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STUDY OF VARIOUS SOFTWARE DEVELOPMENT METHODOLOGIES

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ABSTRACT

This paper conducts an analysis of various software development methods. Presently we can control everything at the tip of our fingers. Technology is reached beyond our imagination. This paper explains different models and its advantage and disadvantages. Today there are varieties of software projects are available which requires security, GUI based and for critical projects. These types of project are based on different type of software development methodologies. This paper helps for choosing best software development method for any projects.

KEYWORDS: *software development model, advantage, disadvantage, comparison.*

INTRODUCTION

Presently computer becomes an essential part of our life. It is used in various fields of life like, agriculture, industry, health industry, education and business. Some people use computers for playing game. Computer is also called time saving device its do lots of work in minimum time. Computers also do work with more accuracy. all these events required software. lots of software development methods are available to develop software projects. It's very difficult to identify which software development method is suitable for a certain software projects. All software method has its own advantage and disadvantages. Software development methods are the base of any software project. It makes it successful or failure.

Waterfall Model

In traditional software develop method waterfall model is a linear flow with a specified sequence .user can easily understand the steps .in this method going back is not possible. in this method next step will be started after completion of the previous step. it is suitable for small software development .

Advantage

1. Useful and straightforward.
2. Model is rigid but easy in handling.

3. Helps in saving time.
4. It helps in effortless testing and analysis.

Disadvantages

1. It depends on precise needs.
2. It does not help in maintaining the project.
3. There is no any option to understand the project outcome.
4. It's not good for extended and ongoing software projects.

Prototype Method

Prototype method is useful for large project. It is impossible to define the actual requirements before the actual coding finished. it is also very much useful for innovative type projects.

Advantages

1. Software functional process idea should be clear.
2. Software function failure risk will reduce.
3. This method also helps in information requirements collection and its analysis.

Disadvantages

1. Management cost may be increase.
2. Client inference is very high which affect processing.
3. Lots of frequent changes affect the working process of software.



Iterative and Incremental Software Development Methodology

Iterative and incremental software development methodology based on commencement of only one step at a single time. on the basis of earlier models further expansion of the module take place. Method is based on creating single step at a time. On the base of basic models further extension of the module take place. after creating the each iteration, tested and feedback report will create. This function is repeated till the model is completely functional.

Advantages

1. We can get continuous feedback after each iteration.
2. After each iteration testing and feedback is done so multiple times revision will be done.
3. Sourced code is available after each iteration for testing.

Disadvantage

1. All iteration has rigid structure.
2. Outcome is not clear.

Spiral Methodology

Spiral method is always give attention on objective of the software development goal. it also focuses on alternatives of software development method and its constraints. It divides in to four stages: planning , risk analysis, development and evaluation of project.

Advantages

1. At the starting stage of the project source code is delivered.
2. Its second stage is risk analysis so it minimizes the risk of software development.
3. In spiral method documentation part of software development is very strong .each and everything is properly documented.

Disadvantages

1. Software project cost will be generated by risk handling.
2. It's completely dependent on risk analysis.

Rapid Application Development

This term development rapid application development method is use to giving fast output .this method is giving wonderful development with the help of different development methods. It is designed to take the highest gain from the software. This development method is helps in the increment of software program workability.

Advantages

1. It makes the complete development process simple.
2. This method helps user in taking review.

3. It helps in taking feedback from user for further enhancement.

Disadvantages

1. Performance depends on team performance.
2. Takes an attempt at modularized framework limited on this approach.
3. This method requires skillful person to handle the complex problem.
4. This method is not suitable for small project.

Dynamic System Development Model Methodology

It is an iterative and incremental development methodology. This methodology is also allowing users to involve in the development method. This development method helps in completing the project within given time and assigned budget.

Advantages

1. In software development method users getting a command upon that.
2. A quick delivery of serviceability.
3. User can easily access offers given by developers.

Disadvantages

1. Implementation of this methodology is very costly.
2. Not appropriate for small industry.

Spiral Model

In this methodology developers starts from very smaller level and search for the possible problems and risks. This method mainly focuses on objective selection .It has four phases like planning, risk analysis, development and evaluation. These methodologies follow each phase many times.

Advantages

1. Due to movement of repeatedly each phase many times risk and problems will be reduced.
2. This method is best and suitable for big and complex project.
3. In later stages it allows for additional functionality.
4. Very much suitable for high risk projects

Disadvantages

1. This methodology is very expensive in software development.
2. If risk analysis phase is fail it may destroy complete project.
3. Its not suitable for minimum risk project models.
4. Due to again and again checking of each phase the process may be continued and never ends.



Extreme Programming Methodology

This methodology split the process into small process which makes it more manageable this method they two programmer works on a same computer at the same time one is writing code other is supervising .In regular time intervals they change their roles to minimize the errors. This method provides collective ownership code policy that means any developer can change any coding even if that was not written by him. Project owner who decides the task priorities.

Advantages

1. This method pays attention on customer participation.
2. This method creates logical plans and programme.
3. Software programmers are wholeheartedly dedicated to the project.
4. This method is produces quality software by its modernistic method.

Disadvantages

1. Software effectiveness depends on the people involved in the project.
2. Frequently meetings are required for raising development costs.
3. Developmental change is necessary for more development.
4. Future outcomes and possibilities are unknown.

V-Model Methodology

V-model (verification and validation) methodology is an expansion of waterfall model. By pairing of each developmental phase with similar phase of testing. Feedback is received in the acceptance testing phase after completion of complete process .This method is useful for small and medium size projects.

Advantages

1. Systematic development and organized progress is the basic quality of this method.
2. This method is suitable for small and medium size projects.
3. Testing process is run parallel with the starting phase so it helps to find out the ambiguities from the starting phase.
4. Each phase has well defined objectives and goals to managing the phase.

Disadvantages

1. This method is not suitable for large projects.
2. Not suitable when requirements do not fit.
3. In the middle stage not any working software will be produced.
4. In this method risk analysis is not possible so risk and uncertainty are present there.

Scrum Methodology

It is an agile methodology or framework. In this methodology or framework software development is starts with simple known things. After that we can track the progress and manipulate it according to our requirements. Transparency inspection and adaptation are three basic pillars of scrum. Product owner, scrum master and scrum development teams are the roles of scrum team. Scrum team plans a sprint session where task is necessary to complete within the given time period. They also create sprint backlog and plans of sprint and implement it.

Advantages

1. Scrum helps in software development quickly and efficiently.
2. Mega projects are divided into small sprints to manage it properly.
3. Errors are debugged during the sprint review, so final code will be error free. Due to this development of project will fast.
4. Efforts of each team members are observe in scrum meetings.

Disadvantages

1. Scrum project has not defined end date so project development takes longer time period.
2. Scrum framework works properly with experienced people's team.
3. Huge number of meetings sometimes frustrates team members.
4. Quality maintenance is very tough due to step wise testing.

Clean Room Methodology

Project development methodology based on mathematical function theory. Software testing method is based on applied statistical method. Incremental software method is used for design and analysis by using box structure. A Box which wrapped the system with some level of abstraction. When a box is completed verification will be starts. Testing of software depends upon its usage and random tests to conform probabilities.

Advantages

1. Basic knowledge of mathematics and logical for defining notation accurately.
2. Black, state and clear box are the steps used by box structure to refine the requirements of the code.
3. Errors are debug before the system testing phase.
4. Software using criteria is defined by the usage models.

Disadvantages

1. Requires statistical skill and knowledge.



2. Not used for simple commercial development.
3. Not supporting CASE tools.
4. This methodology is project specific.

Rational Unified Methodology: This methodology is based on UML. In this method software development process divided into four phase: 1) inception 2) elaboration 3) construction and 4) transition.

Advantages

1. In itself it is complete methodology.
2. It resolves the project risks.
3. Less time required for integration.
4. For this methodology, online tutorials and training are available.

Disadvantages

1. Team members should be experienced.
2. Development process is very complex.
3. Reuse of components is not possible in cutting edge project.

CONCLUSIONS

This paper focuses on different methodologies of software development tools. Also study the advantages and disadvantages of all software development tool in detail. Our study also provides documentation to project owner to select the best software development method according to the need of the users. For any specific project no methodologies is perfect. Only best matching methodologies will be used in case of experienced project groups. Experienced groups also use combination of methodologies for new software development.

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AUTOMATIC TEXT SUMMARIZATION USING DEEP LEARNING

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ABSTRACT

Text summarization is a process of extracting collecting important information from original text and present the information in the form of summary. Text summarization has become the necessity of many applications for example search engine, business analysis, market review. Summarization helps to gain required information in less time. This paper is an attempt to summarize and present the view of text summarization from every aspect from its beginning till date. The two major approaches i.e., extractive and abstractive summarization is discussed in detail. The technique deployed for summarization ranges from structured to linguistic. In Indian many languages also the work has being done, but presently they are in infancy state. This paper provides an abstract view of the present scenario of research work for text summarization. In an computerized machine of summarization which is wreck up into the subsequent steps: Pre-processing (sentence segmentation, tokenization, give up words removal), Feature Extraction, Sentence Scoring, Sentence Ranking and Summary Extraction. Finally, this paper collects the most crucial today's and applicable lookup interior the zone of the textual content summarization to assessment and assessment for future research.

KEYWORDS - *Text Summarization, extractive and abstractive summarization.*

I. INTRODUCTION

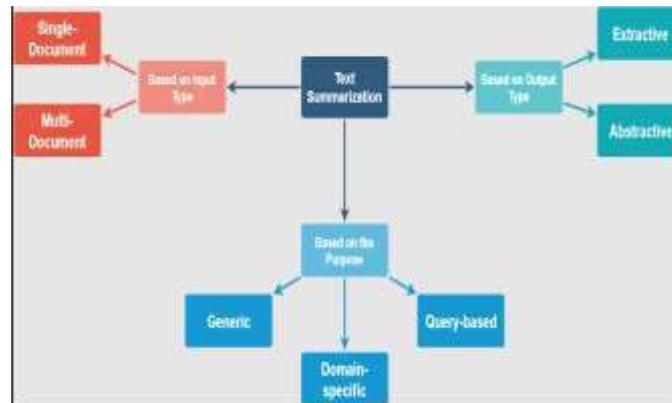
With increasing amount of knowledge it becomes extra and greater challenging customers to search efficaciously for unique content to understand a influential, necessary and applicable material today's information technology wide variety of humans is checking out informative on web, each time it's impossible that they thought to get all application records in single document ,or on a single website. They might get variety of sites as a search result [5]. This has given the new solution that is associated to records processing and computing device mastering which returns query unique Information from massive set of offline archives and represents as one file to the user. So, computerized summarization is a fundamental location in Natural Language Processing (NLP) research. Automated summarization affords single file summarization and multi-document summarization [3].

II. TYPES OF SUMMARIZATION

A. Multi-Document Merger

The merging of data from multiple documents is called multi-document merger. Data is found in unstructured or structured form and many times we have to generate summary from multiple files in less time, so, multi-document merger technique is useful. Multi-document summarization generates information reports that are both concise and comprehensive. With different opinions being put together, every topic is described from multiple perspectives within a single document. The goal of a brief summary is to simplify information search and save the time by pointing to the most relevant information.

Fig1: Unsupervised text summarization



B. Extractive Text Summarization

Extractive summarizer aims at selecting the foremost Relevant sentences within the document whereas maintaining a reduced redundancy within the outline. It is created by reusing portion (word, sentences etc.) of input text verbatim. Example: Search engines typically generate extractive summaries from web pages.

1. Term Frequency Inverse Document Frequency (TFIDF) approach:

Bag words model is made at sentence level, with the traditional term frequency and sentence frequency algorithms, wherever sentence frequency is that the range of sentences within the document that have that term, words that occur frequently within the documents is additionally taken because the question words.

2. Clustering based approach

Documents area unit consist of mistreatment term frequency and inverse document frequency (TFIDF) of various Extractive summarizer aims at selecting the foremost relevant sentences within the document whereas maintaining a reduced redundancy within the outline. It is created by reusing portion (word, sentences etc.) of input text verbatim. Example: Search engines typically generate extractive summaries from web pages words. Term frequency in this context is that the average range kind of document over of existences of similar the cluster

C. Abstractive Text Summarization

The rule based method comprises of three step Firstly, The documents to be classified are represented in terms of the rule based method Their categories. The categories can be from various Domains. Hence the first task is to sort these. The next thing is to make questions supported these categories amongst the varied categories like attacks, disasters, health etc. The context selection module selects the best candidate amongst these.-Generation

patterns are the Methods employ more powerful natural language processing

1. Rule Based Method

Techniques to interpret text and generate new summary text, As opposed to selecting the most representative existing excerpts to perform the summarization. A) In this method, information form source text re-phrased. but it is harder to use because it provides allied problems such as semantic Representations.

Example: Book Reviews-if we want a summary of book the lord of The Rings then by using this method we can make summary from it. The used for the generation of summary sentences.

III. LITERATURE SURVEY

An improved method of automatic text summarization for web contents using lexical chain with semantic-related terms proposes an improved extractive text summarization method for documents by enhancing the conventional lexical chain method to produce better relevant information. Then, Author firstly investigated the approaches to extract sentences from the document(s) based on the distribution of lexical chains then built a transition probability distribution generator (TPDG) for n-gram keywords which learns the characteristics of the assigned keywords from the training data set. A new method of automatic keyword extraction also featured in the system based on the Markov chains process. Among the extracted n-gram keywords, only unigrams are selected to construct the lexical chain [1].

In paper author first extracted multiple candidate summaries by proposing several schemes for improving the upper-bound quality of the summaries. Extensive experiments have been conducted on a benchmark dataset [2].

Automatic text summarization within big data framework demonstrates how to process large data sets in parallel to address the volume problems associated with big data and generate summary using sentence ranking. TF-IDF is used for document feature extraction. Map Reduce and Hadoop is used to process big data [3].

Extractive documents summarization based on hierarchical GRU proposes two stage structure 1) Key sentence extraction using Levenshtein distance formula 2) Recurrent neural network for summarization of documents. In extraction phase system conceives a hybrid sentence similarity measure by combining sentence vector and Levenshtein distance and integrates into graph model to extract key sentences. In the second phase it constructs GRU as basic block, and put the representation of entire document based on LDA as a

feature to support summarization [4].

Extractive algorithm of English text summarization for English teaching is based on semantic association rules. In this paper relative features are mined among English text phrases and sentences, the semantic relevance analysis and feature extractions of keywords in English abstracts are realized [5].

IV. PROPOSED METHODOLOGY

In above literature survey we found that all summarization frameworks are unique in their own way with respect to document processing, algorithms and final outputs. To overcome the limitations discussed above for existing systems, we suggest following methods.

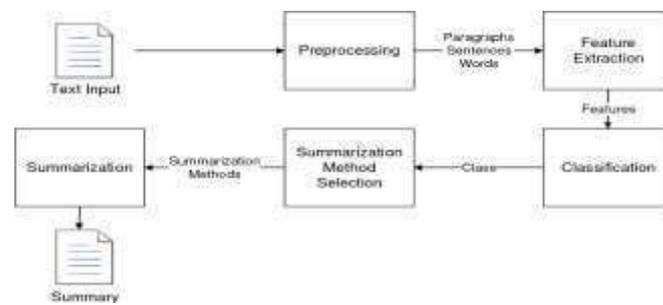


Fig2 Extractive Summarization

1. Clustering with cosine similarity algorithm for sentence extraction

Previously we analyzed some limitations of existing systems one of them was single domain summarization that is Algorithm only works on specific documents like scientific journals', sports, news documents. To avoid this we suppose to use cosine similarity algorithm which gives better sentence extraction result regardless of the type of document or size of the document. While extracting sentences we will treat a heading as a general sentence so the system will perform on document with or without heading.

1. The NEWSUM algorithm for generating clusters

To increase accuracy we have to use clustering so that we can avoid unrelated documents, on top of that both algorithms have minimum time complexity which will help to minimize overall system execution time.

2. Position score algorithm to rank the sentences

To rank the extracted sentences we use position score Algorithm. It helps to maximize the accuracy rate of the system.

V. CONCLUSION

The day the growth of data is increased in

structured or unstructured form and we need summary from that data in less time. So there is a need for automatic text summarization tool. In this survey paper we have discussed about various types of text summarization techniques. Further, limitations throughout found the papers are discussed and probable solutions are also given. To overcome the drawback of existing models, here we have proposed a new model. It includes clustering with cosine similarity algorithm, the NEWSUM algorithm and position score algorithm. The proposed framework is under development. The presently taken results are giving positive outcome from proposed system.

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ROLE OF JUDICIARY FOR PROTECTION OF ENVIRONMENT IN INDIA

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ABSTRACT

The problem of environmental pollution is not new in its origin. However, different dimensions of the problem of environment protection and its management have taken a serious turn in the present era. Today, the role of judiciary depends on the nature of political system adopted by a particular country. In view of legislative and executive in differences of failures but the role of judiciary has been critical in shaping the environmental laws and policies.

KEY-WORDS: *Environment, Protection, Judiciary, Policy and Role.*

INTRODUCTION

Environment, being an inter-related discipline, policies and laws are needed to safe guard and protect natural environment. The Government of India has taken systematic and sustained efforts to tackle major environmental problems of this country. One of the efforts is to formulate comprehensive 'Policy frame work" to enable the government to have a holistic view of all environmental issues and to formulate "Environmental Plan" for the country.

There are several policy statements relating to environment namely Industrial Policy Statement (1980), National Land use Policy (1986), National Water Policy (1987), National Land use Policy (1988), National Forest Policy (1988), Policy Statement for abatement of pollution (1992), The National Conservation Strategy and the Policy Statement on Environment and Development (1992), Ocean Policy Statement, National Agriculture Policy (2000), Wild Life Conservation Strategy (2002) and The Environment Policy Statement (2006). National Environment Policy, 2006 is more specific in recognizing the polluter pays principle in order to achieve economic efficiency in environmental conservation. This Principle requires that the services of environmental resources be given economic value,

and such value to count equally with the economic values of other goods and services, in analysis of alternative courses of action.

The formulation of above policy statements has fulfilled a long standing demand of devising a clear and precise national policy on environmental protection and management. A few of the policy directives have been formulated into legislations. The main legislations on environmental protection are: The Indian Fisheries Act, 1897; The Indian Forest Act, 1927; The River Boards Act, 1956; The Water (Prevention and Control of Pollution) Act, 1974; The Water Cess (Prevention and Control of Pollution) Act, 1977; The Environment (Protection) Act, 1986; The Mines and Minerals (Regulation and Development) Act, 1957; The Atomic Energy Act, 1962; The Air (Prevention and Control of Pollution) Act, 1981; The Environment (Protection) Act, 1986; The Public Liability Insurance Act, 1991 and The Environment Tribunal Act, 1995.

Apart from statutes, the remedy for environmental harm is available in law of tort under the categories of negligence nuisance, trespass and strict liability.



ROLE OF INDIAN JUDICIARY

The role of judiciary depends on the very nature of political system adopted by a particular country. This is the reason that role of judiciary varies in liberal democracy, communist system and countries having dictatorship. The role of judiciary has been important in liberal democracies like India. The Constitution of India in fact took inspiration from US Constitution and therefore adopted similar concept of judicial review. In independent India, history of judiciary, judicial review and judicial activism has been a fertile area for legal researchers. It is now a well established fact that, in India, in view of legislative and executive indifferences or failures, the role of judiciary has been crucial in shaping the environmental laws and policies. The role of the Indian Supreme Court may be explained quoting the views of Professor S.P. Sathe and Professor Upendra Baxi two leading academics who have extensively written on the role of judiciary in India. Professor Sathe has analyzed the transformation of the Indian Supreme Court "from a positivist court into an activist court". Professor Upendra Baxi, who has often supported the judicial activism in India, has also said that the "Supreme Court of India" has often become "Supreme Court for Indians".¹ Many observers of the Indian Supreme Court including Professor Sathe and Baxi have rightly opined that the Indian Supreme Court is one of the strongest courts of the world.²

Power and judicial activism of the Indian courts have resulted into a strong and ever expanding regime of fundamental rights. Stockholm Conference on Human Environment, 1972, has generated a strong global international awareness and in India it facilitated the enactment of the 42nd Constitutional Amendment, 1976. This amendment has introduced certain environmental duties both on the part of the citizens [Article 51A (g)] and on the state (Article 48-A).

Under the constitutional scheme the legal status of Article 51(A)-(g) and 48-A is enabling in nature and not legally binding per se, however, such provisions have often been interpreted by the Indian courts as legally binding. Moreover, these provisions have been used by the courts to justify and develop a

legally binding fundamental right to environment as part of right to life under Article 21.³ Hereinafter, an effort has been made to demonstrate that how both the 'soft' and 'hard' international environmental laws have been used by the Indian courts to develop a strong environmental jurisprudence in domestic law.

The higher Judiciary in its new role played a crucial role in protecting the environment through public interest litigation covering various aspects of environmental degradation under Article 32 and Article 226 of The Constitution of India, 1950.

The Supreme Court of India formulated the doctrine of absolute liability for harm caused by hazardous and inherently dangerous industry by interpreting the scope of the power Under Article 32 of the Constitution of India in a PIL.⁴ Regarding the liability of an enterprise which is engaged in an hazardous or inherently dangerous industry, the Court observed: "We are of the view that an enterprise which is engaged in a hazardous or inherently dangerous industry which poses a potential threat to the health and safety of the persons working in the factory and residing in the surrounding areas owes an absolute and non delegable duty to the community to ensure that no harm results to any one on account of hazardous or inherently dangerous nature of the activity which it has undertaken. It further observed-that the enterprise must be held to be under an obligation to provide that the hazardous or inherently dangerous activity in which it is engaged must be conducted with the highest standard of safety and if any harm results on account of such activity, the enterprise must be absolutely liable to compensate for such harm and it should be no answer to the enterprise to say that it had taken all reasonable care and that the harm occurred without any negligence on its part".⁵ On the question of the measure of the compensation, the court pointed out that it must be correlated to the magnitude and capacity of the

¹ Upendra Baxi, 'The Avatars of Indian Judicial Activism : Explorations in the Geography of (In) justice', in S.K. Verma and Kusum (eds.), *Fifty Years of the Supreme Court of India : It's Grasp and Reach* (Delhi, Oxford University Press, 2000) pp. 156-209 at 157.

² S.P. Sathe, *Judicial Activism in India* (New Delhi, Oxford University Press, 2000). See, 'Preface' of this work written by Prof. Upendra Baxi, pp. ix-xxi.

³ *R.L.E.K., Dehradun v. State of U.P.* (Doon Valley Matter) was the first case in which the Supreme Court recognized a fundamental "right to live in a healthy environment with minimum disturbance of ecological balance". A.I.R. 1985 SC 625 at 656.

⁴ Supreme Court On The Doctrine Of Absolute Liability And Polluter Pay's Principle: An Analysis by Manjunatha N G1; International Journal Of Research And Analysis, 2014, Volume 2 Issue 3.

⁵ *M.C. Mehta v. Union of India*, 1987 AIR 1086 : 1987 SCR (1) 819.



enterprise because such compensation must have a deterrent effect.⁶

Internationally recognized concept of Sustainable Development means a development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The definition meets enough scepticism due to unclarity of idea that it express. Taking into consideration the Brundtland Report and international documents like Rio Declaration 1992 and Agenda-21, the salient features of the concept may be summarised to comprise as: Intel-generational equity, Use and conservation of natural resources for environmental protection, Precautionary principle, Obligation to assist and cooperate, Eradication of Poverty, Financial assistance to the developing countries and The Polluter pays principle.⁷

The Apex court of India has recognized that the precautionary principle and polluter pays principle are part of the Environmental law of the country.⁸

Precautionary Principle

The precautionary Principle essentially speaks of taking of such measures by which environment can be protected from the activities that degrade the environment and as well from such other activities which are yet not scientifically established to be harmful to the environment.

The main purpose of the precautionary Principle is to ensure that a substance or activity posing a threat to the environment is prevented from adversely affecting the environment, even in case there is no conclusive scientific proof of linking that particular substance or activity to environmental damage, this principle has been accepted and adopted by several international documents.⁹

Polluter Pays Principle

The first major reference to the polluter pays principle appeared 1972 in the Organization for Economic Co-operation and Development Guiding Principles concerning international economic aspects of environmental policies. The PPP as a guiding principle across countries became necessary because some countries faced complaints by national firms about rising costs and a loss of international competitiveness following a national implementation of the PPP with in the their borders.¹⁰

The OECD guiding principles defines the PPP as an instrument for "..... Allocating costs of pollution, prevention and control measures", the polluter should bear these costs in order to achieve and maintain an acceptable state of environment, "which is determined by the public authorities."¹¹

Judicial adoption of international environmental law into domestic law in India

The judicial adoption of international environmental law into domestic law in India has not been done overnight rather it has been gradual.

During the period of 1950 to 1984 the Indian courts have adopted a traditional dualist approach that treaties have no effect unless specifically incorporated into domestic law by legislation. In *Jolly George Verghese v. Bank of Cochin*¹² the Supreme Court upheld the traditional dualist approach and gave overriding effect to the Civil Procedure Code over International Covenant on Civil and Political Rights. However, the court in this case, minimizes the conflict between the Covenant and domestic statute by narrowly interpreting the Civil Procedure Code.

As far as the customary international law is concerned, during 1950-84, there was hardly any legislative exercise in the name of customary international law.

The Indian judicial approach relating to the legal status of the customary international law was clarified in *Gramophone Company of India Ltd. v. Birendra Bahadur Pandey*.¹³ In this case the court relied upon the English decisions and endorsed the doctrine of incorporation. According to this doctrine rules of international law are incorporated into national law and considered to be part of national law unless they are in conflict with an Act of the parliament.

⁶ . Supreme Court On The Doctrine Of Absolute Liability And Polluter Pay's Principle: An Analysis by Manjunatha N G1; International Journal Of Research And Analysis, 2014, Volume 2 Issue 3.

⁷ . Our Common Future, Chapter 2: Towards Sustainable Development, From A/42/427. Our Common Future: Report of the World Commission on Environment and Development.

⁸ . Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647 (Page 658, Para 11) : AIR 1996 SC 2715.

⁹ Precautionary Principle Of Environmental Law; <https://newindialaw.blogspot.in/2013/05/precautionary-principle-of.html>

¹⁰ Concept of Polluter Pay Principle (PPP) , <https://www.researchgate.net/>

¹¹ Polluter Pays Principle Has Become a Popular Catchphrase, <https://www.scribd.com>

¹² (1980) 2 SCJ 358.

¹³ (1984) 2 SCC 534.



During 1985-1995 international environmental law was used to interpret the character of state obligations with respect to the right to life (Article-21), which has been interpreted to include the right to a healthy and decent environment.

Before 1996 there were very few references to international environmental treaties though by 1990 India was party to more than 70 multilateral treaties of environment significance.¹⁴

In Asbestos Industries Case¹⁵ the Supreme Court extensively quoted many international laws namely ILO Asbestos Convention, 1986, Universal Declaration of Human Rights, 1948, and International Convention of Economic, Social and Cultural Rights, 1966. In this case the court dealt the issues relating to occupational health hazards of the workers working in asbestos industries. The court held that right to the health of such workers is a fundamental right under article 21 and issued detailed directions to the authorities.¹⁶ In Calcutta Wetland Case¹⁷ the Calcutta High Court stated that India being party to the Ramsar Convention on Wetland, 1971, is bound to promote conservation of wetlands.¹⁸

The Stockholm Declaration, 1972 and the Rio Declaration, 1992 have been considered milestones in the development of international environmental law. Though these two declarations have often been characterized as 'soft' law but their impacts both at international and domestic levels, have been profound. In India, the post Bhopal Gas Disaster era (after 1984) was a creative period for environmental jurisprudence. During this period, in landmark Doon Valley case¹⁹, the Supreme Court dealt with the impact of mining in the Doon Valley region and through its orders impliedly generated a new fundamental "right of the people to live in healthy environment with minimal disturbance of ecological balance."²⁰ In this case there were series of orders and in one of its orders the court recognized the influence of the Stockholm Conference by

accepting that this "conference and the follow-up action thereafter is spreading the awareness".²¹ Again, in Kanpur Tanneries Case²² the Supreme Court extensively quoted the Stockholm Declarations and strengthened the then nascent fundamental right to environment in India. In this case the court gave preference to 'environment' over 'employment' and 'revenue generation'. During this period the Rio Declarations, 1992 was also cited in the Law Society of India case.²³

During this period of 1985-1995, according to Prof. Anderson, the said soft laws were invoked by the court simply to make the general point that environment should be protected. The use and role of soft laws was 'secondary' rather than 'substantive'.²⁴ The courts were just using soft law standards to evolve and strengthening the fundamental right jurisprudence under Article 21. In fact, international environmental law played primary and substantive role in the next period starting from the year 1996.

In contrast to its previous caution during 1985-1995 periods, the Supreme Court adopted a more robust attitude to customary international law in the year 1996.²⁵ In the year 1996 the Supreme Court, led by an activist green judge- Justice Kuldeep Singh, inaugurated a new environmental jurisprudence in historic Vellore case²⁶ and invariably applied the ratio of this case in a series of other landmark environmental cases. In all such cases international environmental law was used 'substantively' and the Supreme Court developed a unique domestic environmental jurisprudence by blending the Indian environmental law with the international environmental law. Hereinafter, an effort has been made to discuss important cases of this period and their outcome.

In Vellore case the court considered a public interest litigation highlighting discharge of toxic waste and polluted water from the large number of tanneries

¹⁴ Anderson, (1998), *op. cit.*, note13, p. 26.

¹⁵ *Consumer Education & Research Centre v. Union of India*, 1995 AIR 922; (1995) 3 SCC 42.

¹⁶ Principles Of International Environmental Law And Legal Status In India; Journal of Global Resources, January 2016, Vol 2., pp. 103-108.

¹⁷ *People United for Better Living in Calcutta v. State of W.B.*, AIR 1993 Cal. 215.

¹⁸ Principles Of International Environmental Law And Legal Status In India; Journal of Global Resources, January 2016, Vol. 2., pp. 103-108.

¹⁹ *R.L.E.K. Dehradum, v. State of U.P.* AIR 1985 SC 652. Three judges bench order of March 12, 1985

²⁰ *Ibid*, 656 (Para 12).

²¹ AIR 1987 SC 359, 363 (Para 19) order of Dec. 18, 1986.

²² *M.C. Mehta, v. Union of India* AIR 1988 SC 1037. See Para 4 (pp. 1038-1040) for detailed discussion of Stockholm Declarations by Justice Venkataramiah.

²³ *Law Society of India v. Fertilizer & Chemical Travancore Ltd.* AIR 1994 Ker. 308.

²⁴ Anderson, (1998), *op. cit.*, note13, p. 25.

²⁵ *Ibid*.

²⁶ *Vellore Citizens' Welfare Forum v. Union of India* (1996) 5 SCC 647 : AIR 1996 SC 2715 Unanimous Judgment delivered on August 28, 1996; by a three judges bench of the Supreme Court of India.



in the State of Tamil Nadu. A three judges' bench led by Justice Kuldeep Singh adopted a very strict stand against the polluting tanneries. In this case the court reviewed the history of the concept of sustainable development under international law. In this connection the court briefly referred important legal developments such as the Stockholm Conference 1972, Burndtland Commission Report, 1987, Caring of the Earth Report, 1991, Rio Conference, 1992, Convention on Climate Change, 1992, Convention on Biological Diversity, 1992 and Agenda -21 (A programme of Action for Twenty-first Century) etc. The important legal findings of the Vellore case, relevant for this research study, are summarized below.

- The court held that "Sustainable Development" as a balancing concept between ecology and development has been accepted as a part of customary international law though its salient features are yet to be finalized by the international law jurists. [(1996) 5 SCC 647, Para 10].
- The court was of the view that "The Precautionary Principle" and "The Polluter Pays Principle" is essential features of "Sustainable Development." (ibid., p. 658, Para 11).
- The Precautionary Principle and the Polluter Pays Principle have been accepted as part of the law of the land. (ibid., pp. 659-660, Paras 13 & 14).
- According to the court, "once these principles are accepted as part of the customary International law there would be no difficulty in accepting them as part of the domestic law. It is almost an accepted proposition of law that the rules of Customary International Law which are not contrary to the municipal law shall be deemed to have been incorporated in the domestic law and shall be followed by the courts of law".²⁷ (ibid. 660, Para 15).

Vellore Case in Development of Environmental Law in India

Vellore case has been proved a turning point of the growth of environmental law in India. Though the

aforementioned outcome/ratio of the Vellore case has often been questioned by the critics²⁸ but the Supreme Court it has never cast a doubt on the ratio of this case. Conversely the courts in India have been enthusiastically applying the ratio of the Vellore case in majority of environmental cases. Hereinafter, an effort has been made to present an account of those cases in which Vellore case has been cited, approved and used. This discussion can be divided into two broader heads as below.

The Supreme Court led by Justice Kuldeep Singh decided the Vellore case on August 28, 1996, and in several important subsequent judgments written by him²⁹ he applied the ratio of the Vellore case. This account has been presented in a tabular form as below.

²⁸ For example Prof. B.C. Nirmal, an expert of international law at Law School, BHU, has questioned the reasoning of the *Vellore case*. See, B.C. Nirmal, 'From *Vellore* to *Nayudu* : The Customary Law Status of the Precautionary Principle; 30 *Banaras Law Journal* (2001) 58-99. For criticism of *Vellore's* ratio, See also, Anderson, (1998), *op. cit; note 13*, pp. 27-28. In his concluding observations Prof. Anderson opines that "The direct incorporation of international environmental law principles raises serious questions regarding both the content of domestic environmental law and the place of international law in India's constitutional order. It would not be surprising if these matters are raised by industry groups in future litigation." (ibid.,p 28). For example, in Bhopal Mass Disaster litigation the Union Carbide Corporation seriously contested the ratio of absolute liability principle of the *Oleum Gas Leak case* (AIR 1987 SC 1086). In *Vellore case* Justice Kuldeep Singh affirmed the mixing of the Polluter Pays Principle with the Absolute Liability Principle (Para 12 at pp. 658-59 in SCC Report). Prof. Anderson opines that such mixing has no support under the international environmental law which has been invoked by the court to from the ratio of the *Vellore case*.

²⁹ Except one order written by Justice Hansaria to which Justice Kuldeep Singh was the party. See serial number 1 in the table.

²⁷ In support of this conclusion the court referred to Justice H.R. Khanna's opinion in the *A.D.M. Jabalpur v. Shivakant Shukla* (1976) 2 SCC 521: AIR 1976 SC 1207, *Jolly George Varghese v. Bank of Cochin*, (1980) 2 SCC 360 : AIR 1980 SC 470 and *Gramophone Co. of India Ltd. v. Birendra Bahadur Pandey*, (1984) 2 SCC 534 : AIR 1984 SC 667.



Table

this exercise Vellore case was virtually converted as the

S.No.	Cases in Which Vellore Case Applied	Date of Order/ Judgment	Judge Who Delivered the Order/ Judgment
1.	Bayer India Ltd. case ³⁰	Sept. 09, 1996.	Justice B.L. Hansaria, (Justice Kuldip Singh was a member of the Bench)
2.	Badkal & Surajkund Lakes case ³¹	Oct. 11, 1996.	Justice Kuldip Singh
3.	Suo Motu case (Vehicular Pollution in Delhi matter) ³²	Nov. 18, 1996	Justice Kuldip Singh
4.	Shrimp Culture case ³³	Dec. 11, 1996	Justice Kuldip Singh
5.	Kamal Nath case ³⁴	Dec. 13, 1996.	Justice Kuldip Singh
6.	Calcutta Tannaries case ³⁵	Dec. 19, 1996	Justice Kuldip Singh
7.	Taj Trapezium case ³⁶	Dec 30 1996.	Justice Kuldip Singh

Analysis of the above cases shows that within a short period of four months i.e. from Sept. 1996 to Dec. 1996, the ratio of Vellore case was applied in seven important cases by the Supreme Court. Out of these seven cases, six judgments have been written/ delivered by Justice Kuldip Singh himself and there was no dissenting opinion by the other judges in such cases. Only in one case namely Bayer India Ltd, the judgment was delivered by Justice Hansaria on behalf of a division bench of which Justice Kuldip Singh was also a member. In these seven cases ratio of the Vellore case³⁷ was verbatim referred and approved. Through

ground norm by Justice Kuldip Singh without stating that it was he who created this ground norm. The fact, that out of seven, six judgments delivered / written by Justice Kuldip Singh he suggests that before his retirement, which was due in Dec. 1996, he wanted to establish the ratio of Vellore as a settled precedent under Indian environmental jurisprudence.

Even after retirement of Justice Kuldip Singh in Dec. 1996 the entire ratio of Vellore case remained intact. In fact, this ratio of Vellore has been further strengthened when in many other important environmental cases the Supreme Court reiterated and upheld the same. But, in post Kuldip Singh era nature and extent of the application of Vellore's ratio has varied from case to case. In these cases, briefly

³⁰ *F.B. Taraporwala v. Bayer India Ltd.* (1996) 6 SCC 58, 61 (Para 4).

³¹ *M.C. Mehta (Badkal and Surajkund Lakes Matter v. Union of India)* (1997) 3 SCC 715, 718-20. (Para 8 & 10).

³² *Suo Motu Proceeding In Re : Delhi Transport Development* (1998) 9 SCC 250; 251. Justice Kuldip Singh (Joint order of the Div. bench) applied the precautionary principle as part of sustainable development to establish a legal duty of the state government to control the vehicular pollution in Delhi).

³³ *S Jagannath, v. Union of India* (1997) 2 SCC 87, 143-46 (Para 47).

³⁴ *M.C. Mehta v. Kamal Nath* (1997) 1 SCC 388, 413-414 (para 37 & 38).

³⁵ *M.C. Mehta (Calcutta Tannaries' Matter) v. Union of India* (1997) 2 SCC 411, 429-430 (Para 18 & 19).

³⁶ *M.C. Mehta (Taj Trapezium Matter) v. Union of India* (1997) 2 SCC 353, 382-83. (Para 32).

³⁷ It is a matter of surprise that during the year 1996 itself Justice Kuldip Singh court delivered many orders/judgments prior to the Vellore case (Aug.28, 1996), but, in none of these cases he invoked the international law principles to decide

the said cases as he did in the *Vellore case*. These cases are : *Delhi Water Supply case*, Feb. 29, 1996. (1996) 2 SCC 572; *Dr. B.L. Wadehra case* March 01, 1996, (1996) 2 SCC 594; *Coastal Regulation Zones case* April 18, 1996 : (1996) 5 SCC 281; *Badkal and Surajkund Lakes case* (main order) May 10, 1996 : (1996) 8 SCC 462. In *M.C. Mehta v. Union of India (Delhi Hazardous Industries Relocation Matter)* Justice Kuldip Singh court delivered two orders on May 10, 1996 (1996) 4 SCC 351 and July 08, 1996, (1996) 4 SCC 750 and no reference to the *Vellore case* was made. It may be pointed out here that in the main order (May 10, 1996) in *Badkal Lake Case* there was no use of international environmental law principle but in the clarificatory order (Oct. 11, 1996) of the same matter Justice Kuldip Singh court extensively used the international environmental law principles by reiterating the ratio of the *Vellore case*. The present author has not succeeded to find explanation of this sudden departure of judicial attitude of Justice Kuldip Singh court within the short span of few months.



mentioned below, the courts have made passing references or restrictive use or selective use of Vellore's ratio. However, there has been no dissent against the Vellore's ratio in these cases.

In Samatha case³⁸ only meaning and importance of the term sustainable development as well as "the polluter pays principle as a facet thereof" have been briefly mentioned and affirmed by the Supreme Court. In Nuyudu case³⁹ citing Vellore case the Supreme Court felt it necessary to further elaborate the meaning of precautionary principle in more detail'. (Para. 32, p. 733).

In Sardar Sarovar Dam⁴⁰ majority judgment (Kirpal, J. for himself and Anand, CJI.) referred the Nayudu & Vellore Cases and approved the construction of a mega dam and found it compatible with the concept of sustainable development which requires that mitigate steps should be taken. The court refused to apply the precautionary principle in this matter by distinguishing the dam with the hazardous industries.

The first recognition of the principle (PPP) by judiciary can be seen from the judgment delivered by the Supreme Court of India in writ petition no. 657 of 1995. In it orders dated Feb - 4, 2005. The Supreme Court held that "The PPP means that absolute liability of harm to the environment extends not only to compensate the victims of pollution, but also to the cost, of restoring environmental degradation. Remediation of damaged environment is a part of the process of sustainable development.

The Supreme Court for the first time applied the polluter pays principle explicitly in "*Indian Council for Enviro-Legal Action v. Union of India*"⁴¹ in which the Court held that the polluting industries are absolutely liable to compensate for the harm caused by them to the villagers in the affected area, to the soil and to the underground water and hence they are bound to take all necessary measures to remove sludge and other pollutants lying in the affected areas. The Supreme Court further directed the Central Government to determine the amount required for carrying out the remedial cost of the environment in consultations with appropriate ministry, utilizing its power under Section

3 and Section 5 of the Environment (Protection) Act of 1986.

In *The Vellore Citizens Welfare Forum v. Union of India*⁴², the Supreme Court declare that the Polluter Pays Principle has been held to be a sound principle and directed the Central Government to constitute an authority under Section 3(3) of the Environment (Protection) Act, 1986 with the power to compute the compensation applying polluter pays principle under two heads namely for reversing the ecology and for payment to individual victims. It further ordered imposition of pollution fine of Rs. 10,000/- from each of the polluting tenancy Industries. The fine so recovered from polluter had to be deposited under a separate head Environment Protection Fund. The Supreme Court ordered creation of Environment Protection fund in this case and directed the fund to be utilized for compensating the affected persons as identified by authorities and also for restoring the damaged environment.

The Supreme Court of India in *M.C.Mehta v. Union of India*³, has impliedly applied the polluter pays principle to deal with the problem caused by the oleum gas leakage from the Shriram Food and Fertilizer Corporation.

The Supreme Court reiterated the 'PPP' and re-emphasized the need to apply it in "*MC Merita v. Union of India*".⁴³ It was a case concerning the "yellowing and decaying of the Taj Mahal". The Apex court ordered industries either to change the energy pattern or to relocate or close. It further ordered compensation for the harm caused and a mechanism to be developed for the same.

The Supreme Court applied the PPP in another land mark decision in the case of "*S. Jagannath vrs Union of India*".⁴⁴ In this case, it was found that the Shrimp Culture industry in and around Chilka and Pulikat lakes adjacent to the east coast was causing salinity of the-soil and the drinking water. This Industry also caused detrimental effects on the local Flora and Fauna.

The Supreme Court has also applied the "PPP" in *M.C. Mehta v. Kamalnath*.⁴⁵ In this case the Supreme Court held that the Span Motel interfered into the natural flow of the river Beas by trying to block the natural flow of the river. Hence, the motel was directed to pay compensation by way of cost for the restitution

³⁸ *Samatha, v. State of A.P. & others* (1997) 8 SCC 191, 274. (Para 123) (Decided on July 11, 1997 by three judges' bench).

³⁹ *A.P. Pollution Control Board v. Prof. M.V. Nayudu* (1999) 2 SCC 718, 732-34 (Para 30, 31 & 36).

⁴⁰ *Narmada Bachao Andolan v. Union of India* 2000 (7) SCALE 34, 91-92. (para 119-121) (AIR 2000 SC 3751).

⁴¹ AIR 1996 SC 1446.

⁴² AIR 1996 SC 2715.

⁴³ AIR 1997 SC 734.

⁴⁴ AIR 1997 SC 811.

⁴⁵ AIR 2000 SC 1997.



of the environment and ecology of the area by applying the above principle.

In *Karnataka industrial Area Development Board v. C. Kenchappa*⁴⁶ the Apex Court observed. "The polluter pays principle demands that the financial costs of preventing or remedying damage caused by pollution should lie with the undertakings which cause the pollution or produce the goods which cause the pollution. Under the principle, it is not the role of Government to meet the costs involved in the prevention of such damage or in carrying out remedial action, because the effect of this would be to shift the financial burden of the pollution incident to the taxpayers."

In *Deepak Nitrate Ltd. v. State of Gujarat*⁴⁷ the Supreme Court supported the proposition that the measure of compensation must be co-related to the magnitude and capacity of the enterprise because such compensation must have a deterrent effect and such damage not only extends to restitution for the harm to the environment, to compensate the victims of the pollution but also cost of restoring the environment from degradation. This court reiterated the principle of "Polluter to pay" to the effect that one of the principles is to levy damages of a certain percentage of total turnover and the right to a clean and hazardless environment has been recognized as a fundamental right under Art. 21 of the Constitution. The court has innovated new methods and strategies for the purpose of securing enforcement of fundamental rights.

CONCLUSION AND SUGGESTIONS

The judiciary has made efforts in preserving India's natural environment by insisting upon implementation of the laws and where the laws were found insufficient to deal with a particular situation, leading concepts; such as sustainable development, precautionary principal, and polluter pay principles etc. into Indian law achieve this end.

The development of polluter pays principle has been mainly due to the efforts of the supreme court of India. The High Courts have also rendered many important decisions but only these have not really had any visible or major impact on polluter pays principle. To a large extent, the Indian judiciary has been pressed to undertake such an active role due to the inefficiency of the current environmental regime, even though the statutes and legislation are well defined and stringent, their implementation and enforcement have not been efficient.

