grown ups cannot control what they are following, how we can left children for their own? Young generation demands double attention rather than adults, because all the skills they would produce in future life will be based on knowledge they are receiving now. It's better to educate little sprout at the beginning, rather than ugly tree at the end. But we shouldn't forget about the peculiarities related to the age of learners. One of the potential difficulties in primary school pupils is behavioral problems, which reflects position of children in classroom and also the level of receiving knowledge. Sensitivity toward surrounding conditions is typical to the primary school learners' age. It helps to improve adaptive forms of behavior and higher psychological functions. (1) 7

Most of cases child adopts himself to the current situation. S. L. Rubinshteyn reveals one of the most interesting facts on behavioral phenomena. According to the scientist, behavior is a special form of activity, which becomes an attitude when actions move from motivational to private plan. I agree with this point of view because our behavior and society is permanently related to each other and cannot exist independently. By the moment of entering the school the processes of reception of child are developed enough, but not completely. Grade by grade they come to right shape. And their minds receive information differently. In this case cartoons can be the best way to keep concentration of learners in lesson's procedure. Cartoons are effective tools which are used in order to teach and advise in addition they are funny. Cartoons can be easily detected by children. In the process of signification of the cartoons, students first concentrate on the line in the cartoon, then think over every detail, make comments by establishing connection and weave a story in minds putting out the contrast and associations between objects. Thus, the students think in creative and critical manner (Özalp, 2006). In my opinion, cartoons can help pupils to improve their imagination and fantasy, because animated movies keep students' motivation in high level.

Taking advantages of cartoons in education has not been sufficiently preferred today. However, no tool can make teaching as interesting as a cartoon. So, cartoon visual aids, it motivates the students and creates the opportunity to discussion. Communicating with cartoon is an easy communication which isn't complicated. It is noteworthy and surprising, it will be a part which is memorable. The warmth and the charm of the cartoon, and the comfort, which laughing and smiling, have given make the desired message by utilizing relaxation easier to facilitate insertion into the memory (Özer, 2005). To my mind,

it also saves friendly atmosphere within the classroom. When learners are not stressed about marks, they are more likely to learn information and keep it in their minds for longer period of time. Also, this kind of knowledge is easier in usage rather than the information learned by forcing. For example students decided to talk with each other in English (in order to improve their skills), they feel no depression about mistakes they can make during their speech, and they can freely use the words which come to their mind. And the phrases learned in a funny way will be one of the first ones. But the usage of the 'forced' knowledge demands stressful situation. Because the process of memorizing information requires the same conditions with the moment of learning it.

When the students are given lesson by taking advantage of cartoon, those ones will better understand the fact and especially the knowledge about that subject. (Özalp, I. 2006). Cartoons are examined by observing the fine details and then they contain crucial messages which are generated with the way that events are defined by being simplified the details. Therefore, the function of the cartoons which press firmly on the ground of getting the students to instruct and to think, increases the effect of cartoon in education (Özer, 1998).

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# INTEGRATION OF PHYSICS LESSONS IN HIGHER EDUCATION INSTITUTIONS IN CONSTRUCTION

<sup>1</sup>Begmatova D.A., <sup>2</sup>Nortojiev A.M., <sup>3</sup>Khudayberdiyev S.S.,  
<sup>4</sup>Mahmadiyorov A.Z., <sup>5</sup>Nosirov N.B.

<sup>1</sup>Head of the Department of General Physics, Ph.D., Associate Professor,  
National University of Uzbekistan, Uzbekistan

<sup>2</sup>Independent researcher of the Faculty of Physics, National University of Uzbekistan, Uzbekistan

<sup>3</sup>Ph.D., Associate Professor of Tashkent Institute of Architecture and Construction, Uzbekistan

<sup>4</sup>Senior Lecturer of the Tashkent Institute of Architecture and Construction, Uzbekistan

<sup>5</sup>Senior Lecturer, Tashkent Institute of Architecture and Construction, Uzbekistan

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## ABSTRACT

*The article discusses the methodological features of the teaching process of physics in higher education institutions in the field of construction. It discusses the fact that physics is the main fundamental science in the training of civil engineers and its integration with other special general engineering disciplines. Specific recommendations are given on what to pay more attention to in the organization of the teaching process. instructions have been studied.*

**KEYWORDS:** *higher education, construction, civil engineer, vibration, construction, physics, practical work, laboratory work.*

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Physics is one of the most important fundamental sciences in the successful acquisition of the specialties of civil engineers in the field of civil engineering. [1] 2]. For example, it is difficult to master building mechanics, materials resistance, electrical engineering and electronics, hydraulics, construction physics, and other sciences without a good knowledge of physics. In addition, he will be able to apply his knowledge of physics in his future work. In particular, residential or industrial buildings should be beautiful, tidy, able to withstand sunny hot summer days and cold winter days, as well as snow and rain, and each room in the building should be warm in winter and cool in summer, evenly lit, clearly audible sounds and unnecessary voices should be eliminated as much as possible, and so on. Solving these problems requires knowledge of the basic laws and laws of physics and their application in practice. Therefore, a successful systematic structure of physics teaching in construction universities allows

students to form an understanding of the role of physics in the system of scientific knowledge, as well as the importance of the student in his chosen specialty [3]. In the future, it prepares students for the successful acquisition of scientific knowledge in special subjects.

Taking into account the basic requirements for the organization and conduct of physics lessons for students of construction universities, we have identified the following main methodological aspects in the implementation of the practical direction of teaching physics to overcome the difficulties [4]:

a) The presentation of the course in the organization of lectures should be carried out in the context of modern applied physics, that is, to demonstrate the main directions of the application of physical knowledge in future professional activities and to provide a sufficient number of examples of their practical application. Practical examples should be clear to students. In the process of presenting the

theoretical material, more attention should be paid to the practical application of some of the concepts studied. For example, “Forced oscillations. Resonance Phenomena ”is mainly about the vibrations of construction and other engineering structures. A detailed presentation of this report can be organized in the following order.

The basic concepts of the subject are defined — vibrations, forced vibrations, resonance. A differential model of vibrational systems is considered, and mathematical expressions for resonant frequency and amplitude are found. The beneficial and harmful effects of vibration and resonance on construction can be mentioned. However, we will discuss in more detail the use of vibrations in construction technologies. Vibrating piles are used to strengthen the foundations of buildings. It is known that piles are usually placed on the ground with a heavy load, but now it is possible to do this with the help of vibrations. At the top of the pile is a vibrator, which creates vibrations in the pile. As a result, the frictional force of the ground and the pile is sharply reduced and is absorbed into the ground by gravity. The sinking speed is 3-4 meters per minute. It is also possible to remove the piles from the ground using this vibratory method. Based on the same details, we need to consider the harmful effects of vibrations on construction structures and ways to combat them. Here are three main causes of harmful vibrations:

1. Periodic oscillations. These include vibrations caused by the operation of engines inside buildings.

2. Auto-vibrations (inextinguishable vibrations that occur in a system without external influences). It is known that these oscillations occur under the influence of any constant energy source, which can lead to the destruction of structures. This can happen on power lines, television towers or suspension bridges due to constant wind.

3. Vibrations caused by the action of one or more forces, such as explosions or earthquakes.

Particular attention should be paid to ways to combat these vibrations in the lectures. There are two ways to do this:

1. By tuning from resonance. It is used to create any structures that have or may have harmful vibrations.

2. Vibration suppression method. This method is widely used, where the structure and operation of a vibration damper are considered. For example, the world's first building, Taipei 101, which is more than half a kilometer long, used a pendulum with a total weight of 660 tons to withstand typhoons and earthquakes (Figure 1). The pendulum is located on floors 87-91 of the building, which allows the building to remain in balance even when the wind speed reaches 216 km / h. During vibration, the fluid is released through 8 hydraulic shock absorbers attached to the balloon and extinguishes the vibration energy [5].



Figure 1.

b) Practical training should use a specially designed and selected set of professionally oriented tasks [6]. This type of problem is the main practical direction of teaching physics. The following is a problem directly related to the field of construction from physics [7].

Find the maximum stress acting on a brick column with a height of 2.5 m and a cross section of 50x65 cm<sup>2</sup> under a force of 300 kN. The column is made of bricks with a density of 1600 kg / m<sup>3</sup> (Figure 2)

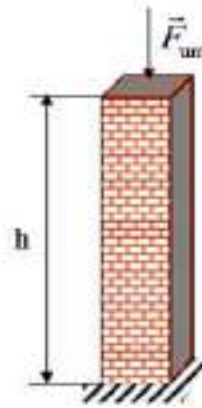


Figure 2

We know that based on the expression for the determination of mechanical stress,

$$\sigma = \frac{F_{um}}{S}$$

determined.

Total force:  $F_{um} = F + P$ , where  $P = mg$  is the height of the brick column. Column mass:  
 $m = \rho \cdot V = \rho \cdot S \cdot h = \rho \cdot a \cdot b \cdot h$ .

So, for mechanical stress,

$$\sigma = \frac{F + \rho \cdot a \cdot b \cdot h \cdot g}{S}$$

expression follows.

Substituting the known values into the above expression, we determine the maximum stress that can occur in the brick column,

$$\sigma = \frac{300000 + 1600 \cdot 0,5 \cdot 0,65 \cdot 2,5 \cdot 10}{0,5 \cdot 0,65} = 963 \cdot 10^3 \frac{N}{m^2}$$

The strength limit for bricks is in the range of  $10 \div 20$  MPa. Therefore, taking into account that the result obtained is several times smaller than the limit of strength, we conclude that the brick can withstand the preferred load.

c) It is known that laboratory classes are an integral and important part of effective teaching of physics. For example, laboratory classes at the Tashkent Institute of Architecture and Construction focus on directing students to the field of construction. For example, in the laboratory work "Determination of the Yung modulus by the method of bending" concepts such as deformation, Guk's law, Yung's modulus, relative and absolute elongations, strength limits ensure the integration of future engineers in future scientific and labor activities. Alternatively, virtual labs can also be used effectively. When using virtual laboratories, all the professional skills of future civil engineers are formed and developed at the same time. [8] It is known that the Carnot cycle is a classic example of understanding the irreversible processes that occur in many heat pumps and refrigeration machines. As a rule, a detailed study of all stages of this cycle and the calculation of all

relevant parameters occurs most effectively in the process of laboratory work on this topic in physics. In our opinion, We can analyze the dedicated and proposed laboratory work for future civil engineering students [10]. The theoretical material of this work is very important for future civil engineers, as it directly deals with all the theoretical foundations of heat transfer processes through construction barriers. Also, the specificity of a particular line of construction is practiced in the laboratory.

d) The organization of independent work of students should be organized, if possible, with the use of information technology (IT), as well as theoretical, practical, test and control materials, professionally oriented didactic materials using guidelines for solving professional problems [11]. This approach to organizing students' independent work not only helps to improve the quality of students' fundamental knowledge, but also builds their ability to apply the knowledge they have acquired in their later education and future careers. In carrying out this work, it is desirable to carry out close cooperation between professors of physics and professors of special subjects. It should be noted that in order to optimize



independent work and, accordingly, to maximize savings in the classroom, students are invited to perform tasks that theoretically complement the course of lectures in the laboratory.

Thus, taking into account the specifics of their specialization in the field of construction in the vocational guidance of students, there are suggestions and recommendations for the effective organization of lectures, practical, laboratory classes, independent work. In addition, a special feature of the professional training of students majoring in construction is not only the acquisition of new knowledge in physics, but also the increase in the need to use the acquired physical knowledge in their future careers through the proper organization.

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# INFORMATION SECURITY OF TEENAGE STUDENTS

Toshpulatova Sh.O.<sup>1</sup>, Fayzullayev J.J.<sup>2</sup>

<sup>1</sup>(PhD), Navoi state pedagogical Institute, Navoi, Uzbekistan

<sup>2</sup>Teacher of the Department of Teaching Methods of Informatics

## ABSTRACT

*The article discusses the improvement of the pedagogical aspects of ensuring the information security of students. Also, new approaches focus on educational work with schoolchildren, aimed at overcoming the negative impact of ICT.*

**KEYWORDS:** *Information security, social networks, internet, continuing education, negative impact.*

At present, life is developing at such a speed that it is almost impossible to keep up with it, and even now no one can deny the importance of the Internet as a global information environment. As of 2020, 4 billion 660 million people (60% of the population) use the Internet, including 22.5 million in Uzbekistan. Instagram Facebook, Twitter, Instagram, Odnoklasniki, Tiktok, and Telegram are among the users of instant messengers that have become popular, including social networks. But, despite the global importance of the Internet, modern society began to have problems with the use of the network. The child's personality, included in the process of cognition, is unprotected from the flow of information, and therefore there is an urgent need to expand the content of general secondary education, the introduction of new components related to information security training.

Human information security implies the exclusion of hazards in the process of informing. The formation of information security is associated with the education of the ability to adequately respond to incoming information, get rid of ill-considered actions, predicting the situation and taking into account possible consequences. Information security, as a part of national security, cannot be ensured without the proper commitment of the state, society, and the individual to it, and in education-without creating the necessary pedagogical conditions for ensuring the information security of schoolchildren [2].

To find out information about the amount of time spent by students at a computer on the Internet, the children of the 18-school of the city of Navoi of

students of the 7-8 class were asked the following questions:

1. How much time do you spend on the Internet on weekdays?
2. How much time do you spend on the Internet on weekends?
3. How much time do your parents spend on the Internet?
4. What sites are you interested in?
5. What social networks do you use widely?

From this survey, we found out that 1/5 of the surveyed children spend 5-8 hours on the Internet on weekdays, and 2/5 of the children spend from 1 to 3 hours. On weekends, the number of online visits increases significantly. And only four of the respondents said that they temporarily do not have Internet, which they very much regret. Parents use the Internet much more modestly than children. A third of adults on weekdays and one in four on weekends are online for less than an hour. Most teenagers use their computers, laptops, and cell phones. Among adults, this option is as popular as a family computer or laptop, mobile Internet for children is twice as popular as for parents, as well as access to the Internet via game consoles and televisions. Considering only a mobile phone and a smartphone, almost every second child uses the mobile Internet today. Moreover, children are often online right in the classroom, hiding their phone under the desk.

Of the many risk factors, the greatest danger to schoolchildren is brought by modern computer games designed for children and teenagers, which are flooded with monsters, executioners, skeletons, ghosts, monsters, cannibals, etc. With the help of a





computer, the pools of blood and brains on the walls, the terrible screams and screams of broken bones, severed heads and flying pieces of bloody flesh are naturalistically reproduced. Moving images to the music on the color screen have a hypnotic effect on the players. During the games, students imitate the actions of murderers, criminals: they kill dozens, maim, dismember the bodies of game characters. The child is introduced to the realities of the criminal world. Other games actually involve multiple suicide simulations in scenes with deadly stunts on racing cars, motorcycles, and airplanes. Under the influence of scary images, children begin to be afraid of the dark, complain of nightmares, and are afraid to stay in a room without adults.

Adults need to understand that the problem is that children have not yet formed the criteria for distinction. The child is interested in everything. He goes to any sites, opens various "windows", wanders along virtual streets and gateways. Therefore, parents and teachers themselves must first learn the basics of computer security, and then teach their children to do this.

In this regard, in society, the task is to form students' ability to defend their rights in matters of personal information security. A special role in solving this problem is assigned to teachers of all subjects, not just computer science. Today, schools require such teachers who have a high level of knowledge in the field of information technology, are fluent in software and hardware measures to protect information, are well aware of the problems of information security of a student's personality in ICT. Every teacher should know:

- 1) negative forms and methods of ICT impact;
- 2) methods of protection;
- 3) rules and norms of netiquette;
- 4) types of deviant, dependent behavior of schoolchildren;
- 5) methods of work to prevent and eliminate them.

Teachers should pay great attention to teaching and educational work with schoolchildren, aimed at overcoming the negative impact of ICT.

For this, it is necessary to conduct briefings on access to educational Internet resources, develop methodological manuals "Internet resources for the educational process", conduct lectures for parents of students on the mode of children's access to educational resources.