⁴⁶. AIR 2006 SC 2038.

⁴⁷. AIR 2004 SC 3407.



INTERNET ADDICTION AMONG YOUNG ADULTS AMIDST COVID 19 PANDEMIC

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ABSTRACT

Internet addiction is a behavioral pattern characterized by excessive or obsessive use of online and offline computer, phone and other devices which has the ability to access internet. Coronavirus disease [covid 19] is an infectious disease caused by a newly discovered coronavirus [WHO]. The purpose of the study was to find the level of internet addiction among young adult during covid 19 pandemic. The study was conducted on 50 young adult out of which 25 were males and 25 were females with the age group of 18-25 through purposive sampling technique. Internet addiction test [young 1998] were used to collect data. Mean, SD, Independent sample T-test were used to analyse the data. The results shows that there is no significant difference in the level of internet addiction among the young adult across gender.

KEYWORDS: Internet addiction, COVID-19

INTRODUCTION

Internet addiction is behavioral pattern characterized by excessive or obsessive use of online and offline computer, phone and other devices which has the ability to access. Internet addiction is a worldwide problem among the millennials. Internet is a network that connects devices around the world. It is an integral part of people lives. Internet has many advantages like providing information, connecting people through social media, serving as an entertainment platform and so on. However with all the advantages internet has its own negatives. One of the major consequence of use of internet is Internet addiction, and most of the people with addictive behaviour do not even aware that they have addiction. It affect mental health and physical wellbeing badly

Definition of key terms

Internet addiction: Internet addiction is behavioral pattern characterized by excessive or obsessive use of online and offline computer, phone and other devices which has the ability to access internet.

REVIEW OF LITERATURE

1. Menon, S., Narayanan, L., & Kahwaji, A. (2018). conducted a study on internet addiction among 300 students to measure the level of addiction. Internet addiction scale (Young, 1998) was used to collect data. ANOVA was used to analyze the data. The study has not found any severe addiction.
2. Anwar, E. (2014). conducted a study on internet addiction among secondary school children and its relation with their academic achievement. 300 secondary school students



were participated in this study. Internet addiction scale(Young,1998) was used to collect the data. T test was used to analyze the data. The study found that 10% of the students showed an extreme high level of addiction, and male students are more addicted to internet than female students.

3. Rajeswari, C., Ramachandra, Joseph, N., George, N., Pavithra, K., Syhly, P., & Jose, P.(2017). has conducted a study on internet addiction among the undergraduate students. The study consisted of 200 undergraduate students. The data was collected by Internet addiction test(Young,1998). The study has found that 1% of the students has severe addiction.
4. Prabhakaran, A., M,C patel V.R , Ganjiwale, D., Nimbalkar , M.S (2016). conduct a study on Internet addiction and quality of life among young adults ,724 adolescents of vadodara, Internet addiction scale (young 1998) was used to collect data. In his survey he found that internet use for online friendship to be a significant predictor of IA and internet use for searching information was found to be protective against IA.

Objective

To study the level of internet addiction among young adults.

To study the level of internet addiction among young adults on the basis of gender

Variables

Independent variable: Gender

Dependent variable: Internet addiction

Hypothesis

There is no significant difference in the level of internet addiction among young adults across gender.

Research design

The study was in quantitative nature. The study adopted a between group design to determine any significance difference in the level of internet addiction among young adults during COVID 19 pandemic across gender.

Research sample

Purposive sampling method was used for the study. The sample included 50 young adults out of which 25 were females and 25 were males.

Sampling criteria

INCLUSION CRITERIA:

- 1) Age limit: 18-25
- 2) Those who have given consent to participate through online.
- 3) Participants from Kerala

EXCLUSION CRITERIA

1. Age group other than 18-25
2. Those who have not given consent for participation
3. Those who have psychological problem

Tool

The following tool was used to gather the required data.

- 1) Internet Addiction Test(Young,1998)

Procedure

Purpose of the study was disclosed to the participants through online and their willingness to participate in the study was ascertained. The Internet Addiction Test(Young,1998) was given to the participants through online forms with proper instructions. The scoring of the evaluation was done and interpreted according to the manual.

Analysis of data

The collected data was analyzed using following statistical tools

1. Mean, Standard deviation
2. Independent sample t-test

Ethical issue

1. The collected data has been used only for research purpose.
2. Informed consent was taken from the participants.

RESULTS

Data analysis and interpretation

The purpose of the study was to study internet addiction among young adults during COVID 19 pandemic. The study consisted of 50 young adults out of which 25 were males and 25 were females. For the purpose investigator formulated a hypothesis and the results are shown below

Figure 1: Subdivided bar diagram of internet addiction among young adults based on gender

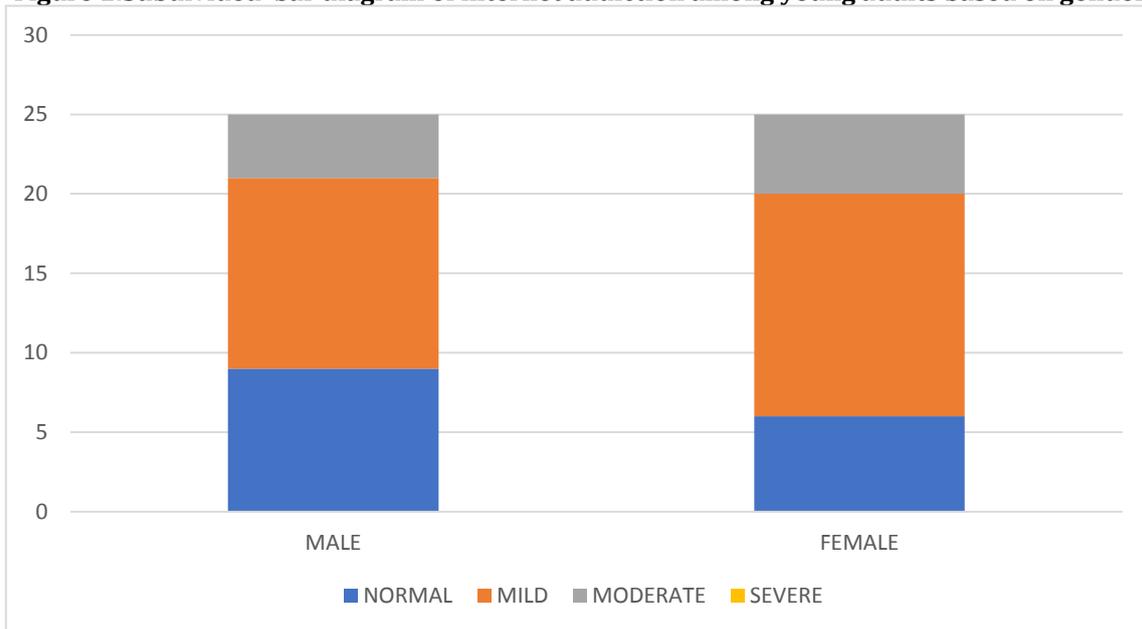


Table:1 – Level of Internet addiction based on gender

Level of addiction	Male	Female	Total
Normal	9	6	15
Mild	12	14	26
Moderate	4	5	9
Extreme	0	0	0

Table 1: shows internet addiction among female and male young adults. Here 15 participants show normal level of internet usage, 26 participants have mild internet addiction level, 9 participants have moderate dependency on internet and no participants show severe dependency. It shows that number of

males on normal level is higher than number of females, number of males on mild level is less than the number of females, number of males on moderate level is lower than the number of females in the same level of addiction, finally both the gender has not show any severe level of addiction.

Table 2. t value, Mean, SD, Sig value of Internet Addiction among young adults on gender

Gender	N	Mean	Standard Deviation	Sig value(2-tailed)
Male	25	35.4400	11.42030	.851
Female	25	36.0400	10.99424	.851

Table.2 shows that the average mean of males is 36.4400 and females is 36.0400. The mean of females are slightly higher than of male. Significant value of level of internet addiction is 0.851 for both the gender which is not significant at the 0.05 level of significance. So the null hypothesis is accepted that there is no significant difference in the level of internet addiction among young adults across gender.

MAJOR FINDING

There is no significant level of difference in the level internet addition among young children across gender.

Limitation

Size of the sample was small. Since the study was conducted in online mode the reliability of the participants answered the question cannot be verified.

Implication

The research can be used for benefits of people. The results show that the addiction level in female is higher than males, we can develop intervention programs for the female young adults with moderate addiction to reduce the level of addiction.



Scope

It can be done in large population.

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WOMEN PARTICIPATION IN EDUCATION AND EMPLOYMENT- A PARADIGM CHANGE IN PERCEPTION OF SOCIETY

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ABSTRACT

Women constitute almost half of the population of the entire world but their participation in the corporate world remained at low level for years as most of them continued with household activities despite having adequate educational background. Consequently, their involvement in paid activities in economic terms remained minimal. Government of India, over last few decades, emphasized the need for increased participation of women in the workforce which has resulted in motivating women of our country to look forward and extend their contribution to the economic growth of our country. This has been reflected from the numbers of female in gross enrollment ratio at school level and undergraduate level. The revolution in technology facilitated the process and accelerated it to a large extent. Various Government schemes have been launched, from time to time, to promote women education and their involvement in employee workforce. Their role as an entrepreneur and in the Board of various companies also validates their upliftment and unlocking their role which was confined to household activities only for many years. The present development of the society is in line with Sustainable Development Goal intended to be achieved globally. This study has been conducted to examine the changing role of Indian women in entrepreneurship with a view to highlight the prospects and challenges being faced by them. Various statistical tools and technique have been employed to derive meaningful interpretation. The outcome of the study would be of immense use for the policy makers and initiating corrective actions in the interest of entire society.

KEYWORDS: *Economic Growth, Friedman Test, Sustainable Development, Wilcoxon Signed Rank Test, Women Education, Women Entrepreneurship.*

INTRODUCTION AND BACKGROUND OF THE STUDY

According to a report published in The Economics Times dated 8th March, 2021, women in India contribute 17 percent to the national GDP in comparison to global average of 40 percent. The Global Gender Equity Index 2020, reveals that India is ranked 108th on its performance on gender equity which reflects that Indian women are not being provided with same benefits accorded to their male counterparts. Despite of regulatory requirement of having at least one woman as director in the board of companies, only 17% of Nifty 500 companies have women as director in their

boards. Although, these statistics does not convey encouraging participation of women in work force but there has been significant change in the perception of the society with regard gradual involvement of women in the employment workforce and enrollment for education. The reason for this change, to the large extent, can be attributed greater use of information technology in the discharging jobs and seeking education. The steps taken by Government in bridging the gender gap has started fructifying with many women emerging as entrepreneurs in India and uplifting the name of our country in international business environment as well.



The latest survey conducted by Women web reveal following important facts in relation to emerging role of women entrepreneurship in India.

- 1. Women constitute around 14% of the total entrepreneur base in India i.e., 8.05 million out of the total 58.5 million entrepreneurs. While some are accidental entrepreneurs due to the lack of other work opportunities, many others are driven by a specific mission or goal. (Source: Sixth Economic Census released by Ministry of Statistics)*
- 2. Most of the entrepreneurs starts their businesses between the ages of 25 and 35. 51.2% of women fall under this criterion. Another 19.6% of women started their business between the ages of 35-40. Thus, we may infer that majority of urban women entrepreneurs have prior work experience before starting their own ventures whereas only a small number (11%) start their business before turning 25 years.*
- 3. In terms of Industry, the largest segment of women entrepreneurs (16%) belongs to the creative service designing like content writing, etc. The second and third position is held by health and allied and Apparel and accessories respectively. Apart from that about 30% belong to the other sector which includes Travel and tourism, Manufacturing etc. Majority of women entrepreneurs belong to the creative services field possibly because this sector has relatively low entry barriers and does not need significant capital besides a computer and a mobile/Internet connection for the most part.*
- 4. On the category of business size measured by the criteria of Revenues and No. of employees, the majority of women-owned businesses were likely to be micro enterprises or small business with 68.5% reporting a revenue of under Rs.10,00,000 (Rs. 10 Lakh or 1 Million) in the last financial year. Another 23.7% reported revenues of between Rs.10,00,000 and Rs.50,00,000 (Between Rs. 10 Lakh and Rs.50 Lakh/Between Rs. 1 million and 5 million).*

Source: <https://www.womensweb.in/2019/07/women-entrepreneurship-in-india-2019>

With above facts at the background, this study has been conducted with a view to examine the change in perception of general public with regard to employment and education of women besides identifying the reasons obstructing the growth of women professional career and effectiveness of steps taken by Government in promoting education of girls.

RESEARCH METHODOLOGY

Keeping in view the objective of the study, both primary as well as secondary sources of data, were employed. A questionnaire, containing five question, addressing to the issues under study was developed and response were collected through convenience sampling method. The information obtained through the questionnaire from 54 respondents was subjected to statistical tests namely - Freidman ANOVA test, Wilcoxon Signed Rank test and Pie Chart analysis to derive meaningful interpretation.

DATA ANALYSIS AND INTERPRETATION

A questionnaire was designed with relevant questions to seek views of the respondents in addition to examination of the following hypotheses:

Null Hypothesis (1): There has been no change in perception of general public in imparting education to girl child over last five decades, particularly period prior to liberalization, period after liberalization but before technological revolution and period after liberalization and technological revolution.

Null Hypothesis (2): There has been no change in involvement of women in present workforce in comparison to period prior to year 2000.

In order to test the Null hypothesis (1), respondents were required to express their views through ranking on the scale of 0- 10 (with 0 being least and 10 being maximum) for the period prior to 1990 (designated as Rank 1), period prior to 2000 (designated as Rank2) and period after 2000 (designated as Rank3). The information submitted by the respondents was subject to Freidman ANOVA test to examine the statistical difference in their responses as the same set of respondents have given information for different period and it complies with all essential conditions for non parametric test. The output of the descriptive statistics and the Freidman ANOVA test is given below in table 1:



Table 1: Descriptive Statistics of Ranks

	N	Mean	Std. Deviation	Minimum	Maximum
Rank1	54	1.5926	.78952	1.00	3.00
Rank2	54	4.2963	.50017	3.00	5.00
Rank3	54	8.4815	.50435	8.00	9.00

The descriptive statistics shows that there is significant difference in the mean values of the Ranks with standard deviation higher in case of Rank 1 but of the same level in case of Rank 2 and Rank 3. In order

to examine if the difference is statistically different or not, Friedman ANOVA Test, was applied and its output is shown below in table 2

Table 2: Friedman Test

N	54
Chi-Square	108.000
Df	2
Asymp. Sig.	.000

As the p-value is 0.00 i.e., less than 0.05, it implies that the probability of accepting null hypothesis is very less at 5 percent level of significance and therefore it is rejected. The alternative hypothesis, i.e., there is significant difference in change in perception of general public in imparting education to girl child over last five decades is not rejected.

In order to ascertain, if there has been significant difference in perception being assessed during the period with Rank 1 – Rank 2 and Rank 2 – Rank 3, Wilcoxon Signed Rank test was applied and the output for the same is shown below in table 3 and table 4 respectively.

Table 3: Wilcoxon Signed Rank Test statistics of Rank1 and Rank2

	N	Mean Rank	Sum of Ranks
Rank2 - Rank1	Negative Ranks	0 ^a	.00
	Positive Ranks	54 ^b	1485.00
	Ties	0 ^c	
	Total	54	

- a. Rank2 < Rank1
- b. Rank2 > Rank1
- c. Rank2 = Rank1

Test Statistics^a

	Rank2 - Rank1
Z	-6.586 ^b
Asymp. Sig. (2-tailed)	.000

- a. Wilcoxon Signed Ranks Test
- b. Based on negative ranks.

Table 4: Wilcoxon Signed Rank Test statistics of Rank3 and Rank2

	N	Mean Rank	Sum of Ranks
Rank3 - Rank2	Negative Ranks	0 ^a	.00
	Positive Ranks	54 ^b	1485.00
	Ties	0 ^c	
	Total	54	

- a. Rank3 < Rank2
- b. Rank3 > Rank2



c. Rank3 = Rank2

Test Statistics^a

	Rank3 - Rank2
Z	-6.537 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

As the probability value (p value) at 5% level is 0.00, we reject null hypothesis and conclude that there has been consistent significant change in perception of general public with regard to imparting education to girl child and this perception has strengthened as our country moved towards liberalization of economy and revolution in technology.

The second hypothesis of the study was examined using Wilcoxon Signed rank as there were two variables, in the ordinal form, and given by same set of respondents. The responses were subjected to the test using SPSS and the output of the same is given below in table 5.

Table 5: Descriptive Statistics and Wilcoxon Signed Rank Test statistics of women in employment workforce

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Rank1	54	4.2222	.41964	4.00	5.00
Rank2	54	7.5556	.79305	7.00	9.00

Ranks

	N	Mean Rank	Sum of Ranks
Negative Ranks	0 ^a	.00	.00
Positive Ranks	54 ^b	27.50	1485.00
Ties	0 ^c		
Total	54		

a. Rank1 < Rank2

b. Rank2 > Rank1

c. Rank2 = Rank1

Test Statistics^a

	Rank2 - Rank1
Z	-6.570 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

As the p value is less than 0.05, it amounts to rejection of null hypothesis and we can conclude that involvement of women in employment workforce has increased subsequent to upsurge in technology usage for discharging various kind of jobs.

The opinion of respondents with regard to effectiveness of steps taken by Government in direction of promoting education of Girl Child was sought. The result obtained for the same is shown below in the pie chart (Figure 1)

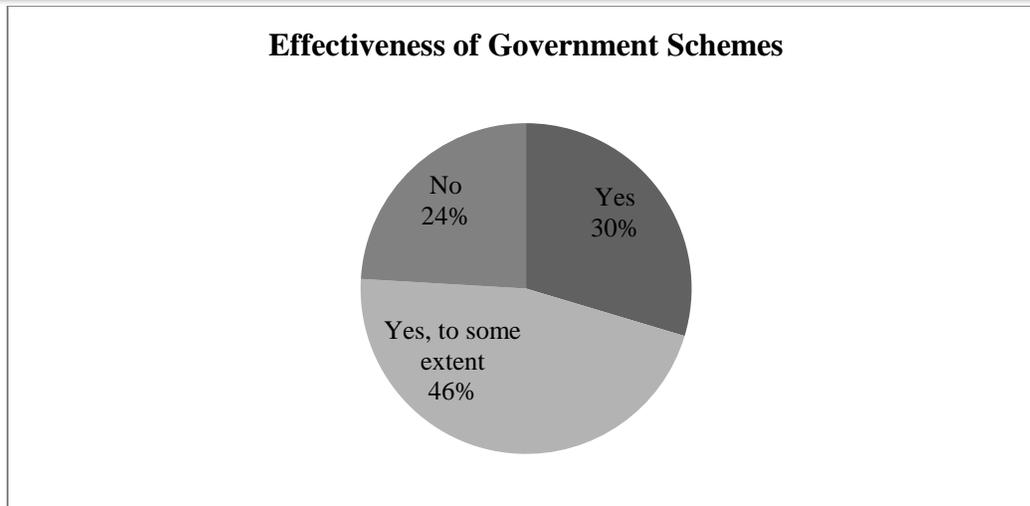


Figure 1: Pie chart showing responses regarding effectiveness of government schemes

It can be observed that though 30 % of the respondents agreed to the fact that Government steps have effective where as 24% were of the contrarian view and 46% of the respondents partially supported the fact. Thus, there is need to articulate Government schemes through more effective channels of communication so that their impact could be felt more materially at the ground level.

The opinion of the respondents was also sought on the increased opportunity of jobs for women due to change in work culture of most of the organizations who resorted to online jobs and WFH (Work from home). The responses (in percentages) are shown below in pie chart (Figure 2)

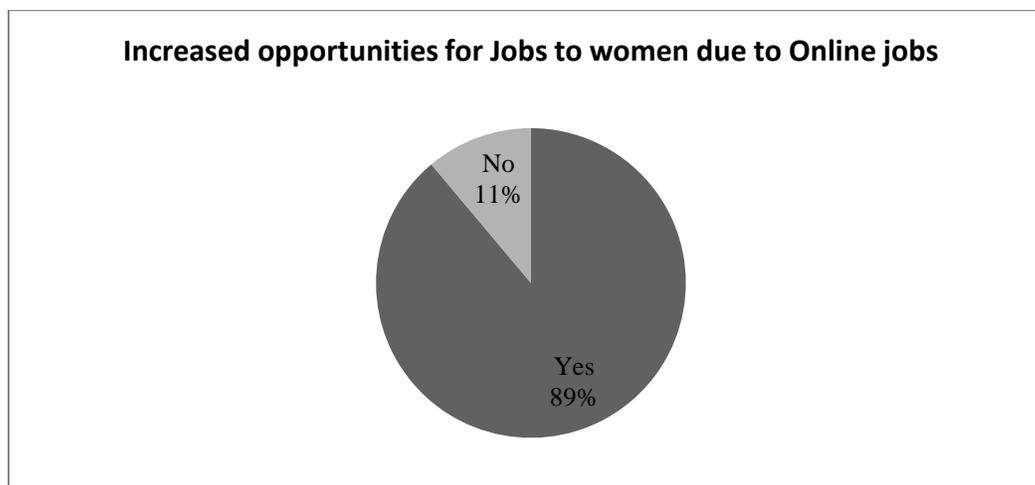


Figure 2: Pie chart showing responses regarding increased opportunity for women in online jobs

It can be observed that 89% of the respondents were of the view that the new kinds of jobs which involves discharging of duties through online mode has led to increase in employment opportunities for women. Thus, we may conclude that the origination of new kind of work culture would rope in more women for their contribution in economic activity and would be facilitating in achieving one of the main objectives of sustainable development goals.

The study also aims to identify the main impediments in the growth of professional career of women and sought views of the respondents on the same by offering them following possible reasons:

- a) Lack of Education
- b) Time scarcity due to involvement in household works.
- c) Security issues
- d) Lack of family support.



The views of the respondents are displayed in the pie chart (Figure 3)

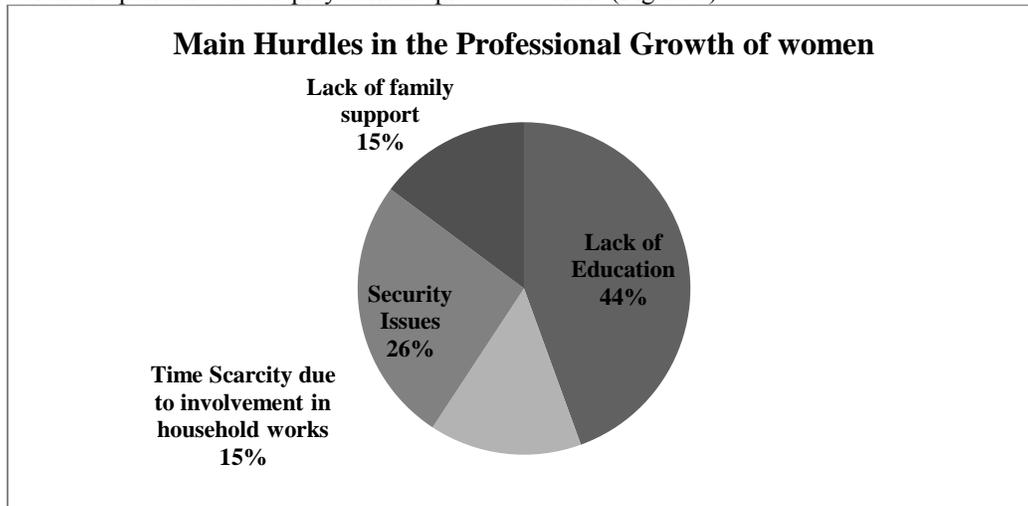


Figure 3: Pie chart showing responses regarding hurdles in growth of professional career of women

It can be observed that the major reason in the professional growth of women was found to be lack of education followed by security issues. The reasons cited are reflected from the Gross enrollment ratio for education of female at school level and higher studies. Though, there has been significant improvement of Gross enrollment of females at school level but for higher studies, more efforts are needed for its improvement.

CONCLUSION

It is inferred from the above facts and its statistical interpretation that the perception of the society over last few decades particularly after opening up of Indian economy i.e., post liberalization period after 1991 and the period subsequent to commencement of usage of information technology has changed with regard to involvement of women in employment workforce. The emerging opportunities of jobs for women in various sectors led to metamorphic change in the society and motivated most of the sections of the society to focus on the education of their child without any gender biasness. The statistical result of the study clearly proves the significant change in the perception of the society towards education of girl child and participation of women in employment workforce. The study also highlights that the upcoming nature of jobs would help in involving more women in workforce as the security issues to the large extent would be solved through this mode of job and this would also help in increasing gross enrollment of female for higher studies as they would be motivated with the availability of job opportunities. It is therefore suggested that Government should continue with its existing steps of motivating

women for seeking education and acquiring skills with the objective to enhance their employment potential.

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A REVIEW ON CUSTOMERS PERCEPTION TOWARDS E-BANKING SERVICES- A COMPARATIVE STUDY

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ABSTRACT

This paper highlights the comparative study of customers perception towards E-Banking services. E-banking is an electronic banking system, an individual can do the banking transactions through electronic gazettes. In today's highly competitive world, in India, there are lot of nationalized banks, private banks and foreign banks are available. All these banks are providing fabulous services to the customers. E-Banking provides lot of benefits to the customers. Due to the competition in the banking environment, today customers are having the choice to select the banks. The bank which provides good and fast services, will get the greater number of customers. Hence this study is conducted to know the comparative study of customers perception towards E-Banking services.

KEY WORDS: E-Banking, Perception, benefits and difficulties

1.0 INTRODUCTION

Indian banks are working under intense competition from new generation banks and foreign banks. It is due to advancement of information and technology, which makes the dramatic changes in the banking segment. E-banking is an automated payment system, that helps customers of a bank or other financial institutions to conduct a financial transaction. E-Banking is similarly called as virtual banking, online banking, web banking or internet banking. In today's competitive world, people prefer instant rather than traditional procedure. Hence people prefer to use E-Banking systems, rather than traditional banking system. In India there are lot of public sector banks, private sector banks, co-operative banks and foreign banks are available, which provides banking services to the customers. Hence customers are having the choice to select the banks.

1.1 OBJECTIVES

The purposes of the study are mentioned below;

- To know about E-Banking system
- To study the customer perception towards E-Banking services

1.2 METHODOLOGY

This study is based on secondary data. The information's are collected from various peer reviewed journals, books, websites and magazines.

1.3 PURPOSE OF THE STUDY

E-Banking is an important buzzing word in banking field. Now a days all the banks are providing E-Banking services. There are lot of competitions in banking sector. Therefore, customer plays a major role, because they have the choice to select the banks. E-banking provides lot of benefits to customers, but at the equivalent time customers also faced some difficulties as well. Hence this makes me to do a comparative study of customers perception towards E-Banking services.

1.4 REVIEW OF LITERATURE

Fozia, M. (2013), The aim of this paper is to determine the customer's perception toward the e-banking services. 196 customers were engaged for the study to derive the conclusions.. Analysis of variance technique is used to study the significant relationship between the occupation and customer perception of e-banking services and significant relationship between the age and customer perception of E-Banking services. The result of the study shows that diverse age group of customer and different occupation group of customers have dissimilar perception toward the e-banking services. The results



also show that the demographic factors have a significant impact on online banking behaviour, especially work and age. Finally, this article suggests that understanding customer perceptions of e-banking in commercial and private banks will help bankers better understand their customers needs.

Surabhi Singh (2017), he examines in his study that, the present examination was intentional with the objective to assess the degree of use of services especially the IT enabled services in these banks and to analyse the component factors affecting client satisfaction with the quality of services. The study was conducted in public, private and foreign banks of Delhi. Multistage random sampling is used for sampling. It was proposed to conduct the study in five areas of Delhi such as East, West, North, South and Central Delhi in Delhi. One of the above bank branches in each region of Delhi will be randomly selected. While choosing a branch, we pay attention to provision of at least 5 IT support services. This step is compared to Intra Bank. Survey shows that the clients of nationalized banks are dissatisfied with the behaviour and infrastructure of their employees, while respondents of private and foreign banks are dissatisfied with high prices, accessibility and communication.

Sawanth K (2016), This study was assumed by customers of two local and foreign banks in Oman. An effort has been made to learn and analyse the important factors affecting the service quality of banks in Oman. The major discoveries of the study are the level of customer satisfaction of local banks is better than the foreign banks in Oman. The eminence of service provided by local banks is better than foreign banks.

Madhava K (2020), A try has been made by evaluating the services concentrated by banks through the e-banking services. The e-banking service carries lot of convenience, customer centricity, increased service quality and cost effectiveness. This paper scrutinizes the patron satisfaction on the Electronic Banking Services of Public Sector and Private Sector Banks in Puducherry Region. The model size of the study is 478, the data is assembled from both the primary and secondary information. The outcome of the learning shows that customers of Public Sector Banks have lesser perception of the various dimensions of e-service quality compared with the private sector Banks. This paper recommends that the wider use of ICT based applications in banking services will make better banking solutions.

Yogeswaran G (2015), this study was undertaken on topic customer perception towards amenities provided by public sector and private banks- A comparative study. The services of ICICI Bank and SBI Banks are taken into consideration. According to this study, public sector banks face tough competition from private sector banks for the

quality of their services. Public sector banks should focus on providing their clients with up-to-date information on the new services they provide. The study also reveals that, public sector banks need to change their policies, customer service standards and service efficiency.

Dhar K Ravi (2009), this study focuses on the opportunities and perceptions of customers for the quality of banking services in the public and private sectors. The study also identifies two factors that influence customer expectations and perceptions of the quality of banking services. Samples were collected from 400 Madhya Pradesh clients in India. As a result, it can be seen that there is a big difference between the expectations of the clients of commercial and private banks. The results also highlight a significant difference between in the perception of clients by public and private banks. The study also states that, public sector banks must focus on narrowing differences in perceptions of customer expectations and quality of service in order to compete in international markets.

1.5 SUGGESTIONS

The suggestions of the study are as follows:

1. Both private and public sector banks should motivate all age group customers.
2. When compared with the public sector banks, private sector banks should reduce the transaction charges.
3. Public sector banks should give more focus on increasing the services to their clients.

1.6 CONCLUSIONS

This study was undertaken with the aim of knowing the perception of the customers towards E-Banking services. Different banks provide the services in different ways. Most of the public sector banks were providing poor facilities to their customers. But the private sector banks give better services. In terms of charges, private sector banks are charging more amount compared with the public sector banks. Hence it is concluded that, both public sector and private sectors banks should provide good services at reasonable rate to their customers. Customers are the king of the market. So, banks need to serve the customers in good way.

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AUTONOMY OF TEACHER EDUCATORS TEACHING B.ED. COURSE IN DELHI

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ABSTRACT

Purpose-Teacher autonomy is one of the important research topics and has got centre place in the field of teacher education. The main purpose of autonomy is to develop the ability to organize and direct their own teaching and learning inside and outside the classroom. Hence, the present study is an attempt to explore the Autonomy of teacher educators teaching in B.Ed. colleges in Delhi concerning their gender, type of institutions and subject of teaching.

Methodology-Overall 100 teacher educators working in different types of B.Ed. colleges of Delhi were taken as sample by stratified random sampling technique. Teacher Autonomy scale (TAS) constructed by Pearson and Moomaw (2006) was used to collect data. The data was analyzed with the help of descriptive analysis and test of significance.

Findings -The result showed that moderate level of autonomy was found among teacher educators and there was statistically a significant difference for type of institutions and no difference for gender and subject of teaching was found among teacher educators of Delhi.

Significance- Teacher educators are teacher of teachers are mainly responsible to train teachers as autonomous teachers. To develop autonomy among perspective teachers, to make our teacher autonomous practitioner we should trained them in such a way that they have good chance of autonomous learning. It can only be possible if teacher educators have autonomous approach. Teacher educators autonomy should not be confined to the classroom but it also include curricular and research autonomy and teacher should have freedom to reflect and innovate to improve his teaching and learning process.

KEY WORDS: Autonomy, Teacher educators, Government B.Ed. institutions, Self-financed B.Ed. institutions

1. INTRODUCTION

Autonomy of Teacher Educator:

“The common presumption is that the essential learning required to prepare a productive and responsible worker for the twenty-first century must empower the individual to think as an autonomous agent in a collaborative context rather than to uncritically act on the received ideas and judgments of others. Workers will have to become autonomous, socially responsible thinkers.” (Mezirow (1993))

Teacher educator autonomy means professional independence provided by the institutions to the teacher educators to engage in self-directed teaching-learning process. It refers to the degree to which they take autonomous and independent decisions about what to teach and how to teach. The good qualities of teacher transform into their students and in this way they play an important role in nation building. According to Jyoti Shrawat(2014) “Teacher autonomy is necessary for personal and professional improvement . The studies showed that the autonomous and professional



independent teacher teaches more effectively and conveniently than non autonomous teachers.

It is quite obvious and proved by many researches that the teacher autonomy is essential need if a teacher want to be a life-long learner, leader and decision maker (Gavrilyuk(2012). The same principle applies in case of teacher educators also. The teacher educators should work to promote their autonomy by doing some efforts like they should be expert in their field, able to observe himself/herself, co-operate with others, open for criticism and should be aware of his or her good and bad qualities.

Those teachers who are autonomous learners may be helpful in the development of autonomy in their students (Little (1995),Tort-Moloney (1997), McGrath (2000),Smith (2000), Aoki and Hamakawa (2003), Huang (2005), Vieira (2007), Smith and Erdoğlan (2008) and Burkert and Schwienhorst (2008). “Teachers will hardly be prepared or able to administer autonomous learning processes in their students if their own learning is not geared to the same principles.(Leni Dam 2007). Therefore, if our aim is to make our student teachers to become autonomous teachers, autonomy should be provided to teacher educators who trained them to be autonomous teachers.

It is very hard to describe teacher autonomy from multidimensional perspectives (Aoki, 2000; Einoff, 2000; Huang,2005;Smith,2008). Thavenius(1999) defines teacher autonomy as “ability and willingness to help learners to take responsibility for their own learning. An autonomous teacher is thus a teacher who reflect on her teacher role, and who can change it, which can help their students become autonomous, and who can independent enough to let her learner become independent.”

“The right of teachers to manage themselves and their job environment” (Pearson&Hall,1993).This definition clears that autonomous teacher have freedom to deal with educational content and educational context autonomously in order to perform effectively. Shaw(2002) acknowledged that autonomy is “The capacity to take control of one’s own teaching”. It means autonomous teachers have ability or competence to regulate and direct their ideas. Little,(1995) stressed the same thought “Genuinely successful teacher have always been autonomous in the sense of having strong sense of personal responsibility for their teaching”.

McGraft& Aoki, (2002) further explained that autonomous teachers have capacity to teach without restrictions and responsibility to make choices concerning one’s own teaching. Huang, (2005) approved the definition of autonomy given by McGraft& Aoki and stated that Teacher autonomy is readiness, competence and independence to take

control of their own teaching and learning. “The ability to develop appropriate skill, knowledge and attitude for oneself as a teacher in cooperation with other”

(Smith&Erdu. 2008). According to Ling (2007) autonomy is “An insight, a positive attitude, capacity of reflective in teaching and readiness the learner to be more independent and to take control over his/her own teaching”.

By all above definitions given by different researchers, it is clear that some components are common such as ability, capacity, willingness, independence cooperation and reflection to become self determined, socially responsible and critically aware member of educational environment. McGrath(2000) defined teacher autonomy in a comprehensive way and mentioned two discrete dimensions viz. (i) As self directed professional development and(ii) as freedom of control from others. The first dimension is more concern about psychological perspective and second is related to political perspective.

2. THEORETICAL FRAMEWORK OF TEACHER AUTONOMY

Self-determination theory (Deci& Ryan,2006)

According to Deci and Ryan(2006) autonomy is a state of an individual’s self-directing and self-regulating activities in which he experiences positive freedom which is essential for satisfaction (Berofsky 1995). Self-determination is a condition in which individual feel freedom in his/her choice of actions and behavior and act independently from external environment (Deci and Ryan,2006).Ryan &Connell(1989) suggested five types of perceived motivation :

- External motivation
- Introjections motivation
- Identified motivation
- Integrated motivation and
- Intrinsic motivation

The intrinsic motivation provides inherent satisfaction and considered as autonomous motivation. It satisfied all three innate psychological needs namely autonomy, competence and relatedness(Deci&Ryan, 2000) and regard as process of internalization and a sense of personal and professional empowerment(Little at el 2002). When we discuss autonomy in the context of teaching it is seen that teacher motivation, job satisfaction, burnout, professionalism and empowerment are closely associated with each other (Pearson &Moomow, 2005).

Gavrilyuk (2012) presented a conceptual model for prompting perceived autonomy. This model shows that intrinsic motivation to personal and



professional development, personality attributes (Internal locus of control, responsibility, & creativity) and competencies (ability of setting goal, decision making, ability to make choices & minded fullness) are essential requirements for dealing educational challenges positively and effectively (Gavrilyuk, 2012). Perceived autonomy is teacher generic competency determined by intrinsic motivation to personal and professional development, creativity, free from external factors, effective performance in different educational setting.

Autonomy is a trait of a person related to whole personality not in one particular act and display in all aspects of lives as a whole. Autonomous person knows how and when to perform the activity (Sarata, 1984) and has full responsibility of their actions. (Gavrilyuk, 2012). According to G.P. Sarapking (2004) development of autonomy should be the top target of teacher education process in order to develop professional socialization. Teacher autonomy is power & ability to perform self-directing and self-governing teaching-learning activities and freedom for their professional development (Kamii, 2000). Smith (2001) gave the inclusive definition of teacher autonomy as “the ability to develop appropriate skills, knowledge and attitudes for oneself as a teacher, in cooperation with others.”

Little (1995) defined teacher autonomy as self-directed teaching leading to control of teaching-learning process. Benson (2000) argued teacher autonomy as “right of freedom from control”. Naoko Akoi (2000) defined teacher autonomy as “The capacity (pedagogical skills), freedom (from control) and responsibility to make choices concerning one’s own teaching.”

In the literature, there has been an increasing attention given to teacher autonomy (McGrath, Sinclair, & Lamb, 2000; Lamb & Reinders, 2008). Teacher autonomy has been defined as the ability to improve one’s own teaching through one’s own efforts (Lamb & Reinders, 2008). It therefore includes both the teacher’s ability to make decisions about teaching and their own professional development. This assumes both a degree of political autonomy in the sense that teachers need to have the freedom to make such decisions, as well as knowledge of themselves as teachers and as learners, in order to know how to make such decisions. Teacher autonomy is also usually conceived as the ability to understand the students’ learning needs and the ability to support them in their development towards autonomy. McGrath (2000) explained the teacher autonomy on the bases of two dimensions i.e. Self-directed actions/development and freedom of control by others. In order to understand the psychometric property of teacher autonomy, a sound

measure is required (Wilson, 1993). To examine teacher autonomy, various tools were developed by many researchers such as Charters (1974), Gnecco (1983) and Pearson and Hall (1993). Pearson and Moomaw (2006) verified the teacher autonomy scale (TAS) developed by Pearson and Hall (1993). A conformatory analysis (LISREL) was done and this study supported the factors such as teaching autonomy and curriculum autonomy.

It is widely acknowledged that autonomy is essential to develop self-esteem and self-confidence, and considered as regular and ongoing process of self-discovery. The prime goal of education is to develop the autonomous way of thinking among students to execute their task independently by making correct decisions in real life situations, to deal with the environment and to solve the problems they face in everyday situations. (Association of career and technical education consortium and partnership 21st century skills 2010). The culture and education is the two sides of same coin or connected with each other. The techniques, strategies and methods suitable in one cultural setting or context may not be fit in another setting. Hence, the cultural sensitivity is a fundamental feature of a teacher or teacher educators. NCF (2005) declared that “teacher autonomy is essential for ensuring the learning environment that addresses student’s diverse need”. NCFTE (2009) also acknowledged that knowledge is not given it should be produced by reflection, innovation and creativity. It is need of the hour that academic freedom should be provided to the teacher educators who are engaged in imparting knowledge to the pre-service as well as in-service teachers.

The present paper is intended to know the Autonomy of teacher educators for their gender, type of institutions and subject of teaching.

3. OBJECTIVES OF THE STUDY

1. To know the difference in Autonomy of teacher educators working in B.Ed. institutions of Delhi with respect to the type of institutions.
2. To study the Autonomy of teacher educators working in B.Ed. institutions of Delhi with respect to their gender.
3. To study the Autonomy of teacher educators working in B.Ed. institutions of Delhi with respect to their subject of Teaching.

4. HYPOTHESES OF THE STUDY

1. There is no significant difference in Autonomy among teacher educators with respect to their type of institutions.



2. There is no significant difference in Autonomy among teacher educators with respect to their gender.
3. There is no significant difference in Autonomy among teacher educators with respect to their subject of Teaching.

5. OPERATIONAL DEFINITION

Teacher Educator Autonomy refers to the freedom and power of the teacher educators to make independent decisions regarding teaching, curriculum and for their professional development.

6. DELIMITATION OF THE STUDY

1. The study limited to the B.Ed. institutions of Delhi.

7. METHODOLOGY OF THE STUDY

This study was descriptive in nature. The investigator has used survey method for describing and investigating the existing phenomenon.

8. POPULATION AND SAMPLE OF THE STUDY

The population of the present study comprises all the teacher educators working in Government aided and Self-financed B.Ed. institutions of Delhi. 100 Teacher Educators were taken as sample by stratified sampling technique.

9. TOOL OF THE STUDY

Teacher educator's autonomy scale (TAS) adapted from Pearson and Moomaw (2006) scale has been used to measure the autonomy of teacher educators which has 22 statements distributed in three dimensions such as-1. Teacher Autonomy. 2. Curricular Autonomy and 3. Professional development Autonomy.

10. TECHNIQUES OF DATA ANALYSIS

The researcher used Mean, Standard deviation, t-test and graphs for analyzing the data.

Collection of data and scoring:

To collect the data, first of all the permission has taken from concerned authority and then instructions have clearly explained to the teacher educators regarding Autonomy scale. After collecting all questionnaires (100), the investigator has given the scores. For the positive items, direct scoring method was used i.e.3-2-1, in case of negative items reverse scoring method was used i.e.1-2-3. All the scores has added against each item to get total score .

11. RESULTS AND INTERPRETATION

Objective 1: To find out the difference in autonomy among teacher educators for their type of institutions.

Hypothesis 1 : There is no significant difference in level of autonomy among teacher educators for their type of institutions.

Table 1: Comparison on dimensions of Autonomy of teacher educators for their type of institutions:

S. No.	Dimensions	Govt. aided		Self-financed		't' value	Result
		Mean	S.D.	Mean	S.D.		
1.	Teaching Autonomy	31	2.9	28.1	3.2	4.71*	0
2.	Curriculum Autonomy	14.8	1.95	14.1	1.96	1.64	NS
3.	Professional development Autonomy	10.2	1.53	8.8	1.68	2.63*	0.01

*significant at 0.01 level, NS not significant

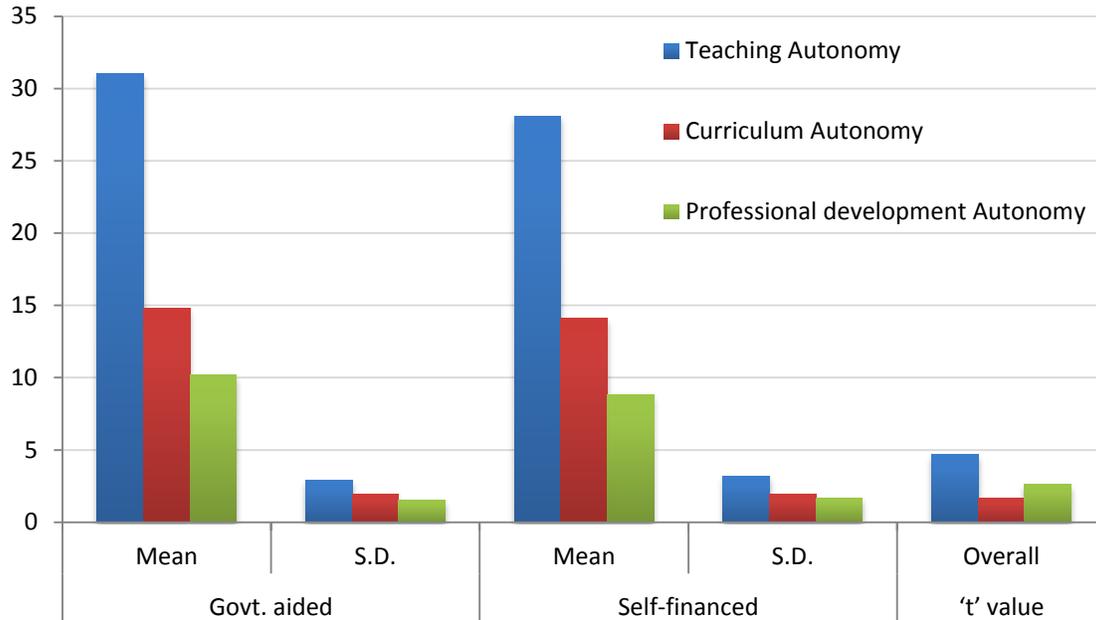


Fig 1: Histograms representing the statistical metrics for dimensions of Autonomy of teacher educators for their type of institutions

Interpretation

Teaching Autonomy-In order to compare the teacher educators working in Govt. aided B.Ed. institutions and self-financed institutions on the dimensions of teaching autonomy, mean, SD and 't' test was used to find if there exist any significant difference between the two groups. It is clear from table 1 and figure1 that mean and standard deviation of teacher educators working in Govt. aided B.Ed. institutions are 31.0 and 2.9 respectively and teacher educators working in self-financed B.Ed. institutions are 28.1 and 3.2 respectively. The t-ratio of mean is 4.71 which is highly significant and indicate that there is statically significant difference between the two groups of respondents and hence the null hypothesis that "there is no significant difference in the teaching autonomy of teacher educators working in different types of B.Ed. institutions" is rejected. The result shows that difference is statically significant Therefore it can be said that the Govt. aided B.Ed. institutions are providing more professional independence in teaching than self-financed B.Ed. institutions.

Curriculum Autonomy-In order to compare the teacher educators working in Govt. aided B.Ed. institutions and self-financed institutions on the dimensions of curriculum autonomy, mean, SD and 't' test was used to find if there exist any significant difference between the two groups. It is clear from

table 1 and figure1 that mean and standard deviation of teacher educators working in Govt. aided B.Ed. institutions are 14.8 and 1.95 respectively and teacher educators working in self-financed B.Ed. institutions are 14.1 and 1.96 respectively. The t-ratio of mean is 1.64 which is not significant at 0.05 and indicates that there is no statically significant difference was found between the two groups of respondents and hence the null hypothesis that "there is no significant difference in the curriculum autonomy of teacher educators working in different types of B.Ed. institutions" is accepted. The result shows that difference is not statically significant Therefore, it can be said that both types of institutions are following prescribed curriculum by the authorities or management.

Professional development Autonomy-In order to compare the teacher educators working in Govt. aided B.Ed. institutions and self-financed institutions on the dimensions of professional development autonomy, mean, SD and 't' test was used to find if there exist any significant difference between the two groups. It is clear from table 1 and figure1 that mean and standard deviation of teacher educators working in Govt. aided B.Ed. institutions are 10.2 and 1.53 respectively and teacher educators working in self-financed B.Ed. institutions are 8.8 and 1.68 respectively. The t-ratio of mean is 2.63 which is significant at 0.01 and indicate that there is statically significant difference between the



two groups of respondents and hence the null hypothesis that “there is no significant difference in the professional development autonomy of teacher educators working in different types of B.Ed. institutions” is rejected. The result shows that difference is statically significant Therefore, it can be said that teacher educators working in Govt. aided B.Ed. institutions have more autonomy for their professional development as compared to teacher educators working in self-financed B.Ed. institutions.

Objective 2: To find out the difference in autonomy among teacher educators for their Gender.

Hypothesis 2: There is no significant difference in level of autonomy among teacher educators for their gender.

In order to test null hypothesis that there is no significant difference in autonomy of teacher educators for gender, the mean, SD of the two groups was calculated and t-value was calculated as shown in table2

Table 2: Comparison on dimensions Autonomy of teacher educators with respect to their gender (28 male and 72 female)

S.No.	Dimensions	Male		Female		't' value	Result
		Mean	S.D.	Mean	S.D.		
1.	Teaching Autonomy	27.0	3.7	28.1	3.3	-1.3	NS
2.	Curriculum Autonomy	13.0	2.1	13.3	1.9	-0.39	NS
3.	Professional development Autonomy	9.9	1.3	10.1	1.7	-0.77	NS

NS =Not significant

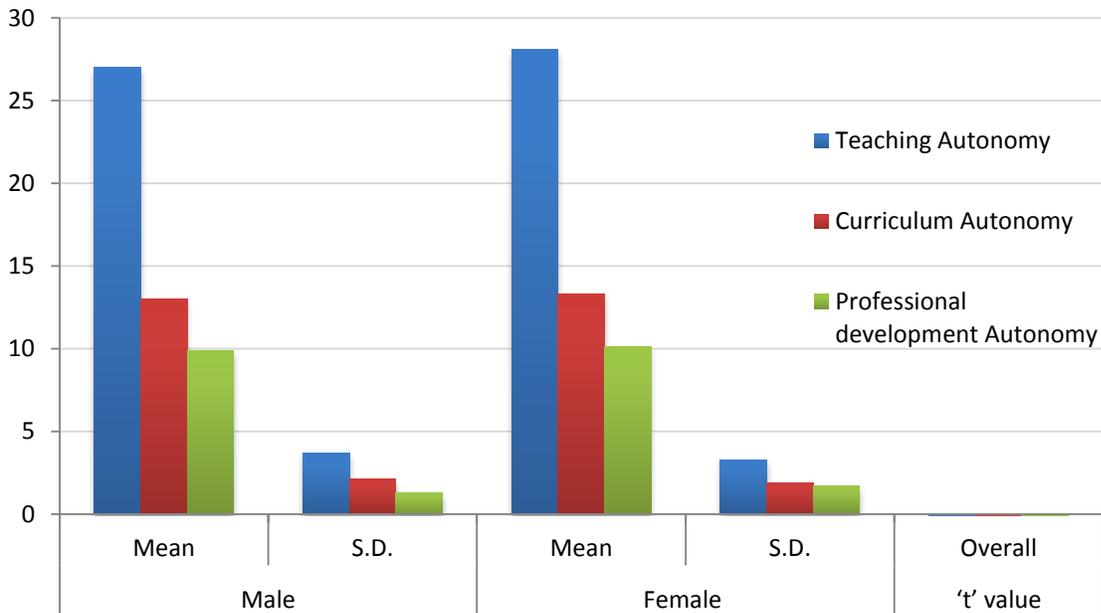


Fig 2: Histograms representing the statistical metrics for Dimensions Autonomy of teacher educators with respect to their gender

Interpretation

Teaching Autonomy- In order to see the difference between the male and female teacher educators on the dimensions of teaching autonomy, Mean and standard

deviation was calculated and ‘t’ test was used to find out that there exist any significant difference. It is clear from the table 2 and figure 2 that mean value of score for male teacher educators (M1= 27.0) and for female



teacher educators ($M_2=28.1$). The value of 't' was found to be 1.3 which is not significant and suggest that there is no statically significant difference between male and female teacher educators with respect to their teaching autonomy. Both the groups of male and female teacher educators are similar on teaching autonomy. It means both the group of teacher educators have similar control over their teaching practice such as selection of teaching methods, strategies and student learning activities.

Curriculum Autonomy-In order to see the difference between the male and female teacher educators on the dimensions of curriculum autonomy, Mean and standard deviation was calculated and 't' test was used to find out that there exist any significant difference. It is clear from the table 2 and figure2 that mean value of score for male teacher educators ($M_1= 13.0$) and for female teacher educators ($M_2=13.3$). The value of 't' was found to be 0.39 which is not significant and suggest that there is no statically significant difference between male and female teacher educators for their curriculum autonomy. Both the groups of male and female teacher educators are similar on curriculum autonomy. It means both the group of teacher educators have similar control over the content to be taught in the class such as selection of teaching materials and skills.

Professional development Autonomy-In order to see the difference between the male and female teacher educators on the dimensions of professional

development autonomy, Mean and standard deviation was calculated and 't' test was used to find out that there exist any significant difference. It is clear from the table 2 and figure 2 that mean value of score for male teacher educators ($M_1= 9.9$) and for female teacher educators ($M_2=10.1$). The value of 't' was found to be 0.77 which is not significant and suggest that there is no statically significant difference between male and female teacher educators for their professional development autonomy. Both the groups of male and female teacher educators are similar on professional development autonomy. It means both the groups have similar kind of opportunities for their professional development to enrich knowledge by participating in conferences, workshops and faculty development programs.

Objective 2: To find out the difference in autonomy among teacher educators for their Subject of Teaching.

Hypothesis 2: There is no significant difference in level of autonomy among teacher educators for their Subject of Teaching.

In order to test null hypothesis that there is no significant difference in autonomy of teacher educators for Subject of Teaching, the mean, SD of the two groups was calculated and t-value was calculated as shown in table3

Table 3: Comparison on dimensions Autonomy of teacher educators for their teaching subjects

S.No.	Dimensions	Science subjects		Non science subjects		't' value	Result
		Mean	S.D.	Mean	S.D.		
1.	Teaching Autonomy	29.6	3.6	28.8	3.3	1.2	NS
2.	Curriculum Autonomy	13.9	2.2	14.7	1.8	1.96*	0.05
3.	Professional development Autonomy	10.1	1.8	9.9	1.5	0.67	NS

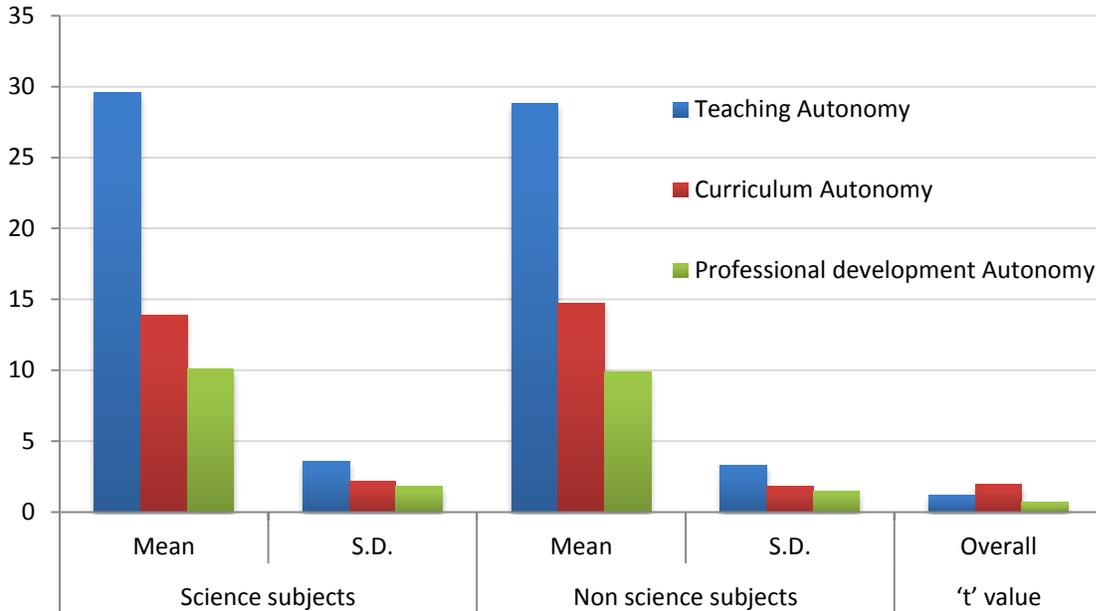


Fig 3: Histograms representing the statistical metrics for dimensions of Autonomy of teacher educators with respect to their type of institutions

Interpretation

Teaching Autonomy-In order to compare the teacher educators teaching science subjects and non science subjects on the dimensions of teaching autonomy, mean, SD and 't' test was used to find if there exist any significant difference between the two groups. It is clear from table 3 and figure 3 that mean and standard deviation of teacher educators teaching science subjects are 29.6 and 3.6 respectively and teacher educators teaching non science subjects are 28.8 and 3.3 respectively. The t-ratio of mean is 1.2 which is not significant at 0.05 level of significance and indicates that there is no statically significant difference between the two groups of respondents and hence the null hypothesis that "there is no significant difference in the teaching autonomy of teacher educators teaching science subjects and non science subjects" is accepted. The result shows that difference is not statically significant Therefore it can be said that the teacher educators teaching science subjects have more teaching autonomy as compared to teacher educators teaching non science subjects but the difference is not statically significant.

Curriculum Autonomy-In order to compare the teacher educators teaching science subjects and non science subjects on the dimensions of curriculum autonomy, mean, SD and 't' test was used to find if there exist any significant difference between the two

groups. It is clear from table 3 and figure 3 and figure 4.15 that mean and standard deviation of teacher educators teaching science subjects are 13.9 and 2.2 respectively and teacher educators teaching non science subjects are 14.7 and 1.8 respectively. The t-ratio of mean is 1.96 which is significant at 0.05 level of significance and indicates that there is statically significant difference between the two groups of respondents and hence the null hypothesis that "there is no significant difference in the curriculum autonomy of teacher educators teaching science subjects and non science subjects" is rejected. The result shows that difference is statically significant Therefore it can be said that the teacher educators teaching non-science subjects have more curriculum autonomy as compared to teacher educators teaching science subjects.

Professional development Autonomy-In order to compare the teacher educators teaching science subjects and non science subjects on the dimensions of professional development autonomy, mean, SD and 't' test was used to find if there exist any significant difference between the two groups. It is clear from table 3 and figure 3 that mean and standard deviation of teacher educators teaching science subjects are 10.1 and 1.8 respectively and teacher educators teaching non science subjects are 9.9 and 1.5 respectively. The t-ratio of mean is 0.67 which is not significant at 0.05 and indicate that there is no statically significant



difference between the two groups of respondents and hence the null hypothesis that “there is no significant difference in the professional development autonomy of teacher educators teaching science subjects and non science subjects” is accepted. The result shows that difference is not statically significant Therefore it can be said that the teacher educators teaching science subjects have more professional development autonomy as compared to teacher educators teaching non science subjects but the difference is not statically significant.

Discussion: The findings showed that the teacher educators teaching in Govt. aided B.Ed. institutions found to have used more autonomy as compared to the teacher educators teaching in self-financed institutions. The findings supported by an article written by Rekha Choudhary. She also highlighted in her article that central universities provide better working environment to pursue their academic activities and their teachers are more autonomous. The state level universities teachers work under bureaucratic and controlled environment which make the teachers ineffective and un-autonomous. Due to bureaucratic environment of the state universities, power comes in the hand of administration and head of the institutions work as CEO of the company rather than academic leader.

The findings showed that there is no significant difference between the autonomy of teacher educators with respect to gender. The findings are similar with the result found in study conducted by Singh, S, Chabra, S, & Chopra, v(2015) and Beri. N & Beri. A (2016) in which they found out that there was no significant difference between male and female teacher educators for their professional commitment.

A significant difference was found between Teacher educators of teaching science and non-science subjects in case of curriculum autonomy. The teacher educators teaching non-science subjects are found to have more autonomy than teacher educators teaching science subjects. It shows that more flexible curriculum is adopted in case of non-science subjects.

12. CONCLUSION

The present study is an attempt to explore the Autonomy of teacher educators working in different types B.Ed. colleges in Delhi. The following conclusions were drawn from the finding-

There is statically high significant difference was found between the teacher educators of Govt. aided and Self-financed B.Ed. institutions of Delhi. It can be said that teacher educators working in Govt. aided B.Ed. institutions have better Autonomy as

compared to self-financed B.Ed. institutions with respect to its all dimensions.

There is statically no significant difference was found in Autonomy of teacher educators between male and female B.Ed. institutions of Delhi with respect to its all dimensions.

There is statically no significant difference was found in Autonomy of teacher educators between teacher educators teaching science and non-science subjects with respect to teaching autonomy and professional development Autonomy but in case of curriculum autonomy significant difference was found. It shows that non-teaching subjects are teaching with flexible curriculum.

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PERCEPTION & USES OF MEDICAL APPS AMONG POST-GRADUATES OF A TERTIARY CARE TEACHING HOSPITAL, D.K, KARNATAKA

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ABSTRACT

Background:

The widespread use of medical applications (Apps) is opening new and innovative ways to improve health and health care delivery. These Software applications (apps) are providing evidence-based decisional tools to reduce medical errors and enhancing educational and workplace activities among healthcare workers, with the potential to improve overall patient care.

Objective:

To explore the perception, purpose of installation and impact of medical apps on the clinical training/practice among the Post-graduates of a tertiary care teaching hospital in Sullia, D.K, Karnataka.

Materials and Methods:

A cross-sectional study was done in November 2020 among 50 Post-graduates, who were selected by simple random sampling method. Data was collected using a semi-structured questionnaire about the perception and uses of medical apps.

Results:

Among 50 respondents, 26(52%) males and 24(48%) females had smart-devices. 47(94%) using smart phones and 3(6%) using tablets, majority of which was android-based 45(91.86%). Almost all participants 49(98%) were aware of availability of medical apps and 46(92%) had installed it. 27(54%) participants had installed 1 to 5 apps in their devices and 19(38%) were spending 40 to 60 minutes per day on healthcare apps. Of all respondents, number and percentage of using various healthcare apps was

medicaleducation/textbooks 36(72%), procedure & case documentation 32(64%), disease diagnosis/management

43(86%), clinical score calculation 14(28%) & drug reference 41(82%). Regarding perception of healthcare apps, most participants found it useful in medical education & patient care & were interested in recommending to peer group. Regarding impact of medical apps most participants found it useful in clinical decision making, assisting in differential diagnosis, allowing faster access to evidence-based medical practice and saving time. Respondents recommended use of medical apps to improve healthcare, to access medical education and improve their clinical skills.

Conclusions:

Medical apps are used by the majority of Post-graduates on a daily basis in order to perform their job. Evidence-based, affordable and credible medical apps are needed to provide a platform for better patient care, continuing medical education and improving clinical skills of the healthcare professionals.

KEYWORDS: Smart phone, Medical app, Mobile health, Mobile apps, Post-graduates

INTRODUCTION

India has 502.2 million smart phone users as of December 2019 and 77% of Indians are accessing internet through smart phones.[1] Use of smart devices & hence use of medical apps among healthcare professionals has become widespread & will continue to grow in coming years. Due to their

functionality and potential, Smartphone are gaining importance in healthcare and attract the attention of researchers and developers of healthcare related apps.

The role of mobiles in health care professions is becoming very strong and effective by providing tailor made access and provision of information to valuable advice in almost each specialty [2]. This has



produced a very positive effect on the decision-making in difficult situations, resulting in an obvious reduction in a number of medical errors because of better understanding among health care professionals resulting in improved and effective patient care [3].

Currently, mobile phones serve an important role in public health initiatives through mobile-health (m Health or e Health). mHealth helps in overcoming resource limitations on supply side of health care as well as structural barriers and behavioral limitations on the demand side. This increase can further enhance the prospects of using mobile phones for delivering various health care services.[4]

According to an estimate, more than 13,000 mobile Apps relating to health are available from different Apps stores [5]. These Apps are quite helpful in the training of health care workers and provide an easy approach to multiple activities such as appointment reminders, reference ranges, physician or hospital locator, calorie counter, body surface area calculator and many others. This provides tremendous help in day-to-day decisions pertaining to diagnosis, treatment and in the healing process [6]. Medical Apps, which can be easily downloaded onto mobiles, have an increased popularity among medical students and young clinicians [7].

Based on the present trends, one can speculate that use of smart phone Apps would groom medical students for their future professional clinical life. For this reason, a number of medical institutes have started using this new technology for teaching purposes to provide an effective guide to the budding clinicians for their upcoming professional demands[8].

Medical apps provide convenient, portable & rapid access to medical resources for healthcare professionals.

METHODOLOGY

A cross-sectional study was done in November 2020 among 50 Post-graduates of KVG Medical college of Sullia taluk in Dakshin Kannada district of Karnataka selected by simple random

sampling method, who were in their 1st, 2nd and 3rd year of their residency training. There were no inclusion or exclusion criteria based on specialty, or gender. All data was collected during a 1 month time period and subjects were given two reminders to complete the survey. Data was collected using a semi-structured questionnaire about the perception and uses of medical apps. Questions were derived from previous literature [9,10], and the apps named in the survey were derived from a list of the most popular medical apps on Google play store, and other websites [11,12]. After data collection was complete, univariate analysis was performed and all numerical data were reported as simple statistical data (e.g., frequency, percentage).

RESULTS

Over the one month period, a total of 50 responses were received, with a response rate of 66.66% (50/75). Among 50 respondents, 26(52%) males and 24(48%) females had smart-devices. 47(94%) using smart phones and 3(6%) using tablets, majority of which was android-based 45(91.86%). Almost all participants 49(98%) were aware of availability of medical apps and 46(92%) had installed it. 27(54%) participants had installed 1 to 5 apps in their devices and 19(38%) were spending 40 to 60 minutes per day on healthcare apps. Of all respondents, number and percentage of using various medical apps was medical education/textbooks 36(72%), procedure & case documentation 32(64%), disease diagnosis/management 43(86%), clinical score calculation 14(28%) & drug reference 41(82%).

Regarding perception of medical apps, most participants found it useful in medical education & patient care & were interested in recommending to peer group. Regarding impact of medical apps most participants found it useful in clinical decision making, assisting in differential diagnosis, allowing faster access to evidence-based medical practice and saving time. Respondents recommended use of medical apps to improve healthcare, to access medical education and improve their clinical skills.

Table 1. Medical applications are being used by the participants (participants had the choice to select more than one Medical Apps).

Name of Medical Apps	N	%
Medscape	29	58
WebMD	18	36
MedCalc	17	34
UpToDate	15	30
PubMed Mobile	25	50
Epocrates	11	22
Skyscape	14	28
Oxford Clinical Handbooks	29	58
Student BMJ	13	26
Differential Diagnosis BMJ	16	32



NEJM	16	32
Prognosis	21	42
Pocket Lab Values	24	48
ECG Guide	21	42
iStethoscope	10	20
Eponyms	05	10
Diagnosaurus DDx	17	34
Practo	27	54
Curofy	30	60

Table 1 reveals that popular apps included Curofy (60%), Medscape(58%), Oxford handbooks (58%)Practo (54%)Pubmed mobile (50%).

Table 2. Perceptions of medical app reliability amongst participants (N = 50).

Application name	Do not trust % (total)	Indifferent % (total)	Trust % (total)	Total (N)
Medscape	4.25(2)	6.38(3)	89.36(42)	47
WebMD	9.30(4)	25.58(11)	65.11(28)	43
MedCalc	8.16(4)	12.24(6)	79.59(39)	49
UpToDate	9.09(3)	18.18(6)	72.7(24)	33
PubMed Mobile	5.71(2)	20.00(7)	74.28(26)	35
Epocrates	7.40(2)	18.51(5)	74.07(20)	27
Skyscape	7.31(3)	17.07(7)	75.60(31)	41
Oxford Clinical Handbooks	0(0)	17.94(7)	82.05(32)	39
Student BMJ	3.12(1)	18.75(6)	78.12(25)	32
Differential Diagnosis BMJ	4.16(1)	12.50(3)	83.33(20)	24
NEJM	0(0)	28.57(8)	71.42(20)	28
Prognosis	3.70(1)	7.40(2)	88.89(24)	27
Pocket Lab Values	12.50(4)	12.50(4)	75.00(24)	32
ECG Guide	2.56(1)	17.94(7)	79.48(31)	39
iStethoscope	13.63(6)	11.36(5)	75.00(33)	44
Eponyms	4.76(1)	47.61(10)	47.61(10)	21
Diagnosaurus DDx	23.07(6)	23.07(6)	53.84(14)	26
Practo	8.16(4)	20.40(10)	71.42(35)	49
Curofy	2.17(1)	6.52(3)	91.30(42)	46

Table 2 reveals the five apps perceived to be the most trustworthy by participants were Curofy(91.3%),Medscape(89.36%),Prognosis(88.89%),Differential diagnosis(83.33%) and Oxford clinical handbooks(82.05%).

Table 3. Perceptions of medical app use amongst participants (N = 50).

Answers	Do not trust % (total)	Indifferent % (total)	Trust % (total)	Total (N)
Save you time	2(1)	6(3)	92(46)	50
Improve the care of my patients	4(2)	6(3)	90(45)	50
Increase diagnostic accuracy	2(1)	2(1)	96(48)	50

Table 3 reveals that 92% of participants who responded said medical app use saves time, 90% reported that it improves patient care, and 96% believed it increases diagnostic accuracy .



DISCUSSION

Now a days clinicians are increasingly using medical apps in the clinical setting. Our cross-sectional study found that Curofy, Medscape and Oxford handbooks and are the most commonly used and trusted apps amongst post graduates. The majority of participants thought that medical apps save time, improve care of their patients, and improve diagnostic accuracy. However, participants also felt that mobile device use in the clinical setting makes them appear less engaged. These findings are similar to the few of the previously available literature.[9,13]The majority of the participants were aware that mobile phones can be utilized for health education, to spread awareness about common diseases, counseling for cessation of addictions, adherence to medication. The point-of-care access to medical information has led to improved decision-making, enhanced telemedicine capabilities, and decreased hospital stays [14]. Some medical schools and residency programs have encouraged app use by requiring all medical students to have certain apps on their phones and often provide free mobile subscriptions to these apps [15]. Use of medical apps can revolutionize the healthcare industry.

CONCLUSION

Evidence-based, affordable and credible medical apps are needed to provide a platform for better patient care, continuing medical education and improving clinical skills of the healthcare professionals. If health systems want to reap these rewards associated with app use, the culture of medicine must embrace technology.

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MENTAL HEALTH PROBLEMS AMONG SCHOOL GOING ADOLESCENTS IN INDIA: A LITERATURE REVIEW

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ABSTRACT

School going adolescents are in a transition period that bridges childhood and adulthood, during which major physical, cognitive, and psychological changes occur. Today's young adolescents deal with issues related to suicide; and many other social, emotional, physical and psychological issues. These internal stresses and social expectations lead to moments of ambiguity, self-doubts and disappointment in the adolescents. It is in these situations that the young person takes risks and involves in risk taking behaviors. The present review is focused on mental health problems of school going adolescents in India based on pertinent studies from different online search engines, journals and articles of the past years. The reviews illustrate the high and increasing prevalence of Mental Health problems among school going adolescents and the need for school based Mental Health services in every school in the country.

KEY WORDS: *School-going, adolescent, Mental Health, problems, Review, India.*

INTRODUCTION

Indian youth represent a significant proportion of the worldwide population. As per census 2011, youth (15-24 years) in India constitute one-fifth (19.1%) of India's total population. India is expected to have 34.33% share of youth in total population by 2020¹. Mental health is one of the most important aspects of development among school going adolescents yet the most neglected. India, a developing country needs much improvement of its mental health care services, especially among school going adolescents.

MENTAL HEALTH PROBLEMS AMONG SCHOOL GOING ADOLESCENTS IN INDIA

The review is based on the secondary data from online resources such as PubMed, Google scholar, Psych- info journals. Several studies from the past 10 years were reviewed based on the Mental Health aspects of school going adolescents and terms like Health and Mental health problems, prevalence, challenges, psychosocial, behavioral and emotional problems, suicide, psychiatric disorders were used in the search engine. The following are the major findings found from the review.



A number of scales were focused on mental health assessment of school going adolescents such as SDQ questionnaires, Youth Self Report (YSR) questionnaires, ICD-10 criteria tools, Child behavior checklist, PSC-Y questionnaires, Beck Depression Inventory, GHQ-12. SDQ questionnaires and Youth self-reports, are the most common used tools to understand the Mental Health problems of School going Adolescents. The mental health problems found frequently among school going adolescents are depression and stress, substance abuse, educational difficulties, anxiety, conduct disorders, emotional problems, behavioral problems, hyperactivity; and suicidal tendencies.

There are wide variations in the Mental Health rates of adolescents from 0.48% to 29.40%². A study conducted in Dehradun showed the overall prevalence of psychosocial problem to be 40.5% with 34.5% in rural areas & 46.5% in urban areas. Depression was the most common psychosocial problem, among adolescent females followed by educational difficulties. Among adolescent males, substance abuse was the most common psychosocial problem followed by educational difficulties and anxiety³. A school based cross-sectional study conducted to assess behavioral and emotional problems of school going adolescents in Chandigarh, revealed that the prevalence of behavioral and emotional problems in adolescents was found to be 30%⁴. A comparison of urban Indian adolescents among working and non-working mothers conducted in Chennai revealed that students had conduct problem, peer problem, hyperactivity problem and pro-social problem⁵. Another study intended to understand the mental health problems among adolescents and its psychological correlates, revealed that attention deficit disorder, internalizing problems, externalizing problems and suicidal proneness are present among school adolescents with 14% overall prevalence of Mental Health problems⁶.

The domain wise finding shows more emotional problems among females and more conduct problems among male students⁷. No significant difference in prevalence rate was observed between males and females, or between children belonging to joint and nuclear families⁸. Also, there was no significant difference in prevalence of mental health issues between middle class urban and rural children⁹. Sibnath Deb et al (2010) examined, adolescent anxiety among high school students in India, wherein, results show that anxiety was prevalent in the sample with a fifth (20.1%) of boys and more than a sixth (17.9%) of girls found to be suffering from high anxiety¹⁰. Jayant and Thirunavukarasu (2015) conducted a study on the prevalence of depression among school going

adolescents in South India revealing 45.7% of adolescents with a moderate degree of depression with only 9.3% reporting minimal depression¹¹. A study by Mohammad (2017) shows that the rate of drug abuse is very high among adolescent students and there are many ill effects of addiction on their psychological conditions¹². A strong relationship has been found between emotional and behavioral problems among adolescents¹³.

The above reviews found a high and increasing prevalence of Mental Health problems among school going adolescents and suggested that school based Mental Health services should be implemented in every school in the country.

BARRIERS IN ACCESSING MENTAL HEALTH CARE SERVICES

The current treatment gap for mental problems is a result of inadequate coverage of mental health services as well as under-utilization of mental health services by the community. Additionally, the quality of the care delivered in some settings is meager and inadequate. Logistic barriers, financial barriers, child characteristics, and parental characteristics and beliefs are also some of the barriers in accessing Mental Health care services. Widespread taboos and social stigma towards, and discrimination against, people with mental disorders is an important barrier to service utilization. It contributes to delays in seeking care, impedes timely diagnosis and treatment for mental disorders, serves as an impediment to recovery and rehabilitation, and ultimately reduces the opportunity for fuller participation in life¹⁴. It is important for professionals to understand the barriers which parents and children face in accessing services in order to increase the accessibility of children's mental health care amenities.

THE NEED TO PROMOTE AND PREVENT MENTAL HEALTH AMONG SCHOOL GOING ADOLESCENTS

Based on findings, several studies have suggested suitable interventions that would aid in the adolescent students, to cope with the challenges of their life stages and the demands of everyday life. Adolescents are involving in various harmful, unsafe and unhealthy behaviors which suggest that needs-based educational programmes should be made mandatory for adolescents in schools and colleges focusing on awareness, situational effects, short term and long term consequences on health and well-being and peer culture. These interventions need to be interspersed with a preventive focus on teaching skills to meet challenges, to exercise self-control, establish



meaningful goals, make healthy life choices and maintain healthy relationships¹⁵. Integrating Mental Health into general health care, effective mass media coverage, networking between mental health-professionals and other health professionals, community-based health services and involvement of professionals from the education sector are some of the vivacious suggestions given¹⁶.

School based consultation services for child Mental Health are not employed either in the developing or the developed world to the degree possible. Further, in developing countries the potential of having professionals trained in social work, psychology, education and other fields is not utilized for Mental Health care of children and adolescents because of lack of supplemental training in child Mental Health. Considering that school going adolescents represent a large proportion of the country's population, there is an urgent need to develop Mental Health resources to promote mental health services and prevent mental health issues among school going adolescents. There is an immense need of timely intervention to preserve the psychosocial health of this apparently healthy group.

CONCLUSION

Mental Health problems are common among the adolescent population in India and early detection and effective intervention will benefit in the wholesome development of the future citizens of our country. There is a high prevalence of mental health problems among school going adolescents, which shows that there is a need to develop collaborations among mental health professionals, psychologist, social workers, school authorities, pedagogical strategic think tanks, welfare administrators, teachers and parents in preventing mental illness as well as with social policy analysts in developing, implementing, and evaluating the interventions.

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PREGNANT WOMEN'S NUTRITIONAL AWARENESS, LIFESTYLES AND SATISFACTION ON NUTRITION EDUCATION AT REPRODUCTIVE AND CHILD HEALTH CLINICS IN TEMEKE DISTRICT, TANZANIA

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ABSTRACT

Proper use of nutrition information among pregnant women is essential in escaping them from malnutrition which can contribute to maternal and infant morbidity, mortality and adverse birth outcomes. Awareness of nutrition, proper lifestyle behaviors' and satisfaction among pregnant women are important in making sure that women participate effectively in complying with nutrition necessities in pregnancy. This study assessed pregnant women's nutritional awareness, lifestyle behaviours and satisfaction on nutrition education provided to them at Reproductive and Child Health (RCH) clinics in Temeke District Dar es Salaam Region, Tanzania. A cross-sectional study design was used to collect data from pregnant women at single point in time. The stud used convenient sampling to select 100 pregnant women who attended RCH clinics from twelve randomly selected health facilities. The study used survey and focus Group discussions (FGDs) as methods of data collection. Data analysis was done using SPSS version 16 to reveal descriptive statistics such as frequencies, percentages and standard deviations which presented in tables and figures. Data collected through Focus Group Discussions (FGDs) was analysed by using content analysis to reveal themes and concepts. The study realized that 52% of pregnant women didn't know that pregnant women have different nutritional needs according to gestation age, physical activities levels and pre-conceptual health status; and 63% of pregnant women were not aware that maternal nutrition has influence on birth outcomes. Lifestyle behaviours of pregnant women in the study area include: not smoking cigarettes (100%), not drinking alcohols (98%) and not drinking tea, coffee and coke drinks with food (33%). More results show that 54% of pregnant women were not satisfied with quality of nutrition education provided at RCH clinics due to poor reliability, poor/lack of tangibles (visual aids and supplements), poor assurance and poor responsiveness of RCH Providers. Most pregnant women were not aware of the nutritional needs during pregnancy and the association between maternal dietary intake and birth outcomes which was probably contributed by inadequate nutrition education received during ANC contacts. The study recommends that the health facilities should improve the quality of nutrition education provided to pregnant women when they attend to RCH clinics especially on quality nutrition education services with regard to reliability, tangibles, assurance and responsiveness so as to improve maternal nutritional status which in turn will reduce maternal and infant morbidity and mortality and improve birth outcomes in Temeke District in Dar es Salaam Region, Tanzania.

KEYWORDS: *pregnant women, awareness, nutrition education, lifestyle, satisfaction*



1. INTRODUCTION

Adequate nutrition is very important especially during pregnancy when a woman undergoes major biological, physical, psychological and social changes. Good maternal nutrition is also important for the health and reproductive performance of pregnant women and improves the birth outcomes. Adverse health impacts on mothers and foetus are results of poor and inadequate nutritional needs during pregnancy contributing to poor maternal outcomes (anaemia, intrauterine growth retardation, abortion) and infant outcomes (still birth, low birth weight and prematurity). Increase in risk of inappropriate gestation weight gain (GWG) due to inadequate dietary intake during pregnancy is associated with risks of pre-eclampsia, macrosomia and caesarean section (Renault et al., 2015; Longford et al., 2011). High exposure of the infant to risk of childhood obesity and non-communicable diseases (NCDs) later in life is a result of exposure of foetus to maternal obesity, diabetes, and unhealthy GWG (Bookari et al., 2017; Langley-Evans, 2015). Although mothers and their infants need healthy eating, still many women do not consume adequate diet during pregnancy (Malek et al., 2015). Following lack of access to nutritious diets, some women consume food which lack key nutrients such as folate, iron and fibre (Hare et al., 2009). Also, some women fail to meet consumption of some essential food groups such as vegetables, fruits, cereals, animal and animal products like meat, eggs and milk (Malek et al., 2015).

In order for pregnant women manage to afford safe, healthy and balanced diets, identifying factors which influence their dietary behaviours during pregnancy is very essential. There are several factors influencing pregnant women's dietary behaviours including: physical (pre-pregnancy body mass index (BMI), pregnancy induced changes- nausea, and vomiting), cognitive/perceptual (knowledge and attitudes), socio-economic (poor income, food insecurity, and marital status), and institutional and community factors such as gender inequality, food taboos and restriction (Bookari et al., 2017, WHO, 2020). In addition, nutrition knowledge is another factor which can influence pregnant women's dietary behaviours such as dietary practices (Bookari et al., 2017) and dietary choices (Malek et al., 2015). Improvement of maternal nutrition during pregnancy are essential in avoiding multiple risks of Adverse Pregnancy Outcomes (APO) such as restricted foetal growth, maternal underweight and small-for-gestational age births. Furthermore, improvement of maternal nutrition can help to prevent them from micronutrient deficiencies (Islam, 2013; Imdad and Za, 2011). It should be remembered that, lack of relevant nutrition

knowledge specifically during pregnancy is an obstacle to consumption of healthy and adequate diet (Bookari et al., 2017) and appropriate use of supplements particularly folic acid and iron among pregnant women given during ANC visits (Popa et al., 2013).

Many African countries including Tanzania are constrained by maternal undernutrition during pregnancy which has both short and long term implications to pregnant women, their newborn, family and community as a whole (Mora and Nestel, 2000; Bhutta et al., 2008). Maternal undernutrition among pregnant women increases the rate of infections due to low immunity, increases rate of miscarriages and intrauterine growth retardation (Shrimpton, 2006). Also, anaemia is reported as a life threatening outcome of maternal undernutrition in majority of pregnant women in Africa. The prevalence of anaemia among pregnant women in Africa ranges from 21% to 80% (Lartey, 2008). In sub-Saharan Africa, the probability of death of pregnant women due to anaemia is very high as it is one in 16 pregnant women compared with one in 4000 pregnant women in developed countries (Lartey, 2008). The above effects led for the rationale of conducting this study. The study assessed the pregnant women's awareness of nutrition, lifestyle behaviours and satisfaction on nutrition education provided at RCH clinics in Temeke District. The district has higher infant mortality rate of 63/1000 than the national goal of 50/1000; higher under fives mortality rate of 181/1000 than the national goal of 70/1000; and higher maternal mortality rate of 643/100 000 than the national goal of 400-600/100000 (TMC, 2006).

Understanding pregnant women's awareness of nutrition information, lifestyle behaviours and their perceived satisfaction on nutrition education provided at Reproductive and Child Health (RCH) clinics are important aspects in identifying gaps in nutrition knowledge among pregnant women and quality of nutrition education provided by RCH providers. The World Health Organization (WHO, 1998) recommends that involving women in making decisions of their health affairs is considered as active women participation to ensure high quality antenatal services such as nutrition knowledge for pregnant women. However, there is scarcity of studies on nutrition knowledge for women in pregnancy (Szwajcer et al., 2012; Bookari et al., 2017; Kamanda et al., 2020) particularly in Temeke District, Tanzania. Furthermore, there is uncertainty of knowledge regarding pregnant women's awareness of nutrition in pregnancy, lifestyle behaviours and satisfaction on nutrition education provided by RCH clinics in Tanzania. This study assessed pregnant women's awareness of nutrition during pregnancy, lifestyle



behaviours and satisfaction on nutrition education provided at RCH clinics in Temeke District Dar es Salaam Region Tanzania. The five service quality dimensions including reliability, tangibles, responsiveness, assurance and empathy of SERVQUAL model developed by Parasuraman et al. (1985) were used to measure satisfaction of pregnant women on quality of nutrition education provided at RCH clinics in the study area. The knowledge revealed by this study may help the government and private sector to make improvements in provision of quality nutrition education for pregnant women attending RCH clinics during pregnancy in Temeke District and Tanzania as a whole.

2. OBJECTIVES

2.1 Main objective

To assess pregnant women's awareness, lifestyle behaviours and satisfaction on nutrition education provided at Reproductive and Child Health clinics in Temeke District, Tanzania.

2.2 Specific objectives

- i. To assess awareness of nutritional needs among pregnant women during pregnancy.
- ii. To identify lifestyle behaviours of pregnant women in complying with nutrition.
- iii. To assess pregnant women's satisfaction on quality of nutrition education provided at RCH clinics.

3. METHODOLOGY

The survey population comprised of pregnant women attended RCH clinics in health facilities in Temeke District Dar es Salaam Region, Tanzania. A cross-sectional survey was used to collect data from respondents each one at a single time. The cross-sectional design adopted both qualitative and quantitative approaches of data collection. The study used survey and focus Group discussions (FGDs) as methods of data collection. The instruments of data collection used were structured questionnaire and FGD checklist. Data was collected through questionnaire was analysed by using SPSS version 16 to reveal descriptive statistics such as frequencies, percentages and standard deviation which presented in tables and figures regarding pregnant women's awareness of nutrition, lifestyle behaviours and satisfaction on nutrition education provided in RCH clinics. Data collected through FGDs was analysed by using content analysis to reveal themes and concepts regarding service quality dimensions including reliability, tangibles, assurance, empathy and responsiveness of quality of nutrition education provided in RCH clinics

of health facilities in Temeke District in Dar es Salaam Region, Tanzania.

4. SAMPLING DESIGN

The sample size of pregnant women attended RCH clinics was estimated by using the formula developed by Fischer et al. (1991). The sample size was determined based on prevalence of low birth weight (the major adverse pregnancy outcome) of 7% for Tanzania (NBS and ICF Macro, 2011) as follows:

$$n = Z^2pq/d^2$$

Where: n = sample size when population is greater than 10000

Z = standard normal deviation, which is 1.96 set at 95% confidence level.

p = expected prevalence (0.07)

q = 1.0 – p (expected non-prevalence) = 0.93

d = degree of accuracy desired 5% (0.05)

$$n = \frac{(1.96)^2 \times 0.07 \times 0.93}{(0.05)^2}$$

= 100 pregnant women

The sample size of 100 pregnant women was selected by using convenient sampling whereby pregnant women who attended RCH clinics from twelve selected health facilities during the particular day of survey participated in the study.

5. GEOGRAPHICAL AREA

The study was conducted in Temeke District, Tanzania. The rationale of selecting Temeke District was that the district has higher infant mortality rate of 63/1000 than the national goal of 50/1000; higher under fives mortality rate of 181/1000 than the national goal of 70/1000; and higher maternal mortality rate of 643/100 000 than the national goal of 400-600/100000 (TMC, 2006), despite the fact that Reproductive and Child Health (RCH) services being provided in all health facilities in the district.

6. RESULTS

6.1 Demographic characteristics of respondents

The study involved 100 pregnant women who were attending RCH clinics in Temeke District Dar es Salaam Region Tanzania. Based on demographic characteristics, majority of pregnant women were married (88%) while few respondents comprised of women who were not yet married and hence regarded as single women (10%). Small number of respondents comprised of divorce women (2%) (Table 1). With regard to occupation, majority of participants comprised of housewives who had neither wage employment nor business (46%) as shown in Table 1.



Other participants were engaging in small business (35%) and wage employment (19%).

Table 1: Marital status and occupation of respondents (n=100)

Marital status	Married	88%
	Single	10%
	Divorce	2%
	Total	100%
Occupation	Formal employment	19%
	Housewives	46%
	Small business	35%
	Total	100%

The mean age of pregnant women participated in the study was 27 years, having standard deviation of 5.34. Their age ranged from 18 to 40 years and this justified that all pregnant women were adults. More results revealed that 56% of respondents completed primary school education. Other participants comprised

of women who completed different levels of education including secondary schools (12%), certificate (8%) and degree level of education (2%). Some participants were either never attended school (non-formal education) or dropouts of primary or secondary schools (Figure 1).

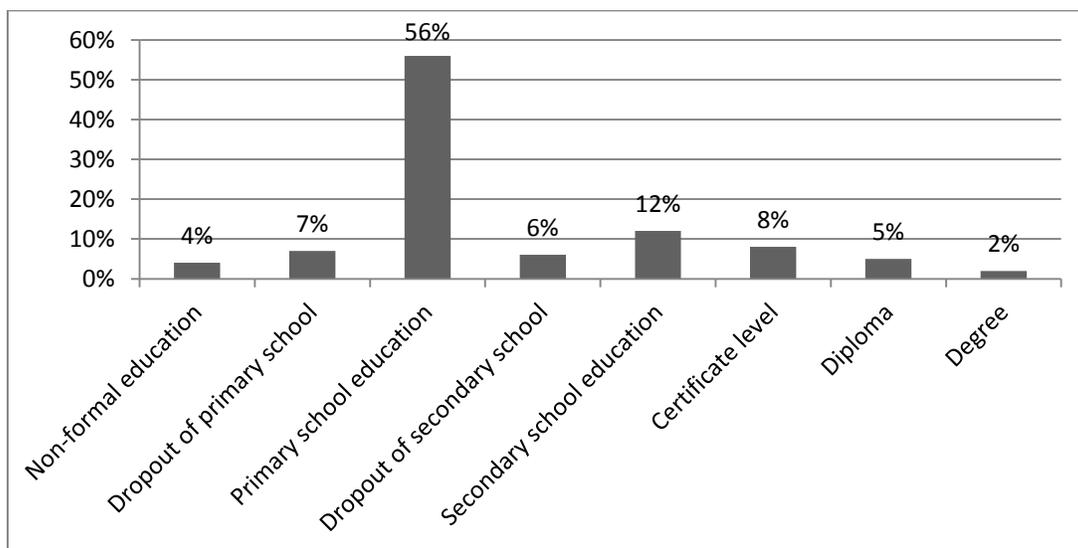


Figure 1: Distribution of respondents based on education levels

6.2 Pregnant women's awareness of nutritional needs

The assessment of pregnant women's awareness of nutrition needs was done using four items of measurement (Table 2). Results showed that 52 % of pregnant women were not sure if women in pregnancy require different nutritional needs according to gestation age, level of physical activities and pre-conceptual health while 48% were aware that women in pregnancy require different nutrition needs. Despite the awareness demonstrated by pregnant women during survey on requirements of different nutrition needs during pregnancy, participants were not able to recognize those differences in nutrition needs and how

to meet them so as to improve their nutrition status and hence good birth outcomes. Lack of awareness of nutritional needs among pregnant women during pregnancy increases risks of maternal and infant morbidity, mortality and other adverse birth outcomes. Appropriate dietary behaviours and practices during pregnancy help to improve maternal and infant health while escaping malnutrition. Moreover, this study revealed that most women (63%) were not aware if maternal nutrition has influence on birth adverse outcomes such as still birth and neonatal death; prematurity; neuro tube defects and delivery of underweight child. The study found that only 37% of pregnant women who attended RCH clinics had



awareness of association between maternal nutrition and birth outcomes. Therefore, most of pregnant women

were not aware of association between maternal nutrition and birth outcomes in the study area.