At the age of 14-15, it is difficult for parents to control their children, since they already know much more about the Internet than their parents. However, it is especially important to strictly adhere to the rules of Internet safety - an agreement between parents and children. In addition, it is necessary to view reports on children's activities on the Internet as often as possible. Attention should be paid to the need to keep parental passwords in strict secrecy from children. At the parent meeting, at which the

topic of "Information Security" was raised, handouts with tips for parents were distributed.

Advice to parents on the safety of children aged 14-15.

1. Create a list of home rules for visiting the Internet with the participation of adolescents and demand unconditional implementation of it;
2. A computer with an Internet connection must be in the common room;
3. Don't forget to chat with your kids about their online friends. Ask about the people with whom the children interact to make sure that these people are familiar to them;
4. Use means of blocking inappropriate content;
5. Insist that children never meet in person with friends on the Internet;
6. Teach children to never give out personal information by means of e-mail, not to reply to unsolicited emails;
7. Teach children not to download programs without your permission. Explain to them that they might accidentally download viruses or other unwanted software;
8. Train your child to inform you about any threats or concerns about the Internet;
9. Train yourself to familiarize yourself with the sites that teenagers visit;
10. Explain to the children that the network should never be used to bully, spread gossip, or threaten other people.

This means that a comprehensive solution to the problem of information security on the part of the family and the school will significantly reduce the risks of causing various kinds of damage (moral, material, health, etc.) to the child. Therefore, ensuring the information security of schoolchildren should become one of the priority areas of work of a modern school.

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# ECOLOGICAL AND RECLAMATION CONDITION OF IRRIGATED BROWN SOILS OF ZARAFSHAN BASIN

<sup>1</sup>KushakovAbduvali Jabborovich, <sup>2</sup>Juraeva Hanifabonu Qobulqizi

<sup>1</sup>Associate Professor, Navoi State Pedagogical Institute, Uzbekistan.

<sup>2</sup>Methods of teaching exact and natural sciences (Biology), Navoi State Pedagogical Institute, Uzbekistan.

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## ABSTRACT

*As a result of the research, the emergence of salinization processes under the influence of various natural factors in the old-irrigated brown soils of the Zarafshan depression, widespread in the foothills, was studied. The levels of nutrient supply in the soils of the study area have been determined. Recommendations have been developed for the prevention and study of the processes of soil salinization in the region, a radical improvement in land reclamation, an increase in soil fertility and the creation of methods for their rational use.*

**KEYWORDS:** *reclamation, alluvial, soil, geomorphology, salinity, humus, phosphorus, brown, meadow, lithology, gypsum, agricultural technology, basin.*

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## INTRODUCTION

Research on the current state, properties of soils, soil fertility and their efficient use will be needed to address issues of agricultural development, proper crop placement and land reclamation, and measures to prevent soil degradation. Therefore, the development of soil research in irrigated lands, their comprehensive study, including the assessment of the current reclamation status of lands is one of the important tasks.

Of the total 2 million 418.8 thousand hectares of irrigated land in the country, 1 million 743.6 thousand hectares (72.1%) are saline soils of various degrees. In particular, a total of 96.8 hectares of irrigated agriculture in Navoi region, 62.4 thousand hectares (64.5%) of which are affected by salinization (reclamation of irrigated lands of the Republic of Uzbekistan and their improvement. Tashkent, University), 2018) [1].

Previous studies have shown that warm weather, evaporation of groundwater in alluvial, agroirrigation and loess rocks and the accumulation of easily soluble salts in the soil surface layers are the main reasons for the development of secondary salinization processes. In addition, these processes promote the development of secondary salinization in the upper and middle parts of the soil profile of easily soluble salts in the soil under the influence of natural

anthropogenic factors in the brown soils of the Zarafshan basin. [3].

The results of the study will be important for the implementation of the State Land Cadastre and monitoring of the ecological and reclamation status and fertility of brown soils in the foothills of the desert region. [2].

The main purpose of the study is to determine the level of salinity of irrigated lands and the negative impact of salinity on soil fertility, and to develop scientifically based recommendations to prevent soil salinization and improve the ecological condition.

## RESEARCH LOCATION AND METHODS OF IMPLEMENTATION

The irrigated lands of Karmana district of Navoi region, where the Zarafshan basin is located, were selected as the object of study.

The research was carried out in the Republic of Uzbekistan on the basis of the "Instructions for conducting soil surveys and compiling soil maps for the State Land Cadastre" (2013), as well as methods of comparative geochemical and laboratory-analytical analysis.



## RESEARCH RESULTS AND DISCUSSION

The total land area of Karmana district of Navoi region, where the Zarafshan basin is located, is 16982.0 hectares. Due to its geographical location, Karmana district is part of the Central Asian arid continental climate region (province) of the Turan subtropical climate zone and is distinguished by its distinctive features belonging to the foothill semi-desert zone. The climate is characterized by high values of oscillation amplitude within the year and daily temperatures, dry and hot summers, almost low temperatures in winter, low cloudiness during the summer, very low atmospheric precipitation, specificity of wind activity. [3].

From the geomorphological point of view, the proluvial-deluvial and alluvial-proluvial deposits of the southern slopes of the Nurata mountain range and the Ziyoviddin-Zirabulak foothills in the east

descend to the south from the foothills. The lands of the region are located at an altitude of 400-650 m above sea level. The brown soils of the region are developed in different lithological and hydrogeological conditions. [4].

According to the Bukhara branch of the Uzhdaveroiyha Institute of the State Committee for Geodesy and Cadastre of the Republic of Uzbekistan, the specific features of these soils are their susceptibility to wind and water erosion and salinization, humus and other nutrients, their lack of mobile forms, groundwater. The surface is relatively deep, weakly mineralized, the soils consist mainly of heavy and medium sandy mechanical composition, the amount of physical clay fractions is observed in the range of 29.2-68.4%. In the lower part of the soil profile, heavy sandy layers of sand and silt are observed in their composition. (Table 1). Mechanical composition of soil

Depth, see	The amount of fractions is in%, the particle size is mm. yes							
	> 0,25	0,25-0,1	0,1-0,05	0,05-0,01	0,01-0,001	0,005-0,001	<0,001	Physical mud (<0,01mm)
<b>12 AK - cross-section consists of proluvial deposits .A Navoi massif</b>								
<b>Irrigated brown soils</b>								
0-27	1,5	27,0	31,1	9,2	12,1	10,0	8,1	29,2
27-50	1,1	33,7	24,2	5,5	13,5	6,1	14,8	33,4
50-86	1,2	22,1	25,0	7,10	15,6	8,5	19,4	42,5
115-140	7,0	21,5	23,4	8,2	15,4	8,1	15,4	37,9
<b>33 AK - cross-section is formed in polyuvial-alluvial deposits. An array of cultures</b>								
<b>Old-fashioned irrigated brown soils</b>								
0-30	0,48	0,82	4,30	34,57	14,89	24,70	20,20	58,79
30-65	0,37	0,72	5,35	32,31	19,20	22,30	19,76	60,26
65-90	0,42	0,73	4,30	26,05	17,28	29,35	21,85	66,42
100-130	0,30	3,02	14,16	47,20	8,80	13,16	13,36	35,32

The amount of humus in the top plowing layer of the soil is moderate 0.55-0.80%, mobile phosphorus average - 27.4-11.50 mg / kg and exchangeable potassium - 181.4-197.7 mg / kg, the main amount of nitrogen accumulates in the topsoil and subsoil 0.54 At -0.71% lower horizons, their content decreases, the ratio of carbon to nitrogen (C: N) is 5.9-6.7 and pH = 7.4-7.3. The

peculiarity of these brown soils is the shortness of the humus layer, the upper layers of which are subjected to different levels of leaching under the influence of irrigation and atmospheric precipitation, in some areas the upper horizons are washed away It is much poorer in nutrients than some soil distinctions (Table 2).

**Table 2. The amount of humus and nutrients in the soil Indicators**

Depth, see	Humus, %	Nitrogen, %	Phosphorus		Potassium mg / kg	CO <sub>2</sub> carbonates, %	C:N	pH
			Gross	mg / kg				
<b>12 AK - cross-section consists of proluvial deposits .A Navoi massif</b>								
<b>Irrigated brown soils</b>								
0-27	0,55	0,054	0,050	27,40	181,4	13,40	5,9	7,4
27-50	0,47	0,047	0,053	14,20	183,3	12,97	5,9	7,5
50-86	0,31	0,030	0,042	13,00	180,2	12,54	5,8	7,2
115-140	0,17	0,020	0,035	11,20	150,8	12,00	4,9	7,3

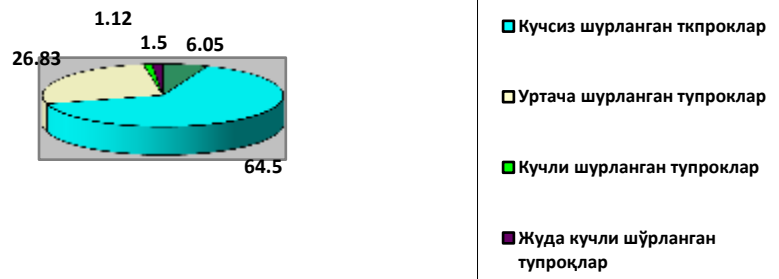
**33 AK - cross-section is formed in polyuvial-alluvial deposits. An array of cultures  
 Old-fashioned irrigated brown soils**

0-32	0,80	0,071	0,212	11,50	197,7	11,02	6,7	7,3
32-50	0,62	0,060	0,186	8,62	180,6	10,84	6,0	7,4
50-90	0,31	0,032	0,176	5,84	173,4	10,82	5,6	7,4

If the groundwater level is observed at a depth of 2-3 m and more, it is observed around 1-2.0 m in the main areas of the plain, rising to 1 m during the growing season, the amplitude of seasonal vibrations is 1.0-1.5 m. Especially in the lowlands of the plains, where the flow of groundwater is almost non-existent, the amount of easily soluble salts in water is increasing, and the primary salinity type in soils and groundwater is becoming mainly chloride-sulfate and magnesium-sodium salinity. In the group of non-saline and low-salinity soils dry residue (0.133- 1.210%), easily soluble salts (NaCl, Na<sub>2</sub>SO<sub>4</sub>, MgSO<sub>4</sub>). in moderately saline segments, by contrast, the dry residue content is 1,431–1,114%, and in strongly saline segments, 1,543–1,351%. The amounts of chlorine and sulfate ions are recorded at a depth of 0–32 cm at 0.115 and 0.837%, respectively.

Gypsum (CaSO<sub>4</sub> • 2H<sub>2</sub>O) in irrigated soils of the region occurs in different forms and amounts in soil layers at different depths from 40, 60, 90 cm to 130 cm.

As a result of dynamic changes in the hydrogeological conditions of the area throughout the year and measures related to irrigation, it is saline to varying degrees. Of the 16,982.0 hectares of agricultural irrigated land in the region, 190.22 hectares or 12% of the total irrigated land, 255.4 hectares of highly irrigated land, 1.50% of the total irrigated land, on average The area of saline lands is 4555.7 hectares, 26.83% of the total irrigated lands, the area of weakly saline lands is 10953.09 hectares, 64.50% of the total irrigated lands, the area of non-saline lands is 1027.56 hectares or 6.05% of the total irrigated lands. (Figure 1).



**Figure 1**

Land area according to the degree of salinity of irrigated lands of Karmana district (in%).

Natural processes in the course of salinity genesis and salt migration are also greatly influenced by complex complexes of irrigation, reclamation and agrotechnics. [3].

The study area is the top of the brown soils

Salt reserves in the 0-1 meter layer are formed depending on the natural conditions of the farms, as well as anthropogenic factors and agricultural culture. According to the chemistry of salinity, it consists of chloride-sulfate, and in some cases sulfate salinity types. To date, it has been found that the amount of salts in the upper 0–1 m layer of strongly saline soils increases sharply.

**CONCLUSION**

The irrigated lands of Karmana district of Zarafshan basin are of different salinity, different mechanical composition and types of salinity. struggle

In order to develop measures to increase crop yields, it is planned to perform the following tasks:

1) To study the morphological structure, characteristics, physical and chemical properties of the main soil types and subtypes in the region under the influence of anthropogenic and environmental factors;

2) to organize the implementation of saline leaching measures on the basis of established norms, starting from strongly saline soils, and to ensure the flow of surface and groundwater;

3) In the existing system of collector-drainage networks, taking into account the processes of salinity accumulation in the soils of the foothills, groundwater levels should be kept below the "critical depth" (2.5-3.0 m);

4) Depending on the parent rock, mechanical composition, gypsum and layer thickness and the initial amount of chloride ion, depth and level of mineralization of groundwater, it is expedient to determine the timing and norms of agro-ameliorative measures and to intensify research work. .



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# PECULIARITIES OF THE HISTOLOGICAL STRUCTURE OF LYMPHOID (IMMUNE) FORMATIONS OF THE ANAL CHANNEL OF THE RECT INTESTINE IN ONTOGENESIS

<sup>1</sup>Ilyasov Aziz Saitmuradovich, <sup>2</sup>Sharapova Gulnoza Valentinovna, <sup>3</sup>Yuldashov Murod Khudargonovich

<sup>1</sup>Doctor of Biological Sciences, Professor of the Department of Anatomy of the Bukhara State Medical Institute, Uzbekistan

<sup>2</sup>Teacher, Department of Methods of Teaching Biology, Navoi State Pedagogical Institute, Uzbekistan

<sup>3</sup>Candidate of Agricultural Sciences, Associate Professor of the Department of Methods of Teaching Biology, Navoi State Pedagogical Institute, Uzbekistan

## ABSTRACT

The article presents the results of scientific research on the study of the location and distribution of lymphoid formations, their cellular composition in various areas adjacent to the sphincters of the rectum in rats at various stages of postnatal ontogenesis.

**KEY WORDS:** cell, lymphocytes, immune system, mucous membrane, lymphoid nodules, rectum, reproductive period, small intestine, ontogenesis.

## INTRODUCTION

The fact that in the mucous membrane of the digestive tract there is an increase in the number of lymphoid formations towards its distal part is of great importance in the body's immune defense [1,7]. The density of single lymphoid nodules is maximal in the cecum and minimal in the ascending colon and rectum [2]. The macroscopic structure of Peyer's patches of the rat small intestine and changes in the intestine under the influence of chronic irradiation were studied [6,8].

According to a number of authors [4, 5], the spleen in different periods of postnatal ontogenesis is represented by well-defined lymph nodules. In animals of the reproductive period, nodules with germinal centers predominate among the lymph nodules. In senile rats, involutive changes prevail [3].

But in the literature, the microscopic structure of lymphoid formations in the zone of sphincters of the rat rectum at different stages of postnatal development has not been sufficiently illuminated.

The aim of this work - is to study the peculiarities of the location and distribution of lymphoid formations, their cellular composition in various areas adjacent to the sphincters of the rectum in rats at various stages of postnatal ontogenesis.

## MATERIALS AND METHODS

The material for the study was 85 anal canal preparations taken together with the anus in newborn rats, 6, 11, 16 and 22 days old, 3 months, 6 months, 12 months, and 24 months. the age of the rats.

The animals were slaughtered under ether anesthesia; after opening the pelvic cavity, the rectum with the anus was removed. Sections 6–8 μm thick were stained with hematoxylin-eosin and van Gieson's method.

The number of lymphoid formations and their cellular composition were counted along the anal canal sections. For the quantitative analysis of lymphoid cells, a grid with 36 nodal points was inserted into the eyepiece of the microscope. The shape and location of lymphoid accumulations were



revealed, the distance between lymphocytes in the clusters was studied depending on age.

## RESULTS AND DISCUSSION

In a newborn rat in the pre-sphincter part of the anal canal of the rectum, lymphoid formations are presented in the form of chains and clusters of lymphocytes. In the lamina propria of the mucous membrane, rare, short 1-2 row chains of small lymphocytes are detected. In each row of these chains, up to 4-5 lymphocytes are found. In the submucosa, there are accumulations of lymphocytes, they have a rounded and oval shape, not clearly delimited from the surrounding tissue. The distance between the accumulations of lymphocytes is on average  $71.8 \pm 5.7$  microns. The quantitative content of cells in accumulations of lymphocytes averaged  $4.8 \pm 0.6$ .