Table 2: Awareness of nutritional needs among pregnant women (n=100)

Pregnant women's awareness of nutritional needs	Percentage
Not sure if pregnant women have different nutritional needs requirements.	33
There are differences in nutrition needs during pregnancy.	48
Nutrition needs during pregnancy are similar regardless of gestation age, level of physical activities and pre-conceptual health.	19
Total	100
Maternal nutrition has an influence on birth outcomes.	37

6.3 Lifestyles behaviours of pregnant women attending ANC clinics

The study found that 33% of pregnant women were drinking tea, coffee, Pepsi or Coke drinks together while eating food because they were not aware of adverse effects of these drinks on nutrient bioavailability. In spite of large number of women (67%) being not consuming the above drinks together with food, they lack nutrition knowledge of the effects of these drinks on nutrient bioavailability. Surveyed

pregnant women provided some reasons of not using these drinks with food being lack of money to buy the drinks, don't prefer the drinks and avoiding the effects of these drinks especially frequent urination. More results revealed that pregnant women were not smoking cigarettes (100%) and don't drink alcohol (98%) as shown in figure 2. Escaping from drinking alcohol and smoking cigarettes helps pregnant women escape the health risks which can threaten maternal and infant health during pregnancy and after delivery.

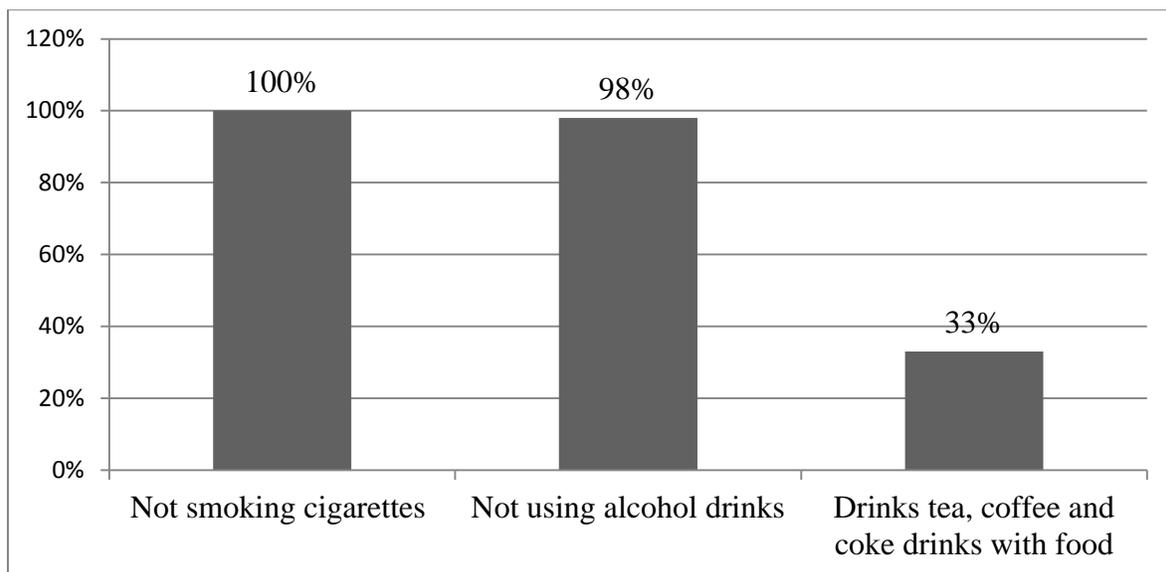


Figure 2: Life style behaviours of pregnant women regarding nutrition

6.4 Pregnant women's satisfaction on nutrition education provided at RCH clinics

The study assessed if pregnant women satisfied on nutrition education offered at RCH clinics in Temeke District Tanzania. The study revealed that pregnant women were not satisfied on nutrition

education provided at RCH clinics of private and government health facilities. In particular, 54% of pregnant women were not satisfied with quality of nutrition education provided to them in all ANC visits (Figure 3). Also, pregnant women (46%) were not satisfied with quality of nutrition education provided at RCH clinics in the day of survey.

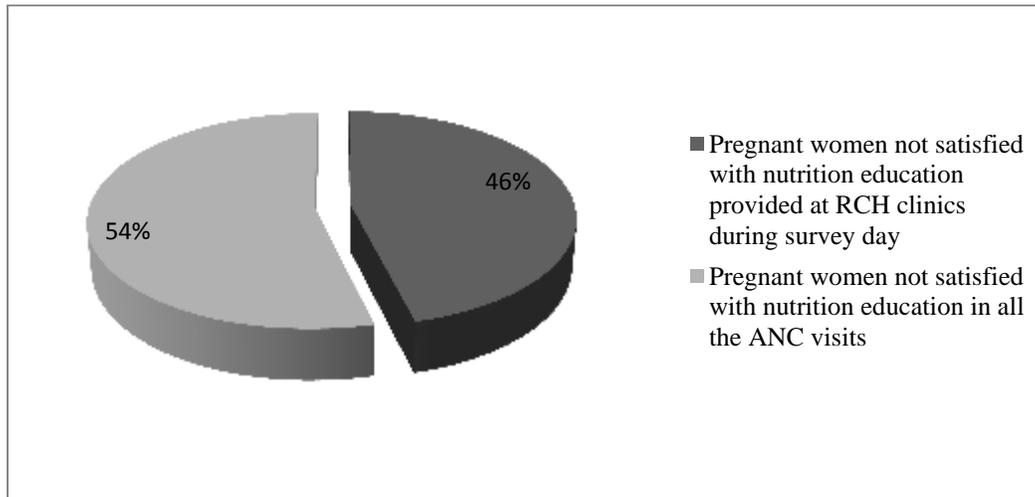


Figure 3: Satisfaction on nutrition education among pregnant women

Results showed that during FGDs with 10 pregnant women attended RCH clinics, participants put forward different reasons for dissatisfaction with quality of nutrition education offered by RCH providers. Pregnant women dissatisfied with quality of nutrition education due to poor reliability of RCH services since nutritional education does not being provided routinely, if any it starts late, sessions take long time and sometimes Providers when asked some nutrition related question they fail to answer them. Also, participants dissatisfied with quality of nutrition education provided at RCH due to poor tangibles associated by inadequate sitting spaces for pregnant women during nutrition education sessions, inadequate/absence of use of visual aids such as brochures or leaflets and absence of extra reading IEC (information, education and communication) materials to remind themselves while at home. Moreover, participants of FGDs said that they dissatisfied with quality of nutrition education due to lack of assurance from RCH providers who offer insufficient or non-offering of nutrition education during routine ANC clinics. Also, through FGDs with pregnant women attended the RCH clinics, pregnant women dissatisfied with poor responsiveness since most of RCH providers were not willing to help clients on nutrition education probably due to heavy work load and provide service not in time (provider's prompt service).

7. SUGGESTIONS

The study suggests that health facilities are advised to improve the quality of nutrition education provided to pregnant women when they attend RCH clinics especially the quality with regard to reliability, tangibles, assurance and responsiveness so as to

improve maternal nutrition status hence birth outcomes. This in turn will reduce maternal and infant morbidity, mortality and adverse birth outcomes in the study area. Also this study recommends the use and provision of IEC materials during delivery of nutrition education at RCH clinics in Temeke District in Dar es Salaam Region Tanzania. In addition, the study recommends routine provision of nutrition education among pregnant women attending RCH clinics during their ANC visits which will help to improve maternal nutrition status and birth outcomes hence reduction of adverse health and nutrition outcomes in the study area and the whole country at large.

8. CONCLUSION

Proper use of nutrition information among pregnant women is essential in escaping them from malnutrition which contributes to maternal and infant morbidity and mortality and other adverse effects of pregnancy. Awareness of nutrition, proper lifestyle behaviours and satisfaction among pregnant women are important in making sure that women participate effectively in complying with nutritional requirements in pregnancy. In Temeke district where the study was conducted, most of pregnant women were not aware of nutritional needs during pregnancy. However, few of them were aware of different nutritional needs of pregnancy but they could not clearly explain the difference. This results into the inadequate or absent of compliance to nutritional requirements in pregnancy hence poor maternal nutrition status which results into poor birth outcomes. Furthermore, most of pregnant women were not aware of the relationship between birth outcomes and maternal nutrition. There were kinds of lifestyle behaviours of pregnant women in the



study area associated by nutrition compliance in pregnancy including not smoking cigarettes, not drinking alcohols and few women have behaviours of drinking tea, coffee and coke drinks with food. In spite of antenatal care clinics provision of reproductive and child health and nutrition education, most of pregnant women attended in RCH clinics were not satisfied with quality of nutrition education provided. They were dissatisfied due to poor reliability, poor tangibles, poor assurance and poor responsiveness in nutrition education service quality.

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MODERN METHODS OF DIAGNOSIS OF VARIOUS HISTOLOGICAL TYPES OF OVARIAN TUMORS

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RESUME

According to modern scientific literature, among all ovarian tumors, borderline types range from 5 to 15%. In this study, the clinical and morphological features and histological variants of borderline ovarian tumors were analyzed. The results of the study showed that borderline ovarian tumors suffered from a large number of serous (46.8%), mucinous (42.7%), other types of enometrioid, mesonephroid, Brenner and mixed tumors, respectively.

KEY WORDS: ovary, tumor, cyst, cystoma, borderline type tumors.

RELEVANCE OF THE TOPIC

Malignant ovarian tumors, due to their severe clinical course and high mortality, are one of the most important problems of practical oncology[4]. Ovarian cancer accounts for 4-6% of the total female incidence of malignant tumors and occupies the 7th place in it, and among gynecological tumors, the third-after cancer of the body and cervix. In the structure of mortality, ovarian cancer is on the 4th place, ahead of cancer of the body and cervix. In Russia, ovarian cancer is detected annually in more than 11,000 women (10, 17 per 100,000)[1]. Over the past 10 years, the increase in morbidity was 8.5%, and mortality was 8.7%, i.e., mortality is growing almost parallel to morbidity[6,7].

The reason for the high mortality rate of ovarian cancer patients is that the majority (75-80%) of patients are treated in advanced stages. Among those treated in the early stages of the disease, the five-year survival rate is 60-100%, and in the third and fourth stages it does not exceed 10% [3].

Many authors [5] believe that the late diagnosis of ovarian cancer is due on the one hand to the absence or lack of expression of subjective disorders in patients and, consequently, late access to medical care, on the other hand, to the limited clinical methods of research, and as a result, a long period of examination, in some cases with control studies with long intervals[3].

All this contributes to the perception of ovarian cancer by doctors and patients as a fatal disease, the possibility of a cure for which is real only if it is found accidentally during medical examinations or during examinations conducted for another reason[6].

THE PURPOSE OF THE STUDY

To study the state of diagnosis of ovarian cancer on the example of the Andijan region, to evaluate the informativeness of modern methods of instrumental and laboratory diagnostics and to form a



rational algorithm for their use to accelerate recognition and start treatment.

MATERIALS AND METHODS OF RESEARCH

The work was carried out on the basis of the Andijan branch of the Republican Specialized Scientific and Practical Center of Oncology and Radiology. The materials for studying the morbidity, mortality, and neglect of ovarian cancer in statistics

and dynamics were the annual reports of this center for 2018-2020. In total, the data of examinations of 457 women who passed through the department of radiation diagnostics of the Andijan branch of the Republican Specialized Scientific and Practical Center of Oncology and Radiology were processed, of which malignant neoplasms of the ovaries during a comprehensive examination were established in 202, including 180 patients-cancer, which were taken into development.

Table 1
Distribution of patients with OC by stage

Stages of the disease	Absolute number	%
I stage	30	16,6
II stage	13	7,2
III stage	109	60,6
IV stage	28	15,6
Total	180	100%

As can be seen from Table 1, the bulk of those admitted to treatment had stage III (60.6%), and stage I-II accounted for 23.8%, i.e., patients with stage III-IV totaled 76.2%.

The possibilities of differential diagnosis were studied by comparing the data of clinical and

instrumental diagnostics in 180 patients with ovarian cancer and 106 patients with benign tumors.

RESULTS

When detecting a pathological formation in the pelvis, to assess it as a possible ovarian tumor, we analyzed the following echographic criteria:

Table 2
Ovarian tumor size

Ovarian tumor size	Absolute number	%
An exaggerated ovary	22	15,3
40-60 mm	21	14,7
60-100 mm	44	30,8
100 mm	56	39,2
Total	143	100

In our study (Table.2) the largest proportion is accounted for by formations with a size of 100 mm or more (39.2%), and 1/4 of the cases were represented by giant cysts. Slightly less than -1/3 cases are cysts measuring 60-100 mm.

Consequently, almost 70% of observations were made by formations larger than 60 mm. And only in 15.3% of cases, the cancer was in the non-enlarged ovary.

Table 3
The ratio of the size and stage of ovarian cancer

Tumor size	Number patient	Stage	Number patient	weight in %
An exaggerated ovary	22	I-II	3	13,6
		III	13	59,1
		IV	6	27,3
40-60 mm	21	I-II	5	23,8
		III	14	66,7
		IV	2	9,5



60-100 mm	44	1-11 III IV	8 27 9	25 54,5 20,5
100 mm	56	1-H III IV	13 36 7	23,2 64,3 12,5
Total	143		143	100%

We specifically considered a group of giant ovarian cysts, i.e. cysts that occupy the entire pelvis and almost the entire abdominal cavity, and in this

group, ovarian cancer in the Sh-1U stage was 66.8%, and in the 1-11 stage-33.2%.

Table 4
Structure of ovarian malignancies

Structure of education	Number of patients	specific gravity, %
Liquid with partitions	5	3,5
Liquid without partitions	4	2,8
Solid	15	10,5
Solid-cystic	104	72,7
Cystic non-enlarged ovary	15	10,5
	143	100%

The most common were 3 variants of the tumor structure: the main one was solid-cystic (72.7%), the other variants were mostly solid structure and the tumor in the non-enlarged ovary was less common (10.5%).%

Comparison of the echostructure and histological structure of the formations showed the following (Table 4)

Table 5

Tumor structure	Number of patients	Number stage	Number of patients	%
Cystic	9	I-II	4	44,4
		III	4	44,4
		IV	1	11,2
Solid-cystic	104	I-II	26	25
		III	68	65,4
		IV	10	9,7
Solid	15	I-II	3	20
		111	9	60
		IV	3	20
Cystic non - ovarian ovary	15	I-II	2	13,3
		III	10	66,7
		IV	3	20
Total	143		143	100%

As can be seen from Table 5, different variants of the echostructure differed in their

histological structure. Solid-cystic formation in 6 cases (28.6%) was solidified adenocarcinoma, in 10 cases (47.6%) papillary cancer of various degrees of differentiation, in 1 case (4.8%) mucinous cancer,



and in 4 cases (19%) serous-papillary cancer. Giant cysts with septa and a solid component in the majority - 27 cases (48.2%) were mucinous cancer, and in 16 cases (28.6%) solid-papillary adenocarcinoma and in 13 cases (23.2%) had the structure of papillary adenocarcinoma in a borderline tumor. The cancer in the enlarged solid ovary was also distinguished by a variety of histological structures: in 2 cases (28.55%) it was glandular-papillary cancer, in 1 case (14.3%) it was mucus-forming adenocarcinoma, psammomatous cancer and dark cell adenocarcinoma, and in 2 cases (28.55%) it was low-grade cancer.

The relationship between the size of the tumor and the amount of solid component was observed. In our study, 15 solid structures were identified, their size ranged from 23 to 98 mm. While the size of solid cystic formations, and their number in our observation was 128 cases, was from 43 mm to giant cysts that filled the entire abdominal cavity and the pelvic cavity. Thus, ovarian cancer of a solid structure had an average size of 74.4 mm, and ovarian cancer of a solid-cystic structure of 187.8 mm.

This partly explains the paradoxical relationship between the size of the process and its stage. In large-sized tumors, the main volume is not occupied by the tumor itself, but by its product - various kinds of exudate.

Mucinous ovarian cancer in 27 cases (90.0%) had an echographic picture of a giant cyst with septa and a solid component, and in 1 case (3.33%) had a solid-cystic structure, the structure of a cystic - altered ovary and a fluid formation with papillary growths.

Another common type of serous ovarian cancer is papillary cancer. In our observation, in 16 cases (38.1%), it had the form of a giant cyst with septa and a solid component, in 2 cases (4.7%) in the form of a solid non-enlarged ovary, in 10 cases (23.8%) in the form of a solid-cystic formation, in 1 case (2.4%) in the form of a multi-chamber formation with a suspension, in 4 cases (9.5%) in the form of a solid formation and in 9 cases (21.5%) in the form of a liquid formation with papillary growths.

CONCLUSION

Different variants of the echostructure differed in their histological structure. Solid-cystic formation in 6 cases (28.6%) was solidified adenocarcinoma, in 10 cases (47.6%) papillary cancer of various degrees of differentiation, in 1 case (4.8%) mucinous cancer, and in 4 cases (19%) serous-papillary cancer. Giant cysts with septa and a solid component in the majority - 27 cases (48.2%) were mucinous cancer, and in 16 cases (28.6%) solid-papillary adenocarcinoma and in 13 cases (23.2%) had the structure of papillary adenocarcinoma in a borderline tumor. There was also a variety of

histological structure of cancer in the ovary with a solid structure: in 2 cases (28.55%) it was glandular-papillary cancer, in 1 case (14.3%) it was mucus-forming adenocarcinoma, psammomatous cancer and dark cell adenocarcinoma, and in 2 cases (28.55%) it was represented by low-grade cancer

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A SEARCH ON THE INTEGER SOLUTIONS TO TERNARY QUADRATIC DIOPHANTINE EQUATION

$$z^2 = 19x^2 + y^2$$

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ABSTRACT

The homogeneous ternary quadratic diophantine equation given by $z^2 = 19x^2 + y^2$ is analyzed for its non-zero distinct integer solutions through different methods. A few interesting properties between the solutions are presented. Also, formula for generating sequence of integer solutions based on the given solutions are presented.

KEYWORDS: Ternary quadratic, Integer solutions, Homogeneous cone.

Notation:

$$t_{m,n} = n \left[1 + \frac{(n-1)(m-2)}{2} \right]$$

$$P_5^n = \frac{n^2(n+1)}{2}$$

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]. In this communication, the



homogeneous ternary quadratic diophantine equation given by $z^2 = 19x^2 + y^2$ is analyzed for its non-zero distinct integer solutions through different methods. A few interesting properties between the solutions are presented. 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

$$z^2 = 19x^2 + y^2 \tag{1}$$

We present below different methods of solving (1)

Method: 1

(1) is written in the form of ratio as

$$\frac{z+y}{x} = \frac{19x}{z-y} = \frac{\alpha}{\beta}, \beta \neq 0 \tag{2}$$

which is equivalent to the system of double equations

$$\begin{aligned} \alpha x - \beta y - \beta z &= 0 \\ 19x\beta + \alpha y - \alpha z &= 0 \end{aligned}$$

Applying the method of cross-multiplication to the above system of equations, one obtains

$$\begin{aligned} x &= x(\alpha, \beta) = 2\alpha\beta \\ y &= y(\alpha, \beta) = \alpha^2 - 19\beta^2 \\ z &= z(\alpha, \beta) = \alpha^2 + 19\beta^2 \end{aligned}$$

which satisfy (1)

Properties:

- $10z(\alpha,1) - 4x(\alpha,1) - t_{22,\alpha} = \alpha + 190$
- $13z(\alpha,1) - 6x(\alpha,1) - t_{28,\alpha} = 247$
- $x(\alpha,1)z(\alpha,1) - 4P_\alpha^5 + t_{6,\alpha} = 37\alpha$
- $x(\alpha,1)y(\alpha,1) - 4P_\alpha^5 + t_{6,\alpha} = -39\alpha$
- $2y(\alpha,1) - t_{6,\alpha} \equiv \alpha - 38$
- $3y(\alpha,1) - t_{14,\alpha} \equiv 1 \pmod{5}$



Note: 1

It is observed that (1) may also be represented as below:

$$\frac{z+y}{19x} = \frac{x}{z-y} = \frac{\alpha}{\beta}, \beta \neq 0$$

Employing the procedure as above, the corresponding solutions to (1) are given by :

$$x = 2\alpha\beta, y = 19\alpha^2 - \beta^2, z = 19\alpha^2 + \beta^2$$

Method: 2

(1) is written as the system of double equations in Table 1 as follows:

System	I	II	III
$z + y =$	$19x$	x^2	$19x^2$
$z - y =$	x	19	1

Table: 1 System of Double Equations

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

$$x = k, y = 9k, z = 10k$$

Solutions for system: II

$$x = 2k + 1, y = 2k^2 + 2k - 9, z = 2k^2 + 2k + 10$$

Solutions for system: III

$$x = 2k + 1, y = 38k^2 + 38k + 9, z = 38k^2 + 38k + 10$$

Method: 3

$$\text{Let } z = y + k, k \neq 0 \tag{3}$$

$$\therefore (1) \Rightarrow 2ky = 19x^2 - k^2$$

Assume



$$x = k(2\alpha + 1) \quad (4)$$

$$\therefore y = 19(2k\alpha^2 + 2k\alpha) + 9k \quad (5)$$

In view of (3),

$$z = 19(2k\alpha^2 + 2k\alpha) + 10k \quad (6)$$

Note that (4), (5), (6) satisfy (1).

Method: 4

(1) is written as

$$y^2 + 19x^2 = z^2 = z^2 * 1 \quad (7)$$

Assume z as

$$z = a^2 + 19b^2 \quad (8)$$

Write 1 as

$$1 = \frac{[(2k^2 - 2k - 9) + i(2k - 1)\sqrt{19}][(2k^2 - 2k - 9) - i(2k - 1)\sqrt{19}]}{(2k^2 - 2k + 10)^2} \quad (9)$$

Using (8) & (9) in (7) and employing the method of factorization, consider

$$(y + i\sqrt{19}x) = (a + i\sqrt{19}b)^2 \cdot \frac{[(2k^2 - 2k - 9) + i(2k - 1)\sqrt{19}]}{(2k^2 - 2k + 10)}$$

Equating the real & imaginary parts, it is seen that

$$\left. \begin{aligned} x &= \frac{1}{(2k^2 - 2k + 10)} [2(2k^2 - 2k - 9)ab + [a^2 - 19b^2](2k - 1)] \\ y &= \frac{1}{(2k^2 - 2k + 10)} [(2k^2 - 2k - 9)[a^2 - 19b^2] - 38(2k - 1)ab] \end{aligned} \right\} \quad (10)$$

Since our interest is to find the integer solutions, replacing a by $(2k^2 - 2k + 10)A$ & b by $(2k^2 - 2k + 10)B$ in (10) & (8), the corresponding integer solutions to (1) are given by

$$\begin{aligned} x &= x(A, B) = (2k^2 - 2k + 10) [2(2k^2 - 2k - 9)AB + [A^2 - 19B^2](2k - 1)] \\ y &= y(A, B) = (2k^2 - 2k + 10) [(2k^2 - 2k - 9)[A^2 - 19B^2] - 38(2k - 1)AB] \\ z &= z(A, B) = (2k^2 - 2k + 10)^2 [A^2 + 19B^2] \end{aligned}$$



Note :2

(1) is also written as

$$z^2 - 19x^2 = y^2 = y^2 * 1$$

Assume y as

$$y = a^2 - 19b^2$$

Write 1 as

$$1 = \frac{[(2k^2 - 2k - 10) + (2k - 1)\sqrt{19}][(2k^2 - 2k - 10) - (2k - 1)\sqrt{19}]}{(2k^2 - 2k + 9)^2}$$

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

$$x_1 = -3x_0 + h, y_1 = 3y_0, z_1 = 3z_0 + 4h, \tag{11}$$

be the 2nd solution to (1). Using (11) in (1) and simplifying, one obtains

$$h = 38x_0 + 8z_0$$

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

$$M = \begin{pmatrix} 35 & 8 \\ 152 & 35 \end{pmatrix} \text{ and } t \text{ is the transpose}$$

The repetition of the above process leads to the n^{th} solutions x_n, z_n given by



$$(x_n, z_n)^t = M^n (x_0, z_0)^t$$

If α, β are the distinct eigenvalues of M , then

$$\alpha = 35 + 8\sqrt{19}, \quad \beta = 35 - 8\sqrt{19}$$

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

$$\begin{aligned} x_n &= \left(\frac{\alpha^n + \beta^n}{2} \right) x_0 + \left(\frac{\alpha^n - \beta^n}{2\sqrt{19}} \right) z_0, \\ y_n &= 3^n y_0, \\ z_n &= \frac{\sqrt{19}}{2} (\alpha^n - \beta^n) x_0 + \left(\frac{\alpha^n + \beta^n}{2} \right) z_0 \end{aligned}$$

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 2nd 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 α, β are the distinct eigenvalues of M , then

$$\alpha = 1, \beta = 9$$

Thus, the general formulas for integer solutions to (1) are given by

$$\begin{aligned} x_n &= 3^n x_0 \\ y_n &= \left(\frac{9^n + 1}{2}\right)y_0 + \left(\frac{9^n - 1}{2}\right)z_0, \\ z_n &= \frac{(9^n - 1)}{2}y_0 + \left(\frac{9^n + 1}{2}\right)z_0 \end{aligned}$$

Formula: 3

Let (x_1, y_1, z_1) given by

$$x_1 = -20x_0 + h, y_1 = -20y_0 + h, z_1 = 20z_0, \tag{13}$$

be the 2nd solution to (1). Using (13) in (1) and simplifying, one obtains

$$h = 38x_0 + 2y_0$$

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

$$M = \begin{pmatrix} 18 & 2 \\ 38 & -18 \end{pmatrix} \text{ and } t \text{ is the transpose}$$

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 α, β are the distinct eigenvalues of M , then

$$\alpha = 20 \beta = -20$$

Thus, the general formulas for integer solutions to (1) are given by



$$\begin{aligned}x_n &= 20^{n-1}(19 + (-1)^n)x_0 + 20^{n-1}(1 - (-1)^n)y_0, \\y_n &= 19 \cdot 20^{n-1}(1 - (-1)^n)x_0 + 20^{n-1}(1 + 11(-1)^n)y_0, \\z_n &= 20^n z_0\end{aligned}$$

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APPROPRIACY OF PROCESS APPROACH IN THE TEACHING OF COMPOSITION WRITING IN UPPER PRIMARY CLASSES IN KENYA

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ABSTRACT

Imaginative composition writing skills (IMW) in Kenyan primary schools strengthen learners' learning, thinking and reflect on their overall academic performance. However, achieving good composition writing is challenging especially to non-native learners of English because of its complexity and nature. Some factors attributed to learners' writing difficulties are: the curriculum, the pedagogic approach used and teachers' lack of ability in writing instruction. These factors are in tandem with the ICW status in Vihiga County where over (70%) of Class 8 learners' composition score are unsatisfactory, 60 % of teachers are uncomfortable to teach ICW while 75% of learners find it boring. To address these ICW difficulties, this study assessed the process approach out of the three principal writing approaches because it's seen as the best alternative to product approach and that genre approach is considered a newcomer. The objective of the study was to assess the effectiveness of process approach in developing composition writing. Archer's theory of reflexivity guided the study which used qualitative exploratory research design and was conducted in Vihiga County. Data collection tools were Lesson Observation and Interview Schedules. Validity and reliability were tested through triangulation and thick description. From Class 6-8, 30 lessons in 10 purposively selected schools were observed and 30 teachers interviewed. Data were analyzed thematically through transcription, coding and identification of themes. The key finding was: ineffective utilisation of the process approach due to teachers' knowledge gaps on the approach. The study recommended teachers to use process approach effectively in ICW and the Ministry of Education to in-service teachers on writing approaches.

KEY WORDS: *Process Approaches, Composition Writing, Pedagogy, in-service, and Upper Primary Learners*

INTRODUCTION

Writing is the most important language skill that students require for their personal development and academic success (Mukulu *et al.* 2006). It strengthens learners' learning, thinking and reflects on their academic performance besides enabling learners to be professionals and researchers in the future (Ahmed, 2010; Rao, 2007; 2018). Ahmed (2010) further notes that competence in writing helps students perform well in all their academic programmes. In Kenyan primary schools, writing skills are evaluated through

Imaginative Composition Writing (ICW) which is conceptualized as the use of written language to explore and record experiences in such a way as to create a unique symbolization of it (Khan, 2011; Ochako, 2018). However, achieving good composition skills is a complex and difficult task for both native and non-native speakers of English (Cheung, 2016) because it demands a grammatically, lexically and syntactically correct and well organized composition (Schoonen, R., Van Gelderen, A., Stoel, R., Hulstijn, J., & De Gloppe, 2011). This task is even more complex and demanding



for Kenyan learners because English is taught as a Second Language (L2). With over 60% of learners lacking basic writing skills by the end of their primary course in Kenya and over (70%) of Class 8 learners scoring below the average mean mark, 60 % of teachers finding it difficult to teach ICW while 75% of learners perceiving it boring in Vihiga County, there is need to address these Composition Writing difficulties and bring its pedagogy into perspective by assessing pedagogic approaches employed by the teachers since approaches affect pedagogical outcomes in any field and have measurable effects on the quality of the learners' written products Sengupta (2000). Research links the problems students face in composition writing to lack of motivation among students and teachers' use of traditional approaches which are frequently indifferent to learners' needs (Al-Khasawneh, 2009). Moreover, Eliwari and Maroof (2014) conclude that L2 learners' problem in ICW skills can be caused by several factors: the curriculum, the approach used by teachers in writing instruction, and the teachers' lack of ability in writing instruction. These assertions suggest the need for a new pedagogy through appropriate approaches because lack of suitable learning approaches in writing result in low motivation and achievement for learners (Lo & Hyland, 2007). Moreover, there have been paradigm shifts in approaches to teaching writing over the last few decades (Paltridge, Harbon, Hirsh, Shen, Stevenson, Phakiti, & Woodrow, 2009). The three principal writing approaches are: the product approach, the process approach and the genre approach (Ibrahim, 2013). Many of the studies conducted on the utilisation of writing approaches were conducted in Western socio-cultural environment with different pedagogical contexts thus; some of the approaches require adaptation to Kenyan contextual realities for effective utilisation. In addition, English language teachers are usually trained in Western approaches and methods of language teaching, some of which need adaptation to the (L2) classes (Ong'ondo, 2009). Few studies have been conducted on CW in Vihiga County primary schools. No study has focused on process approaches and its effectiveness in the development of CW skills in upper primary classes. This paper focused on the process approach because it was seen as the best alternative to product approach which has dominated L2 classrooms and learning materials for decades (Tribble (2009) with no significant improvement in learners' composition writing skills (KNEC,2015) and the fact that genre approach is still considered a newcomer (Ibrahim, 2013). Moreover, it is believed that the process approach to writing is especially effective for learners of English as L2 (What Works

Clearinghouse, 2012; Gillespie and Graham, 2010; Andrews et al, 2009; Santangelo and Olinghouse, 2009). It also lends itself to the student-centred learning supported by the communicative approach to the teaching of English as recommended in the Botswana junior secondary education syllabus (Republic of Botswana, 2008). Besides, modern understanding now views writing as a process and the process approach was developed by way of reaction to the confines of the product approach (Tribble, 2009). In composition writing, children need to experience the writing and composing of their own texts which was alien to earlier approaches but embedded in process approach (Cox, 2003). Again, process approach empowers learners by enabling them to make decisions about the direction of their writing through discussions, tasks, drafting, feedback and informed choices (Tribble, 2009), thus encouraging them to make improvements themselves. Process approach was therefore seen as a solution to upper primary learners' unsatisfactory imaginative composition writing skills.

IMAGINATIVE COMPOSITION WRITING PEDAGOGY

It is pertinent to know that 'writing is not an innate natural ability but is a cognitive ability' (Harris, 1993, p. 78) and has to be acquired through years of training or schooling. Teaching writing is done actively and explicitly in a developmental sequence. We can use multi-sensory teaching to incorporate all the senses in a fun and engaging way, ensuring that all children learn regardless of learning style or background (Smith, 2015). In developmental sequence, we teach the easiest skills first, and then build on prior knowledge. The teaching sequence takes advantage of child development and brain research to promote effective learning and good habits hence the need to trace how composition writing is progressively developed in upper primary classrooms (class 6-8).

Children learn in stages; imitation (The child watches as the teacher writes and then imitates the teacher).According to Gordon (2007), —Second language literacy experts recommend that literacy instruction should start early in the ESL classroom, before children develop full proficiency in a second language (p. 96). In primary schools, EFL pupils progress from writing isolated words and phrases, to short paragraphs about themselves or about very familiar topics (family, home, hobbies, friends, food, etc.) From the preceding assertions, it is important to note that many pupils at primary school level are not yet capable either linguistically or intellectually of creating a piece of written text on their own, it is important that time be spent building up the language



they will need using process approach on which they can then base their own efforts.

Archibald (2001) also observes that teaching has an effect on the students' ability to reflect on their writing and to produce more effective and appropriate texts in L2 language. Teaching imaginative composition writing using the correct approaches therefore gives rise to appropriate compositions. On the other hand, Myles (2002) observes that the ability to write well is not naturally acquired from the environment through exposure to the language. He argues that writing is learned or culturally transmitted as a set of practices in formal instructional setting. These practices are embedded in the various approaches of teaching writing; key among them, the process writing approach. The teacher therefore ought to choose and adopt process approach to imaginative writing based on the aspect being taught. This is because every stage of the approach has its advantages and limitations. For example, the advantage of the process approach is that it enhances organization-the right flow and sequence of events while its limitation is in seeing the writing process as a linear sequence which practically, it is not so.

Similarly, Byrne (2000) notes that writing is learned through a process of instruction in which the student is expected to master the written form of the language and to learn certain structures that are not common in speech but which are vital for effective written communication. He further observes that conscious effort must be made to equip language learners with writing skills which will enable them to organize their ideas so that a reader who is not present and even known to them can understand. In support of this observation is Mustafa (2009) who believes that if imaginative writing is taught effectively, it can provide learners with an opportunity for skill building, communication and expression.

In addition, Tangpermpoon (2008) asserts that teaching writing skills to L2 students is a challenging task for teachers because developing this skill takes a long time to realize the improvement. It was therefore in the interest of this study to establish the teaching of imaginative writing progressively in the primary upper classes (6-8), the pedagogic approaches teachers employ in imaginative writing classrooms based and factors that determine the choice of a particular approach against other approaches and the effectiveness of the approaches in helping learners produce well crafted imaginative compositions.

imaginative writing relies on the preparedness of teachers to teach creative writing (Milton, Rohl & House, 2007; Reid, 2009; Thompson, 2010; Blake &

Shortis, 2010); a preparedness which many classroom teachers may/do not have; and that there exists an ongoing debate as to whether or not imaginative writing is actually teachable (O'Reilly, 2011; Wandor, 2012; Donnelly, 2012; Morley & Neilsen, 2012; Harper, 2013). This ongoing debate connotes the difficulty and challenges of imaginative writing pedagogy. Richard (2008) argues that from a pedagogical point of view, techniques for improving writing will include practice in writing by the very teachers who are teaching it. In other words, teachers will need to be seasoned writers in themselves, not only of literary and fictional genres but in informational and argumentative genres too. They will not only be able to produce final products in this range of genres but also to reflect on and model the processes of writing in the classroom. (p.14). This sounds right but it also sounds fairly daunting, especially if you are a primary school teacher expected to cover a wide number of subject areas.

THE PROCESS WRITING APPROACH

Utilization of appropriate writing approach results in good, well written, coherent and balanced compositions (Adas & Bakir, 2013). Teaching writing has seen numerous approaches and methods crossing its way since the early eighties. The focus has shifted from sentence structure and grammar drills to usage and text organization as argued by Richards (2005) that from the beginning of the 19th century, different language teaching approaches have been applied and that teachers and linguists have periodically sought to improve language teaching methods. As a result of different changes in viewpoints toward writing practice and its important role for second language learning, various pedagogical approaches have been proposed by different researchers (Matsuda, 2003). Among the approaches proposed, Eliwanti and Maarof (2014) argue that process approach is one of the three popular and holistic approaches that encompass aspects of accuracy, fluency and creativity. Fluency, accuracy and creativity form the three broader scoring areas in imaginative compositions for the Kenyan upper primary learner.

Rao (2018) citing Graham (1993) postulates that the process approach treats all writing as a creative act which requires time and positive feedback to be done well. In process writing, the teacher moves away from being someone who sets learners a writing topic and receives the finished product for correction without any intervention in the writing process itself. "Process Approach stresses writing activities which move learners from the generation of ideas and the collection of data through to the publication of a finished text."



Critically looking at the above definitions, (Rao, 2018) teases out key points that Process approach advance in developing learners writing skills. It is learner-centered in which learners' needs, expectations, goals, learning styles, skills and knowledge are taken into consideration. It takes time to develop the skills.

Relating these arguments with the workload and time allocation for Kenyan Primary school English lessons (35 minutes), there need for a review of time allocation because as it is, it limits the collaborative nature the process approach should adopt. The students work in groups and these groups become collaborative teams. The peer or shared writing encourages students to reflect on all aspects of writing (Tufail, 2013). Such activities make imaginative composition writing interesting and captivating. The teacher is a facilitator (Elbow and Belanoff, 2000) and extends the writing abilities of the pupils by suggesting how to improve the content, organization and vocabulary in writing (Tufail, 2013). The teacher in the process writing approach is concerned with the students' needs and intervenes with the help when the need arises. Focusing on imaginative writing which requires original, creative and symbolic use of language, the process approach has been considered appropriate because it treats all writing as a creative act which requires time and positive feedback to be done well (Graham and Gilbert, 2015). Moreover, in the process approach to imaginative writing, the teacher is involved in the writing process itself and gives feedback during the writing process, thus encouraging an improvement in imaginative writing among learners unlike when learners have to emulate models in the product approach thus stifling creativity. Therefore, every stage of the writing process should be studied and demonstrated by teachers and students in order to develop the writing abilities (Tufail, 2013).

Considering factors that influence the different types of writing activity, Badger and White (2000) argue that the disadvantages of process approaches is the production of all writing by the same set of processes, giving less importance to the kind of texts writers produce and why such texts are produced, and offer learners insufficient input particularly about linguistic knowledge to write successfully. However, with the stages of writing in process approach, the learner is not expected to write on a given topic in a restricted time, and wait for the teacher to correct their paper but rather writing a first draft, shows it to the teacher or to another student, reads it again, enriches it, and revises it before writing the final draft, upper primary teachers can utilize it to help the learner generate a story through peer learning.

RESEARCH METHODOLOGY

The objective of the present study was fulfilled through a qualitative exploratory research design which, according to Burns and Groove (2001), is conducted to gain new insights, discover new ideas, and for increasing knowledge of the phenomenon. The study explored the process approach upper primary teachers employ during their writing lessons in order to gain insights into the effectiveness of this approach in imaginative composition writing instruction and suggested ways of improving the same in Vihiga County primary schools. The study was carried out in Vihiga County in the Western Region of Kenya. The choice of Vihiga County was influenced by the fact that the public primary schools in this area have persistently underperformed in English composition and also its rural setup that can exemplify practice as opposed to the urban setups which are well resourced and are deemed to have L2 competent learners. Stratified purposive sampling was employed to select teachers of English from the purposively selected schools from class 6, 7 and 8 for lesson observation during their teaching of CW. Teachers whose lessons had been observed were interviewed by the researcher in order to help the researcher corroborate the data that had been collected. Stratified purposive technique was appropriate for the present study because it focuses on characteristics of particular subgroups of interest. The sample was stratified based on the level of upper primary classes hence the Class 6, 7 and 8 that were involved in the study.

All the 30 teachers of English from the 10 purposively selected schools were interviewed and 30 imaginative composition lessons; one from each class in the 10 selected schools was observed during instruction. The 30 teachers interviewed and the 30 lessons observed were informed by Guest, Bunce, and Johnson (2006) who advocate for saturation, the point at which a researcher no longer receives any new information or insight into the phenomenon of study from each subsequent interview or observation, and it often occurs at around 12 for a homogeneous participant group. They further argue that a minimum of 15 for most qualitative interview studies works very well when the participants are homogeneous. In this study, homogeneity of participants involved teachers of English in upper primary classes for interview and observation of upper primary CW lessons. For a particular group, saturation often occurs between 12 and 15. However, Nastasi (2005) recommends a sample size of 30 for in-depth interview thus the interviewing of the 30 teachers of English in upper primary classes. Oral semi structured interview schedules were administered to class 6, 7 and 8 teachers of English on



the process approach and its effectiveness in developing CW skills because interview schedules are a feasible and adaptable way of finding out information (Cresswell, 2009). For classroom observation, according to Wragg (2011), they are used in a study and should suit its purposes. Therefore, the classroom observation methods and procedures were carried out in line with the research's main purpose of establishing how effective the approach was and current composition writing practice in Kenyan upper primary classrooms.

Stake (2005) explains that to give quality, credibility, and trustworthiness to a qualitative research, certain methods are used which include: triangulation, saturation, member checking and self-disclosure (Reflexivity). In qualitative research, validity entails the researcher checking for the accuracy of the findings by employing certain procedures, while reliability indicates that the researcher's approach is consistent (Creswell, 2009). To ensure that the findings in this research are accurate and credible, a number of measures were taken. Validity strategies such as data triangulation and the use of thick and rich descriptions of the procedures and findings were used. By converging data from the two sources, conclusions were drawn from various angles making the research findings trustworthy. Secondly, the researcher involved peers and experienced researchers in reviewing key concepts, methodology and analysis and to help check the credibility of the research rationale, research process and report as suggested in research literature (Stake, 2006).

Regarding reliability, Richards (2009) explains that "dependability in qualitative research involves an interrogation of the context and the methods used to derive the data" (p159). Yin (2003) suggests that one way of enhancing dependability is to make clear and detailed descriptions of the steps followed in the study. To ensure dependability in this study, care was taken to make a thick description of the entire research process in a manner that makes it possible to carry out a similar study in another context, if necessary (Ponterotto, 2006). In the process of data generation, the researcher accumulated a data set consisting of interview and observation notes. The researcher utilized thematic analysis. Braun and Clarke (2006) explain that: Thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data. It minimally organizes and describes your data set in (rich) detail. To ensure consistency in approach during the study, the exploratory study procedures was documented and applied consistently in the data collection phase by immediately describing in detail the opinions and feelings and the behavior captured during interviews and classroom interactions; then transcribing

the data. The same procedure was used for all the ten classroom observations. Once classroom observation data was transcribed from recorded classroom interactions and checked for accuracy to make sure that it does not contain mistakes. Measures were also taken in thematically coding to ensure that there were no drifts in the definitions of codes or shifts in the meaning of codes during the process of coding.

Data analysis was achieved using content and thematic analysis and discourse analysis. Interview data was subjected to narrative while classroom observation data was analysed using discourse analysis. Teacher-learner interactions from the classroom observation were used to corroborate the data from the interviews with teachers about the methods they employ to teach CW. Narrative approach was used to present data from teacher interviews. In terms of ethics, according to Mason (2002), the researcher observed truthfulness and all participants were given accurate and detailed information about the research, their express consent, confidentiality and anonymity were assured, any sort of harm was avoided and the researcher show appreciation of the participants' support in any appropriate manner (Cohen et al., 2007). The researcher then wrote a detailed report using qualitative data that was thematically interpreted and described in subsection under the process approach in focus.

RESULTS AND DISCUSSIONS

The analysis of results was from Class 6 to 8. In Class 6 process oriented approach, the teacher was not clear on the aspects of composition writing the teacher intended to develop though process writing. The aspects witnessed were the generation of ideas through questions such as 'who', 'where' and 'when' of the events in the story and an attempt for learners to work together through discussions on the relevant vocabularies to be infused in a story. This contravenes Tufail (2013) postulation that every stage of the writing process should be studied and demonstrated by teachers and students in order to develop the writing abilities. Groanwegan (2008) and Durga and Rao (2018) validate this attempt by arguing that in the process approach, learners are encouraged in their pairs or groups to freely exchange ideas and opinions concerning the information structure, language, supporting arguments among others while the teacher's role is to facilitate and provide guidance whenever it is needed. The teacher's role in the Class 6 lessons observed was inadequate since most of the time; the teacher dominated the lesson with little collaboration encouraged.

The other aspect of process writing approach that came out was the editing of work where learners



were encouraged to go through their work and correct the mistakes they could have made. Again, this aspect failed to meet the process writing approach threshold where there ought to be peer editing or the teacher guiding the learners through the editing process (Tribble, 2009)

In Class 7 process approach lessons, learners exhibited difficulties in answering the questions raised by the teacher. The teacher alluded to the process approach right from the beginning of the lesson development. She clearly talked about generation of ideas and following steps of writing. She indicated how to generate ideas using the football match through the 4W and the H questions. In terms of creativity, she asked the learner on how to create interest in the composition but there was no response, an indicator that learners struggle to infuse creativity in their compositions. The teacher also talked about other aspects of process approach like writing an outline of the story. Other aspects that were mentioned but not expounded on include: the introduction of conflict in the story (turns and twists), use of phrasal verbs (vocabulary), proverbs, exclamations and the mention of mechanical aspects of a good composition like hand writing and appropriate length. The picture depicted by these presentations was either the assumption by the teachers that the learners were aware of the aspects of a good creatively written text or the inadequacy of the teacher to handle the same.

In Class 8, the teacher alluded to the process approach aspect of planning through the 4W and H questions. The central focus was on the steps that make up the act of writing. This made the teacher capture generation and organization of the ideas while the rest of the stages like, drafting, revising, and publishing were not utilized. In the introduction, the teacher was keen on the aspect of writing creatively in order to make the story interesting but coming to lesson development, these teachers helped learners how to generate the ideas to write, a key aspect of process approach to writing that dominated the lesson.

The other two aspects of process writing that were utilised in the lesson were discussions and the need for learners to edit their work. Learners were also reminded of good mechanics of a good composition, however, in this instance; the teacher did not delve fully into the mechanics in order to help the learner grasp what is expected in creating an interesting story. The teacher only mentioned the need to write in prose, and making the story interesting using appropriate vocabulary, proverbs and similes.

Class 6 to 8 process approach lessons revealed that teachers adopted only a few aspects of the process writing approach. These were: brainstorming and

organization of the information, collaborative learning and editing; which again were not fully utilized as the approach demands. Brainstorming and organization of the information was very helpful as it ensured learners had what to write (content) and in an orderly way. However, good writers plan and revise, rearrange and delete text, re-reading and producing multiple drafts before they produce their finished document and this is what a process writing approach is about (Stanley 2003).

To gain insight into the fragmented utilisation of the approach by the teachers, the researcher through interviews with the teachers whose lessons had been observed asked the teachers to describe how they approached and taught imaginative compositions. The descriptions from teacher interviews revealed a lack of full knowledge and understanding of the process approaches to writing which explains why the teachers utilized a few aspects of each of the approaches rather than utilizing the approaches fully. Samples of these descriptions from Class 6, 7 and 8 teachers of English respectively were:

‘I give a topic in groups of 5, learners discuss it and agree on what to write then they write individually. Time determines whether classroom discussions will be done and corrections made.’

‘The 5 WH questions guide me. I give a question for each stage, explain each with Process an example, learners write, I teacher read the best composition in class and give it to low achievers.’

I do individualized instruction, and then group. Work, gives a sample composition, then learners write then teacher marks and makes correction.’

A fully and adequately utilized process approach helps the learners through various stages of composing and it involves eight consecutive stages of writing strategies that enable learners to write freely and produce texts of good quality (Durga & Rao; 2018) which were lacking in the lessons observed. These stages are: generation of ideas by brain storming and discussion, learners extending their ideas into a note form and judge quality and usefulness of ideas, the teacher helping learners make the relationship of ideas understandable-organizing their ideas into mind map or linear form, learners preparing first draft in the classroom usually in pairs or groups, then drafts are exchanged for students’ reading and responding from each other’s works. In this way, students develop an awareness of the fact, considering the feedback of other students, drafts are improved with necessary changes, finally, students prepare the final draft with necessary changes and in Stage 8, the final draft is evaluated by the teachers providing a feedback on it.



As mentioned earlier, the only item of the process approach emphasizes across the three upper primary classes was generation of a story using the 4Ws and H questions. Important as editing and revising are, they were equally not utilized effectively from the lessons observed. The main concern of the revising stage is to complete the content correctly, whereas correcting grammatical and spelling mistakes can be done during the editing stage (Tribble, 2009). In the revising stage learners should carry out activities such as deleting unnecessary sentences and moving certain words or paragraphs forward or backward (Williams, 2003; Hedge, 2000). All the teachers included in the study admitted they failed to guide learners through the revising stage because of time constraint thus the common phrase, “*proof read your work to avoid silly mistakes.*”

Editing is the last stage of the process approach to writing. This stage concentrates on linguistic accuracy: grammar, spelling and punctuation (Durga & Rao, 2018). Hewings and Curry (2003) state that the editing stage involves checking references and formatting the students' writing. In this stage students may employ various strategies to correct their mistakes, such as working in pairs or in groups, and use any available resources such as textbooks, dictionaries and computers (Hewings & Curry, 2003). Out of the eight stages in process approach, only planning seems to be attempted in the lessons observed. However, from the preceding discussion, if these stages are followed adequately and appropriately, they will go a long way in helping upper primary learners to be good imaginative composition writers.

CONCLUSIONS AND RECOMMENDATIONS

On the basis of the findings of the study, the following conclusions were made:

1. Teachers in Vihiga County rarely used process approaches effectively to teach composition due to inadequate time and inadequate knowledge in CW approaches.
2. Teachers of English should continually be serviced on composition writing pedagogical approaches with emphasis placed on process approach.
3. Effective use of process approach can help learners gain confidence during composition writing since they know what to write and how to write. Teachers in upper primary school should therefore be encouraged to use process approach to improve the teaching of composition because it enhances creativity of thought and language use and fluency in logic

and flow of ideas which are key areas in English composition.

Recommendations

1. Teachers of English should learn and embrace the effective use of process approach in the teaching of composition. This too should be adopted and standardized by the Kenya Institute of Curriculum Development and to both teachers and learners relevant ICW materials.
2. The Ministry of Education in Kenya to organize for teachers of English regular training and refresher courses on the teaching English composition writing using process approach besides the other two principal approaches, that is, product and genre approaches of writing.
3. A review of the pre-service and in-service English courses with attention directed to imaginative composition writing.

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EFFECT OF SELF MANAGEMENT TECHNIQUE IN REDUCING STEALING TENDENCY AMONG SECONDARY SCHOOL STUDENTS IN DELTA STATE, NIGERIA

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ABSTRACT

This study sought to investigate the effect of self-management technique in reducing stealing tendency among secondary school students in Ika south Local Government Area of Delta state, Nigeria. Two research questions guided the study and two null hypotheses were tested at 0.05 alpha levels of significance. A pre-test, post-test non-randomized control group quasi-experimental design was adopted and used for this study. A sample of 108 students with stealing tendency was selected from a population of 1282 students. A purposive sampling technique was used in choosing two schools in the area of the study. All the two groups were pre-tested and post-tested using stealing tendency Questionnaire (S.T.Q) designed by Okocha (2017). Data collected from the study were analyzed using Mean and ANCOVA. Results obtained from the study indicated that self-management technique was effective in reducing stealing tendency among secondary school students. Self-management was more effective in reducing female secondary school students stealing tendency than those of male. Based on the findings, the researcher recommended among others that self-management techniques be adopted as effective treatment strategy in helping students with stealing tendency so as to enhance their performance both academically, socially and otherwise.

KEYWORDS: *self-management, technique, stealing tendency, school students, Ika*

1. INTRODUCTION

In Nigeria and the world in general, secondary school education remains a necessary requirement for every individual to become empowered for human capital and national development. Secondary school students could be described both as the wealth and pride of a nation, because the future of any nation depends on the young ones who constitute the potential human resources needed for the continuity of the society. Thus, to achieve sustainable development in a

society, the young population must not only be preserved but also be disciplined.

In Delta State, secondary schools, students tend to have the tendency to engage in stealing behaviour. Today, there are several reported cases of stealing recorded within the school environment which seems to have negatively affected the educational, psychological and social adaptation of the students. The issue of stealing over the time has remained an issue of concern for educationist, policy makers and general public, owing to several



complaints of students about their items missing or stolen by fellow students.

Stealing tendency can be defined as the urge for taking people's property and belongings without their consent (Binder, Kaplanb & Weisberg, 2012). Stealing tendency is also regarded as students' psychosocial and behavioural misconduct in the school system and a criminal behaviour which tends to defeat the goals of education. In the light of the above definitions, stealing tendency is described as a high possibility, disposition or likelihood that a student would take someone's property without the person's consent. Also, it is an inclination or proneness of a student to manifest anti-social behaviour, characteristics, traits and attitudes as well as express opinions that encourage stealing.

The manifestation of stealing tendency among secondary school students has remained an age long problem in the Nigerian secondary school system, for instance in a study carried out by Ajake and Ekpo (2013), the finding shows that there are high rates of school complaints about students stealing act. This behaviour may have emanated from the child up bringing at home. Parental upbringing of a child has a role to play in the overall development of the child, and the extent to which parents and other family members make provision for the holistic growth of their children have led to behavioural disorders such as stealing. And in attempt to curbing the societal ills among students, has generated a lot of concern in our contemporary Nigeria as a whole and Delta State in particular.

Stealing tendency among secondary school students is a maladaptive behaviour that can lead educational underachievement of student if not curbed early enough. Egbule (2008) observed that children who tend to steal are often expressing displaced feelings of anxiety, rage, or alienation resulting from a disruption in their life, such as a parental disharmony, death of parent, parent inability to provide for them, parents' divorce or remarriage. Teachers and parents often resort to the use of punitive measure such as corporal punishment, expulsion in dealing with students who steal within and outside the school settings. This approach utilized by parents and teachers in curbing stealing tendency among students have been quite unfruitful. The reason being that despite the punishment being received by students who engage in stealing, most of them have not quit the act of stealing.

Going by the view of Akinade, (2014), there are differential levels of psychological and behavioural disorder, which has great implication on students who have tendency to steal. Since the curbing of stealing tendency has become a problem, it becomes imperative for the researcher to devise means of reducing stealing tendency among secondary school students. To achieve this, treatment for reducing stealing tendency among secondary school students

should involve several techniques that incorporate psychological and social approach.

Self-management technique for instance is a technique based on social cognitive theory developed by Bandura (2000) which provides a theoretical basis for the development of model of self-regulated learning and management in which personal contextual and behavioural factors interact in such a way that give individual persons an opportunity to control his or her affairs. It is an active and constructive process whereby individuals set goals for their learning plans, action, and monitor, regulate and control their social cognition and behaviours.

Self-management technique in the view of Anyamene, Nwokolo and Azuji (2016) emphasizes the development of behavioural skills which help to describe the major and specific challenges as to adhering to complex behavioural disorder, coping with successes and setbacks, and living with uncertainty (. Self-management technique has numerous interventions plan that have success in changing negative social and behavioural tendency of students, such as reducing stealing tendency, increasing self-care, emotional regulation, and social support, reducing substance use, improving quality of life, reducing social stigma.

Some researchers like Alpana (2010) and Latifah (2019) have carried out investigation on the effects of the technique of self-management. The rationale for treatment was based on the belief that behavioural self-control can be increased with or reduces by specific social cognitive skills that are believed to underlies and promote impulse control. Thus, self-management technique in this study is geared towards application of behavioural change tactics in order to provide guidance and direction for students' behavioural change on the tendency to steal.

The modification of stealing behaviour is the goal of the treatment technique and as such the researcher is of the view that this technique when applied could serve as veritable tools in reducing stealing among male and female secondary school students. However, going by the view of Hess and Edward (2012), some cultural system assigns traditional sex roles that are mutually exclusive to males and females. According to Hess, et al., some activities are branded abnormal for females but normal for males and vice versa. Hence, gender in the context of this study is viewed in terms of how people perceive and expected to think and act as women and men because of the way society is organized, not because of biological differences.

A good number of research efforts have been made in curbing stealing among students. For instance, Rotter and Carndy investigated the effect and effectiveness of different counselling approach, psychological and social techniques in reducing stealing tendency among secondary school students.



Yet, the problem of stealing among students have remain a source of worry and concern to many, including researchers, counsellors, parents, teachers and others stakeholders in the society. It is against this background that the researcher was motivated to investigate the efficacy of self-management technique in reducing stealing tendency among students in secondary schools.

As at the time of this study, the researcher is not aware of any study that sought to determine the effects of cognitive restructuring and self-management techniques in reducing stealing tendency among secondary school students in Ika South Local Government Area of Delta state.

Statement of the Problem

Stealing has become a major problem among students in secondary schools which has become a disturbing issue confronting the Nigeria educational system including Delta state. Considering the increasing number and severity of stealing cases, the cost implication for the society is overwhelming. It has negative consequence on the social, educational, economic and psychological live of the students and the entire society. In all ramifications, stealing has destructive and dysfunctional effects on the lives of individuals involved; it could lead to other social crime that can destroy the lives of the students when they are caught in such an act.

In response to this seemingly endemic issue, schools have applied many corrective measures to curb the behaviour among students, yet the problem has persisted. This points to the need for empirical studies to investigate the efficacy of psychological techniques such as self-management technique in reducing stealing tendency among secondary school students in Ika South Local Government Areas of Delta state, Nigeria.

2. OBJECTIVES OF THE STUDY

The main purpose of this study is to determine the effect of self-management technique on stealing tendency among secondary school students in Delta state. Specifically, the study intends to determine the:

1. Effect of self-management technique on stealing tendency among secondary school students when compared with those treated with conventional counselling using their pre-test and post-test scores
2. Effects of self-management technique on stealing tendency of male and female secondary school students using their pre-test and post-test scores

Significance of the Study

The findings of this study will be beneficial to the students and the school Guidance Counsellors. It will help modify the behaviour of students having the tendency to steal. This will make them practice

good habits at all times when they see a missing item returning it to the rightful owner. This study will be of much significance to the students because it will help to guide and enlighten the students towards early identification of an inappropriate behaviour that can make one to develop the urge to steal.

Research questions

The following research questions were asked to guide the study.

1. What is the effect of self-management technique on stealing tendency of secondary school students when compared with those exposed to conventional counseling using their pre-test and post-test mean scores?
2. What are the effects of self-management technique on stealing tendency of male and female secondary school students using their pre-test and post-test mean scores?

Hypotheses

The following null hypotheses were stated and tested at 0.05 levels of significance.

1. The effect of self-management on stealing tendency of secondary school students when compared to those in control group using their post test scores will not be significant using.
2. There is no significant difference in the effects of self-management technique on stealing tendency of male and female secondary school students using their post-test scores.

3 METHODOLOGY

These are the procedures that were employed in carrying out the study. The study adopted quasi-experimental research design of pre-test and post-test non- randomized control group. This is non-randomized pretest-posttest control group design comprising of an experimental (treated with Self-management technique) and control group (treated with conventional counselling).

The study was conducted in Ika South Local Government Area, Delta North Educational District of Delta State, and Nigeria. Ika South is located along the Benin and Onitsha express road by the east and west side. The 'IKAs' as the people are known speak IKA language and their major economic activities is farming and trading.

4 SAMPLING DESIGN

The samples for the study comprised 108 senior secondary school students. These are students with stealing tendency chosen from a population of 1282 students identified with stealing tendency in secondary schools in Ika South Local Government Area of Delta state. Purposive sampling technique was used in selecting two schools that has the highest number of students with stealing tendency. Students from these selected school made up the sample size.



5. INSTRUMENT FOR DATA COLLECTION

The instrument that was used to identify students with stealing tendency is referred to as "Stealing tendency Questionnaire (STQ)". The instrument was developed and validated by Okocha in 2017. The instrument is composed of 16 items measuring individual's stealing tendency as it relates to peers interaction, home and school. The instrument has an internal consistency reliability coefficient of $r=0.85$. Stealing Tendency Questionnaire (STQ) was administered to the students in the two sampled secondary schools by the researcher with the help of three trained research assistants. Data was collected before treatment and after treatment.

6. EXPERIMENTAL TREATMENT PROCEDURE

The researcher sought the consent of the principals of the schools where the study were carried out. With the obtained consent of the schools principals, the experimental treatment took place at

the school premises on the scheduled treatment days. Each of the selected schools formed a treatment group. The treatment programs were held for eight consecutive weeks.

7. STATISTICAL DESIGN

The completed instruments were scored following the scoring instructions provided in the STQ manual. Data was analysed using the Statistical Package for Social Science. Research questions were answered using mean while hypotheses were tested using Analysis of Covariance (ANCOVA) at 0.05 level of significance.

8. RESULTS

Data from the field of study are shown in the table as follows:

Research Question 1

What is the effect of self-management technique on stealing tendency of secondary school students when compared with those treated with conventional counselling using their pretest and posttest scores?

Table 1 Pretest and Posttest stealing tendency mean scores of students treated with SMT and those treated with conventional counselling (Norm = 40)

Source of Variation	N	Pretest Mean	Posttest Mean	Lost Mean	Remark
Self-management Tech.	33	52.67	37.79	14.88	Effective
Control	38	52.00	48.34	3.66	

Table 1 reveals that the students treated with Self-management technique had pretest mean score of 52.67 and posttest mean score of 37.79 with lost mean 14.88 in their stealing tendency scores, while those in the control group who were trained with conventional counselling had pretest mean score of 52.00 and posttest mean score of 48.34 with lost mean 3.66. With posttest mean score of 37.79 which is below the norm of 40.00 self-management

technique is effective in reducing stealing tendency among secondary school students.

Research Question 2

What is the difference in the effectiveness of self-management technique on stealing tendency of male and female secondary school students using their pretest and posttest scores?

Table 2: Pretest and Posttest stealing tendency scores of male and female students treated with SMT

Source of Variation	N	Pretest Mean	Posttest Mean	Lost Mean	Remark
Male	16	54.50	39.94	14.56	
Female	17	50.94	35.76	15.18	More effective

In table 2 it was observed that the male students treated with self-management technique had pretest mean score of 54.50 and posttest mean score of 39.94 with lost mean 14.56 in their stealing tendency scores, while the female students treated with self-management technique had pretest mean score of 50.94 and posttest mean score of 35.76 with lost mean 15.18 in their stealing tendency scores. With greater lost mean of 15.18, self-management

technique is more effective in reducing female students' stealing tendency.

Testing the Null Hypotheses

Null hypothesis 1

The effect of self-management technique on the stealing tendency scores of secondary school students will not be significant when compared with those treated with conventional counselling using their posttest mean scores.



Table 3: ANCOVA on the effect of self-management technique on the stealing tendency of students when compared with those who received conventional counselling

Source of variation	SS	df	MS	Cal. F	Pvalue	P ≤ 0.05
Corrected Model	3586.720	2	1793.360			
Intercept	3.824	1	3.824			
Pretest	1619.323	1	1619.323			
Treatment Models	2180.396	1	2180.396	108.96	0.000	S
Error	1360.744	68	20.011			
Total	138906.000	71				
Corrected Total	4947.465	70				

Table 3 shows that at 0.05 level of significance, 1df numerator and 70df denominator, the calculated F is 108.96 with P value of 0.00 which is less than 0.05. Therefore, the second null hypothesis is rejected. So, the effect of self-management technique on the stealing tendency of secondary school students is significant.

Null hypothesis 2

The effectiveness of self-management on the stealing tendency scores of male and female secondary school students will not differ significant using their posttest mean scores.

Table 4: ANCOVA on the effectiveness of self-management technique on the stealing tendency of male and female students

Source of variation	SS	df	MS	Cal. F	Pvalue	P ≤ 0.05
Corrected Model	440.826	2	220.413			
Intercept	6.644	1	6.644			
Pretest	297.307	1	297.307			
Gender	27.604	1	27.604	0.718	0.403	S
Error	1152.689	30	38.423			
Total	48715.000	33				
Corrected Total	1593.515	32				

In table 4, it was observed that at 0.05 level of significance, 1df numerator and 32df denominator, the calculated F is 0.72 with P value of 0.403 which is greater than 0.05. Therefore, the fifth null hypothesis is accepted. So, the effectiveness of self-management technique on the stealing tendency of male and female secondary school students do not differ significantly.

9. DISCUSSION

Effects of self-management technique on stealing tendency among secondary School Students

Findings from the data analyzed in this study also showed that self-management technique is effective in reducing stealing tendency among secondary school students in Ika South Local Government Area of Delta State.

Moreover, the experimental group two (self-management technique) reported a significant decreased in their stealing tendency than the conventional counselling group. Since the calculated F108.96 is less than the P Value 0.000 depicted in tables 7 above. This indicates that students with stealing tendency that is treated with self-management have a better understanding of how their views, perceptions and comparison can affect their

stealing tendency. The finding is consistent with previous research studies of Latifah (2019) and Anyamene et al. (2016) who found out that self-management technique is effective in changing maladaptive behaviours to adaptive behaviours among secondary students.

Possibly, the reason for the decrease in stealing tendency among secondary school students exposed to self-management techniques was as a result of various activities carried out during the experiment in which they were able to adopt skills such as self-monitoring and self-instructions that will encourage better social adjustment in school and other social environment. This may have also signified that the students benefited from the treatment, this is revealed based on the reduction in their post-test stealing tendency scores. In line with the findings above, Alpana (2010), Anyamene, et al. (2016) observed that self-management technique involves personal learning, plan action and self-regulation in our views, perceptions and behaviours within an individual's social circle and environment. Antonio (2012) also noted that self-management technique provides clients an opportunity plan his activities learn it rehearse it as personal skills and potentials in order to reach desired goal.



The difference in the effects of self-management techniques on male and female secondary school students stealing tendency

Findings from the data analyzed indicated that self-management was more effective in reducing female stealing tendency among secondary school students than their male counterpart. This is an indication that female secondary school students possibly benefited more from the treatment package than the male students. The finding of this study is consistent with the reports of previous researchers such as Marcoby and Jacklin (1971) who found out that female student benefited more from behavioural counselling intervention techniques than male students. The reason for the above findings in this study may be because female students easily yield themselves to change and are usually willing to participate in the self-management activities.

10. CONCLUSION

Based on the finding of this study, the researcher concludes that self-management technique is effective in reducing stealing tendency among secondary school students.

11. RECOMMENDATION

Based on the findings of this study, it is recommended that:

1. Self-management techniques should be adopted by counsellors in the schools and other allied professionals as effective treatment techniques in reducing stealing tendency among secondary school students.
2. The school management should sensitize teachers and parents on the need to refer their children and wards identified with stealing tendency to Guidance Counsellors for behaviour modification using self-management techniques.

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THE INFLUENCE OF ENTREPRENEURSHIP PROGRAM CONTENT ON THE BUSINESS VIABILITY OF YOUTH ENTREPRENEURS

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ABSTRACT

Entrepreneurship has been recognized as a pillar to the development of a country. In this context, the government plays an important role in the provision of space and opportunities to entrepreneurs through the entrepreneur development agenda. Undoubtedly, every development agenda requires allocation to ensure that every development has a positive impact on the target group, especially for Bumiputera youths. Therefore, this study aims to identify the influence of entrepreneurship program content on the business viability of youth entrepreneurs. Using quantitative methods (questionnaires), a total of 387 TUBE entrepreneurs were made as respondents. The results show that the level of effectiveness of the entrepreneurship program towards the viability of the business is at a low level. The regression analysis found that 23 factors influence the content of the entrepreneurship program on the business viability of the youth entrepreneurs. Therefore, improvement is an important element that needs to be focused on in the process of further strengthening the TUBE entrepreneurship program. In this study, improvement should be seen from two perspectives, namely entrepreneurs and the organizers, namely the government represented by the Ministry of Entrepreneur Development and Cooperatives (KPUK).

KEY WORDS: *entrepreneurship, business viability, TUBE, youth, program content*

1.0 INTRODUCTION

Entrepreneurship has been recognized as a pillar to the development of a country (Afolabi, 2015). In this context, the government plays an important role in providing space and opportunities to entrepreneurs through the entrepreneur development agenda. Undoubtedly, every development agenda requires allocation to ensure that every development has a positive impact on the target group, especially for Bumiputera youths. The reduction in allocation or funds to the Ministry of Entrepreneur Development (KPU) was found to have an impact mainly on entrepreneurship programs. The allocation for 2019 was found to be reduced by RM57 million, from RM636 million for 2018 to RM579 for 2019 (Ministry of Finance, 2019). This can be seen through previous studies that found that the entrepreneurship program conducted does not have an impact on entrepreneurs to ensure the viability of the business conducted. Most past studies have also not focused comprehensively in identifying entrepreneurial -related issues. Past studies have been found to focus only on certain perspectives such as the content of entrepreneurship programs (Norsela & Nurul Ilyana, 2016; Suhaila, Suhaily & Muhammad

Firdaus, 2014; Muhammad Rashid & Mohd Dzulfadli, 2010; Azmanirah, Ahmad Esa & Wan Mohd Rashid, 2010 ; Cheng, Chan & Amir, 2009), personality (Obschonka, Moeller & Goethner, 2019; Cardon & Kirk, 2015; Balloon, Lecoq, & Rimé, 2013) and business viability (Irastorzan & Peña-Legazkue, 2018; Rise, 2015 ; Parker, Congregado & Golpe, 2012; Fritsch, Brixy & Falck, 2006). Due to that, this study tries to focus more comprehensively that is through the perspective of entrepreneurship programs participated by entrepreneurs.

2.0 LITERATURE REVIEW

Survival or business viability is very important to be emphasized by entrepreneurs to assess the level of success of their business. By looking at some important elements that have been identified to be evaluated, it will determine the success of a business developed by the entrepreneur is successful or otherwise. It is quite difficult to measure business success, it can be seen from many different angles, as stated by (Praag, 2003). Having viewed from various angles and interests, several important things will be evaluated to measure the business viability of youth entrepreneurs in Malaysia,



namely business ownership, increased income and increased revenue and products of their business. There have been several reports in the major media on the impact of the Covid-19 and PKP crisis on economic sectors, especially the agricultural sector. Farmers, for example, are cut off from daily incomes as a result of the distribution chain being affected due to the closure of support sector operations, the absence of workers, and declining cash reserves (Dzulkifli, 2020; Aling, 2020).

Some entrepreneurs are beginning to take alternative approaches in business operations to ensure income sustainability. Among them, shifting to online sales through social media and mobile applications, such as Facebook and Whatsapp, running private delivery (private runner), as well as saving operating costs through downsizing the business scale (Halim, 2020). However, for micro - farmers or smallholders in rural areas, the constraints of existing infrastructure support limit business operations throughout the PKP. To ensure business viability, distribution chain support should be seen as the main thing to be given attention (Nurdin, Chan, Selvadurai & Suraiya, 2020). Programs are part of the form in public policy, programs are implemented to support policies implemented by the government, and programs are more specific in nature and contain ways of how a policy objective is to be achieved. The entrepreneurship program implemented by the government is aimed at ensuring that the entrepreneurship policy implemented by the government achieves the goals of the policy.

Rahmah (2006) found that competitiveness factors can be a determinant to the progress of Bumiputera entrepreneurs in the face of a highly competitive global business environment. His research showed Malay Bumiputera entrepreneurs in particular are less able to be competitive due to failure to meet the requirements of the financial aspects, human capital, low technology level and poor access to marketing companies who ultimately resulting in poor performance. Furthermore, Saad, Ghani and Ahmad (2014) found that the relationship of strategic business plans to the success of SME business in Malaysia is very significant positive. In addition, Zainol, Osman, Zakaria, and Samsudin (2015), identify the tendencies and efforts made by high-performing Bumiputera entrepreneurs to expand the business wing. Survey data collected from 250 high -performing Bumiputera entrepreneurs show that high -performing Bumiputera entrepreneurs have a high level of inclination to plan various approaches in growing their business, especially involving the empowerment of technology.

Another effort, by Koe, Omar, & Sa'ari (2015) found that positive attitude and perception factors play a role as promoters of entrepreneurial practices among the respondents involved. In the meantime, a study by Ayob, Daud, & Ismail (2016) on human capital development factors and

competitiveness of Malaysian women entrepreneurs found that the results of factor analysis found four main factors that form human resources in women entrepreneurs, namely education and training factors; business experience, social support and creativity, while for the aspect of competitiveness, there are three main factors namely financial assistance, business commitment, infrastructure and infrastructure.

Highlights of the literature shows that Bumiputera entrepreneurs, especially the Malays are still failing to meet the drivers that determine the competitiveness and development of the business such as human capital development, access to marketing, application of technology and innovation, access to financial resources and infrastructure. As such, Bumiputera entrepreneurs are still unable to run away from facing the problem of equipping these drivers to ensure businesses are able to be competitive (Kim, Robert, Khong & Boon, 2020).

Based on all these factors, the analysis of the study found that the most dominant factor in influencing the success of Bumiputera entrepreneurs in Terengganu is human capital development factors that include education and training for employees, financial access involves loan assistance from formal financial institutions such as banks and agencies , marketing access involves support in expanding business wings both domestically and abroad followed by other factors such as the level of modern technology and the ability to innovate among employees as well as infrastructure assistance involving infrastructure such as transportation, communications and logistics (Rossidi, 2018).

3.0 METHODOLOGY

A sample is a portion of a set of respondents selected from a larger population for the purpose of the study. While the sample is a subset of the population selected for study. Therefore, the population for this study is entrepreneurs consisting of youths. While the unit of analysis for this study is the youth entrepreneurs involved in the Tunas Usahawan Belia Bumiputera (TUBE) entrepreneurship program.

The total number of youth entrepreneurs involved in the TUBE entrepreneurship program is 4,380 people. To save time, this study uses the determination of sample size as proposed by Krejcie and Morgan (1970) by using a simple random sampling method. Where questionnaires were distributed using the target group method. Where, the list of participants is obtained from the data of participants of entrepreneurship development programs. Respondents were selected based on the age classification of entrepreneurs as stated by Chigunta (2002) and Oseifuah (2010). Thus, the total number proposed by Krejcie and Morgan (1970) for this study was 387 people.



The regression analysis used in this study was linear regression analysis. Linear regression analysis was used to identify the factors influencing the dependent variables. The dependent variable for this objective is business viability.

The linear regression equation is like the following equation:

$$Y = a + b_1X_1 + b_2X_2 + \dots + b_nX_n \quad (1)$$

where:

a = constant

Y = dependent variables

X = independent variables

b = coefficients

4.0 FINDING AND DISCUSSION

To identify the factors that influence the effectiveness of the TUBE entrepreneurship program, this study focuses on aspects of training and coaching, entrepreneurial skills, government financial assistance, government support networks and

government policies. Thus, linear regression analysis can indicate the factors influencing the effectiveness of the TUBE entrepreneurship program. Where Table 1 to Table 5 show the variables that significantly influence the effectiveness of the TUBE entrepreneurship program.

Table 1 shows the findings for the regression analysis for training and coaching. The variables for training and coaching consisted of interest, coaching, understanding, content, confidence and enthusiasm. All six variables were found to be significant at the 0.01 significance level.

Significantly, the variables of interest, coaching, understanding, content, confidence and enthusiasm were found to influence the TUBE entrepreneurship program. Thus, the null hypothesis was rejected and overall, these factors accounted for 34.2 percent in identifying the factors influencing the TUBE entrepreneurship program. These findings were found to be in line with the results of studies by Fabeil, Pazim and Langgat (2020); Zhou, Gao and Chimhowu, (2019) and Akimzhanova et al, (2019).

Table 1
Training

Training	Statistic
Objektive	0.062
Interest	-0.235***
Coach	0.166***
Understanding	0.751***
Content	0.266***
Confident	0.318***
Spitir	0.277***
Sig = 0.000	
R ² = 0.342	

Note: *** significant at 1%

Table 2 shows the findings for the regression analysis for entrepreneurial skills. The variables for entrepreneurial skills consist of management, marketing, finance, innovation, creativity, communication and risk. It was found that there were three variables that were found to be significant at the 0.01 significance level, namely management, innovation and creativity.

Significantly, the variables of management, innovation and creativity were found to influence the TUBE entrepreneurship program. Thus, the null hypothesis was rejected and overall, these factors accounted for 42.9 percent in identifying the factors influencing the TUBE entrepreneurship program.

Table 2
Skill

Skill	Statistic
Management	0.421***
Marketing	-0.010
Finance	0.081
Inovative	0.863***
Creative	0.199***
Communication	-0.021
Risk	-0.055
Sig = 0.000	
R ² = 0.429	

Note: *** significant at 1%



Table 3 shows the findings for the regression analysis for government financial assistance. The variables for government financial assistance consist of information, procedures, amount, number, potential, monitoring and advice. It was found that there were five variables that were found to be significant at the significance level of 0.01, namely information, amount, potential, monitoring and advice.

Significantly, the variables of information, volume, potential, monitoring and advice were found to influence the TUBE entrepreneurship program. Thus, the null hypothesis was rejected and overall, these factors contributed 44.0 percent in identifying the factors influencing the TUBE entrepreneurship program.

Table 3
Government

Government	Statistic
Information	.0279***
Procedure	-0.098
Amount	-0.434***
Quantity	-0.066
Potensi	1.027***
Pemantauan	-0.834***
Advise	0.273***
Sig = 0.000	
R ² = 0.440	

Note: *** significant at 1%

Table 4 shows the findings for the regression analysis for the business support network. The variables for a business support network consist of contacts, loans, private, interactions, collaborations, activities and contacts. It was found that there were six variables that were found to be significant at the significance level of 0.01 and 0.05, namely relationships, loans, private, interaction, cooperation and activities.

Significantly, the variables of relationship, loan, private, interaction, collaboration and activity were found to influence the TUBE entrepreneurship program. Thus, the null hypothesis was rejected and overall, these factors accounted for 62.2 percent in identifying the factors influencing the TUBE entrepreneurship program.

Table 4
Support

Support	Statistic
Connection	0.131*
Loan	0.671***
Private	-0.837***
Interaction	-0.623***
Collaboration	0.414***
Activity	0.591***
Kenalan	0.085
Sig = 0.000	
R ² = 0.622	

Nota: *** signifikan pada aras keertian 1%; * signifikan pada aras keertian 10%

Table 5 shows the findings for the regression analysis for government policy. The variables for government policy consist of population, participation, bumiputera, initiation, raising and giving birth. It was found that there were four variables that were found to be significant at the significance level of 0.01 and 0.05, namely population, participation, initiation and giving birth.

Significantly, the variables of population, participation, initiation and giving birth were found to influence the TUBE entrepreneurship program. Thus, the null hypothesis was rejected and overall, these factors accounted for 33.5 percent in identifying the factors influencing the TUBE entrepreneurship program.



Table 5
Policy

Policy	Statistic
Population	-0.467***
Penyertaan	0.164*
Bumiputera	0.002
Start	-0.416***
Grow	-0.053
Melahirkan	0.868***
Sig = 0.000	
R ² = 0.335	

Note: *** significant at 1%; * significant at 10%

The results show that the level of effectiveness of entrepreneurship programs on business viability is at a low level. These findings show that there are factors that influence business viability based on the perspective of the entrepreneurship program conducted, namely the TUBE entrepreneurship program. The TUBE entrepreneurship program is seen from the aspects of training and guidance, entrepreneurial skills, government financial assistance, government support network and government policy.

a) Entrepreneurship Program

i) Training and Coaching

Every program conducted must be equipped with training and guidance. For the TUBE entrepreneurship program, interest and knowledge alone cannot help entrepreneurs to continue the business. In terms of training and coaching, the role of the coach is important in providing information to entrepreneurs. Findings show that program coaches are found to lack extensive knowledge in the field of entrepreneurship. This indirectly causes entrepreneurs to be unmotivated and unconvinced to become entrepreneurs.

There are several disadvantages of entrepreneurs such as lack of capital, lack of marketing skills, lack of knowledge and technology, lack of skilled workers, lack of management skills and knowledge and inability to get suitable business premises (Zaidatol & Habibah, 1997). The findings of Humam et al (1992) showed that similar factors have also caused business failure, namely poor management, marketing and financial problems, legal and regulatory factors as well as personal and entrepreneurial factors.

ii) Entrepreneurial Skills

In an entrepreneurship program, participants who follow the program must have entrepreneurial skills or entrepreneurial characteristics. Without entrepreneurial skills, it is unlikely that a person can complete the program successfully. However, the findings show that entrepreneurs do not have skills in

management aspects, do not innovate and are not creative. This further strengthens the support that entrepreneurs participating in the TUBE entrepreneurship program do not possess entrepreneurial characteristics as described in the highlights section of the work (Mimi Mohaffyza, Simah & Adnan, 2016; Nurulhayah & Muhammad Hafizuddin, 2016; Shamsiah & Nor 'Azah, 2014; Buerah & Hussin, 2014).

Constraints in entrepreneurial skills may also be due to the fact that most entrepreneurs participating in the TUBE entrepreneurship program on average have less than three years of experience in business. In fact most of the participants also consisted of bachelor's degree holders. This shows that knowledge and knowledge alone is not enough to form and produce quality entrepreneurs (Nurulhayah & Muhammad Hafizuddin, 2016).

Although the education system is gradually changing Bumiputera values and attitudes towards positive change, there are still some Bumiputera entrepreneurs who are still lagging behind in terms of creativity, good business practices and hard work. Entrepreneurial business culture and willingness to take risks are still not fully appreciated by the Bumiputera business community.

Government efforts to assist the Bumiputera have been extensive, and trade and entrepreneurship education has long existed in Malaysia (Shahril 1993). The Ministry of Education also plays an important role in creating entrepreneurial successors through programs such as the Young Entrepreneurs and the Entrepreneur Brigade (Zaidatol et al. 1998).

Sieh (1990) in his study on the profile of Malaysian entrepreneurs found that entrepreneurs face problems in the field of finance because they lack knowledge. A similar view is given by Timmons (1985) when he says the foundation of entrepreneurship education is technical and financial skills. Whereas Hess (1987) and Kent (1990) suggested that management and marketing aspects are important for entrepreneurial success.



iii) Government Financial Assistance

Financial assistance is the main motive for entrepreneurs to participate in the entrepreneurship programs offered. This is because without participating in an entrepreneurship program, they are unlikely to get funds or capital to start or grow a business. The difficulty of obtaining capital to start a business nowadays is difficult to obtain, including from the government. This situation is due to the past experience of credit providers who find that entrepreneurs do not use the funds or capital provided to start a business. Even found the borrower abusing the loan given.

Based on its importance, it can be concluded that all forms of economic systems provide various forms of assistance to support the development of entrepreneurship in a country. Findings by Abbasian and Bildt (2009) mention that women immigrants start businesses because there is no job, lack of suitable employment and career advancement, discrimination, desire for self-improvement, independence or because it suits their interests. They also concluded that entrepreneurship is a tool to increase empowerment among educated women immigrants.

The government has made various efforts to nurture and develop the entrepreneurial base among bumiputera to produce viable and resilient entrepreneurs. Among them through their direct and active involvement in the business world. Various agencies have been set up to assist Bumiputera entrepreneurs. Many funds specifically aimed at developing bumiputera entrepreneurs have been established. Among them are the Bumiputera Industry Fund, and the Small Entrepreneur Fund which all aim to assist small and medium entrepreneurs (Zaidatol et al. 1998).

According to Norasmah (2002), one of the ministries that works to develop Bumiputera entrepreneurs is the Ministry of Entrepreneur Development. The Ministry not only wants to develop bumiputera entrepreneurs but also wants to produce quality entrepreneurs, potential and able to form a Commercial and Industrial Society (MPP) as intended in Vision 2020.

iv) Government Support Network

This element is important in helping entrepreneurs grow their business and in turn ensure the viability of their business. However, for entrepreneurs who participated in the TUBE entrepreneurship program, they found it difficult to communicate with government and private support agencies. This makes it difficult for them to get loans and business-related information.

A business support network is necessary for entrepreneurs. Where in this study found 18.2 percent

of entrepreneurs have a goal to grow their business. This can be seen in Table 5.1.

Previous studies have also mentioned that government support is very important to the development and progress of entrepreneurship. For Mohd Nor Hakimi and Mohd Rafi (2010), government support is very important because entrepreneurship has many constraints such as lack of resources, lack of skills, and insufficient capital are among the main obstacles for this field to thrive.

This government support is a very important approach to enable entrepreneurship to continue to be able to play a role in the country's economic sector. In fact, the support of the government also allows entrepreneurs to continue to face all challenges in today's highly dynamic economic environment.

According to reports, entrepreneurship accounts for 99 percent of total enterprises and provides 100 million jobs a year in European Union countries and the United States (Egbe, Obsolete, Amimi & Ndifon, 2011). The achievement and development of entrepreneurship in these countries is largely driven by easy access to credit at modest interest rates.

Berry, Sweating and Gotu (2006), found that entrepreneurs who obtain a variety of support services provided thrive faster. Similarly, the findings of a study in the United Kingdom by Wren and Storey (2002) who stated that there is a positive effect on sales development after the owner obtains marketing advisory services.

In the supply of micro loans in China, the study of Park and Ren (2001) found that non-governmental organizations are more successful in impacting this field than government agencies. In some countries, such as South Korea, the government focuses on research and development efforts as one of the strategies to develop this field of entrepreneurship (Park & Kim, 2010).

v) Government Policy

Without the government, it is not possible for a program that only focuses on the Bumiputera race. This study found that government policies related to entrepreneurs are not comprehensive in efforts to channel assistance or initiatives. The role of the government was found to be still ineffective in producing successful entrepreneurs. Therefore, the government needs to emphasize on several aspects as shown in Table 6.

Based on Table 6, entrepreneurs think that the government should play an important role in providing training to entrepreneurs. This indicates that the TUBE entrepreneurship program needs improvement in the training aspect.



Table 6
Factor

	Frequency	Percentage (%)
Capital	38	9.5
Program	36	9.0
Training	167	41.8
Educational Centre	7	1.8
Motivation	64	16.0
Pemantauan	88	22.0

5.0 CONCLUSION

Improvement is an important element that needs to be focused on in the process of further strengthening the TUBE entrepreneurship program. In this study, the improvement must be seen from two perspectives, namely the entrepreneurs and the organizers, namely the government represented by the Ministry of Entrepreneur Development (KPU). The recommendations in this study are in line with the objectives of the National Entrepreneurship Policy that have been set, namely:

- To create a holistic and conducive entrepreneurial ecosystem to support Malaysia's inclusive, balanced and sustainable socio-economic development agenda.
- To form a Malaysian society with an entrepreneurial mindset and culture.
- Increase the number of quality, viable, resilient, global-minded and competitive national entrepreneurs.
- Enhancing the capacity of micro, small and medium enterprises and cooperatives.
- Make entrepreneurship a career of choice.

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GENRE APPROACH IN CREATIVE WRITING PEDAGOGY IN ENGLISH IN UPPER PRIMARY CLASSES IN KENYA

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ABSTRACT

Writing can be used to measure learning of the other three language skills and written materials be used for reference in future. Creative writing (CW) is the production of texts which have an aesthetic rather than a purely informative, instrumental or pragmatic purpose. It is a personal writing where the purpose is to express thoughts, feeling and emotions in an imaginative, unique, and sometimes poetic way. Of all the four language skills, creative writing is a high order skill that calls for molding through appropriate pedagogical approaches. In Kenya, English is both an examinable subject and a language of instruction. CW accounts for 40% of the total score in English subject. However, over 62% of learners fail to achieve writing competence at the end of primary course. Primary schools in Vihiga County have persistently underperformed in CW with more than (70%) of Class 8 learners scoring below the average mean mark. Despite this underperformance, only a few studies on CW pedagogy are available. CW studies conducted in Kenya have established that 60 % of teachers find it difficult to teach CW while 75% of learners find it boring. These have implications for pedagogy and students' writing enthusiasm. The objective of this study was to explore the use genre pedagogic approach and its effectiveness in the development of CW skills. Archer's theory of reflexivity which views writing as internal and external conversations was used. The study used qualitative exploratory research design and the study was conducted in Vihiga County. The data collection tools were Lesson Observation Schedule and Interview Schedule whose validity and reliability were tested through triangulation. From Class 6-8, 30 lessons in 10 purposively selected schools were observed and 30 teachers whose lessons had been observed were interviewed. Data were analyzed thematically through transcription, coding and identification of themes. The key finding was: inappropriate use of genre approach due to teachers' knowledge gaps on CW pedagogical approaches. The study recommended that teachers of English use genre approaches appropriately in CW pedagogy and the Ministry of Education to in-service teachers of English on CW approaches. The results are useful to teachers of English and Teacher Training Institutions.

KEY WORDS: Approaches, Genre Approach Creative Writing and Upper Primary Learners.