By the age of 6 days in the submucosa, the number of accumulations of lymphocytes slightly increases. The distance between clusters decreases by 8.7%. The content of cells in accumulations of lymphocytes is on average  $6.5 \pm 0.7$ . In the pre-sphincter zone of 6 day old rat pups, lymphoid formations are represented by diffusely located lymphocytes, chains of lymphocytes from 1-3 rows of cells, clusters of round or oval lymphocytes with a fuzzy border from the surrounding tissue. In most cases, accumulations of lymphocytes are found at the base of the crypts. From 11 days of age, the distance between the clusters decreases, and there are more cells in them.

On the 11th day of development in the lamina propria of the mucous membrane, the content of cells increases to 6-7 in each row of lymphocyte chains. In the submucosa, the distance between the accumulations of lymphocytes is reduced by 4.8%. In clusters of lymphocytes, the quantitative content of cells averaged  $9.5 \pm 0.9$ .

By the 16th day of life in the submucosa of the pre-sphincter zone, the number of accumulations of lymphocytes slightly increases. In the pre-sphincter region, the distance between the accumulations of lymphocytes increases by 13.4%. The density of the location of lymphocytes in the clusters increases. In clusters of lymphocytes, the cell content averaged  $11.3 \pm 1.0$ . On the 22nd day of development, chains of small lymphocytes are detected in the lamina propria of the mucous membrane, the number of cell rows in them reaches 3. No change in the distance between the accumulations of lymphocytes was found in the submucosa of the pre-sphincter zone. In clusters of lymphocytes, an average of  $14.2 \pm 1.0$  lymphocytes are detected. In the pre-sphincter part, the intraorgan vessels of the submucosa are surrounded by lymphocytes.

At the age of 3 months in rats, 1-3 row chains of small lymphocytes are detected in the lamina propria of the mucous membrane. In each row

of these chains, up to 5-7 lymphocytes are found. In the submucosa, there are accumulations of lymphocytes, they have a round and oval shape, but are not clearly delimited from the surrounding tissue. By the age of 3 months in rats in the submucosa, the distance between the accumulations of lymphocytes averages  $54.4 \pm 3.1$   $\mu\text{m}$ . The content of cells in accumulations of lymphocytes averaged  $15.2 \pm 1.3$ . At 6 months of age in the submucosa, the number of accumulations of lymphocytes slightly increases. The distance between clusters is reduced by 4.0%. The content of cells in accumulations of lymphocytes averages  $17.6 \pm 1.1$ .

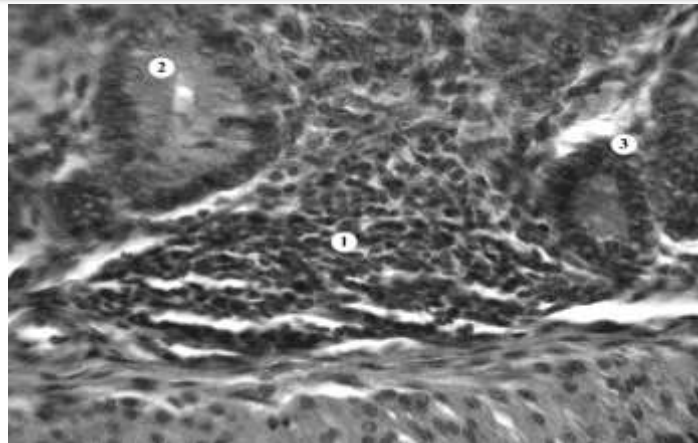
At 12 months of age in the pre-sphincter zone, the content of cells increases to 6-9 in each row of lymphocyte chains in the lamina propria of the mucous membrane. In the submucosa, the distance between the accumulations of lymphocytes increases by 13.0%. In clusters of lymphocytes, the quantitative content of cells averaged  $18.8 \pm 1.2$ . By the age of 24 months, chains of small lymphocytes are detected in the lamina propria of the mucous membrane, the number of cell rows in them reaches 5. In the submucosa, the distance between the accumulations of lymphocytes increases by 5.0%. In the accumulations of lymphocytes, the cell content averaged  $19.7 \pm 1.0$ .

From 3 months of age in the pre-sphincter region, lymphoid nodules of round, oval and triangular shape are revealed, they do not have a clear border from the surrounding tissue. The number of cells in lymphoid nodules averages  $25.0 \pm 1.9$ . By the age of 6 months, lymphoid nodules are not clearly demarcated from the surrounding tissue, their structural changes are expressed in a slight increase in the cellular composition. The number of cells in lymphoid nodules averages  $28.5 \pm 1.6$ .

At 12 months of age, clear boundaries from the surrounding tissue are formed in the lymphoid nodules. In them, an average of  $31.1 \pm 1.6$  lymphocytes are detected. At 24 months of age, the lymphoid nodules are round, oval and triangular in shape, clearly delimited from the surrounding tissue (Fig. 1). The number of cells in lymphoid nodules averages  $35.5 \pm 2.0$ .

In the pre-sphincter region, single small lymphocytes are located around the capillaries of the anal canal, and around the arterioles and venules there are 1-3 rows of lymphocyte chains; around the capillaries, lymphocytes are located more densely than around venules and arterioles.

In a newborn rat, short 1-2 row chains of small lymphocytes lie in the lamina propria of the mucous membrane of the transitional zone. Up to 3-5 small lymphocytes are detected in each row. These chains of lymphocytes lie at a smaller distance from each other than in the pre-sphincter region. In the submucosa, the distance between the accumulations of lymphocytes is  $65.9 \pm 4.8$   $\mu\text{m}$ .



**Fig. 1. Lymphoid nodule in the pre-sphincter part in a 24-month-old rat. 1. Lymphoid nodule. 2. Mucous membrane 3. Single-layer columnar epithelium. Staining with hematoxylin and eosin. About. 40x approx. 7.**

The number of lymphocytes in the clusters averaged  $5.1 \pm 0.6$ . In clusters, large single lymphocytes are detected. The content of medium lymphocytes is  $1.5 \pm 0.2$ , small -  $2.7 \pm 0.2$ . By the 6th day of development in the submucosa, the distance between the accumulations of lymphocytes decreases by 11.0%. The number of lymphocytes in the clusters averaged  $7.5 \pm 0.8$ . On the 11th day of life in the submucosa, the number of lymphocytes in the clusters averages  $11.0 \pm 1.1$ . By the age of 16 days in the submucosa, the distance between the accumulations of lymphocytes is reduced by 10.0%. The content of lymphocytes in clusters averages  $12.4 \pm 1.1$ . At 22 days of age, the length of chains of small lymphocytes in the lamina propria of the mucous membrane increases. The number of cell rows increases in them.

In each row, up to 7-8 small lymphocytes are detected. In the submucosa, the distance between the accumulations of lymphocytes decreases by 5.0%. In the clusters, an average of  $14.9 \pm 1.0$  lymphocytes are found. In the mucous membrane under and above the muscle plates, single lymphocytes and accumulations of lymphocytes are detected, they have an oval and round shape. Under the anal pillars are clusters of oval-elongated lymphocytes and 1-2 row chains of lymphocytes, which are distributed parallel to the mucous membrane of the anal canal.

In the transition zone around arterioles and venules there are 1-2 rows of lymphocyte chains, but around the capillaries they are more dense than around venules and arterioles.

At 3 months of age, rats have 1-3 row chains of small lymphocytes in their own lamina of the mucous membrane of the transition zone, up to 4-6 small lymphocytes are detected in each row. These chains of lymphocytes lie at a closer distance from each other than in the pre-sphincter region. In the submucosa, the distance between the accumulations of lymphocytes is  $43.9 \pm 2.6 \mu\text{m}$ .

By the age of 6 months in the submucosa, the distance between the accumulations of lymphocytes increases by 8.0%. In the clusters, an average of  $16.7 \pm 1.1$  lymphocytes are detected. At 12 months of age, in the submucosa, the distance between the accumulations of lymphocytes increases by 10.0%. The content of lymphocytes in the clusters averaged  $17.7 \pm 1.1$ . By the age of 24 months, the length of the chains of small lymphocytes in the lamina propria of the mucous membrane increases. The number of cell rows increases in them. In each row, up to 7-8 small lymphocytes are detected. In the submucosa, the distance between the accumulations of lymphocytes increases by 10.0%. In the clusters, an average of  $19.3 \pm 1.0$  lymphocytes are detected.

In the transition zone, single and diffuse accumulations of lymphocytes are detected, located under and above the muscle plates of the mucous membrane, they have an oval and rounded shape. Under the anal pillars of the canal, accumulations of oval-elongated lymphocytes and 1-2 row chains of lymphocytes are revealed, which are evenly distributed and parallel to the anal canal. In the submucosa, lymphoid accumulations lie in the form of a 1-3 row chain of lymphocytes, they are located closer to the muscle plate of the mucous membrane. Arterioles and venules are surrounded by 1-2 row chains of lymphocytes.

In the lamina propria of the mucous membrane in the areas adjacent to the anal columns, oval-shaped accumulations of lymphocytes were revealed. They are located at a small distance from the epithelial cover. In the distal part of the transition zone, clusters of oval or round lymphocytes are located. They do not have a clear border from the surrounding tissue. In this section, in most cases, small single lymphocytes lie next to the capillaries and venules.

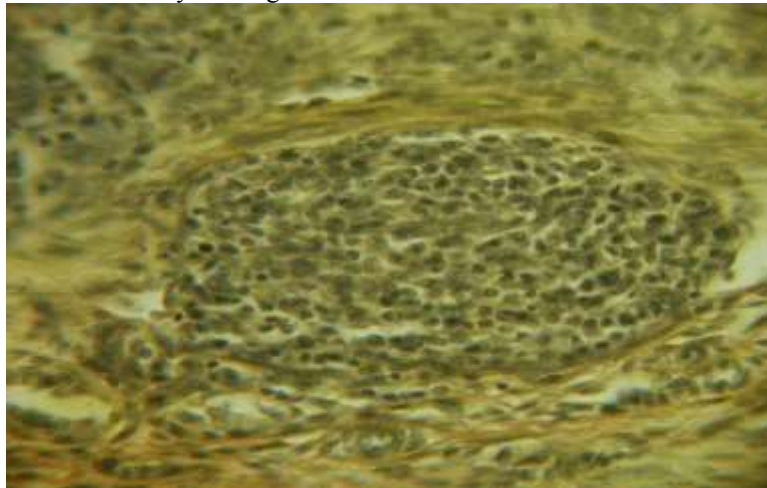
Lymphoid accumulations in the form of 1-3 row chains are located along the length of the anal canal. From 6 months of age in the transitional zone

of the organ, lymphoid nodules of a round and oval shape were revealed, they are indistinctly delimited from the surrounding tissue and lie in the lamina propria of the mucous membrane and submucosa.

By the age of 6 months in this zone, the lymphoid nodules have clear boundaries from the surrounding tissue and lie in the submucosa of the anal canal (Fig. 2). The number of cells in lymphoid nodules averages  $23.3 \pm 1.6$ . By the age of 12

months, the number of cells in the lymphoid nodules averages  $25.5 \pm 1.3$ . At 24 months of age, the number of cells in the lymphoid nodules averages  $26.7 \pm 1.4$ .

In the transition zone, the capillaries are surrounded by 1-3 small lymphocytes. Around the arterioles and venules are located 1-2 rows of chains of lymphocytes, but around the capillaries they are more dense than around the venules and arterioles.



**Fig. 2. Lymphoid nodule of the transition zone in a 6-month-old rat. Coloring according to van Gieson. Ob. 7x approx. 40.**

In the internal sphincter, diffuse lymphocytes adjoin the epithelial cover. In the areas of the submucosa adjacent to the deepening of the mucous membrane, there are accumulations of lymphocytes in the form of chains. In this section, small single lymphocytes are found that lie under the transition of a single-layer columnar epithelium into a stratified squamous non-keratinizing epithelium.

In a newborn rat in the intersphincter zone, lymphoid formations are represented by accumulations of lymphocytes. In the submucosa, the distance between the accumulations of lymphocytes is  $61.1 \pm 4.8 \mu\text{m}$ . The number of lymphocytes in clusters is, on average,  $7.1 \pm 0.7$ .

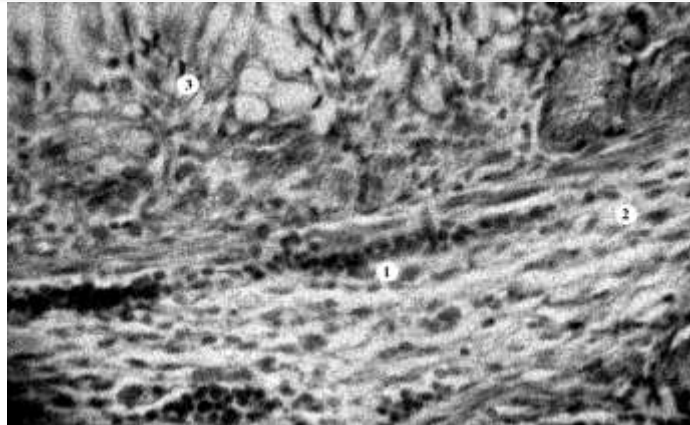
On the 6th day of development, the distance between the accumulations of lymphocytes decreases by 13.7%. The number of lymphocytes in the clusters is  $9.5 \pm 1.0$ . On the 11th day of life, the content of lymphocytes in the clusters averaged  $12.2 \pm 1.0$ . By the 16th day, the distance between the accumulations

of lymphocytes is reduced by 13.0%. In clusters, an average of  $15.5 \pm 1.2$  lymphocytes are found. At 22 days of age, the distance between the accumulations of lymphocytes decreases by 7.0%. The content of lymphocytes in the clusters averaged  $17.4 \pm 1.3$ .

In the intersphincter zone in the areas adjacent to the anal columns, accumulations of lymphocytes in the form of 1-3 row chains were revealed (Fig. 3). Small lymphocytes were found around the venules at the base of the stratified squamous epithelium. They are located at a small distance from the epithelial cover and lie between bundles of fibrous structures of connective tissue in the back of the internal sphincter.

In the intersphincter zone, lymphoid formations are represented by accumulations of lymphocytes. In rats of 3 months of age in the submucosa, the distance between the accumulations of lymphocytes is  $38.0 \pm 2.4 \mu\text{m}$ . The number of lymphocytes in clusters averages  $19.2 \pm 1.4$ .

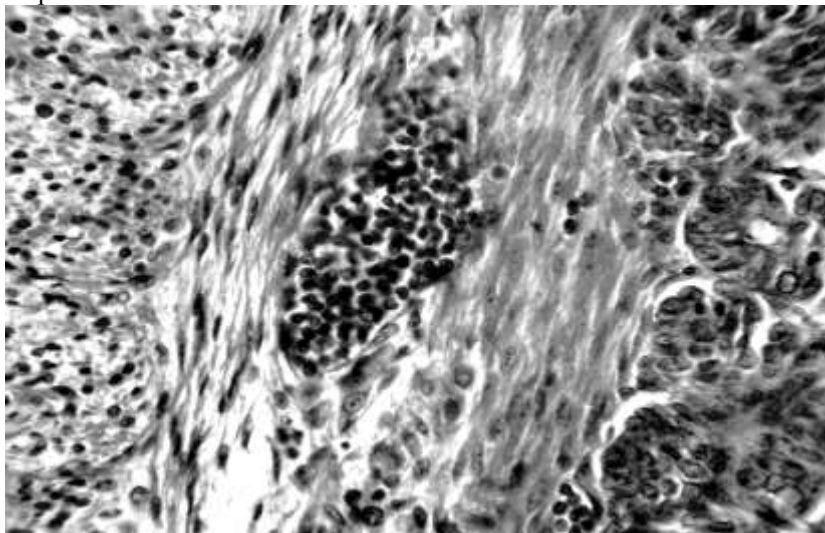




**Fig. 3. Accumulations of lymphocytes in the form of a chain in the intersphincter zone in a 22 day old rat. 1. Accumulation of lymphocytes. 2. Submucosal base. 3. Unilamellar columnar epithelium. Staining with hematoxylin and eosin. Ob. 40 x about 7.**

Accumulations of lymphocytes lie in the form of oval or round chains at the level of the posterior part of the inner and above the anterior part of the external sphincters of the anal canal. In the

intersphincter zone in the areas adjacent to the anal columns, oval-shaped accumulations of lymphocytes were found (Fig. 4), and in the form of 1-3 row chains.



**Fig. 4. Clusters of oval-shaped lymphocytes in the intersphincter zone in a 6-month-old rat. Staining with hematoxylin and eosin. Ob. 40 x approx. 7.**

By the age of 6 months, the distance between the accumulations of lymphocytes increases by 9.0%. The number of lymphocytes in the clusters averaged  $20.2 \pm 1.5$ . At 12 months of age, the distance between the accumulations of lymphocytes increases by 15.0%. The number of lymphocytes in the clusters averaged  $21.7 \pm 1.5$ . By the age of 24 months, the distance between the accumulations of lymphocytes increases by 4.0%. The content of lymphocytes in the clusters averaged  $22.5 \pm 1.3$ . On the border with the internal sphincter, there are accumulations of lymphocytes, the number of cells in them ranges from 4 to 10.

## CONCLUSIONS

Thus, the results of the study showed that lymphoid formations in the pre-sphincter region and

the transition zone are presented in the form of chains and clusters of lymphocytes. From 3 months, lymphoid nodules form in the pre-sphincter region. In the transition zone, they are detected later by the 6th month. In the internal sphincter, diffuse lymphocytes are detected. In the intersphincter zone, small accumulations of lymphocytes were noted.

In the formation of the local immune system of the rat anal canal, stages can be traced. At the initial stages, diffuse lymphoid tissue is revealed. With age, diffuse lymphoid tissue thickens in the form of lymphoid nodules. In the intersphincter zone, differences in the structure of the epithelium, lymphoid formations and fibrous structures of the connective tissue were revealed. This is due to the fact that this zone is located on the border between the anal canal and the external environment.





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# TAX LOADING AND MACROECONOMIC STABILITY AND INVESTMENT IMPACT ON THE ENVIRONMENT

**Turaev Shavkat Shuhratovich**

*Researcher, Tashkent, Uzbekistan*

## INTRODUCTION

In the process of forming the foundations of a socially oriented market economy in the Republic of Uzbekistan, increasing the welfare of the population by ensuring sustainable economic growth requires the solution of a number of more complex economic problems. Among them, ensuring macroeconomic stability and improving the investment climate are of particular importance.

The main goal of the implementation of tax reforms is to achieve macroeconomic efficiency, to make effective use of a number of tax benefits, tax rates and tax bases, which serve in the development and implementation of public tax policy. However, they can have a positive or negative impact on economic development. They should be used with caution, that is, by addressing issues that have a positive impact on economic development.

The impact of tax burden and tax policy on the macroeconomic situation is very large, and the change in GDP and national income created in the country is directly related to the effectiveness of tax policy. The impact of the tax burden on the macroeconomic situation can be assessed by issues such as the impact of taxes on aggregate demand and aggregate supply, investment climate, consumption, and economic stability.

Taxes are an important financial source for any country and play an important role in budgeting and regulating the economy. In all countries of the world, taxes are the main source of state budget revenues.

The tax burden and the country's fiscal policy are important factors in achieving macroeconomic stability. Tax burden and tax policy in the country play a special role in economic growth, macroeconomic stability and improving the investment climate, and the need to improve these issues is a key requirement of today's economy.

It is known from the course of economic theory that all macroeconomic processes begin at the micro level. That is, the more the financial and tax relations of economic entities improve, the more the economic problems with the state are solved, that is,

the lower the tax burden, the more macroeconomic stability is ensured and the investment climate in the country improves. This is because the more the tax burden on economic entities is reduced, the more their production activity develops and the investment concentration increases. As a result, national production will increase, money supply will improve, inflation will fall and budget revenues will be stable.

Changes in tax rates, that is, changes in the tax burden, directly affect the set of requirements. The volume of both consumption and investment depends on the size of the tax. For example, the growth of consumer and investment expenditures is encouraged when the tax revenue to the budget decreases and public expenditures remain the same.

The level of tax revenues depends not only on socio-economic factors, but also on the effective use of the tax system and how it performs its functions. The impact of these functions can be considered through the tax burden on the country's economy.

The process of using the funds collected from the state tax revenue and redistributing the funds at the state level, spending them as a resource for governing the state, reproduction, represents the macroeconomic movement of taxes.

This macroeconomic movement represents the movement of tax revenues in all spheres of social production. The macroeconomic movement of taxes actively participates in the production, sale of products on the market, income of the household and, ultimately, the state budget. Taxes are involved in the social protection of households in this process.

It provides significant practical assistance in solving a number of macroeconomic problems of the state, ie in improving the money supply, providing the state budget with stable revenues, covering the state budget deficit and maintaining inflation. If the government makes a small mistake in the development of tax policy, or slightly increases the tax burden, the macroeconomic balance will be lost, the economy will follow. One of the simplest manifestations of this is the emergence of a shadow economy. The shadow economy in itself has a



negative impact on both the state and its citizens. Therefore, it is necessary to develop a clear and concise tax policy for a certain period.

It is known that the tax in the country's economy is the result of the state's tax policy and characterizes the quality of any tax system. At the same time, the level of taxes is determined, on the one hand, by the efficiency of social production, and, on the other hand, by the amount of the state's need for financial resources. Therefore, reducing the weight of the tax burden is primarily associated with a reduction in government spending.

The fact that the state takes a part of the GDP as a mandatory payment is the economic essence of taxes, that is, it determines the rate of the state's tax burden. If we pay attention to the statistics, the tax burden on the country's GDP in 1991 averaged 49.0%, while in 2020 it fell to 20.0-22.0%.

Reducing the tax burden serves to ensure the financial and macroeconomic stability of the Republic of Uzbekistan.

It should be borne in mind that a reduction in the tax burden on GDP does not mean that the country's involvement in the economy will decrease. This is a one-sided view. This is because a number of taxes are calculated at the state level and remain uncollected. Also, the rate of tax arrears and arrears may increase. Determining the tax burden without taking this indicator into account leads to erroneous conclusions about the national tax system of the country.

The tax burden in 1991 was 49.0% of GDP, but now it has fallen to 20.0-22.0%. Also, over the years, the level of tax burden has been declining across the country. Sustainable economic growth is observed in the country as a result of the tax burden reduction policy, and we are right to say that this is a direct result of a prudent tax policy.

At present, the level of tax burden in our country is close to the level of developed countries, and we can say that it is even lower. Due to the prudent application of fiscal policy in the country, in recent years, the state budget is closing with a surplus of GDP.

Of course, these positive results of macroeconomic and financial stability in recent years can be summed up by taking into account all areas of economic life of our society, first of all, the results of ongoing reforms, new processes and qualitative changes.

In the developed countries of the world, the tax burden on GDP fluctuates around 30-40%. That is, developed countries redistribute one third of their products to the state budget. In our country, taxes (excluding state budget funds) redistribute one-fifth of GDP to the state budget. However, in 1991 this figure was two-thirds of GDP.

Data on the role of the state budget in the redistribution of GDP in Uzbekistan show that the

rate of change of certain types of taxes has been very uneven, with a tendency to increase tax and non-tax revenues in recent years. In particular, the share of property taxes and resource fees in the redistribution of GDP is growing, while the share of customs duties and export taxes is declining. The share of other types of taxes in the country is declining. For example, budget revenues from direct taxes tend to decrease relative to GDP. Of course, the reduction of the tax burden on these types of taxes is a positive result of the work being done in our country to liberalize the economy and deepen reforms. Changes in the share of taxes in the distribution of GDP by certain types, firstly, in the process of transition to a market economy, improving the mechanisms of redistribution through the state budget.

When considering the expenditure part of the state budget of the republic, we can observe that in recent years the share of many social expenditures in GDP, expressed as a percentage, has been declining.

In order to achieve macroeconomic stability, it is necessary to ensure that the revenues and expenditures of the state budget are balanced. However, in most cases, the state budget expenditures exceed revenues, resulting in a budget deficit. There are many reasons for this, including the continuous growth of the state's role in all spheres of public life, the expansion of its economic and social functions.

In order to maintain the expected level of state budget deficit in the country in the future, it is expedient to implement the following measures:

- reduction of tax benefits;
- increase the cost-effectiveness;
- Reduce management costs as much as possible.

Changes in the tax mechanism affect changes in aggregate demand and aggregate supply, as well as changes in investment.

All countries attract various investments in order to develop their economies and ensure macroeconomic stability and ensure the growth of products (goods, works). This, in turn, will provide more taxes to the state budget. If the volume of investment in the economy is not increased, the volume of production will not increase and the state budget will not receive a tax revenue. An increase in total investment in the economy will ensure an increase in tax revenues to the state budget.

In fact, there is a correlation between taxes, the tax burden and investment. The distribution of newly created value between taxes between the state and taxpayers provides a link between the tax burden and investment. The reduction of the tax burden in many ways stimulates the production of taxpayers, expands their production and strengthens the introduction of new technologies. In turn, the



promotion of investment through taxes will increase the amount of taxes to the state budget in the future.

This, in turn, has had a significant impact on attracting and increasing investment.

In turn, if the value added through taxes is appropriated by the state to a greater extent, that is, if the tax burden increases, it will limit the ability of economic entities to expand production.

Today, our government pursues a policy of attracting investment in some of the most vulnerable sectors of the economy. The best way to attract investment is to provide incentives. A number of tax incentives provided by the state increase the volume of investments in these areas. This will form the basis for a new tax on the state budget in the future. In turn, unemployment will fall, incomes will increase, production rates will increase, and a number of similar macroeconomic problems will be solved. That is why the investment in such areas can be interpreted in some sense as a manifestation of the relationship between taxes, tax burden, investment and macroeconomic stability.

## CONCLUSIONS

We believe that in order to achieve macroeconomic stability through a prudent fiscal policy in our country, it is necessary to implement the following tasks:

- formation of the tax system, definition and stratification of the optimal limits of the tax rate for the implementation of fiscal policy;
- Ensuring economic growth, increasing investment and population growth by stimulating economic activity through the establishment of tax benefits.

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## TEACHING TOLERANCE IN THE PROCESS OF FOREIGN LANGUAGE TRAINING IN MULTICULTURAL AUDITORY

Aliboyeva Barnoxon Valijon qizi <sup>1</sup>, Arifjanova Nilufar Mirsidikovna <sup>2</sup>,  
Ibrohim Gulrukh Isroil qizi <sup>3</sup>

<sup>1</sup>Teacher of the department of foreign language and literature,  
National University of Uzbekistan named after Mirzo Ulugbek, Tashkent.

<sup>2</sup>Teacher of the department of foreign language and literature,  
National University of Uzbekistan named after Mirzo Ulugbek, Tashkent.

<sup>3</sup>Teacher of the department of foreign language and literature,  
National University of Uzbekistan named after Mirzo Ulugbek, Tashkent.

### ANNOTATION

*This article is devoted to tolerance training in foreign language lessons. The concept of tolerance is considered as a part of teaching culture and intercultural communication skills in the process of foreign language training. In addition, it gives advices about aspects, which should be included in the concept of tolerance when selecting texts.*

**KEY WORDS:** *education, tolerance, tolerance training, communicative tolerance, multicultural auditory.*

### DISCUSSION

The processes of globalization taking place in the world are reflected in the language education system in terms of cross-cultural contacts. The thematic components of the discipline "Foreign language" are increasingly problems of global value: people and national cultures; problems of war and peace; the environment; overcoming ethnic prejudice and age discrimination; global communication networks – the Internet; the latest technologies and people.

There are at least two reasons why we should consider teaching cultural skills as a part of language teaching:

1) The international role of the English language, which has evolved into a 'code' of communication in various spheres;

2) Globalization, which has opened many new ways for nations to come closer to one another and requires more and more people to move from one cultural environment to another [3, p.277].

"Once a camel and a horse met. The horse thinks, "What an ugly animal: terrible humps, strange

neck, abnormal head." The camel thinks: "And how does this unfortunate animal manage without humps, when there is no water and food?" [6, p.18].

This parable shows how difficult it can be for people to understand and accept each other. Often children of different nationalities study in classes, and sometimes because of this they have conflicts that the teacher has to solve.

Currently, the main emphasis in teaching a foreign language is placed on the inclusion of students in the dialogue of cultures. A foreign language is a subject where the entire system is aimed at the value orientations of the individual, provides great opportunities for addressing the problem of tolerance.

Communication in English is always intercultural interaction. It is necessary to teach children to understand that a foreign culture is not worse or better than ours, it is simply different, and you need to tolerate and understand these differences. Teachers should build the educational process so that schoolchildren see the diversity of the whole world,





begin to accept its versatility and not be afraid to be different from others.

Antoine de Saint-Exupery spoke very correctly on this issue: "If I do not resemble you in something, I do not offend you at all, but on the contrary, I endow you" [1, p. 35].

The dialogue of cultures is an excellent means of combating national hostility, provided that it is not limited to a simple comparison of the facts of native and foreign culture. A genuine dialogue of cultures presupposes the following stages: to perceive, analyse, evaluate, compare with one's own, include in the system of one's knowledge, remember, and reproduce. If the student has not gone through all these stages of appropriation of knowledge, they are unlikely to be effective, since there is no other way to master a foreign language culture.

As a result, people from different cultures "weave their lives into an international fabric that is beginning to fray at the edges by virtue of miscommunication and propaganda.

In order to avoid this cultural and political disintegration, and foster empathy and understanding, teachers should present students with a true picture or representation of another culture and language" [8, p18].

Preparing students for intercultural communication involves the formation of a number of personal qualities, including tolerance. The content of education of these personality traits is actively developed by modern scientists. For example, E. I. Passov considers the following aspects to be the main content of education:

1. fostering a sense of patriotism, a desire to represent your country with dignity, and a willingness to protect it;
2. fostering an understanding of the historical role of the people (the country of the language being studied) in international life, respect and kindness for the country and its people, its history and traditions, etc.;
3. fostering a belief in the benefits of universal values;
4. education of the correct attitude to true and imaginary values [4, p.67].

It is very important to teach students to independently find out, recognize, interpret cultural values, correlate existing stereotypes with their own experience and draw adequate conclusions, and not passively receive information from the teacher. Therefore, in the lesson "Life in Britain and in the USA" in the 8<sup>th</sup> grade, children should learn to understand each other, be friends, try to help people in different situations, and react correctly to the behaviour of other people. Children perform exercises with an orientation to basic human feelings, play the game "How to support each other in difficult times" and together sing a song that we are all

different, but we are ready to be friends, help, be close and lend a helping hand.

In addition, at the lesson "Traditions, Holidays, Festivals" in the 7<sup>th</sup> grade, children learn about the manners of the British and compare them with the rules of behavior in Uzbekistan. The conclusion of the lesson is made using the English proverb "Take us as you find us" (Take us as they find us (i.e. with all the advantages and disadvantages) or love us black, and everyone will love white). Getting acquainted with proverbs and sayings in the classroom, children become familiar with the world culture and a better understanding of their own culture, since they are based on folk experience, the uniqueness of customs, traditions, tolerance and loyalty to everyone and everything around our planet.

On the basis of proverbs, aphorisms, statements, you can successfully organize a problematic discussion aimed at developing skills of tolerant behaviour, for example, on the following topics: "So many countries so many customs", "Tarred with the same brush", etc. Projects on the topic "We live on the same planet", "To live together and peacefully", "Each country has its own customs" is another way of active education of a tolerant personality [10, p.92].