INTRODUCTION

All human beings desire a sense of ownership when it comes to their creative work and writing can be one of the most deeply satisfying acts as it gives the author the opportunity to exhibit such ownership (Anastasiia & Mishchenkob, 2016). It also provides the author with an outlet for creativity and personal expression –a chance to learn about who he or she is as an individual (Urquhart, 2005). There are two broad

categories of writing: creative writing and functional writing. CW involves dialogues, conversations, plays, poetry anecdotes and stories while functional writing includes: reports, book reviews, scientific experiments, articles, letters, announcements, speeches, notes and notices among others. CW is highly imaginative while functional writing is factual (Gathumbi, 2008: 59). CW helps the writer achieve the aforementioned. Writing can be described as an activity that is both exciting as



well as enriching (Martin, 2001). However, this excitement and enrichment depends on its pedagogy. In upper primary classrooms in Kenya, CW typically refers to imaginative composition writing, which was the focus of the present study. In Kenya, one of the objectives of the primary English curriculum is for all pupils to acquire sufficient command of English in spoken and written forms to enable them to communicate fluently, independently and accurately in everyday life. Pupils are also expected to acquire writing skills to express own ideas meaningfully and legibly in English (KIE, 2002; 2004). Upper primary school learners are exposed to both functional and CW. However, much emphasis is on CW which is evaluated formatively and summatively. Of all the items under writing, as observed by Njuguna (2012), CW in primary schools in Kenya receives much emphasis compared to other English language skills because it is the only way of evaluating written competence in learners at the end of the primary course. Learners are expected to write a composition which carries 40% of the total English Kenya Certificate of Primary Education (KCPE) score. The other three skills of language; listening, speaking and reading, share the remaining 60% of the total KCPE score. The learners are expected to creatively express themselves using their imagination and figurative language. Although such importance is attached to CW, it has remained challenging to upper primary learners over years. Gitogo (2013), commenting on Kenya Certificate of Primary Education (KCPE) English composition themes says that English composition is one of the areas that give KCPE candidates, parents and teachers sleepless nights because it is considered challenging and at the same time a key determinant of the final grade a learner will attain in English subject; which determines their transition from primary to secondary schools. According to Schoonen, R., Van Gelderen, A., Stoel, R., Hulstijn, J., De Gloppe, K. (2011), the complexity of CW is in its nature, that is, it demands a grammatically, lexically and syntactically correct and well organized composition, and this task is even more complex and demanding when writing is in another language different from the native or mother tongue as in the case of the Kenyan learners. Consequently, Cheung, (2016), and Gathumbi, Ssebunga and Masembe (2008) postulate that learners do not achieve high degree of correctness in continuous writing (compositions) because in a second language situation, writing skills are the most difficult to master and learners have a great difficulty in understanding what is required in continuous writing in English. There are many activities that should be done at the same time during writing thus making writing complex and difficult. While expressing ideas, students need to think about the appropriate vocabulary, the spelling of the

words, the mechanics, the style, as well as the correct structure to be used in arranging good English sentences. These activities have to be done effectively because in writing we do not get an audience and immediate feedback hence we have to get it right the first time (Hadfield, 2008). Besides the nature and complexity of CW skills, L2 learners' problem in CW skills can be caused by several factors: the curriculum, the approach used by teachers in writing instruction, and the teachers' lack of ability in writing instruction (Eliwari and Maroof, 2014). The present study focuses on the approach because Ochako (2019) argues that the instructional approaches are important variables in effective teaching to enhance learning of imaginative writing. Approaches to CW pedagogy are unique in shaping certain aspects of CW like accuracy, fluency and creativity (Ibrahim, 2013). This paper examines the genre approach in teaching CW in upper primary classes because Paltridge (2004) explains that genre approach to teaching writing focuses on teaching particular genres such as stories, essays, assignments, and other pieces of writing that students need to be able to produce in academic settings. In regard to assignments and academic settings, in Kenya, CW is examined and caters for 40% of the learners' final score thus making it relevant and worth of investigation. Most importantly, regardless of some composition scholars (Lin, 2006; Johns, 2008; Hasan & Akhand, 2010; Andrew & Romova, 2012) claiming a wide applicability of genre-based approaches in various educational settings, there are still significantly limited studies (if any) conducted to empirically investigate the application of the genre-based approach in L2 CW classrooms. In the genre approach, there is a different way of looking at writing. This therefore informed the premise of looking into this approach in order to inform CW classroom practices in Kenya.

The Genre Approach

According to Martin et al (2003), genre is “a staged, goal-oriented social process” (p. 7). It is “Social” because people take part in genres with other people; just as learners have to write creatively with an audience in mind, “goal-oriented” as genres are used to have things done; that is communicating to your audience in a new, pleasant and interesting way, “staged” since it consumes a few steps to achieve the goals wanted thus it can be accomplished in a few minutes as opposed to the process approach. Thoreau (2006) postulates that genre writing is a kind or type of writing in which it has a typical style, particular target of readers, and a specific purpose. Considering Thoreau's statement, it can be argued that genre covers three main aspects namely: writing style, readers, and goal (goal oriented). In line with style, Thoreau, then claims that writing style means how something is



written; the words that are used and the way the information is organized; all of which are key ingredients to effective CW.

The proponents of genre approach to teaching writing like Kay and Dudley-Evans (1998) have argued that it is more effective for learners to advance their writing skills in second language since it helps free students from their severe worries over writing. For a learner to imagine and compose an interesting piece of writing, they need to be free from any worry to enhance the flow of creative thoughts. Another important aspect of this view is the one that sees language as occurring in particular cultural and social contexts, and thus, cannot be understood outside its context (Kim & Kim, 2005; Ibrahim, 2013). This is an important aspect in CW since the learner is expected to compose a story with characters behaving in a certain social, cultural, political or economical environment way as dictated by the title or the input statement given. It can therefore be concluded that genre writing is a new perspective to teaching writing due to its different perspectives.

A notable thing about genre approach is fact that writing is embedded in social situation, so that a piece of writing is meant to achieve a particular purpose which comes out of a particular situation. In terms of genre writing, Hyland (2003) as cited in (Dirgeyasa, 2015) proclaims that: Genre implies that students to write not just to write but to write something to achieve some purposes such as it is a way of getting something done, to get things done, to tell story, to request an overdraft, to describe a technical process, to report past event, and so on, we follow certain social convention for organizing messages because we want our readers to recognize our purpose. This postulation captures the essence of CW in Kenya which is to enable learners to write a continuous prose of narrative, a simple letter, a short dialogue and a few other types of prose that are accurate, fluent, relevant and imaginatively original. Firkins, Forey, and Sengupta (2007) elaborate in detail the genre as a model of teaching and learning. They claim it is cyclic. They also propose three stages which must be followed and implemented during the teaching and learning process. The three stages are:

- a. Modeling a text,
- b. Joint construction of a text, and
- c. Independent construction of a text.

In modeling a text, there are four practical steps which must be implemented during the teaching and learning process. The four practical steps are:

- a) The teacher chooses a certain type of genre writing in order to develop the classroom activities. In this case, type of genre must match with the students needs and market needs where they will work later on.
- b) The teacher and the students discuss the text genre by modeling and deconstruction or even manipulating the text.

c) The students are directed and situated in order to know and understand the function of the text, the communicative purpose of the text. Take for example the genre procedure writing-the function of procedure and the purpose of writing procedure.

d) The students then, study the vocabulary usages of a certain genre procedure, grammatical or structural patterns of procedure, and then the students practice the procedure if necessary.

In joint construction stage, the students start to do something more practical and operational dealing with writing. However, their work of genre writing is not writing at all because they modify and manipulate the text given. The students are still guided and helped by the teacher before they become really independent writer of a certain genre taught and learned. As a matter of fact, there are three practical steps on how joint construction stage is developed and implemented:

- a) The students reconstruct the certain genre writing given. In this case, the student may revise and paraphrase the vocabulary usage, the grammatical patterns, and textual devices if necessary by their own words.
- b) The teacher continuously guides the students to discuss and order the students to remember so that they really understand well about the genre type given.
- c) Before going forward to stage three, the independent construction of a text. Stage modeling text and joint construction are important to review.

Under Independent construction of a text, after having prior understanding and experiences of stage one and stage two, the students are ordered to write a certain type of genre as what they have learned before. The student write a given genre type independently. In this case, the teacher must be sure that the students really understand the features of a certain genre such as the communicative purpose, structure element of the text, grammatical patterns usage, relevant vocabulary usage, and textual devices as well.

When the above model is effectively adhered to, Genre approach exhibits several advantages as Morgan (2007) pointed out how rhetorical instruction plays a pivotal role in writing improvement as prior knowledge. In this context, the genre approach is very beneficial because it brings together formal and functional properties of a language in writing instruction, and it acknowledges that there are strong associations between them using a sample model which learners can imitate. As Bhatia (1993, as cited in Kim & Kim, 2005) recommended, it is meaningful for writing instructors to tie the formal and functional properties of a language together in order to facilitate students' recognition of how and why linguistic conventions are employed for particular rhetorical



effects (p. 6). Therefore, an assigned genre seems to serve as an influential tool for both the learning and teaching of writing [for both students and teachers]. In addition, the genre approach encourages students to participate in the world around them (Kim & Kim, 2005), to comprehend writing as a tool that they can utilize, and to realize how writers manage content to promote logical organization. It also allows students to become more flexible in their thinking and eventually to realize how authors organize their writings Hyland (2003). Furthermore, some proponents have indicated that the genre approach is more suitable for learners at beginning or intermediate levels of proficiency in a second language rather than those at advanced levels, in that it releases students from deep anxieties about their writing tasks. The foregoing assertion makes it an appropriate approach for upper primary classes.

The Aim of Creative Writing

Writing teaches learners' critical thinking and organizational skills that they carry over to every other subject. Writing can also be described as a communicational vehicle, an assessment tool, and an intellectual exercise that benefits both the teacher and the student. Teaching of creative writing is a way of development of communicative competence. It is a special type of the composition which assumes a non-standard thinking of the author. Writing is a powerful tool for thinking and learning –so powerful that it should not be limited to the writing workshop. Students must have opportunities throughout the day to engage in writing. Improving writing is not the major purpose for incorporating writing in various curriculum areas. Learning of CW has a special place in education as a whole because it equips learners with the basic skills of language and gives them opportunities for free expression of feelings and experiences (Khan, 2011). Learning of imaginative writing starts from the classroom environment through teaching using various strategies and learners' practices (Ochako, 2019). Learners are expected to creatively express themselves using their imagination and figurative language (Mwangi, 2016). However, learners underperform in CW because they face great difficulty in expressing themselves in simple English during CW (Kalemes, 2016). The aim of teaching CW is to make the students be able to express themselves in different literary forms (Neupane, 2014). Apart from sharpening students' ability to express their thoughts clearly, CW encourages them to think beyond the ordinary and use their imagination to express their ideas in their own way (ORELT, 2015). For instance, if one plans to pursue a career in journalism that deviates its style of writing from news reporting like an opinion columnist, a composer of editorials, or something within that nature, one needs to have skills of CW well presented

because of its appealing nature (Desiree, 2014). CW also promotes one's ability to communicate (Northway, 2011), besides developing critical thinking skills and ability to evaluate a piece of literary work among students. As a result, it improves students' problem-solving abilities (ORELT, 2015). In addition, creative writing gives out information, makes learning more interesting and helps one to be a better writer through practice (Kwok, 2015). Writing is very important as a tool for measuring the learning outcomes of imaginative writing. This implies that one's ability to be creative can be clearly seen through written imaginative texts after learning imaginative writing. In this case, the teacher is fundamental in enhancing learning of imaginative writing through the approaches employed.

RESEARCH METHODOLOGY

The objective of the present study was fulfilled through a qualitative exploratory research design which, according to Burns and Groove (2001), is conducted to gain new insights, discover new ideas, and for increasing knowledge of the phenomenon. The study explored the Genre approach upper primary teachers employ during their writing lessons in order to gain insights into the effectiveness of this approach in imaginative composition writing instruction and suggested ways of improving the same in Vihiga County primary schools. The study was carried out in Vihiga County in the Western Region of Kenya. The choice of Vihiga County was influenced by the fact that the public primary schools in this area have persistently underperformed in English composition and also its rural setup that can exemplify practice as opposed to the urban setups which are well resourced and are deemed to have L2 competent learners. Stratified purposive sampling was employed to select teachers of English from the purposively selected schools from class 6, 7 and 8 for lesson observation during their teaching of CW. Teachers whose lessons had been observed were interviewed by the researcher in order to help the researcher corroborate the data that had been collected. Stratified purposive technique was appropriate for the present study because it focuses on characteristics of particular subgroups of interest. The sample was stratified based on the level of upper primary classes hence the Class 6, 7 and 8 that were involved in the study.

All the 30 teachers of English from the 10 purposively selected schools were interviewed and 30 imaginative composition lessons; one from each class in the 10 selected schools was observed during instruction. The 30 teachers interviewed and the 30 lessons observed were informed by Guest, Bunce, and Johnson (2006) who advocate for saturation, the point



at which a researcher no longer receives any new information or insight into the phenomenon of study from each subsequent interview or observation, and it often occurs at around 12 for a homogeneous participant group. They further argue that a minimum of 15 for most qualitative interview studies works very well when the participants are homogeneous. In this study, homogeneity of participants involved teachers of English in upper primary classes for interview and observation of upper primary CW lessons. For a particular group, saturation often occurs between 12 and 15. However, Nastasi (2005) recommends a sample size of 30 for in-depth interview thus the interviewing of the 30 teachers of English in upper primary classes. Oral semi structured interview schedules were administered to class 6, 7 and 8 teachers of English on the genre approach and its effectiveness in developing CW skills because interview schedules are a feasible and adaptable way of finding out information (Cresswell, 2009). For classroom observation, according to Wragg (2011), they are used in a study and should suit its purposes. Therefore, the classroom observation methods and procedures were carried out in line with the research's main purpose of establishing how effective the Genre approach in CW pedagogy was and current composition writing practice in Kenyan upper primary classrooms.

Stake (2005) explains that to give quality, credibility, and trustworthiness to a qualitative research, certain methods are used which include: triangulation, saturation, member checking and self-disclosure (Reflexivity). In qualitative research, validity entails the researcher checking for the accuracy of the findings by employing certain procedures, while reliability indicates that the researcher's approach is consistent (Creswell, 2009). To ensure that the findings in this research are accurate and credible, a number of measures were taken. Validity strategies such as data triangulation and the use of thick and rich descriptions of the procedures and findings were used. By converging data from the two sources, conclusions were drawn from various angles making the research findings trustworthy. Secondly, the researcher involved peers and experienced researchers in reviewing key concepts, methodology and analysis and to help check the credibility of the research rationale, research process and report as suggested in research literature (Stake, 2006).

Regarding reliability, Richards (2009) explains that "dependability in qualitative research involves an interrogation of the context and the methods used to derive the data" (p159). Yin (2003) suggests that one way of enhancing dependability is to make clear and detailed descriptions of the steps followed in the study. To ensure dependability in this study, care was taken to make a thick description of the entire research process

in a manner that makes it possible to carry out a similar study in another context, if necessary (Ponterotto, 2006). In the process of data generation, the researcher accumulated a data set consisting of interview and observation notes. The researcher utilized thematic analysis. Braun and Clarke (2006) explain that: Thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data. It minimally organizes and describes your data set in (rich) detail. To ensure consistency in approach during the study, the exploratory study procedures was documented and applied consistently in the data collection phase by immediately describing in detail the opinions and feelings and the behavior captured during interviews and classroom interactions; then transcribing the data. The same procedure was used for all the ten classroom observations. Once classroom observation data was transcribed from recorded classroom interactions and checked for accuracy to make sure that it does not contain mistakes. Measures were also taken in thematically coding to ensure that there were no drifts in the definitions of codes or shifts in the meaning of codes during the process of coding.

Data analysis was achieved using content and thematic analysis and discourse analysis. Interview data was subjected to narrative while classroom observation data was analysed using discourse analysis. Teacher-learner interactions from the classroom observation were used to corroborate the data from the interviews with teachers about the methods they employ to teach CW. Narrative approach was used to present data from teacher interviews. In terms of ethics, according to Mason (2002), the researcher observed truthfulness and all participants were given accurate and detailed information about the research, their express consent, confidentiality and anonymity were assured, any sort of harm was avoided and the researcher show appreciation of the participants' support in any appropriate manner (Cohen et al., 2007). The researcher then wrote a detailed report using qualitative data that was thematically interpreted and described in subsection under the genre approach in focus.

RESULTS AND DISCUSSIONS

The approach was utilized in Class 7 and 8 lessons only. Class 6 teachers did not use this approach although the class was part of the study. They mainly utilized product approach followed by process approach. Genre approach is considered to be new and it has strong similarities with product approach (Harmer 2007) and, in some ways, genre approach can be regarded as an extension of product approach (Badger and White 2000). Badger and White (2000) argues that the use of model texts and the idea of analysis imply that learning is partly imitation and



consciously applying rules. Thus, genre-based approaches see writing as essentially concerned with knowledge of language, and being tied closely to a social purpose, while the development of writing is largely viewed as the analysis and imitation of input in the form of texts provided by the teacher. The genre approach has three phases: modeling the target genre, where learners are exposed to examples of the genre they have to produce; the construction of a text by learners and teacher; and, finally the independent construction of texts by learners (Eliwartil & Maarof, 2014). The following are Class 7 and 8 Genre approach sample lessons. The following notations were used in the transcript of the lesson extract;

- P: Pupil
- T: Teacher
- CL: Chorus response from the learner
- (.): Silence (for 4 seconds)
- (-): Prolonged silence (for 10 seconds)
- NR: No response

Sample 1: Genre Oriented Approach Class 7 Lesson Development Episode

- T: *We have different types of compositions as we have said (.) Examples are letters and narratives (.) Do you love stories? They form the basis of our topic today. Ok?*
- CL: *Yes*
- T: *So, who can tell us a short story? (-) (NR). Ok, stories fall under imaginative compositions (.) In imaginative compositions think about something which may or may not be true. That's why they are called imaginative. Ok?*
- CL: *Yes*
- T: *Mostly the story is started for you and you have to finish (.) Which one do you like, the starting or ending one?*
- CL: *(mixed reactions from the learners. Some shouts the starting one while others are shouting the ending one.)*
- T: *For example, complete the following story, "I will always be grateful to my sister for her act of bravery...when you have such, identify key words. Can we identify them (-)*
- L1: *Grateful*
- T: *Good, any other?*
- L2: *Bravery*
- T: *Yes(.) (name)*
- L3: *Act.*
- T: *Yes. Let's listen to the story and see what was expected of us. (The teacher reads the story at a moderate pace. Some learners lose concentration along the way probably due to the length of the story and the teacher's*

monotone.) Have we understood the story? What is the main thing in the story?

- L4: *The person in the story is happy because the sister risked her life to get him out of danger.*
- T: *Good. Clap for her (Learners clap). Can we give two examples of such which we can write about.*
- L4: *A house burning while inside and your sister breaks the door to save you from burning.*
- T: *Good. A second example? (-)(name)*
- L5: *(.) Robbery (-). Thieves came to your house and your sister knocked one of them and you ran away.*
- T: *When writing a story, you must make it interesting. How do we do that?*
- L1: *Use phrasal verbs.*
- T: *Good (.) Example of phrasal verbs?*
- (.)
- L2: *Pass out: Very good. Clap for her (learners clap). Any other? (name)*
- L2: *Use proverbs*
- T: *Something else?*
- L3: *Exclamations.*
- T: *Good.*

CONCLUSIONS

- T: *Yes. Conclude by giving a moral lesson learnt. Okay, copy this composition in your books and finish it.*

In Genre approach, students are expected to make decisions about genre and choice of topics and collaborate as they write. In the above extract, the teacher read a good model story which he could have used to discuss with the learners the rubrics of composition writing guided by the three steps in the model, that is, modeling the target genre, where learners are exposed to examples of the genre they have to produce; the construction of a text by learners and teacher; and, finally the independent construction of texts by learners. However, learners were only exposed to modeling of the target genre through the sample composition the teacher read in class. The last two phases; the construction of a text by learners and teacher and the independent construction of texts by learners were missing. Moreover, a major impediment to the development of CW skills in the lesson was a mention of the items and partial development of the items under investigation without clear demonstration to learners who are yet to develop their CW skills. Thoreau (2006) postulates that genre writing is a kind or type of writing in which it has a typical style, particular target of readers, and a specific purpose. Therefore, in terms of creativity, the genre approach is best suited to develop the skill as it can systematically



guide learners on how to infuse conflict, unusual but appropriate use of words and language phrases and figured of speech, correct language structure, sentence formation patterns, creative use of language to create interest and capture the reader's attention and writing within the given topic (relevance) as expected by the Kenya National Examination Council. This is achieved because the learner can be guided on the appropriate style to make their CW unique and captivating because they know their target audience and the purpose of CW. Another paramount aspect and a scoring point of CW is creativity which entails, unusual but appropriate use of words, phrases and figures of speech, language structure, sentence formation patterns, creative use of language to create interest and capture reader's attention and relevance (KNEC; 2015). Creativity can be well molded using the genre approach unlike the process and product approaches which develop accuracy and fluency respectively. In foreign or second-language writing, a genre-based approach refers to teaching learners how to make use of language patterns to achieve a coherent, purposeful composition (Hyland, 2003). The genre approach focuses on models and key features of texts written for a particular purpose. Christie and Derewianka (2008) define genre as 'social processes for achieving purposes within the culture'. In a CW class, it will entail classroom interactions that give rise to an interesting and unique text expressing the learners' originality and individuality as dictated by CW. Although the teacher attempted to infuse creativity in the lesson by asking learners how they can make their CW interesting, they items fronted by learners such as using phrasal verbs, proverbs and exclamations were not developed through the guidance of the teacher as prescribed by the Genre Approach model. This failure to guide learners on how to infuse and develop creativity in their written pieces impacts negatively learners CW.

Rose and Martin (2012) and Knapp and Watkins (2005) postulate that genre is a 'staged goal-oriented social processes'. Martin and Rose point out that the fundamental definition of genre is that of configurations of meanings realized through language and modality of communication. The genre approach to writing supports students' writing with generalized, systematic guiding principles about how to produce meaningful passages for example in private stories. Cowley (2004) believes by approaching CW via genre, students' interest and motivation can be enhanced thus changing the notion of about 70% of learners who view CW as boring. So, it is appropriate to employ genre approach in Kenyan upper primary classroom, because a genre approach views how language is used for the particular purpose in the particular context. The learner should have knowledge of genre to understand the

purposes, conventions and strategies to write imaginative composition successfully in different ways because by approaching CW via genre, their interest and motivation can be enhanced (Cowley, 2004, p. 79).

More so, genre approach requires samples of a specific genre to be introduced, and some distinctive characteristics of the given genre be pointed out so that learners notice specific configurations of that genre thus making it resemble the product approach in that a model text is analyzed on the basis of grammatical and text features. This is followed by guided writing in a joint construction stage before a final, free-writing stage (Badger & White, 2000). The guided writing grounds the learner in the CW tenets being tackles as opposed to product approach where the learners have to imitate the model. Next, students attempt to produce the first draft through imitating the given genre hence making learners less apprehensive during composition writing. Looking at the Class 7 genre approach lesson, it falls short of these expectations. The teacher introduced a sample composition but failed to analyze it on the basis of grammatical and textual features, no guided writing was witnessed and the students did not have a free- writing session as expected. Therefore, the approach was not effectively utilized to develop CW competence in Class 7.

The application of genre approach in teaching has been criticized for stifling creativity by imposing models on students (Hyland, 2008) , but, Hyland further clarifies that the genre does not dictate that the students neither write in a certain way nor determine what to write, it enables choices to be made to create meaning. This argument allows the teacher to manipulate classroom interactions and teach learners how to write creatively but the students are automatically guided very much to imitate since they are only provided with very little practice on developing linguistic skills. In accordance with this, Badger and White (2000) argue that the negative side of genre approaches is that they undervalue the skills needed to produce a text and see learners as largely passive; this passivity was pronounced in the lessons observed but it is a limitation that process approach to writing takes care of when effectively. Besides the use of a model, another aspect of genre approach displayed in the lesson was the mention of tenets that make CW interesting. This aimed at tackling the peculiarity of CW from other pieces of writing; a major aspect of genre approach. Just like the preceding approaches, genre approach was not effectively utilized since the teachers only mentioned the aspects of the approach without proper guidance to the learner.



Sample 2: Genre Oriented Approach Class 8 Lesson Development Episode

T: *What do we consider when writing a composition?*

L1: *Hand writing*

T: *Good (clap for him) (.) (name)*

L2: *Title*

T: *Good. Any other? (.)*

L3: *Correct punctuation*

T: *Good. Use speech marks when writing direct speech (no further instructions) (-) (name)*

L4: *Tenses.*

T: *Good. Now, remember to avoid silly mistakes. How do we avoid them? (-) (NR). Okay, by proof reading your work.*

Another important point is flavouring our composition. How do we do that? (-)(name)

L5: *Use expressions, for example, to express sadness or joy.*

T: *Good. These idiomatic expressions use them sparingly and for similes, at this level, use advanced ones (no examples given). Any other? (NR)*

Okay, you can also use proverbs, metaphors and hyperbole (.)

Paragraphing is also very important. Just use indented paragraphing (.) Let us continue, I have an example of a KCPE question for 2008.

“When we arrived at school at three o’clock from educational tour, we were surprised to find others on parade.

T: *What are you to do in this case?*

L1: *Think of what could have caused the pupils to be on parade the unusual time.*

T: *Yes, very good. Some of such scenarios could be probably a sudden death of a teacher. Anything else? (.) (name)*

L: *A visit by very important people.*

CONCLUSION

T: *How do we finish our story?*

L1: *Finish with a proverb.*

T: *Yes a relevant one.*

L2: *Give a lesson learnt.*

T: *Good, any other?*

L2: *Use a rhetorical question.*

T: *Any question? (NR) Okay, copy this sample composition in your exercise books. Your composition should always be two pages and always use correct paragraphing.*

In the Class 8 genre approach sample, the teacher’s development began with asking learners what to consider when writing a composition. The learners stated good hand writing, correct punctuation, tenses and use of speech marks. These are aspects of

accuracy which is one of the scoring areas of compositions in Kenyan primary schools but fluency and creativity was left out; items which could be molded through proper utilization of the process and genre approaches. To enhance accuracy, the teacher asked learners to avoid silly mistakes. She wanted to know what the silly mistakes were but she got no response from the learners and moved on without guiding the learners. This silence could imply lack of knowledge about the mistakes or boredom on the part of the learner contrary to Hyland (2003) postulation that genre approach is more suitable for learners at beginning or intermediate levels of proficiency in a second language rather than those at advanced levels, in that it releases students from deep anxieties about their writing tasks. On the other hand, the teachers failure to expound on the mistakes in CW could imply her inadequate knowledge of the same; a limitation that can be eliminated through appropriate utilisation of genre approach. The next item the teacher handled was creativity which she referred to as ‘flavouring’ of the composition. In this case, she partially mentioned the use of idiomatic expressions and proverbs. The others aspects of creativity she mentioned were the metaphors and hyperbole and which looked complex to the learner, the learners purpose which takes care of their needs and interests was not put into consideration. This is in line with Johns (2008) assertion that although the writer’s purpose is said to be at the centre of the genre theory, ‘purposeful’ text which is responsive to the students’ needs and interests are in reality seldom found in the genre-based L2 classroom. She concluded that in many cases, the learners were producing their text merely ‘to please their instructors and/or pass the examinations’ (Johns, 2008: 239). For example, Flowerdew (2005) observed that the Japanese EFL learners in his course were producing very similar discourses with little originality and were focusing too much on the correctness of language rather than on generating ideas. Johns (2008) argued that such pedagogy could have limitations in promoting rhetorical flexibility in a given genre and may not be able to prepare students ‘for unpredictability of situation that require a reformation of genre schemas’ (Johns, 2008: 246).

Over time the realisation of the limitations and possible negative ramifications in the genre-based compounded by the teachers ineffectiveness in the use of this approach approach have led to the attitude that application of this approach alone may not be sufficient in developing students writing ‘skills’ as competent writers (Litinin, 2012). Therefore, due to these attitude towards the genre approach, which were pronounced in the lessons observed, it is desirable to adequately utilise the approach in the Kenyan classroom to enhance performance, innovativion and creative functions in



CW. Writing skills ought to be developed gradually as stipulated in the Kenyan writing syllabus. This development cannot take place in a vacuum. Relevant pedagogic strategies and appropriate approaches at this level have to guide the learners in developing a grammatically correct, accurate, original and fluent script.

CONCLUSIONS

On the basis of the findings of the study on the use of genre approach in developing CW skills, it was concluded that: Teachers in Vihiga County ineffectively used genre approach to teach composition due to inadequate knowledge in CW approaches, and little attention given to CW during both pre-service and in-service training. It can be concluded therefore that with the effective use of genre approach to develop aspects of CW, significant improvement can be realized. Appropriate approaches help learners gain confidence during CW since they know what to write and how to write. Teachers in upper primary school should therefore be encouraged to use genre and approach to improve the teaching of composition because it enhance creativity of thought and language use, accuracy in grammar and fluency in logic and flow of ideas which are key areas in CW. In addition, learners develop an exploratory, investigative and intuitive mind at an early age in the education ladder having gained confidence in writing skills.

RECOMMENDATIONS

1. Teachers of English should effectively use of product, process and genre approaches in the teaching of composition. This too should be adopted and standardized by the Kenya Institute of Curriculum Development and easily avail to both teachers and learners relevant CW materials.
2. Teachers should attend regular in-service training and refresher courses on CW teaching.

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POPULATION PATTERN AND HOUSEHOLD WASTE MANAGEMENT PRACTICES IN RELATION TO BIO-PHYSICOCHEMICAL WATER QUALITY CHARACTERISTICS IN THE NAGA RIVER

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ABSTRACT

Rapid population growth and urbanization over the years has put pressure on natural resources threatening various fragile ecosystems. Naga river in the Philippines became a mute witness to the adverse effects of human activities on its waters. The present study took into account the waste management practices of households along the Naga river to elucidate its relation to the bio-physicochemical state of the river. The comparative analysis of water quality assessment data indicates that there is an observable deterioration of water quality due to its decreased level of Dissolved Oxygen (DO) and above normal pH level. This can be attributed to the continued practice of the households of throwing and discharging 34% and 78% of their solid and liquid wastes, respectively, directly into the river. However, there is a trend of improvement in the Naga river's water quality in terms of other parameters. The study also revealed that the size of built up areas and the household population along the Naga river is not necessarily proportional. Land use and the large household population along the Naga river was found to have higher adverse impacts on the water quality and current state of the Naga river.

KEYWORDS: Naga River, water quality, waste management, community survey

INTRODUCTION

Naga City, situated 377 kilometers south-east of Manila in the Philippines, is considered the Bicol region's commercial, financial, educational, religious, and cultural center. It is the most populous city in the area, as well as the densest. The Naga river traverses the city center. It stretches about 2.8 kilometers winding through 11 of the 27 barangays of the city.

The Department of Environment and Natural Resources Regional Office V (DENR-ROV, 2014) reports that most of the population uses the river for agricultural purposes such as irrigation of fields and propagation of fish and other aquatic resources. It also supplies water for the manufacturing industry and facilitates the transport of people and products. However, the report also noted that the river serves as discharge points for residents living near and along the river. At most points, the riverbank easement has been grossly encroached by urban dwellings and infrastructure, and as such, domestic and industrial waste and sewerage pollute the river. According to Nkwocha et al. (2004), unsanitary disposal of solid waste provides harborage for disease vectors, causes the emission of odor and environmental nuisance, and defaces urban habitations, and particularly pollutes nearby surface water.

The decay of Naga City's riverine ecology is one of the more visible problems as it affects most of the urban areas. The pollution of the Naga river could also be traced to its network of natural waterways within the city and its tributaries in Mt. Isarog. A CARE/WWF study in 2005, reported severe erosion levels in Mt. Isarog's foot slopes with increased surface run-off from

vegetation/forest loss due to encroachment of agriculture from proximate barangays. Apparently, the turbid waters of the Naga river in the downstream is a result of sedimentation from severe erosion. It is particularly critical to note that the Naga river links with the Bicol river and drains to San Miguel bay, a fishing ground for municipal sustenance. With all the urban wastes and sediments/particulates draining to the downstream (Bicol River) municipalities and San Miguel Bay, it would not be surprising that fish catch has dramatically declined. Likewise, it would be noted that the system boundaries of the affected landscape cuts across three ecosystems: forest ecosystem (Mt. Isarog National Park), riverine and estuarine ecosystems (Naga and Bicol Rivers), and marine ecosystem (San Miguel Bay).

In such a context, the study provided an opportunity to understand the pivotal role of an urban environment relative to the water quality of the river. The study identified the solid and liquid waste management practices of the households living along the Naga River to elucidate its relation to the bio-physicochemical state of the river.

MATERIALS AND METHODS

Description of the Study Area

The study focused on the nine barangays along the Naga River, which were chosen based on land area. This included the upstream barangay Balatas, midstream barangays Penafrancia, Dayangdang, Lerma, San Francisco, and Tinago, and downstream barangays Mabolo, Sabang, and Tabuco. All are classified as



urban areas with the majority of the land allocated to residential, commercial, and agricultural uses.

Data Analysis of Waste Management Practices

A community survey including 110 respondents from the nine barangays was conducted to obtain data on solid and liquid waste management practices of households along Naga River. To validate the responses, Focus Group Discussions (FGDs) were carried out. A total of 79 respondents composed of barangay officials and sectoral representatives like health, business and industry, academe, transport, and senior citizens participated in the FGDs. Further validation was done through Key Informant Interviews (KIIs) with 19 government officials, barangay officers, and residents along the riverbank. Both descriptive and quantitative statistics were used in the data analysis.

Water Quality Parameters and Analysis

The study made use of the dataset from the water quality assessment program of the DENR-V and ENRO-Naga City, specifically in 2002, 2006, and 2009. The 22 sampling stations covering the entire stretch of the river were chosen according to their accessibility and strategic location. A comparative analysis was done using the data on the following parametric indicators: (1) Dissolved Oxygen (DO, mg/L); (2) Biological Oxygen Demand (BOD, mg/L); (3) pH level; (4) Total Suspended Solids (TSS, mg/L); and (5) Temperature (°C).

Aquatic life as a water quality indicator was also investigated in the study. Researchers were able to obtain and analyze data on fish species present in the waters of Naga river through the KIIs.

RESULTS AND DISCUSSION

Socio-demographic profile of the riverside barangays

Out of the 7,907 households in all the nine barangays along the Naga river, only 525 or 6.64% are located directly on the banks of the river. This could be translated into a population of 2,751 based on the average household size of 5.24 [National Statistics Office (NSO), 2010]. Barangay Penafrancia, which has the highest number of households along the river, has a translated population of 775.52 or 28% of the total population along the Naga river.

As indicated in the Naga City Comprehensive Development Plan (2012), the total population of Naga City in 2000 was 137,810, and this increased to 174,931 in 2010. This meant a population growth of 26.9% or an average of 2.41% compounded annually. The same source asserted that the projected population of Naga City by 2015 would be about 195,803 considering the 2.28% population growth rate.

Similarly, the population along the Naga River will tend to increase by the same rate of 2.28% annually. Based on the data, the total population of the nine barangays along the Naga River totals to 41,937 this can increase to about 46,717.818 or a total population of 8,915 by 2015. Further, the total number of

household population along the riverside will also increase from 525 households to about 584.85 by 2015.

The current population density of the city is about 1,900 residents per square kilometers or 19 residents per hectare (ha). This makes Naga City as the most densely populated city in the Bicol Region. Barangay Tabuco occupies the largest total land area along the Naga River but has a household density of 7.395 households/ha as against that of barangay Penafrancia whose household density is 86 households/ha. This implies that increased household density is a factor of urbanization and land use rather than the size of the river area. The barangay may have a large riverside area, but its land use is agricultural. Therefore there are fewer households in the area. Likewise, this result may be due to the City's Land Use Plan of 2000, where it had proposed the conversion of barangay Penafrancia from agricultural to residential land while maintaining barangay Balatas as a farming area.

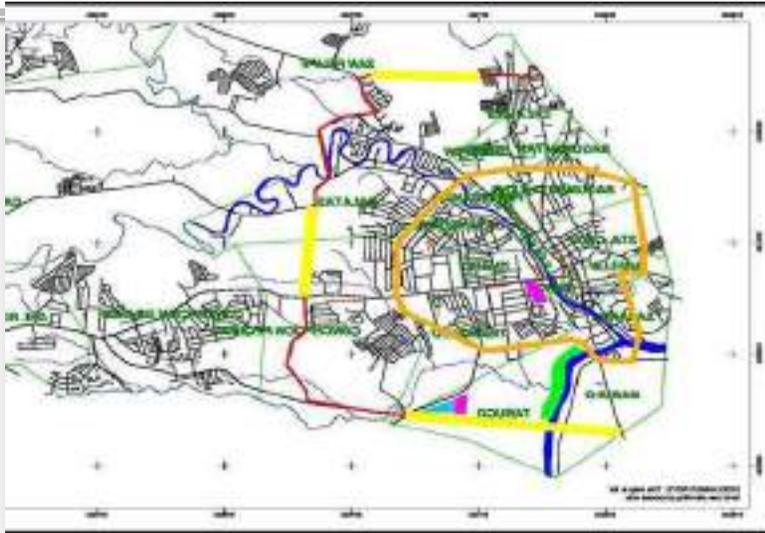
In terms of income source, people living along the Naga River could be categorized into three as those with 1) fixed income from salaries and wages (government and private employment), 2) from business activities (self-employment), agricultural activities (farming and fishing), and 3) from other sources of income (padyak drivers, laborers).

Survey results show that 57% of the respondents who are living along the riverbank derive their income from government and private employment. Of those with business activities/self-employed, 38% get their income from small to large scale businesses, and 4% derive income from farming and fishing. The result further shows that almost all (95%) of the respondents are engaged in non-agricultural and entrepreneurial activities.

The data strongly conform to the findings of CDP (2012) which reported that "Naga has a primarily trading and service-driven economy. The service sector employs the bulk of the city's labor force, accounting for 71% of the total. The secondary and infrastructure sector (manufacturing, utilities and construction at 14%) and others (agriculture and government 15%) account for the rest."

Moreover, the data imply that majority of the respondents are economically active which means they are capable of supplying labor for the production of goods and services over some time [International Labour Organization (ILO), 2012].

The above result is supported by the data from NSO in 1997 which reported that "in Naga, close to 49% of the households depend on wages and salaries from non-agricultural activities, and 28% derive their income from non-agricultural entrepreneurial activities. A minimal of 7% derived income from agricultural entrepreneurial activities and 5% from wages and salaries from such agricultural activities. It is important to note that only 11% rely on remittances, pension, retirement and sale of a lot." However, the same result is seen at the different view in the study of Pasion (2012) which indicated that "the economy of Naga City is heavily dependent on tourism and the city is a major pilgrimage site with the famous Penafrancia river procession held every September."



Source: CDIA,2012

Waste management practices in the site

In terms of solid waste disposal practices of households along Naga river, data revealed that 66% of the respondents place their wastes on garbage bags and have them collected by the city government through its garbage trucks. Among the nine barangays, Tinago has the highest number of households doing this practice (83%), while Dayangdang has the lowest at 38%. Both are midstream barangays.

However, it was found out that all the households in the nine barangays still throw some of their solid wastes into the river and someplace else. This practice is most evident in Sabang, where about 23% of the households admitted to throwing their solid wastes into the river. On the other hand, households in Peñafracia are throwing their wastes anywhere, which eventually ends up to the river. Pasion (2007) affirmed that the dwellers along the riverbanks do not have proper waste disposal for both solid and liquid wastes, thereby polluting the river.

Table 1. Solid waste disposal practices of the households along the Naga River.

Barangay	Disposal practices						Total (%)
	Pick-up by truck (%)	Household segregate solid wastes (%)	Burning (%)	Composting (%)	Throw them in the Naga City River (%)	Throw away anywhere (%)	
PEÑAFRANCIA	45	30	2	0	5	18	100
BALATAS	65	20	5	3	5	2	100
DAYANGDANG	38	25	20	5	2	10	100
DINAGA	75	5	5	5	10	0	100
LERMA	76	21	1	0	0	2	100
SABANG	72	1	1	1	23	2	100
SAN FRANCISCO	60	5	20	3	1	11	100
TABUCO	80	9	1	1	5	4	100
TINAGO	83	10	0	1	3	3	100
Average	66	14	6.11	2.11	6	5.80	100

Likewise, few households practise composting and burning solid wastes. In Dayangdang and San Francisco, about 20% of the respondents said they burn their solid wastes while 5% in Dinaga said they do compost. It can also be noted that a few households along the Naga river practice solid waste segregation at source. The Cities Development Initiative for Asia (CDIA) in 2012 reports that the City Government solid waste collection system includes waste segregation at the source, in material recovery facilities (MRF) or, after collection, by waste pickers working on the existing dumpsite in Balatas. This is to ensure that

waste segregation is done regardless of the point source.

Data from the Naga City Comprehensive Development Plan 2011-2012 indicated that the garbage collection by the city government over the last three years has decreased substantially, from 72,275 tons in 2008 to 48,009 tons in 2009 and recently to only 20,767 for 2010 – an average annual reduction of 36% over the last two years. Accordingly, this may be attributed to the decentralized approach of waste segregation at the barangay, subdivision, and institutional levels, reducing volume being processed at the Balatas MRF.



As such, this study shows that there are about 12% of solid wastes generated by the households along the Naga River that were not picked up by the garbage truck, hence did not reach the MRF. Unfortunately, indications show that they were thrown in the river.

Furthermore, the study proved that the usual practice of throwing some of the solid wastes into the river generated by the households along the Naga River is not entirely changed by the seemingly efficient garbage collection of the Naga City government.

Table 2. Sewage disposal practices of households along the Naga River.

Barangay	Toilet Sewage disposal		Total (%)	Kitchen sewage disposal (wash water)		Total (%)
	Water-sealed toilet with septic tank (%)	Open-pit toilet with drainage (%)		Sink drainage direct to the septic tank (%)	Sink drainage direct to the Naga City river (%)	
PEÑAFRANCIA	96	4	100	30	70	100
BALATAS	80	20	100	70	30	100
DAYANGDANG	0	0	0	10	90	100
DINAGA	100	0	100	70	30	100
LERMA	99	1	100	2	98	100
SABANG	0	0	0	5	95	100
SAN FRANCISCO	100	0	100	0	100	100
TABUCO	100	0	100	0	100	100
TINAGO	100	0	100	10	90	100
Average	75.00	2.80	77.80	21.89	78.11	100

On the other hand, household liquid waste was classified into toilet sewage and kitchen sewage. To dispose of their toilet sewage, 75% of the respondents have and use a water-sealed toilet with a septic tank. In comparison, about 2.80% have an open-pit toilet which has drainage in the river.

Moreover, the survey shows that most of the households' kitchen sink (78.11%) drains directly to the Naga river. This means that their kitchen sewage/wash water eventually ends up in the river.

To some extent, the survey results concur with Naga City's ecological profile in 2012 that water-sealed toilet facilities were used by 95.70% of the households. The remaining 2.70% do not have any toilet facility, while 1.50% were using a closed pit (Antipolo type) toilet facility.

The City Planning and Development Office (CPDO) in 2012 argues that very few houses had septic tanks before the city introduced an ordinance that required households to have septic tanks. Only 20% likely have proper septic tanks, and the rest are simple pits then. It must also be assumed that a lot of the existing septic tanks and sanitary pits are in bad condition.

In such condition, the effluent seeps into the soil or finds its way through the drainage into the Naga River. This is further strengthened by Pasion (2007), who stated that the illegal dwellers along the riverbanks do not have proper waste disposal for both solid and liquid wastes.

The result further revealed that households in barangays Dayangdang and Sabang have no toilet sewage disposal at all. This implies that the households along the Naga River in these barangays directly disposed their toilet sewage to the river. Critical data show that 100% of the households along the Naga River in barangays San Francisco and Tabuco; 98% in Lerma, 95% in Sabang had their sink drainage direct to the Naga River.

Water quality of Naga river

Dissolved Oxygen (DO) is the most critical indicator of the health of a water body. High levels of DO in water means an increased capacity to support a balanced aquatic ecosystem of plants and animals. Water bodies with organic (oxygen-consuming) pollutants deplete the dissolved oxygen and may lead to marine organisms' death.

Data from 2006 to 2009 show that DO have dramatically decreased below the minimum standard of 5 mg/L in sampling station numbers 1 (Tabuco Bridge), 2 (Panganiban Bridge), 3 (Colgante Bridge), and 4 (Magsaysay Bridge). The present study noted that the lowest level of DO at 3.0 mg/L and the highest biological/biochemical oxygen demand (BOD) at 11.6 mg/L were found at sampling station 4. This result implied that the water quality in these sampling stations had slightly declined, which can be attributed to dissolved and undissolved organic matter. These organic matters can encourage the growth of aerobic microorganisms that use up the DO from the river for their metabolism.

This study also noted that at the other sampling stations 5-8, the DO in the river had consistently increased from 2002 to 2009. These values were observed to be above the minimum level of DO (5.0 mg/L) for class C water quality according to the DENR Administrative Order (DAO) 34. This shows improvement in the water quality within these sampling stations. All but two stations show water quality levels at level B. The remaining two stations, however, indicate a lower quality level at level C. This is a considerable improvement from the initial level D quality of water in the river at some stations.