However, the content of the materials used is only one side of the foreign language lessons. Other aspects of the lesson are the methodological system of teaching, the personality of the teacher and his behaviour.

The task of the teacher is to position students to discuss the topic and problem; listen carefully to yourself and teach this to students; behave naturally and correct mistakes in the form of a hint for the correct answer. If the teacher manages to successfully solve all these problems, then each lesson will be a lesson that forms the skills of communicative tolerance.

In reading lessons, tolerance can be fostered with the help of well-known works. For example, in the characters of R. Kipling's *The Jungle Book*, children learn that we are all different, but we can live in harmony. Therefore, Mowgli had more than friends did in the Jungle. The tiger and monkeys were not friends with anyone, did not play with anyone. They were bored and lonely. A teacher in elementary grades can invite children to call the monkeys to themselves, because everyone should live in harmony. The connecting link, the bearer of the beginning of tolerance is Mowgli – a man brought up according to the law of the Jungle. The book contains the basic principle of the unity of all living things: "We are of the same blood, you and me!" (We are of the same blood, you and me!) [7, p.26].

Holidays play an important role in the formation of tolerance among schoolchildren. Holidays are a means of restoring harmony in our



everyday everyday life. In my work, I widely use various active forms of lessons, but I especially like to prepare and conduct lessons – holidays using the technology of the dialogue of cultures.

All this contributes to the formation of tolerance in children, the strengthening of the moral and psychological situation, their introduction to the national and world culture, promotes communication, friendship, brings students together, mobilizes their creative potential.

Opportunities for developing tolerance in foreign language lessons are also included in the lexical material. Linguistic and speech units, grammatical and lexical expressions guarantee politeness, peaceful, calm manner of conducting a conversation. Many English words and expressions characterize the respect for a person's personal life. The special term "privacy" (personal life), the proverb "My home is my fortress" reflect respect for family life [5, p.11].

All this gives the English teacher the opportunity to educate students in the process of teaching respect for people, for English culture and traditions, as well as good manners. It is important when conducting a dialogue to consistently cultivate a respectful attitude towards the opinion of another person.

Thus, English lessons are full of opportunities for the development of tolerance, both among junior schoolchildren and high school students, and I try to use these opportunities in my lessons. When organizing our work with children in the classroom and in extracurricular activities, let us remember the words of L.N. Tolstoy that of all the sciences that a person should know, the main one is the science of how to live, doing as little evil as possible and as much good as possible [6, p. 19].

The formation of intercultural tolerance when teaching a foreign language as a means of intercultural communication is possible only when the training is close to real communication. Students should be taught tolerant communicative behavior, which is associated with the formation of politeness, speech etiquette skills, political correctness and communication culture. This means learning the formulas of polite treatment, namely: the ability to give an emotional assessment (to express joy, pleasure, sympathy, location, satisfaction, interest, approval, the ability to calm someone), the ability to express consent, encouragement to action, offer help, invitation, acceptance of an invitation, and so on.

Some studies focus on the connection between target language and target culture teaching. As language is a social institution, both shaping and shaped by the society in which it plays an important role. By teaching a language we inevitably and implicitly are teaching culture [9, p.86].

The cultural barrier can be a real factor that prevents communication participants from

understanding each other. To overcome it, it is necessary to prepare students for real communication in a foreign language with native speakers. Here we find a paradox, since the preparation for real intercultural communication consists in training communication in a foreign language with their peers belonging to the same culture.

This is seen as one of the essential features of intercultural communication in teaching a foreign language, namely, the preparation for real intercultural communication, for real interaction of native speakers of two cultures is mediated, since the process of teaching a foreign language is carried out outside the language environment, far from the real functioning of the languages and cultures being studied.

In conclusion, starting from the early year, it is important to train students to be critical of their own views, to accept others as significant and valuable, and to be tolerant of them. This contributes to the development of cooperation and harmonization of relations in the student group, which ultimately makes the learning process more fruitful.

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## TRAINING PROFESSIONALS ON THE BASIS OF CREDIT-MODULE SYSTEM EDUCATION

**Shaydullaev Normuhammad**

*Assistant of professor, Namangan Engineering-Construction Institute Uzbekistan,  
Namangan*

### ABSTRACT

*The article describes the implementation of the credit-modular system in higher educational institutions, the advantages and disadvantages of the system. The essence of the program, developed on the basis of research conducted among first-year students, is revealed.*

**KEYWORDS:** *educational motivation, credit-module system, technologies, quality of education.*

The development of society is necessary to improve the existing system, introduce a new approach, improve the quality of Personnel Training, serve as an example for young people to increase their knowledge. From this point of view, a new decision, orders were adopted, as well as amendments and additions to the relevant laws in proportion to the priority tasks for the socio-economic development of our country. In particular, the purpose of the decree of the president of the Republic of Uzbekistan № PD-5847 "on approval of the concept of development of the higher education system of the Republic of Uzbekistan until 2030" on October 8, 2019:

- A) Improvement of the quality of Higher Education;
- B) Coordination of the educational system;
- C) A number of measures to gradually transfer Literature analysis and methodology

Well, what is a modular training system? it turns out that the right question is " what?". A modular teaching system is a method of organizing information about the educational process on the basis of a modular imagination, the essence of which is that the content of education is reflected in separate organizational and methodological modules, and its size can vary depending on the didactic objectives, the specialization and level of students. The Coordination of the modules is necessary to ensure the necessary level of elasticity and freedom in the selection and selection of the specific educational material required for the education and independent study of students of a particular category, as well as in the implementation of special didactic and professional goals.

Modular construction of courses implies the development of a modular program of Education, which differs significantly from traditional working curricula. In the modular system of Education, a rating assessment of the knowledge, skills and skills of the student is used, taking into account all types of educational activities (independent education, while in the auditorium), which are assessed by a certain number of points. The use of rating assessment:

- To encourage students' continuous and systematic performance on science acquisition
- To incorporate elements of competency into the educational process instead of excellent, good and satisfactory assessment
- To establish objective criteria for identifying the best students in presenting to the promotion. Now we will consider the difference of modular education from the classical form of Education: firstly, the structure of the educational material will be in a specific way, that is, the information will be transmitted in the form of organizational and methodological blocks, after learning the pedagogical goal, the effectiveness of the educational programs will be achieved, secondly, the organizational forms of Education will switch to order; it differs from the fan by the fact that the fan is inextricably linked to the practice.

In this regard, we found it necessary to touch on the shortcomings of this system:

- The high level of self – employment, giving some students a constant direction, assistance in the correct selection of the approach may be lacking;
- The high probability of not being able to correctly choose the teaching materials in the modules. Because the allotted time does not always give an opportunity to a detailed approach;



– It takes a long time to develop module programs and materials;

– A new system, getting used to the new approach, the adaptation of which takes a certain time. Literature analysis showed that "based on foreign experience, we can say that modular teaching technology is widely used in the West. Back in 1869, Harvard University introduced a system of education in which the student was given the opportunity to choose independently for further in-depth study of the subject. The student himself determines for himself What knowledge and skills will be needed for his future life, in particular for his professional sphere. In the 60-ies of the XX century, modular teaching in English-speaking countries began to be broken in its modern form" [1]. So, the transition to a credit-module system is a demand and need at the same time, it requires professional competence from a modern specialist and decision – making in unusual situations, work in a team, independent acquisition of Information, Analysis, more effective use, flexibility in changing situations. This, in turn, directly depends on the motivational characteristics of the trained personnel, in particular, on the factors that determine the success of the educational activity, the effectiveness of knowledge acquisition. In particular, there are internal and external factors that affect the motivation of education, including the organization of the educational process and the improvement of the quality of Education.

## DISCUSSION

The credit system of education is represented as covering the changing need of the labor market until it provides a wide opportunity for the training of personnel with modern aspects, that is, it provides for the academic mobility of graduates of higher education institutions. The importance of the credit system is that academic programs are structured in line with the requirements of the labor market. 50 percent of the subjects in the curriculum are subject of choice and information systems are introduced into the educational process. It is also an individual approach to training students and preparing them for the labor market so that they are directed towards independent education. The system of individualized and differentiated education is based on the alternative of educational institutions, the mobility of educational-programming documents, the adaptability to changing socio-economic conditions. In our opinion, in the introduction of the credit system, adequate attention should be paid to the spiritual and educational development of students, taking into account the characteristics associated with our national mentality and age. For this purpose, it is desirable to harmoniously conduct the process of teaching and learning in higher education, to increase the social status of the scientist, teacher, that is, to achieve the aspiration and follow-up of students to

them. It is only with the help of credit technology of teaching that the cultivation of specialists with high morale, creativity, non-standard thinking, rich in innovation and initiatives will be achieved.

The modern system of higher pedagogical education moves and develops in new political and social economic conditions that determine not only the ways and directions of its development, but also the problems associated with it. While reading activity motivation, one of the major problems of educational psychology, on the one hand, is the motivation of any activity, on the other hand, the management of educational motivation also makes it possible to manage the learning process, which in turn is extremely important for the success of Education.

## CONCLUSION

The motivations of educational activities comparing each other on the example of adolescent students in urban and rural conditions, The Scientist F studied the regional differences. According to I.Haydarov, the formation of educational motivations is the formation of knowledge, reading skills, the role of adults in explaining the place of knowledge in life and the influence of the teacher is greater [4]. In the study of motivation of first-year students for their activities in the field of study A.A.Rean, V.A.Summing, E.A.Klimov, B.Pass, M.Rokich on the results of the research carried out on the study using the methodology of Potemkina, a program for the development of educational motivation was developed, which was considered an important component of the educational and educational process of pedagogical universities. The objectives of the program were defined as:

- To facilitate students' understanding of their personal qualities and development of their professionally important qualities;
- Assistance to students in their understanding of their individuality and its development;
- Motivation for internal study-knowledge;
- Development of the goal that leads to understanding and understanding of the content of educational activities, the realization of the importance of their own personality and future professional activity;
- increase the acquisition of the goal as an important component of the profession of a psychologist in the direction The use of the program, along with giving a certain direction to teachers, serves to increase the motivation of students to receive education within the framework of the credit-module system.

In summary, it can be said that the credit-module system contributes to the provision of modern well-deserved training of future specialists in higher education institutions by increasing the



efficiency of the educational process, directing students to independent research.

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# INTONATION AS A MEANS OF EXPRESSING SPEECH ACTS

**Gaziyeva Maftuna Muhammadovna**

*Senior Lecturer of the Department of Linguistics, Doctor of Philosophy in Philology (PhD),  
Fergana State University*

## ANNOTATION

*The article deals with speech acts, which are the basic units of pragmatics. The units that make up the locutive, illocutive, and perlocutive types of speech acts are considered. Also, the role and importance of intonation in the formation of speech acts is proved on the basis of the results of phonetic-experimental research. On this basis, the object of study of phonopragmatics is also clarified.*

**KEYWORDS:** *Pragmatics, speech act, locutive act, illocutive act, perlocutive act, intonation, speech situation, communication participants*

## INTRODUCTION

We know that pragmatics is derived from the Greek word "pragmatos", which means action. Two main issues need to be addressed in the study of the pragmatics of phonetic units. First, the determination of the pragmatic features of segment and supersegment units is of a practical nature, and the need for visual experimental research in their study is increasing day by day. Second, it is possible to substantiate existing theoretical views on the pragmatics of phonetic units by analyzing and classifying the scientific conclusions obtained as a result of practical research using mathematical methods. Also, in the process of communication, the speakers understand each other using linguistic and non-linguistic means. In the process of speech formation, these tools serve as a speech phenomenon to express the subtleties of colorful meaning through various forms. As a result of such distortions of meaning, the attitude of the speakers to the thought being expressed, to the elements of the objective world, is expressed by means of phonetic and prosodic means. This relationship constitutes the pragmatic features of phonetic-prosodic units.

The latest developments in world linguistics, new theories and events are reflected in the regularly published collection "New in Foreign Linguistics". Volume XVII of this collection is characterized by its focus on issues of speech act theory. The main and central problems of pragmatics in Uzbek linguistics are the theory of speech acts, the initial concepts about them, views, classification of speech acts, types of speech acts. Both M. Hakimov's dissertation

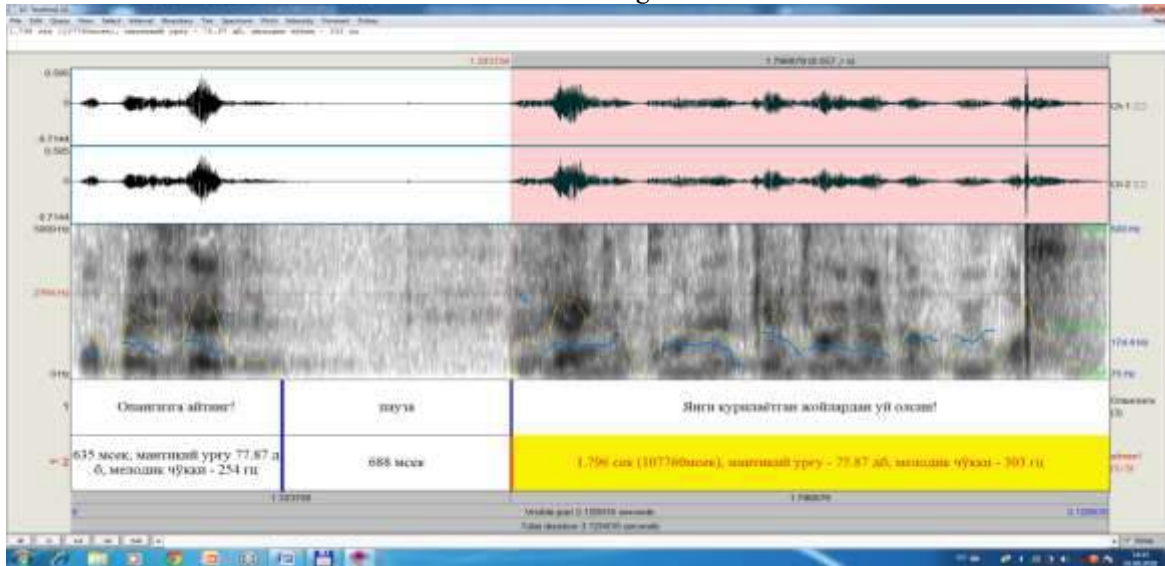
research and Sh. Safarov's monograph study the issue of speech act in detail. In her monograph "Pragmalinguistic aspects of Uzbek children's speech" M. Kurbanova tells about the theory of speech act, its types, as well as verbal and nonverbal means of speech act. In his views, it is stated that "... in a speech act, various verbal actions are performed, such as a message, questioning, command, comment, apology, thanks, congratulations." The scientist also semantically described the most common forms of speech in children's communicative activities as "... message, question, please, command, encouragement, forgiveness, promise, desire, demand, offer, rejection, desire, gratitude, warning speech acts" such as separated in types. "Because a speech act is subject to a specific communicative purpose of the speaker, its different manifestations differ. In particular, the appearance of a speech expressing a command constitutes a command speech act, the part of speech expressing a question forms a question speech act, and the appearance of a speech expressing a desire forms a speech speech act of desire. The sources mention the types of speech acts, such as the act of notification, the act of expression of desire, the act of obligation, the act of social etiquette, the act of expressing emotion, the act of approving, prohibiting, stopping speech. In this case, it is expedient to distinguish the types of speech acts in accordance with the communicative types of speech. In particular, the imperative speech form forms the imperative speech act through the command speech intonation, the part of speech expressing the question forms the interrogative

speech act through the interrogative speech intonation, and the speech expression expressing the desire forms the desire speech act through the intonation of the wish speech. In this regard, D. Niyazov, who conducted his research on the intonation of words, distinguishes eight types of expression: "pure message, message, announcement, affirmative answer, negative answer, counting in the tree, naming, bite." Hence, the communicative types of speech and their subtypes are also the basis for

distinguishing the types of speech acts. This shows that intonation is the main phonetic means of expressing speech acts.

Tell your sister from the drama "Parvona"! Let him get a house in the new building!" in the speech passage the expression parameters of the command speech act are given (Fig. 29). In this speech passage, the melodic image is below the intense image, which is the main parameter specific to male speech.

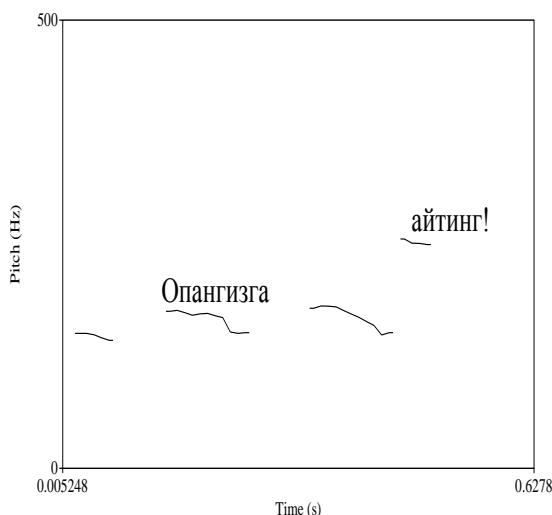
Fig. 29



In Figure 31, "Tell Your Sister!" The change in the frequency of the main sound tone in the sentence is shown by the image of the melodic movement, the melodic peak being 254 gts. This number represents the acoustic parameter that forms

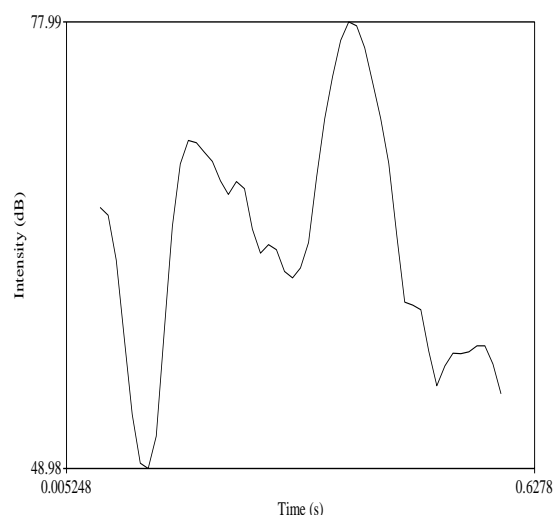
the command speech act. The essence of the command act is characterized by the depiction of a flat tone in parallel rise in the melodic movement of speech.

Figure 31



"Tell your sister!" in the expression the intensity peak in the intensive movement of the accent is 77.99 dB, indicating a high degree of emphasis in the command act (Figure 32).

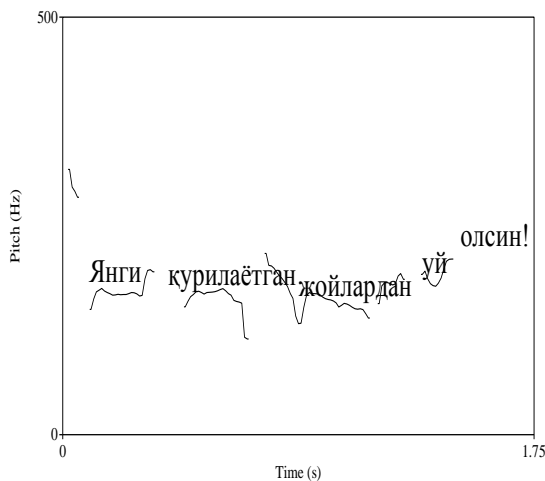
Figure 32



"Let him get a house in the new building!" diagrams of melodic and intensive movements of stress given for expression allow to visually analyze the intonational structure of speech (diagrams 33-34).

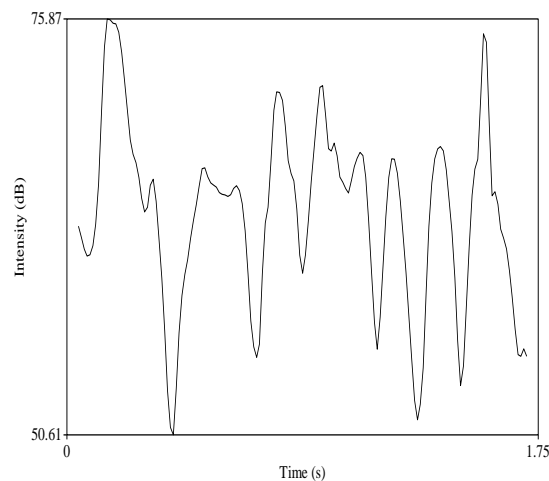
In particular, the command is given in the act of speech, the expression of which is carried out on the basis of the communicative purpose of the speaker. The melodic distribution of words in a sentence is shown in Figure 33. The melodic peak was 303gts in the home take pieces and was described by the command act. The intense movement of stress in the

Figure 33



expression is evident in every word. The logical emphasis is also at 75.87 dB, which seems to be falling for the new piece. In this type of expression, Utkirbek uses the perlocutive type of speech act to influence Nazokat and monitors the level of influence of his speech.

Figure 34



Research in foreign and Uzbek linguistics on the subject of speech acts is limited to giving a description of their description, types. It does not dwell on the means of expressing the speech act, the functions of the speech act in the formation of communicative types of speech, the peculiarities and functional features of the meanings expressed through intonation and lexical means. In our view, the group of verbal acts includes a number of contents, such as message, command, interrogation, emphasis, confession, threat, mockery, gratitude, and request. Speech acts are characterized by being the product of the speech process. Intonation and its components are the means of expressing speech acts. In this regard, this chapter of the work provides for the formation of speech acts by means of intonation, the study of types of speech acts and their differential features by experimental-phonetic methods.

In the existing work on pragmalinguistics, there are locutive, illocutive and perlocutive types of speech act. The issue of speech acts is distinguished by its involvement in the structure of speech events in the system of language and speech paradigms. Speech acts are the components of a sentence that are the communicative unit of the syntactic level. Therefore, the propositional structure of the sentence plays an important role in the analysis and study of speech acts. If the proposition is the main information expressed in a sentence, the speech act is manifested through intonation; its semantic structure is manifested in sentence types such as command, interrogation, notice. In this case, intonation is a phonetic device that expresses a speech act, and

usually serves to determine the types of speech according to the purpose of expression. The classification of speech act types can be explained by analyzing their properties. In particular, the locutive act (English "locution") refers to the phonetic-articulatory phase of speech, in which speakers begin to pronounce sounds, syllables, words and sentences at the articulatory stage through the pronunciation of linguistic units. Therefore, the locutive act is a phenomenon belonging to the phonetic-prosodic level and is the first process of speech formation. The pronunciation of segmented instruments takes into account phonation, tone, tone, intensity of sounds, tempo and pause in the speech of the speakers. Pronouncing segmental units according to the communicative intent, speech situation, and context of the speakers is called a locutive act. In the experimental-phonetic analysis of the phrase "When you ask for the third time, you say politely and say rozimaaaaaan" ("Iron Woman"), the rule of pronunciation specific to the locomotive act is taught to the robot Alomat. The pronunciation specific to the locutive act, the main component of intonation, can be seen in the melodic diagram. An intense peak is visible in the rozimaaaaaan part of the expression. This is an indication that the logical emphasis falls on the part of the rozimaaaaaan that indicates the communicative purpose of the speaker. It is necessary to recognize that the locutive act of how a woman should respond and how to pronounce this expression is usually seen during the marriage process (Figure 35).

The melodic peak in the sentence “When asked for the third time, say politely and rozimaaaaaan” is 350

gts, the peak peak is 84 dB, both of which are visible in the rozimaaaaaan section of the chart (Figure 36).

Figure 35

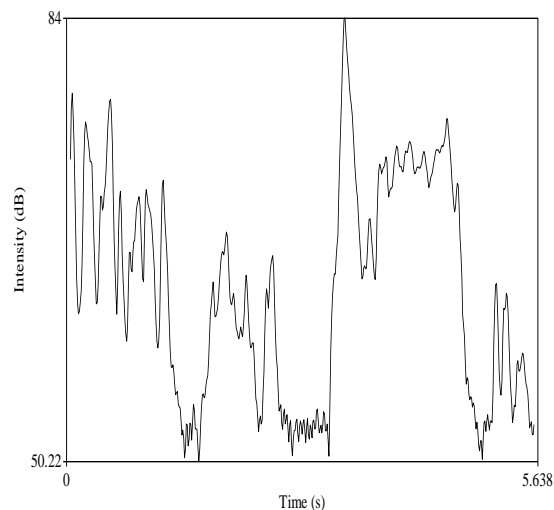
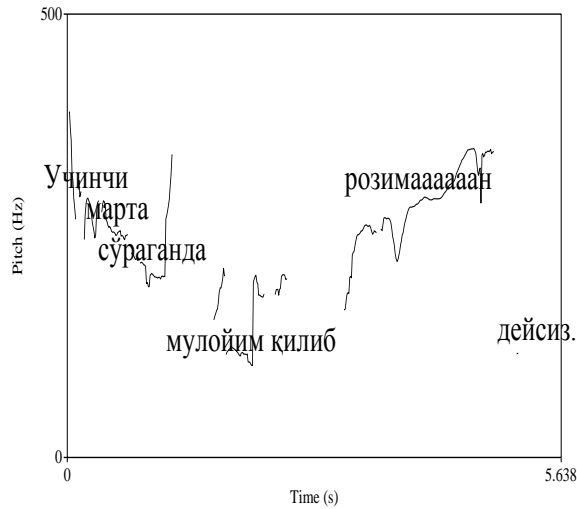
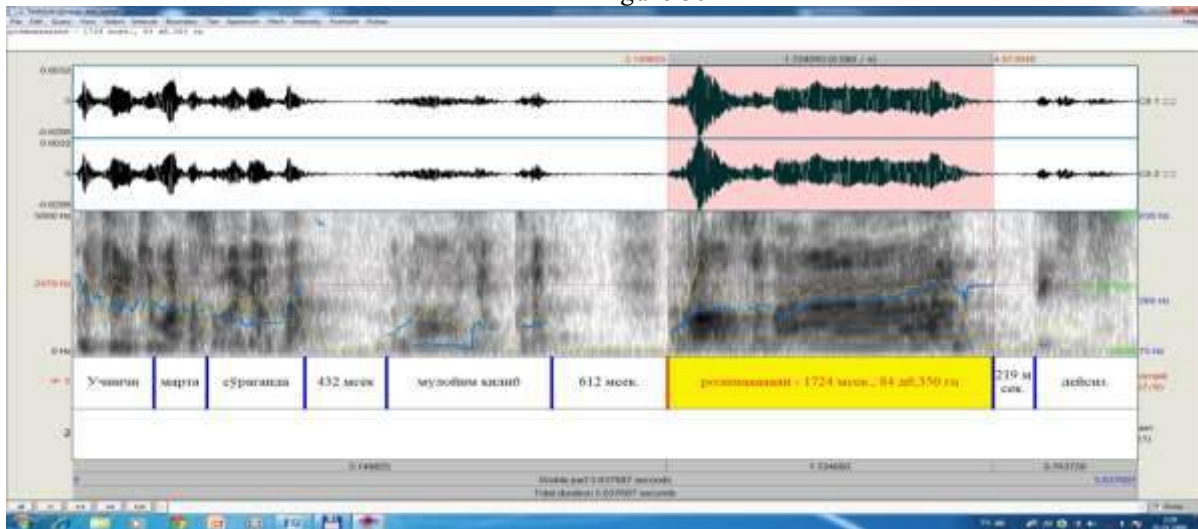


Figure 36

The pronunciation of the sentence "For the third time, politely say rozimaaaaaan" chosen for experimental-phonetic analysis is reflected in the picture. The picture shows the components of intonation, the oscillogram, the formant, the melodic and intense movements, the temporal components

covering pause and tempo. The acoustic parameters of the intonation components are shown. All the scientific conclusions can be drawn from the results of experimental-phonetic observations of the sentence in the figure (Fig. 30).

Figure 30



The process by Kochkor aka of explaining to the robot Alomat how to use the components of intonation in speech in accordance with the speech situation corresponds to the rule about the locutive act. It explains the response with a feminine intonation, the expression of verbal acts that express the meaning of consent with a hidden expression in the response.

At the stage of locomotive act, the pronunciation and articulation of speech elements are further divided into smaller parts. In the scientific literature, "Locutive act is divided into three groups according to the sign of internal distinction: phonetic, fatic and retic act. The pronunciation of sounds is a phonetic act, a pronunciation fatik act related to the rules of combination of sounds in a vocabulary or a word, a retic act that provides words with a clear meaning and reference ... This is why there is an accentuation in the pronunciation of unknown sounds. This violates the phonetic principles of the locomotive act. The locutive act is the pronunciation of speech sounds based on the usual skills of any language in the speaker's speech. Language-specific natural intonation serves to complement the semantic structure of speech.

The study of the pragmatic properties of supersegment units in linguistics allows for a thorough analysis of the essence of pragma linguistics. The need for the pragmatics of segment and supersegment units can be seen in the scientific literature: "As a result of a pragmatic approach to the study of phonetic phenomena, various humanities such as philosophy, aesthetics, introduction to literature, psychology began to be addressed. The result of the complex approach allowed the study of the text as a systemic phenomenon. In this case, the integral relationship of all elements was taken into account. As a result of the complex approach, prosody and syntax, prosody and lexicon, segment

and supersegment units and levels are interrelated. The analysis of the pragmatic function of segmental and supersegmental phonetic devices has shown the need to analyze a number of problems of pragmatics. From these considerations, it can be understood that pragmatic research is mainly concerned with the analysis of speech phenomena and the study of phenomena related to speech activity. In the analysis of the process of verbal communication, attention should be paid to the systematic examination of linguistic level units. This can be explained by the functional features that supersegment units perform at the lexical, morphological, syntactic, and stylistic levels. These tasks, enumerated in determining the pragmatic properties of phonetic or prosodic means, determine the structure of the work.

A number of signs and features of the locomotive act in connection with the formation of speech have been shown above. The main functions of the locutive act are the pronunciation process, the delineation of the locutive and illocutive acts, the provision of meaning and reference to the units pronounced in the speech process.

The illocutive act has a special place in the structure of speech acts. In verbal communication, the illocutionary act (English illocutionary - the expression of the communicative purpose in the process of pronunciation) serves to express the communicative purpose and intention of the speakers. The illocutive act is one of the main pieces of information that indicates the purpose of the speaker in a sentence, and it emerges through intonation. Therefore, the illocutive act is one of the most important issues of pragmatics, and in the scientific literature it can be seen that the term can be used as a synonym for the term "communicative intention". The term "communicative intention" means the statement of communicative intention in the internal semantic structure of the expression. The



following is an example of a type of illocutive act that reflects the communicative intention of the speaker and is expressed through intonational means: Where is that grave? Haybat asked hurriedly.

'Son, if there are many graves,' said the old man, chewing, 'there will still be corpses, and we must finish our work.'