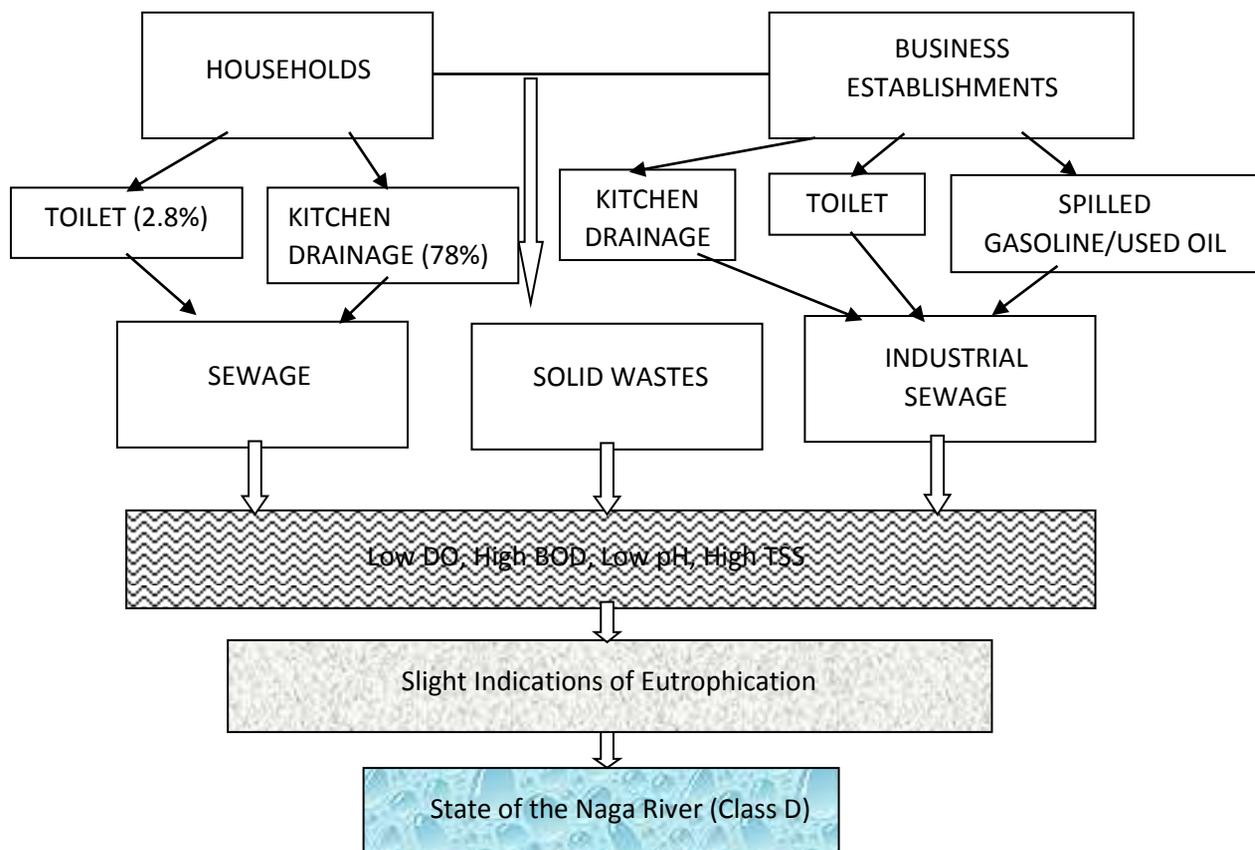
Data show that except for station samples 2 and 3, all station samples decreased pH from 2002, 2006, and 2009. This decreasing trend indicates that the Naga river's water is becoming acidic with pH values lower than 7 (pH < 7).

Furthermore, total suspended solids (TSS), stations 1 and 2 increased from 2006 to 2009 while all other sampling stations had a decreased TSS level. The average mean of temperature levels in all the stations falls within the standard criteria of 3°C, which means that the river can still allow growth and propagation of aquatic species.

In terms of aquatic life in the river, the respondents observe the dwindling supply of fish for their daily consumption. According to them, the fish species that can be found in the Naga river includes talusog/snakehead murrel (*Chiana strata*), puyo/climbing perch (*Arabas testudineus*), and tilapia

(*Oreochromis niloticus/Tilapia nilotica*). These are the most abundant species in the 11 riverside barangays closely followed by karpa (*Aristichthys nobilis*) and bakla (*Glossogobius giuris*). The species which can only be found in barangay Balatas and Sabang were clams (*Corbicula manilensis*) and white shrimps (*Penaeus vannamei*). According to the study, other forms of aquatic life thrive in the Naga river. These are the planktons or plants that supply dissolve oxygen in the water.

Figure 1. Impact Flow Diagram of the of Households and Business Activities on the Naga River.



Relations of Waste Management Practices to Water Quality and Biological Integrity

Based on the data above, it can be said that waste management practices of households along Naga river substantially affected its water quality. These indications are manifested in the mid-stream section (sampling station 4) of the Naga river where it is highly residential and commercial in terms of land use. The practice of throwing solid waste and discharging liquid waste in the river enriched its waters with organic and inorganic materials increasing the BOD level. This coincides with the assertion of Orozco (2007) that the primary source of pollution within the river comes from the residential and commercial/business areas in the form of liquid waste. The BOD increases further down the river, with the lowest levels in its headwaters and highest in residential and commercial areas.

On the other hand, the decreasing pH of water in the Naga river had resulted in the dwindling population and aquatic organisms' growth in the river. A lower pH value constrains most aquatic organisms' lives since pH level 8.0 is ideal for aquatic life, while bacteria can survive in pH levels as low as 2.0. (NASA, n.d.).

Vanderlugt (2007) cited that much of river acidification is the direct result of human pollution. Other than household wastes, pollution from accidental spills, agricultural run-off and sewer overflows can also change the pH (Nkwocha, E. E., et al., 2011).

The comparative data of 2002 – 2006 indicate a trend of improvement in the Naga river's water quality in terms of other parameters. However, there is still observable deterioration of water quality, which can be attributed to the continued practice of the households of throwing and discharging 34% and 78% of their solid and liquid wastes respectively directly into the river. In this period, water quality is classified as Class C at six sampling stations (1,2,3,6,7 &8) and Class D at sampling stations 4 and 5. According to the DENR Administrative Order No.34, class C is suited for propagation and growth of fish and other aquatic resources; recreation, e.g. boatings; and manufacturing processes. Simultaneously, class D is suited to agriculture, irrigation, livestock, watering, and cooling.



CONCLUSION

The present study has documented that the urban environment specifically its practices relating to waste disposal is responsible for the degradation of natural resources. Naga river became a catch basin of both solid and liquid wastes primarily from the hundreds of households located along its banks. This contributed to the pollution of the river affecting its water quality and biological integrity. The study also revealed that the size of built up areas and the household population along the Naga river is not necessarily proportional. It was land usage and the large number of household population along the Naga river was found to have higher adverse impacts on the water quality and current state of the Naga river.

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AN OVERVIEW OF GOVERNMENT'S MEASURES TO INDIAN ECONOMY DUE TO CORONA VIRUS- 19

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INTRODUCTION

Corona virus disease 2019 first identified in Wuhan, in China, in December 2019 and since then having spread globally, has been recognized as a pandemic by the World Health Organization (WHO) on 11 March 2020. India is widely affected by this pandemic. Taking into consideration its severe intensity, seen in the context of India having the highest rate of density population in the world, the Governments, both at Union and State levels, commenced necessary actions on war footing to prevent the spread of this pandemic. It was all the more so when it is known that this deadly disease has no medicinal cure. The effect of Corona virus is badly felt and noticed in the world's most developed countries India was bound to be affected not only because of its domestic slowdown but also because of international recession. Learning the lessons from other Countries India put all its machinery and material into motion to curb and/or prevent the disease. Prime Minister of India was declared to be under lockdown from the midnight of 24.03.2020, and the same continues to be so till now or at least till 31.05.2020, and lockdowns by some of the state governments. Resultantly, everything and every activity, barring the activities relating to essential supplies came to a complete grinding halt. Though the improvement in the environment due to such a lockdown was a silver lining, however the toll on economy due to this lockdown is too early to be estimated.

The slowdown in demand, closure of production activities, fall in the global price of crude oil, ban on foreign trade, price decrease in the different restrictions on the aviation industry as also on tourism, amongst others, are bound to exert downward pressure on the inflation, thus adversely affecting the economy Corona virus had its impact in the industry in general,

which has seen, not only cutting the salaries but also laying off its employees. The hotels are vacant and airlines have closed their wings. The live events industry has also estimated a loss of more than Rs. 3000 crores. The manufacturing, an important part of any economy, suffers from total lack of clarity. Lockdown has put great stress on the supply chains of essential commodities, and therefore, many of the Indian companies have focused on the production and supply of essential items only, thereby stopping all other production activities, thereby bringing down the production graph. Likewise, the other sectors like agriculture being the primary sector and the tertiary sector are also not free from its impact. There is hardly any manpower available for the agricultural purposes in different states. Lockdowns have manifestly made the farmers difficult to take their produce for sale to the markets. Informal sector of India, the backbone of its economy, will be hardest hit in view of economic activities coming to a total standstill. These lockdowns and restrictions on commercial activities and public gatherings are necessarily likely to strongly impact domestic growth.

To minimize the effect in the economy caused by the COVID -19 outbreaks, the Union Finance & Corporate Affairs Minister, announced several important relief measures taken by the Government of India, especially on statutory and regulatory compliance matters related to several sectors. The Central Government, amongst others, announced much-needed relief measures in areas of Income Tax, GST, Customs & Central Excise, Corporate Affairs, Insolvency & Bankruptcy Code (IBC) Fisheries, Banking Sector and Commerce, intended to boost the economy.



MEASURES TAKEN BY THE INDIAN GOVERNMENT

The Central Government, has taken the following decisions in these directions:

- 1) The date for income tax returns for financial year 2018-2019 was Extended from 31.03.2020 to 30.06.2020.
- 2) The date for Aadhaar-PAN linking to be extended from 31.03.2020 to 30.06.2020.
- 3) GST/Indirect Tax -Those having aggregate annual turnover less than Rs. 5 Crore can file GSTR-3B due in March, April and May 2020 by the last week of June, 2020, without any interest, late fee, and penalty. Others can file their returns due in March, April and May 2020 by last week of June 2020 but the same would attract reduced rate of interest @9 % per annum from 15 days after due date. However, no late fee and penalty shall be charged, if the compliance is made before 30.06.2020.
- 4) Date for filing GST annual returns of financial year 2018-2019, which is due on 31.03.2020 has been extended till the last week of June 2020.
- 5) Due date for issue of notice, notification, approval order, sanction order, filing of appeal, furnishing of return, statements, applications, reports, any other documents, time limit for any compliance under the GST laws where the time limit is expiring between 20.03.2020 to 29.06.2020 shall be extended to 30.06.2020.
- 6) Payment date under Sabka Vishwas Scheme shall be extended to 30.06.2020. Further no interest shall be charged if the payment is made by 30.06.2020
- 7) Relaxations have been provided for 3 months to the debit cardholders to withdraw cash for free from any other banks' ATM for 3 months, along with waiver of minimum balance fee, reduced bank charges for digital trade transactions for all trade finance consumers.
- 8) No additional fees shall be charged for late filing during a moratorium period from 01.04.2020 to 30.09.2020, in respect of any document, return, statement etc., required to be filed in the MCA-21 Registry, irrespective of its due date.
- 9) a company have not been able to hold even one meeting, the same shall not be viewed as a violation.
- 10) Requirement to create a Deposit reserve of 20% of deposits maturing during the financial year 2020-21 before 30.04.2020 shall be allowed to be complied with till 30.06.2020.
- 11) An additional time of 6 more months has been allowed to newly incorporated companies required to file a declaration for Commencement of Business within 6 months of incorporation.
- 12) Non-compliance of minimum residency in India for a period of at least 182 days by at least one director of

every company, under Section 149 of the Companies Act, shall not be treated as a violation.

13) Due to the emerging financial distress faced by most companies on account of the large-scale economic distress caused by COVID 19, it has been decided to raise the threshold of default under section 4 of the IBC 2016 to Rs 1 crore from the existing threshold of Rs 1 lakh. Relief for Poor Sector

The Indian Government, announced a Rs 1.7 lakh crore relief package aimed at providing a safety net for those hit the hardest by the Covid-19 lockdown, along with insurance cover for frontline medical personnel. About 800 million people are expected to get free cereals and cooking gas apart from cash through direct transfers for three months. The following are the measures-

- 1) Ujjwala beneficiaries to get free cooking gas (LPG) cylinders in next three months.
- 2) Collateral-free loan doubled to ₹20 lakh to 63 lakh women self-help groups.
- 3) Government will pay EPF contribution, both of employer and employee, for 3 months for all those establishments with less than 100 employees out of which 90% earn less than ₹15,000 per month.
- 4) Ex-gratia of Rs.1,000 shall be granted to 3 crore poor senior citizen, poor widows and poor disabled.
- 5) Every MNREGA worker to get hike of Rs. 2,000.
- 6) Health workers to get medical insurance cover of Rs. 50 lakhs.
- 7) On 09.04.2020, the Indian Government approved a COVID-19 package worth Rs 15,000 crore to build on health infrastructure till March 2024, to be given to state governments and Union Territories to develop COVID-19 hospitals, purchase of personal protective equipment, setting up of laboratories, procurement of essential medical supplies, medicines and consumables, and for strengthening health systems.

MEASURES TAKEN BY THE RESERVE BANK OF INDIA (RBI)

The RBI, also announced a Regulatory package to mitigate the burden of debt servicing brought about by disruptions on account of COVID-19 pandemic and to ensure the continuity of viable businesses. These includes the followings-

- 1) All commercial banks (including regional rural banks, small finance banks and local area banks), co-operative banks, all-India Financial Institutions, and NBFCs (including housing finance companies) ("lending institutions") are permitted to grant a moratorium of three months on payment of all installments falling due between 01.03.2020 and 31.05.2020. The repayment schedule for such loans as also the residual tenor, will be shifted across the board by three months after the moratorium period. Interest



shall continue to accrue on the outstanding portion of the term loans during the moratorium period.

2) In respect of working capital facilities sanctioned in the form of cash credit/overdraft ("CC/OD"), lending institutions are permitted to defer the recovery of interest applied in respect of all such facilities during the period from 01.03.2020 upto 31.05.2020 ("deferment"). The accumulated accrued interest shall be recovered immediately after the completion of this period.

3) In respect of working capital facilities sanctioned in the form of CC/OD to borrowers facing stress on account of the economic fallout of the pandemic, lending institutions may recalculate the 'drawing power' by reducing the margins and/or by reassessing the working capital cycle.

4) Wherever the exposure of a lending institution to a borrower is Rs. 5 crore or above as on 01.03.2020, the bank shall develop an MIS on the reliefs provided to its borrowers which shall inter alia include borrower-wise and credit-facility wise information regarding the nature and amount of relief granted.

5) On 27.04.2020, RBI decided to open a special liquidity facility for mutual funds of Rs.50,000 crores which shall be used by banks exclusively for meeting the liquidity requirements of mutual funds by extending loans, and undertaking outright purchase of and/or repos against the collateral of investment grade corporate bonds, commercial papers (CPs), debentures and certificates of Deposit (CDs) held by mutual funds.

6) In view of the demands of the general public regarding opening of certain activities as also considering the condition of COVID-19 in particular areas and in order to improve the deteriorating condition of the economy, the Central Government and/or State Governments have announced certain relaxations from time to time in order to restart the economic operations, particularly relating to healthcare, agriculture and allied, as also small mohalla shops dealing with books and electric fans, services by electricians, plumbers or water purifiers etc.

CONCLUSION

The Corona Virus pandemic may directly and indirectly impact on the Indian economy. The level of GDP may further fall, more so when India is not immune to the global recession. Infact, it is believed that India is more vulnerable, since its economy has already been ailing and in a deep-seated slowdown for several quarters, much before the COVID-19 outbreak became known. The Prime Minister of India has already spoken of setting up an Economic Task Force to devise policy measures to tackle the economic challenges arising from COVID 19, as also on the

stability of Indian economy. However, the concrete plans would have to be kept in place to support the economy and its recovery. As the disruption from the virus progresses globally as well as within India, it is for us to forget, atleast for the time being, all talking only about economic recovery, and instead join hands whole heartedly to tackle the outcome of COVID-19.

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ACHIEVEMENT IN MATHEMATICS AMONG IX STANDARD STUDENTS IN TRICHY DISTRICT

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ABSTRACT

Acquiring Mathematics knowledge is an important factor in the achievement of the students. Learning Mathematics provides students with skill to analyze, explain, predict and find methodological solution to the problems they might face. Some students may have poor capacity to catch which may be due to several factors such as family background, economic status, education of the parents etc. Individual difference also play vital role in learning Mathematics. Achievement in Mathematics differs from type of schools, gender and locality etc. The present article aims at assessing the achievement in Mathematics among IX standard students in Trichy District. A survey method has been adopted with 90 samples from various type of schools. The investigator collected achievement score of Mathematics of IX standard students from selected schools. By applying proper statistical techniques it is proved that there is significant different in the study.

KEY WORDS: Achievement, Mathematics, IX Standard Students

INTRODUCTION

Mathematics is a basic subject in the curriculum upto high school level. It is the basic of all scientific activities. A Mathematics student develops his capacity of generalize from given statements, Critical observance of facts, functional thinking, logical reasoning, convergent and divergent thinking etc.

The National Policy on Education (1986) points out, the important of Mathematics in general education and suggests that "Mathematics should be visualized as the vehicle to train a child to think, analyses and articulate logically".

Therefore, it is imperative to find out the achievement in Mathematics among high school students. This reminds the investigator to select the problem as, "Achievement in Mathematics among high school students in Trichy District".

REVIEW OF RELATED LITERATURE

Ritu Chandra and Dr. (Prof.) Sheikh Azimmudin study on the "Influence of Intelligence and Gender on Academic Achievement of Secondary School Students of

Lucknow City". In this Research, Researcher finds out the influence of gender on academic achievement of secondary school students and the influence of intelligence on academic achievement of secondary school students. For this research, Researcher used survey method and collected 614 samples (Male 358, Female 256) applying multistage sampling method. Researcher selected G.C.Ahuja Group Test of Intelligence for assessment of Intelligence by Dr. G.C.Ahuja (2008) and Socio-economic Status scale for assessment of (SES) Socio-economic status by Dr. Meenakshi (2004) were used as a tool. Finally the result of the study shows that the High IQ child will score better than the Low IQ child. Low IQ child will be a slow learner. A child with high IQ is fast learner. He will understand, grasp and learn the concepts in a better way. Academic performance needs intelligence.

Hafiz Muhammad Waqas Rafiq and four others study on I "Parental Involvement and Academic Achievement; A Study on Secondary School Students of Lahore, Pakistan". In this Research, Researcher find out the extent of parental involvement in academic activities of



their children studying in secondary level classes and the extent of academic achievement of children studying in secondary level classes. Researcher used survey method and collected 375 samples applying multistage sampling method. Researcher selected a Questionnaire tool and finally Researcher found that - of the respondents whose parents were moderately involved in their academic activities, their relative majority (48.6%) also moderately performed academically. It led to conclude that higher and moderate level of parental involvement in their children's academic activities correspondingly contributed in higher and moderate level of academic activities of their children respectively. Hence the analysis of data and chi-square test upheld the research hypothesis that: More the parental involvement in their children's, academic activities, the higher the level of academic achievement of children.

K. Premalakshmi in her study "*STUDY HABITS AND ACADEMIC ACHIEVEMENT OF HIGHER SECONDARY STUDENTS*" to find out the level of Study Habits of Higher Secondary Students and the relationship between study habits and academic achievement of higher secondary students. For this research, Researcher used survey method and collected 525 samples applying multistage sampling method. Researcher selected personal Data sheet and a Questionnaire tool and finally Researcher found that - the variable Study Habits is contributing for the Academic Achievement.

Deepa Franky and S.Chamundeswari study on "*Psycho-social correlates of academic achievement of students*", in this Research, Researcher find out the adjustment pattern And socio-economic status influences the academic achievement of students. Researcher used survey method and collected 96 samples applying multistage sampling method. Researcher selected the Questionnaires tool, namely, Adjustment Pattern Inventory (Bhattacharya and others, 1967) and Vasanthi s Adaptation of Kuppuswami s Socio-Economic Scale (Vasanthi, 1991) and finally Researcher found that - that though adjustment pattern and socio-economic status are significantly positively correlated with each other, adjustment pattern does not correlate significantly with academic achievement. On the other hand, socioeconomic status and academic achievement are positively correlated with each other significantly.

NEED FOR THE STUDY

Mathematics is regarded as the mother of all science. Mathematics is the only subject that encourages and develops logical thinking. It enables the students to discriminate between essential and non-essential. A major reason for children doing less

well in school mathematic seems to be the way the subject in taught in school in India at the primary level. The class room teaching is completely diverted form their everyday and knowledge. The scientific development not understands unless we have a mathematic bent or some basic knowledge of subject.

Applied Mathematics is necessary in all walks of life. Even layman requires some amount of mathematics to live in this world. Even if one does not study mathematics as a school discipline one will have to make use of it in everyday transaction. In buying and selling, in work, in play, in entertainment, etc., require application of Mathematics.

Mathematics today is the key to learning of science. Mathematics has values called utilization, disciplinary and cultural values of education. The main reason for studying mathematics to an advanced level is that is interesting and enjoyable. People like its challenge, its clarity and the fact that you know when you all right. The solution of a problem has an excitement and satisfaction.

OBJECTIVES OF THE STUDY

- To study the achievement in Mathematics among IX Standard Students with regard to type of the schools.
- To study the achievement in Mathematics among IX Standard Students with regard to gender.
- To study the achievement in Mathematics among IX Standard Students with regard to locality.

HYPOTHESES OF THE STUDY

1. There is no significant difference between achievement in Mathematics among IX Standard Students with regard to type of the schools.
2. There is no significant difference between achievement in Mathematics among IX Standard Students with regard to gender.
3. There is no significant difference in between achievement in Mathematics among IX Standard Students with regard to locality.

METHODOLOGY AND SAMPLE SOURCES

The Investigator has adopted normative survey method for this study. All the students IX standard in the district of Trichy were considered the population of this study. A sample of 90 students was selected from different schools in Trichy District by using stratified random sampling method.

Tool

'Mathematical Achievement Scale' (2020) was constructed and validated by the investigators.



TESTING THE HYPOTHESES
Hypothesis-1

There is no significant difference between achievement in Mathematics among IX standard Students with regard to type of the schools.

Table-1: Difference between the achievement in mathematics among IX standard students with regard to type of the schools

Categories	N	Mean	SD	t-value	Remarks
Govt.	30	39.75	6.63	0.16	NS
Govt. Aided	30	39.61	7.84		
Govt.	30	39.75	6.63	5.76	S
Matriculation	30	21.43	5.50		
Govt. Aided	30	39.61	7.84	0.30	NS
Matriculation	30	21.43	5.50		

From table -1, the t-value is found to be 0.16 and it is lower than the table value of 1.96 at 0.05 level. It is concluded that there is no significant difference between government and government aided school students in their Achievement in mathematics.

The calculated t-value 5.76 which is significant at 0.05 level. It is concluded that there is a significant difference between govt. and matriculation school students in their Achievement in mathematics.

The calculated t-value 0.30 which is not significant at 0.05 level. It is concluded that there is no significant difference between govt. and

matriculation school students in their Achievement in mathematics.

Therefore the null hypothesis is rejected. It is concluded that there is a significant difference between the achievements of Mathematics among high school students with regard to type of the schools.

Hypothesis-2

There is no significant difference between achievement in Mathematics among IX Standard Students with regard to gender.

Table - 2: Difference between the achievement of Mathematics among IX standard students with regard to Gender

Categories	N	Mean	SD	t-value	Remarks
Male	47	33.86	4.27	0.17	NS
Female	43	33.93	4.09		

From table-2, the calculated t-value 0.17 which is not significant at 0.05 level. Therefore the null hypothesis is accepted. It is concluded that there is no significant difference between Male and Female students in their achievement in mathematics.

Hypothesis-3

There is no significant difference in between achievement in Mathematics among IX Standard Students with regard to locality.

Table - 3: Difference between the achievements of Mathematics among IX standard students with regard to locality

Categories	N	Mean	SD	t-value	Remarks
Rural	40	33.63	4.39	1.28	NS
Urban	50	34.30	3.83		

From table-3, the calculated t-value 1.28 which is significant at 0.05 level. Therefore the null hypothesis is accepted. It is concluded that there is no significant difference between rural and urban students in their achievement in mathematics.

FINDINGS OF THE STUDY

1. There is no significant difference between government and government aided school student in their achievement in Mathematics.



2. There is significant difference between government and Matriculation school student in their achievement in Mathematics.
3. There is no significant difference between government aided and Matriculation school students in their achievement in Mathematics.
4. There is no significant difference in achievement in Mathematics of IX standard students in terms of gender.
5. There is no significant difference in achievement in Mathematics of IX standard students in terms of locality.
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CONCLUSION

The present study provides to know the achievement in Mathematics among IX standard students. After finishing the statistical analysis Researcher has reached in the generalization. The final results reveal that there is a significant difference between Govt.and Matriculation schools students in their achievement in Mathematics. There is no significant difference between other type of schools students in their achievement in Mathematics. Also it reveals that there is no significant difference in achievement in Mathematics among IX standard students in terms of gender and locality. This study will help the teachers to Plan and improve the achievement in Mathematics among IX standard students.

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HUMAN LIBRARY: INTRODUCTION, ORIGIN, CONDITIONS, PROCESS

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ABSTRACT

Did you ever think that a human book could replace books? Did you imagine books could communicate? Most people's answers don't smile. But this is a time of great significance for the establishment of a human library. Denmark's journey began in Copenhagen, which today has been established in more than 85 countries of the world. This helps people to face challenges, overcome social and cultural bonds, to remove beliefs, and take a positive attitude. Prejudice is removed. There are many benefits. What are the conditions and conditions of the establishment of a human library? What is its process? What is the root of it? What is its usefulness? You will find answers to too many questions.

KEYWORDS: Human Library, Human Books, Conditions, process.

INTRODUCTION

Have you heard books, e-books, and audio books, but have you ever heard of books that can communicate?

There must be a man in the book. The human library where humans take the place of the book and communicate with the reader. This idea may have been new, but the human library was first opened in 2000 in Copenhagen, Denmark. It is a global organization. A human library is a place where communication is a positive approach. Dialogue attempts to challenge and remove stereotypes, beliefs, and prejudices where the reader is credited only with live books as human beings and answers through conversation and discussion. Harshad Dinkar Fad, founder of the Human Library of Hyderabad explains that the human library is now active in over 85 countries.

The idea is similar to the usual and old library, and readers with the same idea should read the book and discuss it and share it. Some people are connected to the human library. Like books, living books in human libraries discuss the same subject matter. Readers interact with a single living book or group.

What should be in the Human Library? Anyone can participate in a living book in the human library. They should have a special story to share and tell. Living books are human beings who have suffered in any way in life, such as caste, age, religion, lifestyle, etc. He must have faced it. Such live books share their stories with other living readers like him who share similar ideas with people who are

similar to those who visit such a human library. And they also take them on loan. Through interaction with each other, the communities of the society share their views and challenge them on various subjects.

Such human libraries are first examined in the form of live books, which are serviceable and participating, and the facts of their cases, events, stories are known. Most of the time, it has been a great success. People are getting more involved. And readers don't give wrong opinions about living books and return to developing good attitudes and even be friendly whenever needed.

WHAT IS A HUMAN LIBRARY?

Human Library is a method where people are connected through communication. People are encouraged to adopt new ideas in life, remove prejudices and adopt good approaches. A human library works just like a normal library. But the difference is the books. Books are the living people in the human library. Whereas the library has only books. Both libraries have the same reader. The human library can also borrow live books. In terms of the nature of the human library, it is like a mobile library.

The Human Library helps remove certain social, cultural, caste beliefs, community stereotypes and enables readers to be able and capable.



THE ORIGIN AND DEVELOPMENT OF THE HUMAN LIBRARY

The "Stop Violence" organization was started by young and idealistic youth. The organization was founded by Dany Abergel and his colleagues. The goal of the organization was to raise awareness and to bring together the Dennis youth and prevent violence using peer-group education. Violence was promoted in 2000 by the program's director, Mr. Leif Skov. The Human Library was established at the Roskilde Festival event to prevent violence, increase tension and develop relationships. The Human Library was founded with 75 books. It has been concluded that keeping many people in the same place for a long time at the same time makes them read each other. First of all, what are the titles of each other? He asks. The first attempt to establish a human library was found in Denmark after 2000. It was then widely spread. It was established in Europe, America, and Australia.

The Human Library was established with some good objectives as follows:

- (1) More acceptances - social and mental community engagement.
 - (2) Connect people to their reality.
 - (3) Beliefs, stereotypes, prejudices, social customs and challenges, and attitudes and innovation.
 - (4) Giving a platform to socially discredited communities and groups to speak.
- Research by a high school student has shown that human libraries have proved to be very effective in reducing prejudices and stigmas, both socially and socially.

From a learning point of view, the specific education issue can be framed as follows:

- (1) Awareness of the existence and challenges of courage. Stigma, bonds, beliefs, etc.
- (2) Remove misconceptions and misunderstandings in people.
- (3) Increase the accuracy and skill of the news media.
- (4) A sense of mutual help and a sense of respect, teaching values of humanity.
- (5) Self-awareness and self-purification of yourself by understanding the qualities and weaknesses in themselves
- (6) Develop a tendency to fight against human rights and rights when they are exploited.

This mission should thus provide them with the role of education through school and non-school education or social programs and vocational training, and to develop better adaptability with the future.

HUMAN LIBRARY CONDITIONS

- (1) **Reader:** A person who is responsible for the title name system, for the people who are responsible. Like youth, people of all ages, school students.

- (2) **Library Building:** Space for Human Library. Anyone can be straightforward.

- (3) **Reading Experience:** An interpreter is assigned help when they do not know each other's language.

- (4) **Response Form/ Return/ Assessment:** Learn and learn in human library programmes? What was the experience? Information, responses, borrowed book returns, assessment of services received at the Human Library.

- (5) **Librarian:** A member of the organizing team in the event by a librarian. Their job is, to be honest, friendly, patient, and strengthen their relationship.

- (6) **Credit Desk:** A place equipped with information and material, where readers give their information, where live books are found, where library passes are filled, where information about the location and selected book and seat are available.

- (7) **Catalog:** Collection in the human library can be traced by title, where information about a short description, title, photo, opinion is collected in a short time where the book's location, duration, information, and key works are indicated and options.

- (8) **Living Book:** Readers visiting the Human Library sometimes share, discuss, and represent the community of people who are facing religious, racial, sexual, gender, business, etc.

- (9) **Library Pass:** There is a small piece of paper. This includes the registration of visitors to events at the Human Library. The library pass contains the reader's name, address. The slot for borrowing books, title, start time, and finish time, is also mentioned in the allotted time and room.

- (10) **Reading Experience:** Reading a living book is for a labour session. It is given a maximum of 10 minutes. The time frame is 30 to 50 minutes. A book is a reader or less than 3 readers. The program is as follows per session for reading a book.

- (11) **Live Dictionary:** When a reader is to read a live book, an interpreter is required when he does not know the language of the book. This helps the reader to understand the language of the book.

- (12) **Return Desk:** When time is up, the reader returns the book to the desk. The desk is a real desk that is not a library. The reader's library pass and compensation are not only registered on the desk and recommended.

- (13) **Assessment/ Feedback Form:** A form is filled out before the reader returns. In which you have to respond to library services and a summary of your experience.

HUMAN LIBRARY PROCESS

The human library is a good medium for communication and communication with each other. The reduction in the restrictions, customs, prejudices of caste, gender, religion, society, etc. is the best



prediction of this system. The structure of the human library is made to be understandable to all. This is what libraries do. A catalog is a very important work in book selection for participants and readers. The character of orthodoxy is mixed up with political and provocative intent. These live books are personal experiences. (Little et al 2011, 17). This method is not designed to write descriptive and text. People are not meant to change prejudices, opinions, and beliefs, but they are also based on them. The principle of open and non-violence is based on the principle of news. It is intended to remove and challenge the fear that certain communities or groups or minorities are taking part in. Living books also help in the human library. But he is not an actor. It represents social, sexual, religious, traditions, culture, human communities. Human library partnerships provide a good platform or platform to those suffering from prejudice. Where they can speak their voice, face challenges. They face each other as living books (Little et al 2011, 18).

CONCLUSION

The establishment of a human library is a challenge to the attitude of people about life. The human library has made people connect. We have removed prejudices among the people. I have been challenged. We have challenged and reduced the restrictions of caste, gender, religion, society, etc., and have also reduced them. We have developed the strength to fight courageously when human rights and rights are exploited. It is the self-awareness to understand its features and weaknesses. Thus, because of the overall human library, it is very useful for people.

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INTERNET DRUG TRADING: NATIONAL REVIEW OF NEW ONLINE DRUG MARKETS FOR YOUNG PEOPLE

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ABSTRACT

Illicit drugs are marketed both via dark web platforms and social media, but there are also research reports buying these drugs online. This study is intended to analyse the risk factors for the purchase of online illicit drugs. We assumed that social interactions, low levels of self-control, and impaired mental health would be correlated with online opioid sales following criminological and addiction analysis research. Moreover, online drug sales are expected to be related to low self-control and daily drug consumption. Participants in this nationwide study were aged 15 to 25 years and lived in Germany (N=1,732) and France (N=1,732). Measures of impulsivity, ability sensitivity, social association, psychological tension, and repetitive activity (drinking, gambling, and Internet use) predicted online drug use. 4% of German and French respondents reported buying drugs online of which, 63% did so via social media services. Online opioid purchases were associated with lower self-control, elevated social anxiety, heavy gambling, and Internet use, as shown by multinomial logistic regression and binary intervention regression models. It was not a risk factor to have online friends, but close social links with offline friends served as a security factor. The results indicate that more attention should be paid to mainstream social media services as a source for buying drugs as there are many psychological and self-control issues among online drug consumers.

KEYWORDS: *drug abuse and dependence; portrayal of drug use in the media; prevention; intervention; adolescent; young adult; technology; Internet; online social media; marketing; social marketing; message; Facebook; Twitter; Social Learning Theory; Media Practice Model; Facebook Influence Model*

INTRODUCTION

Like technology in general, social media has both an upside and a downside. When it comes to social media's effect on teens, these upsides and downsides are especially significant.

On the plus side, platforms like Facebook, Twitter, Instagram, and Snapchat can be a lifesaver for teens who feel isolated or marginalized. These groups include LGBTQ teens and teens struggling with mental health issues. In addition, researchers have found many positive effects of social media on friendships.

However, the frequent use of social media among teens and young adults has many fewer positive consequences. These include cyberbullying, negative self- and body-image, social media addiction, and less time for healthy, real-world activities.

Drugs are also sold on both dark websites and social media, but online drug purchases are also undergoing analysis. Drug vendors also use sophisticated technology to increase profits and mitigate risks. While a range of reports has centered

on the procurement of opium drugs by online pharmacies and cryptocurrency markets, nothing has been written about how smartphone-enabled social networking and messaging applications ("apps") are utilized throughout the drug business, despite increased media attention. This paper explores the aspects of which these apps (Snapchat, Instagram, and WhatsApp) were used for drug transfer and availability.

METHODS

Three techniques were used to gather data: a worldwide internet survey of 47 opioid patients currently using or exploring drug access applications; 'rapid interviews' (n=10) with a comparable population; and in-depth interviews (n=10). The main themes were the possible advantages and risks associated with mobile sales, with a special emphasis on innovative dispensing and procurement.



RESULTS

Apps are a fast and convenient way to pull together buyers and sellers. They are also a valuable intermediary between crypto-exchanges and street trading, providing a 'secure' function and way to verify products without technical knowledge. In new and complicated ways, mobile phones are being used, for example on social networks, to endorse drugs and to communicate and arrange transactions with established vendors as encrypted messaging systems. The key concerns were about potential law enforcement exposure and the legality of drugs.

DISCUSSION AND FUTURE CONSIDERATION

Our research was cross-sectional and restricted to two countries. Future research in other countries should further investigate this concept. While our risk and safety models and mediation research offer a strong theoretical foundation, the causal relationship needs to be confirmed in prospective longitudinal studies. In addition, it is important to explore better impulsivity assessments. The strength of the study was that two national samples were used, but further testing is needed in other cultures and contexts.

This is one of the few studies focused on illicit drug trade, a new and risky issue behaviour that cannot be monitored online. Online drug buyers have many self-control and mental health issues and selling drugs online will make their situation worse. They are especially quick to be tempted by social media. In addition, a greater focus can be placed on the behaviour of young people on traditional social media services.

The policy and implementation consequences underline the need to speak to young people about their use of social media, as young people spend a significant amount of time online. Social networking sites are related to a broad variety of deviant behaviours, including cannabis addiction, which can be used for prevention initiatives that pin down young people's online behaviour. The ubiquitous availability of illegal drugs is a wider concern that needs to be addressed with enforcement action especially online. Studies show that young people who use drugs online need clinical strategies and support.

There is a need to promote face-to-face experiences among young people, as good offline social interactions can protect against drug-related risks and accidents. To improve their safety factors and reduce risks, robust school-based drug use programs should include components that address the sale of opioids online.

CONCLUSION

Although "social procurement" by friends is still preferred, and there is some uncertainty regarding app-mediated procurement, our data show that apps are fast becoming a viable drug option. Apps may offer an easy-to-use portal that links users with suppliers of commercial drugs that are otherwise difficult-to-access. Providing data that demystifies the common-sense belief that smartphones are healthy and that this "visual" opioid economy promotes better consumption habits will reduce possible harms.

CONFLICT OF INTEREST STATEMENT

This paper does not contain any conflict of interest.

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ELEMENTS OF FOLK SQUARE LAUGHTER IN THE FIRST UZBEK NOVELS

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ANNOTATION

In the article, the elements of folk laughter in the first Uzbek novels were analyzed by the example of Abdulla Kadiri's works "Days Gone By", Abdulhamid Chulpan's works "Nightandday". On this basis, they are based on the reflection of the views and forms of folk field laughter.

KEYWORDS: novel, Uzbek novel, people's laughter, field laughter, dialogue, laughter art, genre, plot, tradition, classicism.

DISCUSSION

Such works of Abdulla Kadiri's as "Days Gone By", "Scorpion from the Altar", Abdulhamid Chulpan's "Nightand day" are the first examples of Uzbek novels and attract special attention with their manifestation of the traditions of world novels in terms of poetic construction.

M.Bakhtin specially studied the traditions of world novels particularly notes that the people's square served as the foundation for the formation and development of the novel genre in the literature of the art and culture of laughter.[1] If the Uzbek novels are observed in this respect, it is also observed that some elements of folk laughter have a special place.

It is known that in the literary studies of the period of world classicism, all literary genres are theoretically divided into three:

1. "High" genres. This series included such genres as tragedy, epic, ode, in which the actions of state affairs, the king and representatives of the ruling classes are depicted in a tantanal style. Tragedy is considered to hold the highest position in the expression of nobility and high ideals.

2. "Medium" genres. This includes the genre of drama, which reflects the problems of everyday social life of representatives of the middle category.

3. "Low" genres. Genres such as comedy, satire, epigramme, which are reflected in funny landscapes by representatives of the third category in everyday life or trivial events outside the life of people, are considered to belong to the same species.[2]

Russian novelist Bakhtin emphasizes the fact that the unstable form, variable content, multi-lingual fictional features inherent in the novel originate from the fact that the events in it occur exactly in the comedy layer. In his opinion, "modern reality, flowing like a river, fan, "low" of the present time, this "primitive" and "life without plagiarism" was only a subject of images of low genres. But he was, first of all, the subject of the main image of the boundless and rich front, which he called the "culture of folk laughter"... We need find the original roots of the novel in folklore exactly from here – folk laughter".[3]

M.Bakhtin's theoretical views on the "culture of people's square laughter" and its impact on the development of written prose, the founder of French Renaissance literature F.Rable appeared in the process of a candidate thesis entitled "In the history of the Rable realism", dedicated to the research of the rat creativity. After that, the scientist emphasized that the roots of the culture of people's laughter "Europe" in the monograph titled "Fransua Rable creativity and the people's culture of the middle ages and the period of awakening go to the "serious-funny" genres mentioned in the ancient Greek theoretical literature, mims, parables, bouquets, pamphlets, memoirs, socrates, lukian dialogues enter its composition, on the basis of which[4] if the problems of social life in Uzbek literature on the basis of the same opinions, more precisely, if we look at the formation of the novels of Abdulla Kadiri "Days Gone By", "Nightand day" of the Chulpan, described in the broad epic coverage of polygamy and the scourge of expose, we can clearly



observe the powerful exposing and condemning task inherent in the traditions of the people's square laughter culture. Although the polygamy and expose problem, which are integrated into the plot of both these novels, a tragedy in the fate of two or three people, or as a result of which the vision of the head of a family is seen as a family problem, in fact it is revealed as one of the main causes of the spiritual destruction of because the family is the most important part of society. Because families peace, tranquility, fullness play an important role in the development of society. In this sense, the events that make up the main plot of the novels "Days Gone By" and "Night and day" create dramatism. The events in it are opened to the stage not only of a particular person, but of many, as a common concern of the people.

As noted by M. Bakhtin, "modern reality, modern times, the subject of images of low genres were also the subject of the main image of the "culture of people's square laughter". In order to describe the socio-political and household problems inherent in his time, A. Kadiri intended to bring the historical and modern environment, the heroes living in it closer together. Therefore, at the beginning of the "Days Gone By" say goodbye to see it "work back to the mosaic. Accordingly, the topic is recorded through a separate comment, which I have identified from the past, the days of the near past, the most dirty, black days of our history, from the later "Khan times". [5]

The writer used the historical and modern environment, the past and today, exactly as a means of folk laughter, in order to dispel the distance between the heroes who lived in it. In particular, this situation is clearly reflected in the process of laughter-based conversations between Uzbek oyim and his son Otabek, Qovoq devona and those in the teahouse. These conversations are indicative of writer's comedy (laughter) about the social-household life associated with the past.

Uzbek oyim's thinking is characteristic of the past, the older generation, and the modern thinking of Otabek is also evident from their dialogue:

- I did not look after with this hope you... You instead of raising our off spring, you beat the ground and smeared it. We did not think that you would leave such a stupor to you Margilan andi, obscene... if it remains for yourself to calculate the same margilianian to your wife, even though you are ashamed!...

The scallops also warmed up:

- What if there is no wife, after all?!

- Andi with brow, a pair of glasses!

- Andi, what are you saying?..

- Andi... andi... itself is Chinese, what a prom... she is from the Kalmyk... A tribe of gypsies, if you do not understand... [6]

This dialogue causes not only the father, but also his father Yusufbek Haji, who is watching them, to laugh with embarrassment. Uzbek oyim's "searching for dirt under the nails and shouting for proof of her claim" leads to their "laughing mood". Even Yusufbek Haji comes to his eyes Young from a hard laugh.

Through the presented dialogue, it becomes clear that the conflict between old and the attitude to the news, backwardness and forwardness in the opinion of Uzbek oyim has formed the basis for an exposing laugh. Again this laughter is remarkable for having its own socio-material foundations.

In the novel, writer provides an opportunity to look at the life, family, life of the officials, as well as to penetrate into their inner world, to share their grief and joy with the representatives of the upper classes through the people's laughter.

The people laughter also come as a means of exposing individuals who perform works that cannot be done in the eyes, who speak words that cannot be spoken. In this respect In the season of "The belt of the pumpkin abnormal" in the novel "Days Gone By" of A. Qadiri [7], those who are bored of eating garlic on an empty stomach and drinking bluetea can be cited as an example of a dialogue, which consists in the introduction of a pumpkin abnormal into the teapot, where the word begins with the beginning of a

The images of abnormal (telba, jinni, majnun) are not only one of the traditional images of Uzbek, but also of world literature, which has always been praised as an active "exposer". In fact, even in the plot of the novel "Days Gone By", pumpkin abnormal is presented in the same revealing role. In the image of his arrival in the tea room, where the same people gather, and speak the truth, the task of "exposing" is fully manifested. While it is simple and gawk, the truth pure, is capable of openly criticizing the vices in society and manifests itself in a daring image. It was this quality that made it known and popular to everyone. Therefore, to the abnormal, who came into the teapot to quench her thirst, it is necessary to pay attention not only to the teapot, but also to others, and to make a polite appeal, saying "Come:

- Come on... Come on, abnormal!

- Do you have a cup of tea, teapot?

- Has, has, avliya, yours with the dish if you want a single bachcha.

In this dialogue, it is blasphemy to say "be bachcha" to the one who is addressed as "avlia", that is, "saint". Because the word "saint" is a plural of the arabic word "valilar", first it is used to refer to a person who is intelligent and dear, holy and close to god, and secondly to people who are capable of miracle and prophesying, who can perform miracles, to a third, to a man who is a great, righteous, a fourth, who has nothing to do with anything, as dervish [8] so in the speech of the people in the game it becomes



known that the question of the "saint" in relation to the pumpkin abnormal is used to emphasize that he is a person close to God (a humble person), a person who can predict, has nothing to do with anything, is a dervish person. The idea was that the writer "was a famous abnormal of his time... This abnormal is known to all of Tashkent; from Princes, to the rich; in short, from the big and small of the city was a madman, narrated by the miracle of which the lovers increased and did from the side of many. Everyone in the city was interested in his interesting actions and totalian words, even those who were careless with his fellow, his generosity. These tea-house people were also from the same next class," the example also finds its confirmation.