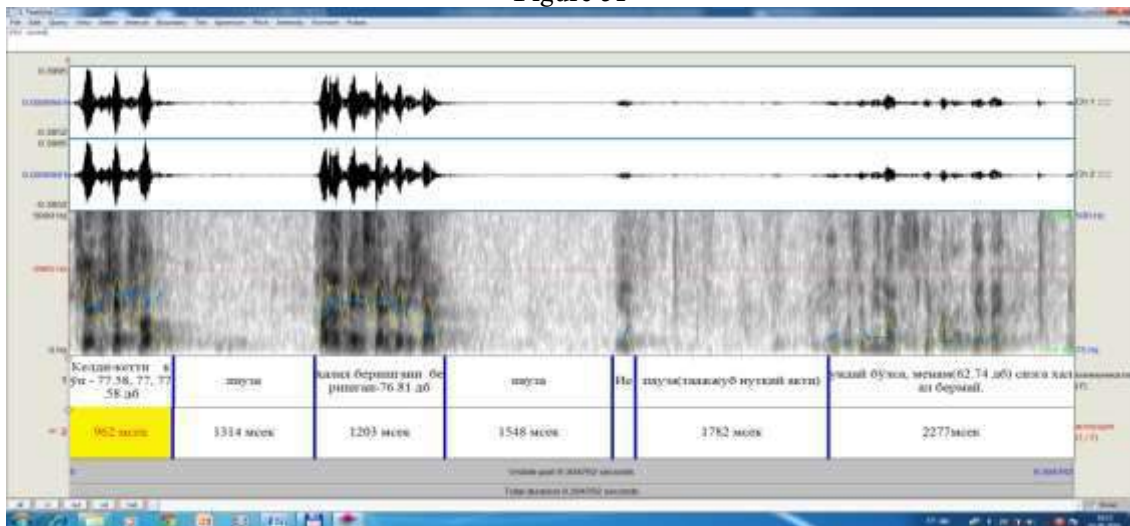
"Get out!" Haybat could not stay here any longer after this statement in tone. (T. Maqsud, Ilinj, p. 166)

In this example, "Go!" the illocutive act, which is implicitly expressed in the sentence, is pronounced with the natural intonation of the speaker. The large number of graves highlighted by the old man, the lack of time to find the requested grave, the embarrassment if he does not finish what he is doing, the obstacle to completing the work, and therefore the tone of the thought of leaving him. In the context of the above example from the literature,

the meaning of going through the tone, which is a component of intonation, is analyzed, "- Many came and went, interfering." "Well, then, I won't bother you." In the experimental-phonetic analysis of the speech fragment ("Parvona"), it can be seen that the same content was conveyed to the listener using a different tone method (Fig. 31).

Taken from the play "Parvona" - "Many came and went, interfering." "Well, then, I won't bother you." The speech was examined experimentally and phonetically. A pause of 1314 music in the speech structure served to further increase the effectiveness of the speech. "I can't do my job, there are a lot of people coming" and in the second sentence "you are like these people" you are interfering with my work, I do not have time to talk to you, so get out of here now" (Fig. 31).

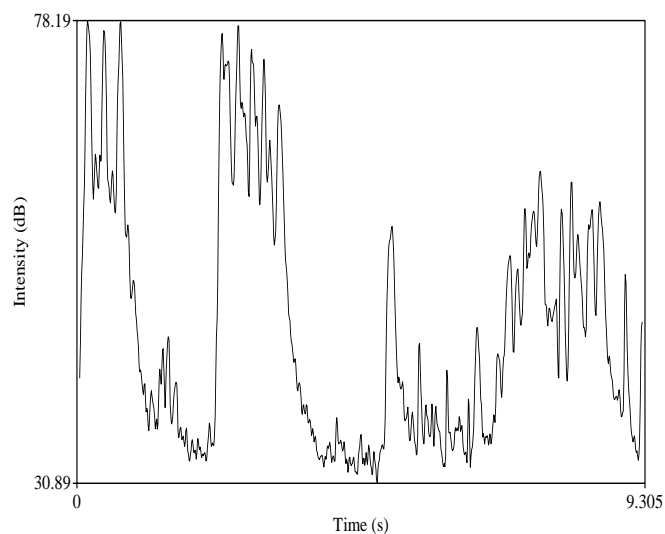
Figure 31



The communicative intention, expressed in the sentence "- Many came, many were hindered", that is, the speech act in the sense of driving, is reflected in the intensive component of intonation. The pitch of the sounds in a sentence is 77.58 db, 77 db, 77, 58 db, and the emphasis on the many parts of the sentence forms the act of speaking about driving (Figure 37). Since these numbers, which are

indicated in relation to the loudness of the sounds, are higher than the usual speech norm, there is also a tone of protest in the speaker's locus. The speaker speech does not meet the normative speech requirements as it represents an intensity of more than 77 db. That is why in this expression the act of driving speech is understood.

Figure 31



## CONCLUSION

In conclusion, intonation is accomplished through the pronunciation of segment units, and intonation itself as a supersegment unit is the primary means of expressing speech acts in speech. Linguistic and non-linguistic means are involved in the expression of speech acts, which ensure the effectiveness and expressiveness of speech. The pragmatic features of prosodic means are determined by the expression of speech acts.

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## MYTHOLOGY - ANCIENT MAN'S FICTION

**Sharafutdinova Nilufar Xursandovna**

*Lecturer, Fergana State University, Uzbekistan, Fergana city*

### ANNOTATION

*Myths and legends have arisen as a result of human weakness in the face of natural phenomena and changes in the world. The emergence did not stop in modern times. New Uzbek myths and legends appeared during the period of the Islamic conquest. Myths are characteristic of the fact that once people believed in these phenomena. Today, thanks to the achievements of the human mind, many changes in nature have been studied, and it has become known that those told in myths are far from reality. People do not live in fear of mythical images. The names of mythical images, that is, mythonyms, refer to little used vocabulary. Mythonyms express lexical concepts characteristic of the language of myths. The article examines the origin and emergence of new Uzbek myths and legends of the Islamic period, as well as some mythonyms studied in Uzbek linguistics.*

**KEYWORDS:** *myth, mythonym, Turkic mythology, Tengri, Haydar, Choymomo, Alvasti.*

## МИФОЛОГИЯ - ВЫМЫСЕЛ ДРЕВНЕГО ЧЕЛОВЕКА

Шарафутдинова Нилуфар Хурсандовна, преподаватель,  
Ферганский государственный университет,  
Узбекистан, г.Фергана

**Аннотация:** Мифы и легенды возникли в результате слабости человека перед лицом природных явлений и изменений в мире. Возникновение не прекращалось и в новое время. Появились новые узбекские мифы и легенды в период исламского завоевания. Мифы характерны тем, что когда-то люди верили в эти явления. Сегодня благодаря достижениям человеческого разума, изучено множество изменений в природе, и стало известно, что рассказанные в мифах далеки от реальности. Люди не живут в страхе перед мифическими образами. Названия мифических образов, то есть мифонимов относятся к мало используемой лексике. Мифонимы выражают лексические концепции, характерные для языка мифов. В статье рассматриваются о происхождении и появлении новых узбекских мифов и легенд исламского периода, а также, некоторых мифонимов, изучающиеся в узбекской лингвистике.

**Ключевые слова:** миф, мифоним, тюрская мифология, Тенгри, Хайдар, Чоймомо, Алвасти.

Мифология - это особый этап духовного развития человечества, она прошла долгий путь как первый продукт общественной мысли,

фундамент первобытной культуры, доминирующая идея идеологии племенного периода. Мифы возникли в результате первичных



мышлений древнего человека, почувствовавшего себя под великой властью природы, понять Вселенную, состоящую из различных загадок.

Мифология, мифы, с одной стороны, рассказывают о различных загадках, интересующих человека, а с другой - описывают борьбу различных существ в природе и в воображении древнего человека, борьбу злых сил, в которой побеждают человеческие покровители. Исходя из этих представлений, мы можем определить миф следующим образом. Мифы – это короткие рассказы, объясняющие появление различных живых существ, объектов, сверхъестественных сил в человеческом воображении (гиганты, драконы, демоны, феи, культурные герои) во вселенной, природе и обществе, а также причины событий и происшествий. Мифология – явление, присущее первобытной культуре всех народов.

Вечная борьба пространства с хаосом и то, что эта борьба разрешается в пользу пространства, определяет основное смысловое содержание мифов. Хаос изображается как бесконечная пустота во тьме бездны, в глубокой бездне, в которой есть вода и огонь в состоянии разрушения, и различные ужасные существа. С другой стороны, космос интерпретируется как творческая сила, полностью противоположная хаосу, которая сочетает в себе возможности для упорядоченного и мирного сосуществования вселенной и природы. Он существует не за пределами хаоса, а в нем, и он преодолевается внутренней борьбой. Вот почему превращение хаоса в пространство означает переход от тьмы к свету, от воды к суше, от космоса к материальному миру, от беспорядка к порядку, от разрушения к творчеству.

В тюркской мифологии как и во всей мифологии разных народностей существует две стороны мира, то есть созидатель Тенгри и подземный бог Эрлик. Великий Тенгри - Верховное божество тюрков, который управляет всем миром. Поэтому люди часто называют его ханом. Он распределяет сроки жизни людей и государств. Тенгри – всезнающий, благодетельный и правосудный управитель мира. Он живет в Верхнем небесном мире. Слово Тенгри и небо, то есть кок (голубой) использовались тюрками синонимично.

По приданиям человек рождается и живёт на земле, а после смерти земля поглощает его. Конечно же всемогущий Тенгри был справедлив – он мог наградить за хорошие деяния и карать за непослушания.

Эрлик живет в подземном мире. Оказался он там в силу своего злонамеренного характера. Когда еще только создавался мир, Эрлик решил подчинить себе своего старшего брата Тенгри.

Долго увещевал Тенгри младшего брата, но козни не прекращались. После долгих сражений разгневался Тенгри и запретил Эрлику появляться там, где светит Солнце[1, 14].

Нужно особо отметить, что такая вражда между двумя богами ведется и в других мифах разных народов, в частности, мифологии Древней Греции, Китая, Индии, где добро и зло не уживаются и в итоге один уходит в глубину земли.

В слоях античности было достаточно объективных и субъективных условий для создания мифологии и ее выживания как неотъемлемой части первобытной культуры. На более поздних этапах развития общества, то есть в процессе формирования классового общества, оно неизбежно столкнулось с кризисом. В результате роста человеческого мышления, расширения мировоззрений, обогащения духовности стали появляться такие формы общественного сознания, как наука и религия, искусство и литература. Это, в свою очередь, снизило статус мифологии в обществе. Он переходил к своим формам и жил или возрождался, сужая свой смысловой диапазон. Можно с уверенностью сказать, что отношения между мифом и фольклором восходят к этому периоду.

Одним из наиболее важных и интересных ярусов лингвистики является лексический ярус, который является одним из самых активных средств в языковой системе из-за его относительной независимости. При изучении и классификации лексических единиц языка в центре внимания остаются одни и те же особенности, то есть лексическое значение. Мифонимы относятся к тем же единицам языка, в которых общность лексем связана с их тематическим аспектом, то есть прагматикой. В узбекском языкознании как и в других языкознаниях изучению лексем, встречающихся в лексиконе мифов, легенд, сказаний и эти единицы обычно изучаются под термином «мифонимы».

Термин мифоним стал использоваться в узбекском языкознании только в последние годы, а внимание к этому вопросу было обращено в 90-е годы XX века. Термин «мифоним» в его лексическом значении относится к словам, характерным для языка мифов, легенд, сказаний, то есть к лексическим единицам, выражающим мифологические концепции. Поскольку термин «мифоним» лежит в основе мифа, уточнение значения этой лексической единицы как термина поможет нам правильно подойти к вопросу. Миф - это литературный термин, который в отраслевой терминологии определяется следующим образом:

Миф - (гр. Mythos - от слова миф, легенда) - легенды и мифы, рассказывающие верования и



фантазии людей в древности о происхождении Вселенной и жизни, природных явлениях, богах и мифических героях. Миф также называют легенду (афсона) и миф (асотир) в странах Востока. В некоторых культурах до наших дней сохранились мифы и эпосы. Например, греческие мифы или индийские народные эпосы очень популярны. Мифы и легенды узбекского народа редки, в основном из-за арабского завоевания и введения ислама. Потому что мифы и легенды предполагают, что жизненные события, человеческие судьбы и даже природные явления управляются существами с различными сверхъестественными способностями. В результате появляются разнообразные изображения, которые, как считается, обладают божественной силой, например, призывают ветер, посылают дождь, вмешиваются в судьбы людей и даже уничтожают их. С введением ислама появились новые взгляды на некоторые предметы. Одним из этих предметов является сумалак. Приготовление этого блюда турки знали давно, с момента празднования праздника Наруз. Развитию мифов и эпосов препятствовало то, что ислам требовал единобожия, веры в то, что существует только один Бог, Создатель миров. В результате растущего поклонения исламу узбекский народ начал верить в единого Бога, а не связывать с Ним партнеров (то есть не принимать во внимание существование других сил, знать, что Бог один и тот же), а не различные божественные силы. Это, в свою очередь, снизило роль мифологических образов в создании вселенной и управлении жизнью в ней, а вера людей в мифы и легенды и страх перед ними уменьшились. В результате мифы и легенды исчезли из памяти людей на грани исчезновения. «Шли годы, которые складывались в века. В бескрайние степи Евразии пришли другие народы, а вместе с ними и их боги. Долго сопротивлялись турки иноземному влиянию. Говорили они тем, кто нес ислам – «Мы не горшечники, не ремесленники, не купцы. Мы – воины. А

потому не можем верить в ваших богов». ... Но время шло, а с ним и изменился мир турков. Стали они верить в новых богов и забывать свое великое прошлое» [1, 3].

Сегодня мифические образы живут только своей номинативной функцией. Например, мифы, связанные с такими именами, как Хайдар (вызывающий ветер), Чоймомо (вызывающий дождь) или пари, альвасти (ведьма), сохранились в очень небольшой степени. В древности наш народ поклонялся этим мифическим изображениям, и проводились большие обряды с разными целями. Некоторые образцы и следы древней среднеазиатской мифологии сохранились

в различных источниках. Для многих мифов, зародившихся в древней Средней Азии, как и в мифах индейцев и других народов, идет борьба между добром и злом, светом и тьмой. Люди создали концепции страны счастья и земли несчастья, противопоставляя добро, счастье, солнечный свет и тепло злу, несчастью, тьме и ужасному холоду. Как если бы они воображали, что в природе есть великие и полезные силы - земля, где вечны солнце и вода, и силы, несущие бедствия, - земля, где вечны тьма и страдания.

Это как если бы они воображали, что в природе есть великие и полезные силы – земля, где вечны солнце и вода, и силы, несущие бедствия, - земля, где вечны тьма и страдания. Под влиянием этих представлений формируются многие мифические образы, а события изображаются на фоне этих двух стран и борьбы между ними. Этот взгляд глубоко укоренился, что нашёл отражение в зороастризме. Авеста и другие религиозные книги, утверждают, что есть два мира: добро и зло. Даже в Исламе говорится, что есть два уровня: рай и ад.

Согласно Авесто, миром добра правит Ахура Мазда или Ормуз, а миром зла – Ангра Манью или Ахриман. Книга изображает борьбу между двумя мирами и между ними вопросы неба, воды, земли, огня, растений, животных и человеческой судьбы через мифологические представления. В нем борьба между силами добра и зла взаимосвязана через образы Митры, Анахиты, Каюмарса, Йимы, Гершапа, Эликбека и других. В данном случае образы носят мифический характер, например, Митра (Ра) – бог солнца, который изображаются как герой с неиссякаемой мощью. Он несгораемый, водонепроницаемый и пуленепробиваемый герой.

Мифы и легенды возникли в результате слабости человека перед лицом природных явлений и изменений в мире. Мифы характерны тем, что когда-то люди верили в эти явления. Сегодня благодаря достижениям человеческого разума, науки и техники изучено множество изменений в природе, и известно, что события, рассказанные в мифах, вымышлены, далеки от реальности. Люди не живут в страхе перед мифическими образами и не поклоняются им.

Взгляды человека в период тогда, когда еще он не отделил себя от природы, нашли отражение в мифологическом лексиконе. Этот период также называют младенческим мирозерцанием человечества. В младенчестве человек рассматривал все сущее как живое, сознательное, целеустремленное. Распространенные с такими свойствами названия существ и предметов – мифонимы, хорошо известные названия мифов, эпосов, сказок, легенд





и воображаемые объекты в мифах: герой, боги, дьявол, таинственное место, стихийные бедствия.

Каждый из них имеет мифический характер. Имея общие черты, каждый персонаж отличается уникальным характером. В первую очередь это отражается на их мифическом уровне. Они делятся на мифические и мифологизированные персонажи, в представленном лексиконе. В первую группу входят существа изображаемые человеческим воображением, это – дракон, демон, призрак, джин и так далее. Во вторую, такие образы как, лошадь, бабочка, змея, волк, аист, орел, медведь, лама, кит, свинья и такие предметы как, дерево, камень, гребень, зеркало, а также, географические объекты: озеро, горы, реки. В зависимости к бытию мифонимы можно сгруппировать следующим образом.

Мифоним:

- имена чисто воображаемых объектов;
- названия реальных предметов, нагруженных мифическими качествами.

Мифонимы по географическому региону:

- названия территориально неограниченных объектов;
- названия локальных объектов.

Мифонимы относительно полу:

- названия предметов, представленных в женском образе;
- названия предметов, представленных в мужском образе.

Мифонимы, основанные к существованию в природе:

- названия неодушевленных предметов, принадлежащие фауне;
- названия живых объектов, относящиеся к фауне.

Мифонимы по географическим объектам: горы, пещеры, холмы, озера.

Мифонимы физических тел: камни, зеркало, кости, шапка, зерно.

Конечно-же, эти группировки несколько условны, и их можно классифицировать и по другим аспектам.

Чисто мифические персонажи воображаемы, они не существуют в природе, но воплощены в человеческом воображении. Воплощение приняло форму живых существ в природе. Например, дракон (аждар) мифологически воплощается в виде змеи, которая является хтоническим существом. Но это змея – огромное существо. Если змея распыляет яд, то дракон распыляет огонь. В представлении человека змея превращается в дракона, если в течении сорока лет не услышит азан. Так представляет тюрк – мусульман. Или же такие персонажи, как колдунья, яга, ведьма (мастон, жодугар, ялмогиз) изображаются в виде старухи.

Они умеют говорить, и это говорит о том, что они имеют человеческую природу.

Миф имеет своё творческое пространство. В тотемических мифах этот аспект прослеживается более отчетливо. Например, в среднеазиатской мифологии культ ламы или кита не формировался как тотем. Потому что этих существ здесь не было. В Исландии лама считается тотемом, а у эскимосов кит.

В виде заключения можно сказать, что мифы не воссоздаются. Именно этот аспект отличает мифы от сказок или вымысла. В таких произведениях от людей не требуется послушно верить в них.

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# THE IMPACT OF ANVAR OBIDJON'S PROSE WORKS ON THE PSYCHOLOGY OF CHILDREN AND ADULTS

**Bahromjon Mukhtoraliyev**  
*Lecturer, Fergana State University*

## ANNOTATION

*This article examines Anvar Obidjon's mastery of creating humorous images in his prose works. His works especially based on the identification of various social issues encountered in real life that characterize the writer's style.*

**KEYWORDS:** *Prose, interpretation, metaphor, comics, sphere of influence, children's literature.*

## INTRODUCTION

Anvar Obidjon also tried to say big things in small volumes in his prose works. He continued the traditions of oral art and connecting this with the modern environment and trying to solve various social problems. Known as a writer of various genres, Anvar Obidjon, has written a number of short stories, poems, epics and plays for both children and adults. In particular, the humorous images in the epic and lyre-epic works of Anvar Obidjon can be a proof of our opinion. There are many examples of humorous images in the history of Uzbek literature. After all, the tradition of creating humorous images goes back to the folklore. In folk tales and stories, legends and myths, various humorous images appear in a seriously updated form in the works of the writer.

## MAIN PART

The radical changes that took place in the social life of our country in the late 80s of the last century also had a significant impact on children's literature. Topics of "self-awareness" that are completely out of the focus of our writers are beginning to be reflected. "Golden Hearted Autoboy" (Oltinurakli Avtobola), "Alamazon and its Infantry" (Alamazon va uning piyodalari) and finally "The Battles of Meshpolvon" (Meshpolvonning janglari) can be a real example of such works. In the story "Autobola with a golden heart" the author describes the constant struggle between good and evil in a new direction. He not only shows evil, but seeks out the factors that caused it and seeks to take a deeper look at them. For this reason, author uses the method of referring to past events several times throughout the story and looks at the childhood years of the central protagonists of the story, Bekhoja and Kamal.

The skill of the author is that he gives the reader a broader idea of the nature of both children, of the school system of that period, by recalling small incidents from the past. At school, both children do equally well. But their social backgrounds are different. Kamol is the son of an ordinary people, Bekhoja is the son of a rich cotton grower (rich Bekhoja fled abroad when he was 6 months old). It is well-known that elderly play a special role in the spiritual development of children. How can a child know this if an elderly does not give political emphasis to the issue of social origin, if he does not look at someone with the eyes of class animosity? In the description of the events of his childhood one can see the author's warm love for Bekhoja. He especially admires Bekhoja's love of history, his pride in the heroism of our ancestors, and his appreciation of them. Bekkhoja is angry with his peers who did not teach him a history lesson and did not understand him.

Anvar Obidjon was one of the first in Uzbek children's literature to focus on the economic upbringing of the younger generation, the role of self-interest, money and wealth in human life. In an interview with the Belarusian poet R. Borodullin, he said: "The important thing is to instill in the child's heart a sense of confidence in the truth from an early age. At the same time, the right attitude to certain things and concepts that are interpreted differently. It is necessary to educate."

In the story "The Gold-Hearted Autoboy" (Oltinurakli Avtobola), the author tries to convey to the readers that money should not be worshiped and turned into the essence of life, that there are more valuable things in life - kindness, conscience and honesty, pride among people. One of the most beautiful parts of the story is the pages dedicated to



Holdor and Autoboy. In the story, Autoboy brings light into Holdor's life. Holdor plays safely with this steel man, rejoices, and is spiritually hardened. Fantastic image Autoboy is a straight man who absolutely knows no tricks, a symbol of simplicity, kindness and purity. He is firmly rooted in the heart of Holdor with such qualities. He sows the seeds of goodness in his heart. The author has managed to convincingly reveal and show the unique aspects of the world of children and the environment, children and adults, children in the image of both little heroes. In the story, Bekkhoja, a man who is very selfish and vindictive, believes that the purpose of life is only to accumulate money and wealth. He always tried to do some atrocities. In one word Bekkhoja is mentally and physically ill. This situation makes you to think deeply. Nature created man with a high level of consciousness. He even has the power to make perfect robots like Autoboy. But some people sometimes become greedy and helpless in the face of ordinary things. Why? This is a very important issue and an eternal problem for human spirituality.

The story about Autoboy is also noteworthy in that it encourages young readers to think about the most serious issues of life. It is known that since the mid-eighties of the last century, the interest of our people in the study of history and ancestral heritage has grown, and a number of works on this topic have been created. During this period, the tendency to reflect historical and social issues in children's literature also increased significantly.

In the story of "Battles of Meshpolvon" (Meshpolvonningjaglari), the struggle for the freedom of the people, the ideas of humanity are reflected in the genre of traditional epics. If we look at the roots of Uzbek literature, over the centuries the ideals of socio-political struggles, freedom and equality, and heroism and patriotism have been more widely reflected than other genres within the possibilities of the epic genre. In this story, Sepkilshah is a symbol of ignorance, selfishness, and evil. His policy, which is based on lies and slander, is ridiculed with merry humor and ruthlessly exposed. The young warriors and fearless heroes, who crushed him, are glorified. Beauty in the broadest sense overcomes evil and ugliness. The central protagonist of the epic, Meshpolvon, stands out from others, as in traditional epics.

In this story author speaks about village Mingpoda, one of the thousands of villages destroyed by the evil king. And write about citizens, how spiritually impoverished they are. They all busy with finishing their work and satisfying their own desire. It tells with bitter pain that the lack of affection for one another, intimidated and humiliated, leads to indifference and betrayal, that such people are easily subdued by the enemy. Such pages in the epic encourage readers to think and reflect on moral issues.

## CONCLUSION

In conclusion, the main focus of Anvar Abidjan's works is to teach children to be polite on various social issues, to make their own conclusions: aimed at upbringing the quality of patriotism, devoting and diligence. Negative aspects such as laziness, slander, hooliganism, greed, rumors, etc., have also been masterfully revealed. Anvar Abidjan skillfully incorporates various social issues encountered in real life into his comic works.

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## THE ISSUE OF LYRIC HEROISM IN CHILDREN'S POETRY

**Gulnoza Vohidjonovna Abdullaeva**

*Lecturer, Fergana State University*

### ABSTRACT

*The article discusses the issue of lyrical heroism in the poems of Tursunboy Adashboyev and Abdurahmon Akbar, their peculiarities, what a lyrical hero should look like in poems dedicated to a young reader, and the problems that need to be addressed.*

**KEYWORDS:** *Lyrical hero, image, prose poem, theme and idea, rhythmic melody.*

### INTRODUCTION

A lyrical protagonist is a person who carries a certain idea and content, expresses the heart, thoughts and feelings of the creator (sometimes played by the poet himself or by the poet). The lyrical hero (Russian: *Калька-лирическойгерой*) is a subject in lyric poetry, a form of expression of the author's feelings and thoughts. The lyrical protagonist means that the poet is not the real "I", but the "I" created on his basis [1, 154]. Thoughts, thoughts, excitement, joys and sorrows, which are expressed in lyrical poetry, are often the product of the poet's psyche. The lyrical protagonist expresses the thoughts and feelings of others as his own. In poetry, the poet is often portrayed as a lyrical hero. Literary critic D. Kuronov "The lyrical hero is not the poet himself, he is another" I "created from the" I ", which in many cases is understood as a relationship between the lyrical hero and the poet as a prototype and character" [2, 154].

### MAIN PART

In poems written for children, the lyrical protagonist is also portrayed as a "child" played by a poet or a poet. The protagonist of the poems written for them must be appropriate and unique to the child, and even if the lyrical protagonist is an author, he must be able to be a child, to embody his external and internal world. In fact, there are two types of lyrical hero expression: one is the poet himself, and the other is the lyrical hero (child) played by the poet. The first round reflects the poet's own world, inner experiences, childhood memories, while the second round reflects the situation of a child or all children, their psycho-psychological world, worldview, that is, the poet himself. It is the poet's ability to express all

the experiences of a child chosen as a lyrical protagonist, even if he has not experienced the circumstances, as a child, infecting himself.

It is known that by nature a child is curious and aspiring to everything. Poems written for them should reflect their curiosity, behavior and character in general. R. Barakayev, a scholar and critic in the field of children's literature, wrote in his article "How to be a young hero" that "... when creating creative works for children, its main characters should be children. also natural. Because a child who reads a book first of all looks for himself in the work, as well as for his peers, whose thoughts, worldviews, researches and aspirations are similar to his own" [3, 145-149]. In fact, if a work written for children, whether prose or poetry, does not reflect their character, spiritual thoughts, joys and sorrows, self-sacrifice, joy, laughter and tears, then such a work is not for children. It is inappropriate to say that it is a work created for children, and such works will not please children. In the poems of the famous children's poet Tursunboy Adashboyev and his follower Abdurahmon Akbar, we see the skill of creating a unique lyrical hero.

In Tursunboy Adashboyev's poem "Onamyapganpatir" we see the expression of the poet's childhood.

Today I have it again / The instrument left by my father, [4, 23]

Flowers on my way, / I work with my head bowed.

It smells like mint, / It hits my breath.

Like the patina my mother covered, / The sun shines from the mountain.

The lyrical protagonist of the poem is able to describe the situation in the lives of all children,



although the poet himself, his life and experiences are reflected. Analyzing the poem "I'm hanging out":

Aunt Nazmi made the bed and sat on the sofa [5, 85].

Grandson raw apple, / Cut the sun lippa.

"What are you doing in the king?"

"Spilled apples, / I'm hanging in place ..."

The lyrical protagonist of the poem, Khosiyatkhan, is a playful, articulate, outgoing girl, and we even see a humorous laugh in her character. In short, it is portrayed by the poet as a child playing a role.

Abdurahmon Akbar, a student of Tursunboy Adashbaev and a worthy follower of him, was also able to portray the lyrical hero in his poems. His lyrical protagonist is a poet himself, but he is also a deep-thinking, intelligent and observant child. [6.46-48]. Basically, in A. Akbar's poems, the child played by the poet is portrayed as a lyrical hero. The lyrical protagonist of the poems in the series "Poetic stories about my father" is the poet himself. The poem is created in an innovative way, both in form and content. Let's take the poem "Ari" in it:

"My father and I broke down the wall, how many seasons it rained, how many times it snowed, how many times it was neglected, it was sunken. It was a cold, very dark day when we broke down the wall. When the top fell off, my father said, "Son, look, bees." The wind was blowing like a blazing fire, and the injured bees were whistling and moaning ... [7, 124].

"Prose poetry is the lyrical poem itself in terms of describing the feelings and experiences of the lyrical protagonist, having a small volume, emotional ... If a lyrical poem is a speech arranged on a certain scale If it has a form, prose poetry is not measured rhythmically." [8, 204].

Abdurahman Akbar's poetic stories are also written in prose, reflecting the lyrical hero, his childhood. The poems of this series reflect the poet's own feelings, moods, dreams, joys and sorrows, as well as emotions. But the volume is large, and at the same time there is a rhythmic dimension characteristic of the poem, stabilized in a 4 + 5 way. It can also be reflected in separate verses.

Dad and I broke down the wall, / how many seasons of rain, snow,

How many times has the wall been left unattended?

The lyrical protagonist of the poet's poem "New Year" is a boy named Omon. His psyche, his dreams are expressed.

New Year in the woods / I've been waiting for a chance, - [9, 95]

What an evening for his brother / So Omon stayed.

The lyrical protagonist is a boy named Omon, who tells his dreams to his brother, and these dreams have a didactic significance.

"I picked up a Christmas tree and toys."

No, no, I wouldn't cut it.

The poem is an educational example for both children and adults. The lyrical hero teaches to protect nature and trees from dreams. At the end of the poem, the above points become clear.

Asraredimkesidan / Aqallibirarchani ...

"As in all times, a good person and a bad person have the right to be heroes of art today," said researcher Nomon Rakhimjanov [10, 291-297]. Therefore, in children's poetry, the child is the lyrical hero. The shortcomings and laziness of the lyrical protagonist are reflected in the image of children, so that the young reader can draw his own conclusions from it. In the words of N. Novinkov, "Nothing affects the hard hearts of children as an example."

The lyrical heroes of T. Adashbaev's poems are:

1. In his poems on the theme of homeland and nature, the poet himself is often mentioned.

2. Funny, resourceful, a little simpler kids

3. A lyrical protagonist who is more prone to boasting, eloquent, imaginative in life, "humble", a loafer, but his boastfulness serves good. (On the example of the poem "Praises of Latifboy").

4. Immaculate, simple, humane, hard-working, patriotic child.

In the poems of Abdurahman Akbar, in addition to the above:

1. A meticulous young hero who looks at everything with amazement and asks questions.

2. The main protagonist is a talkative, resourceful, resourceful child who tries to understand the world faster.

3. A little lazy, a little lazy, a little lazy.

4. Children who have grown up before their age, who have seen the good and the bad of life, and who can observe.

5. He is still a very young, yet lyrical protagonist with a natural, lively outlook.

If the lyrical hero of T. Adashbaev's poems is created on the basis of simple, humorous laughter, created in accordance with the childish worldview and nature. In Akbar's poems, the lyrical protagonist is a poet himself, as well as deep-minded, intelligent and observant children. Basically, in A. Akbar's poems, the child played by the poet is portrayed as a lyrical hero [11, 459-461].

The lyrical protagonist directly expresses the poet's ideas, worldview and goals. Although the children themselves take part in the poem as lyrical heroes, it also embodies the poet's worldview, goals and thoughts. In understanding the events of life, people act as a "mirror" to each other. They influence each other more than anything else in their appearance, speech, or actions. That's why in



children's literature, the child is the protagonist. These heroes are considered to be people's own "art model", "image", "copy", "symbol". "The more vividly the reality of the human world is reflected in this 'symbol', the more impressive it will be," says Abdulla Ulugov [12, 462-476]. Therefore, set an example for young readers. It is important to show that.

## CONCLUSION

In children's poetry, the lyrical protagonist is cheerful, simple, presented on the basis of their thoughts, dreams and spiritual experiences, which directly attracts the young reader and acquaints him with the book. Because the child in the play can serve as a good role model.

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