Bachcha word is a kind, personable son-boy, boy who is under the care and disposal of someone (akavachchas); used in the sense of a beardness or in general a playboy, a dancer.[9] Therefore, pumpkin abnormal sought to determine in what sense this word is pronounced in relation to him: "who is bachcha, bachcha? My mother did not give birth to me for bachcha...give it from your tea, from your tea!"- he says.

The author, paying attention to the use of this word in relation to the pumpkin abnormal, pre-introduces the reader to this dialogue with his identity, appearance, portrait, character: "pumpkin abnormal middle age, sparse beard, hardened man". The writer stated that his mind is weak, his stupidity is also known from his clothes "head as if he was in the oven against the heat of the day, put on an old mad hat, a guppie robe, in which the cotton other than the cotton on the edge, tie the new burlap belt five to six, and put on it five to six; from the pain of the buttocks, the indicates the movement of the buttocks. Because people are surprised that he does not understand such a walk. In dialogue their surprise of them is expressed through such: "why did your mother give birth to you? In response to the question "pumpkin abnormal" to feed the Khan's sheep, to tie the lids to the waist; give it from your tea, teapot!"- he says.

They also do not give the abnormal peace of mind to drink a cup of tea. Until one of the amusement blew the eye of the abnormal, she tore off one of the lids at the waist. After that, the work becomes worse. Abnormal cannot keep chasing him. Then come and drink another cup of tea, looking at it-with a yawn. When it is not, the pumpkin will fall into a wailing pitcher. The wait of the hermitists was also just that he would join and cry on the wishbone of his age, the wishbone. Then the pumpkin thief himself came to him and said, "Did you catch the pumpkin thief, abnormal?" he asks. And abnormal said: "No, brother! Let the swelling die like my bladder, it's gone until it escapes!" that will respond with spells. After this answer, one entertainer strikes lof and says that he saw the pumpkin thief in the old

corn and that he was riding on the pumpkin, while others say "was a pumpkin", "What a pity", "Although your pumpkin itself was something that was not in this climate", with laughter they begin to alternately pour grass into the heart of abnormal.

Abnormal's biography is connected with the pumpkin, "my dad musallas pumpkin, my mom is a pumpkin, I'm a waist pumpkin," the saying also makes people laugh. Then one of the entertainers showed a pumpkin hanging from above, holding himself as if: "I smell, that whose pumpkin?" he asks. And abnormal rejoices to see her beloved pumpkin sucking and saying, "Wow... madmen, woe to the insatiable monsters! Give me my butt, crazy!"- he says. But the entertainers ask him what to give by lowering the pumpkin. And abnormal said: "take what you ask, crazy... be back to the village of Oyim, idiot: golden harness horse, mad..." he says.

It seems that the pure abnormal of the soul also applauds who has done evil to herself. It gives him good intentions. Because in the hadiths it is said that the prayer of three people - parents, the oppressed and the stranger-will be heard. Therefore, some people sought to receive his prayer, although by the way of amusement from abnormal. But those who heard a scoundrel or a crow instead of applause from the abnormal, if the amusementk exceeds the limit.

On the condition of the amusement, the pumpkin is a Muslim lame, showing a single curved monkey from the eyelids at the waist of the abnormal returned to him, the small watch next to him pushes the pumpkin Khudoybachcha (Khudoybachcha), erasing the water pumpkin "Nor kalla" (Normuhammad qushbegi), the remaining two smooth pumpkin are called "nosqovoq, thin throat", making the audience laugh.

When the scoundrel thieves try to leave to escape faster from the inside, they again catch him, and now the entertainers begin to pull themselves out of the belt of abnormal. From this, the abnormal, who provokes anger, first sucks them, and then says "juvonmarg!" he crows. It sticks to the waist with two hands, as if it separates from the belt.

Although the writer openly cites the crows in abnormal's speech, he does not bring sufferings. Their location is indicated by three points:

- teapot ... what he says is this!

Abnormal says that she did not steal the belt, Yusufbek Haji says that the son of the postman received from the wedding he married, and seeks to insult those who suspect himself of theft through the words "stupid", "crazy". The mention of the name of Yusufbek Haji in this place paved the way for the connection with the novel plot of the story "the belt of the pumpkin abnormal", which is presented separately in the composition of the novel.

Even if abnormal gets rid from the lake of amusement, a man who has closed his eyes inside



them follows her. He calls abnormal stops and says he has a vow. But abnormal will not take her money, and will continue to do so. Abnormal calls it "eye pain" and either repeats the questions he has asked, asking either the question, or withdraws the mad-reverse answer and excites the nervousness:

- Yet, who married his son, did you say?..
- Who married, you said?
- You said in the teahouse!..
- You said in the teahouse...
- Where did you get the belt?
- Grandmother gave.
- Say it right!..
- Can you eat if I take soup from the market?
- When did the cheek come out on your face?
- When do I say married?
- I said You came when the wedding passed...it was a week, it was ten days, it was a month. Yes, yes charlar have been now...there are charlar. Karategin.
- Married in Tashkent?
- Xi, Xi, Xi, stupid. Let him marry Karategin, not from Tashkent? [10]

Well, "eye pain" is getting worse from these total words and again goes back to the teahouse.

In this place, the attention is drawn to the fact that abnormal feels the ugliness, responds to "eye pain" with a fraudulent cheerfulness, exposes the plot of this strange and dishonest breed with an insidious simplicity, anxiety.

In fact, this image, which moved from folklore to the novel, is significant in terms of the fact that the realities of everyday life, social life, the essence of the contradictory relationship between people create the opportunity to give a special person a speech, a parody laughter through his actions, expose them. Because, as M.Bakhtin said, the "people's square culture of laughter" is not just a matter of cheerfulness and humor. Below it lies all the events that occur in the being, socio-economic, spiritual problems, and, moreover, the approach to the human phenomenon with a folk point of view, the evaluation and interpretation of them on this basis. Folk laughter loses the existing distance between the subject of any serious image (event, person, detail, etc.) and the imager. In other words, approaching oneself in the descriptive (creative) creates an opportunity to learn from oneself: "laughter is an important factor in the preparation of the basis for being in a relationship without fear to the world." [11]

A.Chulpan also tried to use folk laughter, the style of expression and image characteristic of him in the novel "Night and day" to illuminate the realities of his time, the landscape of social and political life, the delicate and turbulent situations in society. This is manifested primarily in the fact that the creator himself gives the speech of the created images and

personages in the form of a dialogue characteristic of simple speech. In the 12th chapter of the novel, the passages with Jakob (the name given to Miryakub by Mary) as an image of Mary (the name given to the wife by Miryakub) in the state of internal speech, but alternately in the form of dialogues, can be evidence of this. In this way, the writer intended to convey to the reader the reality that he describes himself, the problem of illuminated life in the style of watching.

Miryakub and Mary's thoughts in the form of dialogical speech, inner soul experiences, language interpretations seem to be one of the main tools that have provided for the development of events in the novel. Especially the fact that these dialogues were given to the personages in accordance with the territory of their residence, in the language in which they are spoken, laid the groundwork for further increase of their influence and truthfulness.

It is understood that the image and personages in the literary novel seek to use the voice tones of the stage-specific actions, even when expressing the behavior and tone of speech. For example, in the novel "Miryakub closed his eyes to one breath", "In the same top the eyes involuntarily look down...", "With two hands, he clung to the two shoulders of his life. This situation is manifested in such sentences" as "took his face close to his face", "Umrinisabibi suddenly lowered sound". Naturally, such explanatory cases presented in the game are very handy in the preparation of scenes on its basis.

Chulpan paid special attention to the issue of laughter in his novel. Laughter in the novel is more focused on stupid, clumsy and indifferent Akbarali. The Chulpan goes along the way of the people's laughter and seeks to expose his character as an official. In this way, the writer also achieved the scale of laughter in the work. After all, the people's square is considered one of the main criteria of satire and humor, more precisely, satire and humor, sarcasm and criticism, sarcasm and irony, chaffing and worth, laughter and loud laughter, often mixing with each other.

The organization of personages in the novel also remembers one of the features inherent in folk drama. The nickname "conspiracy", given to the protagonist of the novel by the husband of his wife Razzak Sufi to the mother guard of Zebi, draws special attention to the nickname "Epaka", which the neighborhood uses in relation to Miryakub, because laughter is from the edges, which are given by the nickname of the performers in the laughter of the people's square.

In the novel, Zebi's trial process was reflected through dramatic footage, which further increased the impressiveness. Especially said by teacher in order to soften her face in front of the men and make her neck stiff from sitting open, which is actually associated with miracle popular among the people "there is no difference between the dog and



the unbeliever. Do not you run away from the dog? So, you cannot avoid disbelief either. Is that permissible? "When it is not possible to say the real truth in front of the rulers, the ball is the right thing, the writer is doing the same way as the people are going through such a steal, irony, cutting, figurative statement, so enjoy the reader and arouse sincere laughter in his heart.

On the basis of criticism in the samples of the folk oral drama, the art of exposing, laughing over, at the same time, giving spiritual pleasure, mood to the group of viewers who are filling the area where the spectacle is being shown, and the laughter of the thunder field, as in the novel "Night and day" Akbarali mingboshi in whore house: "what if Iin response to what he said, Miryakub said, "You know that he is fat himself. Since the dog is also in a clean spot, boss! "What he says is certainly provoking reader laughter. In this way, in the novel "Night and day", rather than light laughter, special attention is paid to the transmission of a certain small socio-household realities to the people in a satirical way.

The writer again relied on the traditions of the art of folk laughter, and in the speech of the heroes in the game was told that various folk tales, expressions (for example, "go to satangs and get along with dutor-mutor?", "Very thick with the wife of Zunnun Noyib tura", "Thanks a thousand executions, you will be a man") skillfully impregnated. In the speech of the personages, he also used portable literal words such as "dog", "without such a cold", "you do not know how to walk on the floor of the same attic floor, pitcher", etc.

In conclusion, the interesting folk art of laughter in artistic works provides for the development of events due to the form of dialogue. In particular, the possibility of giving these dialogues in accordance with the period of residence of the personages, their territory and the availability in the language in which they are spoken creates a basis for further increase of the influence and fairness of the work.

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PECULIARITIES OF THE FORMATION OF SPORT TERMS IN THE ENGLISH AND UZBEK LANGUAGES

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ANNOTATION

This article presented theoretical classification of the most common types of sport terms, because sport terminology spread widely and become an integral part of our modern society and very often we do not even feel or identify them as neologisms. They reflect all changes happening in our life from the development of technology to the cultural and socio-political alterations. All paragraphs help to classify the word formation of new words and word phrases according to their origin, derivation, and etymology. Due to different kind of examples, which were taken from a number of languages, the learners will be able to make sense the influence of new words to our current sport lexicon.

KEY WORDS: UEFA, blitzschach, armband, libero, backformation, midweek, runner, referee

DISCUSSION

This article explores the history of the formation and nomination as well as the essence of the sportive terms, and periodically classifies the history of the formation of sport terms on the basis of written sources in the Uzbek language.

The analysis shows that the period of formation of sportive terms in our country did not

occur yesterday or today, but they were used as general lexemes before VIII-IX centuries. Sportive lexical units used in written sources are determined. Some sports lexical units from “Devon” by M. Koshgari are scientifically analysed. They are identified in the research that what kind of sports they are currently related to and they are shown in the table.

Table 1.
Sportive lexical units referenced in “Devon”

	Arabic spelling	Cyrillic spelling	Meaning	In modern sports
1	فيليج	қилич	sword	fencing
2	تَا	ат	horse	equestrian sport
3	أق	оқ	bullet	shooting from a bow
4	أَمَك	амаг	badge	shooting from a bow
5	أَرْق	уруқ	rope	athletics
6	أَرْكَنْ	уркан	belt	weightlifting
7	الْق	улуқ	boat	water sports

We directly compare the methods of word formation of sports terms in English and Uzbek and reveals isomorphic and allomorphic features of the two languages.

The method of borrowing in both languages is considered to be isomorphic feature. According to Encyclopedia.com, the total number of words borrowed from other languages into English without any changes is 13683, they were mostly borrowed from 84 languages. The analysis, based on the

Oxford and Longman dictionaries, showed that the number of sports borrowings in the English language which are geographically borrowed from the 41 languages refers to 189 sports borrowed terms, including: Europe 125 (66.2%); Asia 43 (22.7%); America 10 (5.3%); Africa 8 (4.2%); Oceania 3 (1.6%) lexical units.

The analysis of the Uzbek language borrowed layer showed that the dictionary contains lexical units of sport borrowed from Arabic, Persian,



Russian and other languages. According to the analysis of the latest sport dictionary in the Uzbek language, it was revealed that 306 words are borrowed, consisting of 149 (48.9%) lexical units from Asiatic, 157 (51.1%) lexical units from European languages.

Calque is learned as part of borrowings in English. The same method exists in the sportive terminology of the Uzbek language. Therefore, this method in two languages is considered to be an isomorphic process. For example, the translation of the Dutch word *meesterstuk* means *master piece* in English, *шедевр* (шедевр) in Russian, and *skillful* (моҳирона) in Uzbek. The German term *blitzschach* is given in English in the form of *rapid (chess)* and it is desirable to present its Uzbek translation as a *blitz* (fast) *type of chess* (шахматнинг тезкор тури).

Over the past two decades, the formation of new lexical units by the use of calque method in the Uzbek language has been considered to be even more effective method than in English. One of the main reasons of this is the fact that the developmental phase of sports in our country is coincided with the years of independence. For example: if *кўл тўпи* is the translation of the English language term *handball*, *кўлбоғич* (енг боғ) is the translation of the term *armband* in English. If the term *тўпурақ* is given in English as *goalscorer*, the term *тизза-банд* can be used in English as *knee-pad*. The *тишқолип* (in boxing) is calqued by the English language word *gumshield* and the term *тахмасула* is calqued by

the French word *plateforme*, while the *қўшээар* represents the term *tandem* in Latin. The term *қолкўрпа* is a calque of combination of the Russian words *спalny meshok* (sleeping bag), and the term *отчопар* is a calque of the term *hippodrome* borrowed from the French language. Such kind of word formation in the Uzbek language was considered to be non-productive, but the striving to find translation alternatives for the international sport terms led to a growing necessity for this method.

A number of neologisms related to physical education and sport are also being introduced into the Uzbek language through the method of vocabulary borrowing. For example: *мидвик* as a neologism is used in English as *midweek - ҳафта ўртаси*, *midweek meetings - ҳафта ўртасидаги учрашувлар*; *болбой* in English - *ballboy* - means *ball supplying child*; *панчер* is used in English as a *puncher* meaning a *strong hit holder*; *плеймейкер* is used in English as *organizer of game*; *боксинг дей* is used in English as *boxing day* which means *gifts day*. It is the name of football games held before the New Year in the Premier League of England. *Либеро* in Italian in the sense of *libero - free* is used to refer to a *free player*. *Комбек* in English means *comeback - return*.

Borrowings, morphological derivation and composition methods in English and Uzbek are isomorphic features of both languages. This process is illustrated through the linguistic analysis of our study (Table 1.4).

Table 2
Isomorphic analysis of the sport terms

Method	№	Name	English		Uzbek		Total	
			№	%	№	%	№	%
1		Borrowings	191	13.6	332	23.6	523	37.2
2		Affixation	40	2.8	68	4.8	108	7.6
3		Compounding	28	1.9	18	1.3	46	3.3

In addition, the phenomenon of passivization of the first borrowed unit existing in a public use as a result of the emergence of a new term, expressing the same meaning with another prior term in the field, that's to say, replacing the borrowed words in Uzbek is being observed. In particular, the fact that the word *комбинатор* (Russian) is now replaced by the term *playmaker* (English), the *referee* (English) is used instead of *орбитр* (Russian) or *ҳакам* (Arabic).

It should be noted that the Uzbek language belongs to the agglutinative language family, for this fact the derivation process is more stable than the English derivative processes. In particular, the suffix *-чи* is very productive, 120 sport terms and neologisms were formed by this suffix. Four noun

units with different meanings related to sports were created through this suffix. For example: 1) the units representing an expert on the basis of field or type: *курашчи* (*wrestler*), *шахматчи* (*chess player*), *теннисчи* (*tennis player*); 2) units that represent membership of a group or community: *пахтакорчи*, *наебаҳорчи* (*a team member*); 3) units representing the participant of the competition: *олимпиадачи* (*Olympian*), *универсиадачи* (*the World Student Games participant*); 4) units that represent the person involved in the action: *ижрочи* (*the performer*), *югурувчи* (*the runner*), and *сузувчи* (*the swimmer*). The existence of this process in both languages proves the isomorphic features of the languages, but the word formation through infixes is practically absent in the modern



Uzbek language, and therefore infixation process is a micro categorical allomorphic feature in the compared languages (Table 1.5).

In the process of morphological derivation, it is more complicated to identify micro-categorical allomorphic features, for instance, the English suffix *-er* is considered as an alternative suffix to Uzbek *-чи*, the English suffix *-er* does not have the multi functionality like in Uzbek. Therefore, in the composition of derived units, the suffix *-er* does not always correspond to Uzbek *-чи*. For example: *полочу* – *poloist*, the terms *- иштирокчи* – participant; *спортчи* – sportsman – are the clear indication of this.

The second chapter of the research also explores the sports terms formed by acronyms. It is known that according to the rules of abbreviations the letter, syllable of the full words is extracted or the first letters of each word are capitalized and pronounced in alphabetical order and through this way abbreviations are formed. This method is considered an active in compacting the sports terms and neologisms. For example, *ОТЖ* – *Олимпия терма жамоаси (OT-Olympic Team)*, *МТЖ* – *Миллий терма жамоа (NT-National Team)*, *ОФК* – *Осиё Футбол Конфедерацияси (AFC-Asian Football Confederation)*. Abbreviations in Uzbek can be obtained from other languages as well. Example: *NBA* (National Basketball Association) – National Basketball Association, *UFC* (Ultimate Fighting Championship) – the name of the irregular martial arts. However, in modern Uzbek this method is not a model of word formation.

During our research, it is found a number of shortages in the composition of noun acronyms related to sports in Uzbek. These mistakes in the preparation and use of professional sports journalism materials are still remaining as the permanent lexical units. For example: The term UEFA is derived from the English Union of European Football Associations, which is translated into Uzbek as *Европа Футбол Ассоциацияси Иттифоқи*. However, this unit is used in Uzbek in the form of *УЕФА*. In case the term *УЕФА* is used as process of a transliteration, it should be demanded a guideline designed by the ISO - International Organization for Standardization (*Халқаро стандартлар ташкилоти*) to regulate the transliterated words. If such a document is not available, it would be a mistake to use the term *УЕФА* but it should be worthy to use *ЕФАИ* instead.

Clipping – is a method of shortening. In linguistics, the creation of new lexical units by reducing one or more syllables of words is called as clipping. This method can only be occurred in one word or phrase. According to the features of sport terms formed by clipping method in English in this

research, it would be advisable to study the four types of clipping methods in sports:

1) Initial clipping - by squeezing (omitting) the front syllable in the word: parachute - chute (vertical slip); university - varsity (university sports team). As a result of the assimilation phenomenon in the unit of varsity, there was a change in the form from e to a;

2) Final clipping - with shortening (omitting) of the back syllable in the word: gymnastics - gym (gym); memorandum (document for note) - memo (protocol, protocol); ticket - tick (account); umpire (judge) - ump (referee);

3) Medial clipping - occurs with a reduction in the middle syllable (s) of the word: celebrities - celebs; fantasy - fancy;

4) Complex clipping is the result of a shortening of complex and mixed words: organization man (organizer, person) - org-man (organizer). This method helps you to pronounce complex phrases and joint words that are more complex in English. The creation of new lexical units through using reduction in Uzbek is considered to be uncommon process. Most of them are made using Russian or other language units. The clipping method in English and Uzbek is the macro-categorical allomorphic feature of the two languages (Table 1.5).

In this context, the regulating of sport terminology and giving a precise explanation, determining a relevant of their specific field, constantly focusing on their word formation serves their ideal interpretation and adequate translation. In its turn, this leads to the perfection of explanatory and bilingual dictionaries in the sport field.

Backformation is one of the ways of forming words in English is backformation. The word by word translation of backformation is *back-орт, орқа, formation-шаклланиш, ҳосил қилишдир*. According to the principles of backformation, new words occur because of the unusual reduction of morphologically specific word (s) to another word (s). For example: mentor (*мураббий*) – mentee (*маслаҳат бермоқ*), N→V; commentator (*шарҳловчи*) – commentate (*шарҳламоқ*), N→V; goaltender – goaltend (*дарвозани ҳимоя қилмоқ*), N→V; spectator (*томошабин*) – spectate (*томоша қилмоқ*), N→V. Most of the lexical units in the English language that created by backformation method are mostly derived from Latin and Greek.

The results of the analysis of the sources on the Uzbek linguistics showed that there were no words formed through *back-formation* method in the Uzbek language. There are some lexical units close to backformation in communication, but they are considered to be *borrowings*. The absence of such method of word formation in Uzbek is regarded as the macro-categorical allomorphic feature in compared languages (Table 1.5).



Table 3
The analysis of the sports terms' allomorphic features

Method	№	Name	English		Uzbek		Total	
			№	%	№	%	№	%
	1	Clipping	14	1	0	0	14	1
	2	Back-formation	7	0.5	0	0	7	0.5
	3	Infixes	3	0.2	0	0	3	0.2

In conclusion, the purpose of this article is to inform language research colleagues about the impacts that can extend our lexicon. Due to the development of technology to the cultural and socio-political alterations our vocabulary is continually increasing and changing. The more changes occur in our life, the more neologisms appear in our lexicon. However, it is hard always to understand meaning of the newly coined words. This paper has presented theoretical classification of the most common types of sport terms for the learners. All information help to classify the word formation of new words and word phrases according to their origin, derivation, and etymology. What is more, sportive neologisms have already spread widely and become an integral part in many areas of our society. They are the best proof of the fact that language is alive phenomena.

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EXPRESSION OF HISTORICAL TRUTH AND LITERARY FICTION IN THE WORK OF WALTER SCOTT AND ABDULLA KADIRI

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ANNOTATION

This article discusses about two historical novelis W.Scott and A.Kadiri's artistic skills to express real facts and historical fiction. Examples from the literary works of authors are also mentioned and analyzed.

KEY WORDS: *historical novel, approach, fiction, historical truth, literature, real facts, English history, Uzbek history, characters.*

DISCUSSION

Representatives of Eastern and Western literature, Walter Scott and Abdulla Kadiri are considered well known authors for their historical novels that unite them. Western author, Walter Scott's, first novel "Waverly" laid a solid foundation for the genre of historical novels in world literature, while, Eastern playwright, Abdulla Kadiri took the first step in national literature trough his novel "Days by Gone". While analyzing the historical novels of the English writer W. Scott and A. Kadiri, we whiteness the writer's artistic approach to the novel, by skillful reflection while depicting real facts and artistic texture.

Unlike the Uzbek novelist A. Kadiri, the English writer W. Scott in his historical novels presented real events of the past through fiction. In particular, if we analyze the novel "Ivanhoe", the writer describes the war between Anglo-Saxons and the Normans, depicts the rebellion of Prince John against his brother King Richard, who was fighting the Crusaders for the throne of England. Prince John conspires with the Normans and the leader of the Saxons, Wilfred Ivanhoe, is a supporter of King Richard and fights for his life.

"The Battle of Hastings, fought on 14 October 1066, is the most famous battle in English history. There is widespread consensus among historians that William the Conqueror founded Battle Abbey in penance for the blood shed at the battle and to commemorate his great victory, on the very spot where he defeated King Harold." [4]

The story takes plays in the third Crusade, in historical sources this battle was named Hasting in 1066, Norman leader William I defeats the Saxon, and these events of the past recorded in the 12th century Battle Abbey Chronicle. The War put an end to 600 years of Saxon rule and began the oppressive rule of the Normans in England.

The characters of Ivanhoe, Rowena, and Cedric in the novel are artistic texture, while King Richard, Prince John and Robin Loxley are the prototypes of the history. The author skillfully used novel scene in some textured geographical place name (Rotherwood, the home of Cedric) and actual place name (France, Holy Land) in his work. The events of the novel took place in the middle ages, around 1190, and during this time King Richard was in captivity in France.

Life, races, vehicles, and clothing at "Ivanhoe" describes by playwright based on real facts. It should be noted that, Scott embodied the social, cultural and political life of XII century through a combination of real events and literary fiction. As a result, we encounter historical inconsistencies in this novel by Scott. A Norman historian, Freeman, explains the historical errors recorded in this novel as follows:

"No Englishman in the twelfth century called himself a Saxon, or was called a Saxon by anybody except a Scot or a Briton." [1]

While, Abdulla Kadiri was collecting material for his novels, he read and learned various sources on the history of the Kokand Khanate in



ancient Uzbek and Persian languages. He went to see the historical places where the events of the novel will take place in. "Before I write a work, I carefully study the material about what I want to write", said the author.

— "If I want to write about a place, I want to go back and check it out, no matter how many times I've seen it before".[2]

For this purpose, he repeatedly traveled to Kokand, Fergana, Namangan and other cities of Uzbekistan.

The author met and talked with elderly in these cities, searched for the elders who witnessed the historical events with his own eye, and recorded a lot of rare information from them. The great writer focused on convincing coverage of the each event. Accordingly, it can be said that, A. Kadiri was the first beginner and recorder of the historical events from the mouth of the people of that time in Uzbekistan. The writer did not consider it appropriate to write a work without taking into consideration of the valuable information about the memories of those who saw and interpreted the events of the Khan's time. This means that author pays great attention to the occasion that has come down by stories, legends, and narrations that have been preserved in the memories of the people.

Undoubtedly, not every work is based on real events. In a work of art, of course, there are textured plots. "Days by Gone" also not in a complete reality. Other books also confirm that the historical circumstances in the novel are real or based on fiction.

At this point, analyzing one of the historical novels of A. Kadiri "Days by Gone", some researchers point out that this story is fascinating, in fact in Margilan there was a gorgeous girl named Kumushbibi, but she was passed away in her young age. According to other explorers, this fact was in the case. They said even today there are still living the descendants of Kumushbibi and Otabek in Margilan. At the end of the work, the author says so: "On my next visit to Margilan, I asked my close friends about Yodgorbek"

"Yodgorbek died in the middle of the XIX and XX century, there left two sons from him. Today one of his sons is responsible workers of Margilan, and the other is among the invaders of Fergana. It is unknown if he is alive or dead on these days": they said.[3]

The historical figure of the play: Xudoyorxon, Musulmonqul, O'taboy qushbegi, Nurmuhammad qushbegi were real. In the novel the playwright comments his fathers' words as: "Nurmuhammad qushbegi was the best of the beys of Tashkent".

From the author's respectful attitude to history, as well as from such words, "...From the history of the Turkistan Khanate...", "...the history tells us..." we can say that the writer has free to

approach the document based information, rather than using his own interpretation that has literary fiction.

In conclusion, representatives of both nations, Walter Scott and Abdulla Kadiri, in writing historical novel followed the principles of the historical genre, managed to convey historical facts to the reader in the form of fiction and real events, skillfully depicted the landscapes of the past. The historical characteristics, geographical locations, prototypes of the heroes, the image of the period expressed in the novels allowed the reader to embody the happenings of the past.

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THE IMPLEMENTATION OF EDUCATIONAL TECHNOLOGIES IN FOREIGN LANGUAGE TEACHING AND LEARNING PROCESS TO IMPROVE SPEECH COMPETENCES IN THE CONTEXT OF HIGHER EDUCATION

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ABSTRACT

Huge improvements in information and communication technologies are leading to the rapid change of our world. As the Earth becomes smaller like a little universe because of globalization, communication through the world becomes more accessible. Modern technologies are affecting all aspects of our life and education is obviously one of those rapid changing spheres. The exponential growth of technology usage in education has a great impact on its further development and has raised the significance of the research on the importance of educational technology. This article aims to explore various benefits of the educational technology usage in foreign language teaching process. The author reveals advantages a number of technological tools which have been widely on the usage by foreign language instructors and language learners. The focus is mostly devoted to describing educational technologies and recent researches for investigating and understanding technology applications in complex real-life settings.

KEYWORDS: Educational technology, Technology and learning; Impact of technology on foreign language teaching, Moodle, Zoom, White board,

DISCUSSION

Looking at the daily usage of technology, it is obvious that technology has already become inseparable part of our life. Technology enables us to communicate with whoever we want, wherever we go and also improves our life in many ways, from daily basis to education. Specifically, Technology can assist in the language learning process and there are so many advantages of using technology in foreign language teaching process.

To start, it is better to define educational technology as a term and give information about its benefits on education, particularly on foreign language teaching process. Accordingly to Wikipedia "Educational technology (commonly abbreviated as EduTech, or EdTech) is the combined use of computer hardware, software, and educational theory and practice to facilitate learning". **Educational technology** is a term used to describe a wide array of teaching-and-learning-related software and hardware that's increasingly being used in college and university classrooms. The ultimate goal of educational technology, also referred to as Ed Tech, is to enable an improved learning environment, which in turn is meant to boost student outcomes. It

has also been proven to increase student engagement and participation in class.

Educational technology can be defined differently by different scholars. The recent research on educational technology by Ross and Morrison reveals that technology can be defined with three general domains:

Technology as a Tutor. The oldest and most-researched application of educational technology is computer-assisted instruction. Modern CAI programs provide tutorial lessons and drill-and-practice exercises adapted to students' needs. Graphics and animation make the materials more engaging and interesting than textbooks and workbooks.

Technology as a Teaching Aid. Another valuable role of technology is increasing teachers' effectiveness in organizing and presenting lessons. For example, according to the Chambers the Reading Reels program, developed by the Success for All Foundation embeds strategically selected video segments and interactive question-and-answer exercises in daily lessons

Technology as a Learning Tool Viewed from these perspectives, proficiency in using technology for such contemporary tasks as searching the Internet,



creating graphs and illustrations, and communicating through multimedia presentations has become an essential educational outcome, much like being proficient in reading and mathematics.

EFL teachers must be aware of how to use educational technology and its potentials to the quality and improvements of education. Educational technologies can mostly be used by teachers when:

- They are structuring the task for their classes; (In this process it helps with how to do a task)
- They are looking for the sources; (it helps teachers find information needed)
- They are presenting new knowledge; (it provides alternate forms of knowledge representation)

Ross and Morrison suggested that using computers or other forms of technology can give students practice on core content and skills while the teacher can work with others, conduct assessments, or perform other tasks. According to Kronholz through the use of educational technology, education is able to be individualized for each student allowing for better differentiation and allowing students to work for mastery at their own pace

There are countless of educational technologies in today's world to use in any aspects of education such as audio and video materials, computers, tablets and mobile devices, collaborative and social learning devices, whiteboards and virtual classrooms etc.

There are several technologies which can be used widely in the EFL classroom. In the period of quarantine all traditional lessons have been turned to online form since then educators have been working in online platforms, for instance, the university which I am currently working have been using platform Moodle.

Moodle is a learning platform designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalized learning environments. The most useful benefits of Moodle is that one can set it up and administer it in self-service mode, create and teach courses, students are able to log into the course and learn, additionally it provides countless features that anyone would use over time.

Socrative. It is one of the best platforms that supports education without specifying specific learning objectives (<http://www.socrative.com>). It can provide a general-purpose platform enabling formative assessment using any kind of web-enabled device. Any kind of foreign language instructor, teacher or mentor can easily create their own space to teach learners by using enormous features of Socrative teacher and Socrative student app for free of charge.

Zoom. It is apparent that Zoom is the most popular app for online classes since it can provide a bunch of opportunities like sharing presentation,

audio and video files as well as demonstrating the monitor. One can also record the screen and see the recordings missed.

Online whiteboard. As an English teacher there is a big opportunity to use **online whiteboard** that allows the user explain any kind of concept. By the help of this amazing tool, one can create explainer videos and share them with their students. Additionally, teachers can easily create beautiful presentations by using audio with their own voice, pdf files, graphics, and ready-made clipart.

Turning to the benefits of educational technologies to foreign language teaching and learning process, we can initially report that students financially access to education while e-books, including workbooks, dictionaries, podcasts grammar applications and other types of language teaching applications are more affordable than their paper versions. Secondly, modern educational technologies can provide big opportunities of distance learning for non-full-time students, particularly in continuing education.

To conclude we can say, young generations are becoming increasingly advanced users of technology and it is impossible for them to imagine life without the internet. For that reason, educational technologies should be implemented in foreign language classrooms since it is really helpful to improve students' ability, their understandings of the content, linguistic skills, with the help of major features and a multitude of resources on the internet or apps which can be used in individual or group work. It assists students to advance and enhance what they can learn.

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CONTEMPORARY LINGUISTIC APPROACH TOWARDS THE CONCEPT OF THE FINANCIAL CRISIS BASED ON THE ECONOMIC DISCOURSE MATERIAL

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ANNOTATION

The provided article reveals the influence of modern linguistic studies on learning the concept of the financial crisis. In linguistic research in recent decades more attention is paid to the creation of a holistic concept of the relationship between language and thinking, the ways of expressing non-linguistic reality, knowledge about the world, the laws of the organization of the "linguistic picture of the world", the thesaurus of an individual. Consequently, taking into consideration above-mentioned issues, the article focuses on the differentiation between text and discourse and peculiarities of economic discourse in linguistics.

KEY WORDS: *conceptualization, discourse analysis, financial crisis, economic discourse, text linguistics, vocabulary, contemporary linguistics, lexical incarnation.*

DISCUSSION

In linguistic research in recent decades more attention is paid to the creation of a holistic concept of the relationship between language and thinking, the ways of expressing non-linguistic reality, knowledge about the world, the laws of the organization of the "linguistic picture of the world", the thesaurus of an individual.

The urgency of the problem of discourse, especially economic discourse in contemporary linguistics is revealed in the study of one of the important aspects of slices language picture of the world, especially economic picture of the world of contemporary (linguistic periods) in its lexical incarnation. Economics is the sphere, the area of contemporary knowledge about the world, where language dynamics, changes in public consciousness, the mental state of a native speaker, and active processes in the modern Russian vocabulary are particularly clearly manifested. The latter, in turn, has both social and linguistic conditionality. The economic lexicon of the contemporary explains the relevance of the concept of "language personality", the problems of its structure, typology, and ways of language implementation, methods and techniques of description. Attention to the operating environment of the word and its part in the processes of text formation is associated with the recently included in the linguistic use of the term "discourse". Lawfully in

the transition from text linguistics as a self-contained system to study the text in terms of the specifics of human existence as well as man's relationship to the world and people in the cultural-linguistic aspect.

The appeal to the discourse is especially important in relation to the analysis of the "current" texts of the mass media. In addition, in this sense, our understanding of discourse is somewhat similar to that proposed by M. Y. Dymarsky (1999).

The language personality in the selected types of text has its own direct, direct embodiment, these are texts, in the words of N. D. Arutyunova, "immersed in life" [Arutyunova, 1990: pp. 136-137]. In addition, it is the feature that we consider one of the most important in understanding discourse.

The concept of discourse is preferred when the subject of the description is language units in terms of their communicative and cognitive significance. Thus, discourse is not so much a new object of linguistics, but a new, changing view of human textual activity in the anthropocentric research paradigm. Our understanding of the discourse is not quite correlated with the ideas proposed by M. Y. Dymarsky (1999), who is guided by on syntactic aspects of text formation and artistic text. For a lexicologist, the understanding of discourse that is presented in the works of N. D. Arutyunova (1994) and Yu. S. Stepanov (1998) is more acceptable. It also falls well on non-fiction texts, in particular, on



journalistic texts, especially in their modern representation.

In the definition of N. D. Arutyunova, discourse is understood as a coherent text in combination with extralinguistic, pragmatic, socio-cultural, psychological and other factors; speech is considered as a purposeful social action, as a component involved in the interaction of people and the mechanisms of their consciousness [1990; p.137]. In the Dictionary of Linguistic Terms, edited by O. S. Akhmanova (1996), a discourse is understood as a speech work that is considered in its entirety of expression (verbal and paralinguistic) and aspiration, taking into account all non-linguistic factors (social, cultural, psychological) that are essential for successful speech interaction.

In the light of this understanding, it becomes expedient to raise the question of those specific properties of a speech product that depend on the complex of the above factors. Yu.S. Stepanov writes about discourse as a special language: "Discourse is a language within a language". Discourse exists primarily and mainly in texts, but those that have a special grammar, a special lexicon, special rules of word usage and syntax, a special semantics, and ultimately a special world [Stepanov, 1995: p. 44].

In what lexical ways, in what "lexicon" the special world of economic ideas of the contemporary is represented, we will have to investigate, and what determines the scientific novelty of the work.

The study based on lexicographic sources takes into account not only the nuclear layer of economic vocabulary presented in the new economic dictionaries, but also its near-nuclear part and periphery, linking this "economic" sphere of language consciousness with adjacent and even distant ones.

Linguists in the twentieth century raised the question of what is primary, text or discourse. Moreover, this question was considered in the works of Abeleva I. Yu. "Speech about speech the communicative system of a person", Zhdanova E. V. "Personality and communication", Ushakov D. N. "Brief introduction to the science of language", Shaikovich A. Ya. "Introduction to linguistics", Kozhemyakin E. A., Krotkov E. A. "Methodological problems of studying discourse practices", "Types of professional discourse", Ryabinskaya N. S., etc. The emphasis on the dynamic side of the discourse and the primacy of discourse in relation to the text is one of the key aspects in the interpretation of discourse in communication theory: discourse is understood as a communicative action, which produced by and the texts are articulated. Proponents of the theory that text is primary refer to the fact that discourse actualizes language (as an abstract sign system) and texts (as abstract mental constructs). And yet, text and discourse are interdependent. Any discourse is also a text. Nevertheless, not every text is a

discourse. Therefore, a book on a shelf will be a text until it falls into the hands of the reader (addressee).

The fundamental differences between the discourse and the text are considered to be the following:

- 1) Discourse is pragmatic; text is exclusively a linguistic category;
- 2) Discourse is the category of the process, text is the category of the result (it is static);
- 3) Text is an abstract construction, and discourse is its actualization.

In more detail, these differences are as follows:

The discourse arises where the utterance has social consequences; the text is an abstract mental construct, endowed with the characteristics of semantic integrity and grammatical completeness. Discourse is an attribute of the communicative and social field; text is an attribute of consciousness. So, for example, the statement "Do not trespass!" it can be considered both as an element of discourse and as a text. The researcher of the discourse will focus on the fact that the statement refers to a specific action that has a social character and has a very specific, situational practical meaning. It is appropriate in a space where there is an object and in relation to it there is an opportunity to perform certain actions or refrain from performing them (to pass or not). Otherwise, the use of this statement loses its practical meaning. The text researcher will be interested in the internal syntactic and semantic connections of the utterance and its cognitive effect.

Discourse is described as a procedural category due to its potential incompleteness, while text is the result of intentional human activity. For example, the professional discourse of an engineer when designing an object can be represented by a series of statements following one another (discussion of the project, adjustment, etc.), while the professional text is the result of the activities of the agents of the field of engineering. In the discursive field, the meaning of an utterance is always formed and developed in the process of reproducing the discursive elements: each a subsequent statement clarifies, supplements, or refutes previous statements. In the discourse, the meaning of what is said is always in the subsequent statements that have not yet been updated, while in the text, the meaning is in what has already been said.

The results of the study showed that:

- * Discourse, having the above characteristics, actualizes language (as an abstract sign system) and texts (as abstract mental constructs).
- * The difference between the discourse and the text is its pragmatism and it is a category of the process.
- * It is the actualization of the text that depends on the discourse.
- * Discourse - a communicative action in which texts are produced and articulated.

The most topical theme of the materials which refer to an economic discourse is about the financial



crisis and its influence on society. First of all, before making conceptual analysis the term financial crisis should be defined. The term financial crisis is applied broadly to a variety of situations in which some financial assets suddenly lose a large part of their nominal value [www.investopedia.com]. Separately the word crisis itself has its origin in the Greek word “krisis” which means the evolution stage of a situation in which a decision should be taken [Henry George Liddell, Robert Scott 2003:10]. This concept describes a break in the evolution of a phenomenon in which decisions are hard to take. Depending on this issue some conceptual features of this term were analyzed. The analysis is based on the materials by BBC business news.

In under mentioned articles, the conceptual feature of the financial crisis is defined as “a cause which breeds resentments”:

According to the article “Financial crisis hits happiness levels” (updated at 5 November 2013 by Stephanie Flanders) the concept is considered to be “a violation act of emotions”. The plot of the article - the Organization for Economic Co-operation and Development (OECD), levels of “life satisfaction” fell sharply between 2007 and 2012 in countries like Greece and Spain. It states that countries are worst hit by the global financial crisis saw their happiness levels fall as a result, a survey has suggested and the life satisfaction in many countries has fallen in the wake of the financial crisis.

Moreover, in the article “Global economic crisis 'linked to suicide rise’ ” (updated at 18 September 2013 by George White) the point at issue is that the recent economic crisis could be to blame for an increase in suicide rates in Europe and America. The article itself consists of the statistical facts. It states that in the year after the crisis began, the male suicide rate rose by 3.3% overall and this was largely in the countries where there were more reported job losses. Consequently, when the speech goes about the conceptual feature of the financial crisis depending on this article we can say it is “initiator which compels to make negative decisions”.

The article “Healthy Italian diet suffers as economic crisis bites” (21 November 2011) says that Italians have long been praised for their Mediterranean diet, rich in vegetables and fruit. But many are turning to cheaper, less healthy foods as the effects of the financial crisis bite, finds the BBC's Emma Jane Kirby. She writes that Italian families faced with rising food prices and low wages and today, one in three young Italians is obese and some 20 million adult Italians are overweight. In her article author informs that many Italians themselves begin to make a bread and pizza at home in order not to waste money and keep the budget. Although, author claims that In a shopping mall on the outskirts of the city, an animated celebrity TV chef, Sergio Barzetti, is

showing star-struck shoppers how to save money by bulk-buying seasonal vegetables like tomatoes and then canning them or making them into sauces for the winter time when the produce will soar in price. For the point of view, it can be considered as a good side of crisis. Because of it people try to learn the ways of surviving. Based on this article the conceptual feature of the crisis is “a cause which teaches people to survive”.

The article by the headline “Bank of England governor fears crisis is 'worst ever’ ” (7 October 2011 by Stephanie Flanders), illuminates that this financial crisis could be the worst the UK has ever seen. The author uses interview with England bank governor Mervyn King in order to state her attitude. In this interview Mervyn King points that this is the most serious financial crisis England has seen at least since the 1930s, if not ever. So that the conceptual feature of crisis is dawned as “a terrible fear”. Moreover, the article consists some economical jargon words such as “Quantitative easing” which explains the central banks increase the supply of money by “printing” more. In practice, this may mean purchasing government bonds or other categories of assets, using the new money rather than physically printing more notes, the new money is typically issued in the form of a deposit at the central bank. The idea is to add more money into the system, which depresses the value of the currency, and to push up the value of the assets being bought and to lower longer-term interest rates, which encourages more borrowing and investment. Some economists fear that quantitative easing can lead to very high inflation in the long term. In addition “credit easing” - a way to underwrite loans to small businesses who are struggling to get credit now.

In another article of the same source “Who, What, Why: Who first called it a 'fiscal cliff?’” by Tom Geoghegan published on 29 July 2013, the notion is taken as an idiom. For the information, the phrase “fiscal cliff” is now part of the American lexicon, describing the looming deadline when tax cuts expire and spending cuts kick in [Jackie Calmes November 15, 2012]. In his article author gives such interesting data related to the topic which helps him to keep the readers attention till the end of the article. Author uses metaphorical words and phrases, clarifies the term from many point of views of the economists. He states that the crisis scares many economists as the cliff scares sportsmen. Furthermore, we distinguish that the crisis itself like a cliff can beget many accidents.

In conclusion, according to the analysis of the concept “financial crisis” based on the economic discourse material we distinguish that:

In many cases the main feature of the notion is “causality” and “fearfulness”. It is proved by the examples taken from economic materials of BBC business news correspondents.



As it was mentioned below the “causality” of the crisis is in its power on the society and finance, which leads to many unchangeable actions.

As for its “fearfulness”, it reveals again the attitude of the society and the people who deal with financial problems towards the issue.

During learning materials we noticed that majority of the articles reveal the negative conceptual features of “economic crisis” and not the positive ones such as “a choice for self improvement”, “a choice for making decisions” and so on. While making a work the researcher should take into consideration both sides of the issue: negative and also positive ones. Consequently, it will be a first step to solving the problem through motivating and making influence on the reader of economic discourse.

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WATER EXCHANGE MODE IN SWIMMING POOLS WITH RETURN WATER SUPPLY SYSTEM

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РЕЖИМ ВОДООБМЕНА В ПЛАВАТЕЛЬНЫХ БАССЕЙНАХ С СИСТЕМОЙ ОБОРОТНОГО ВОДОСНАБЖЕНИЯ

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Аннотация. В статье рассматриваются вопросы расчета основных параметров водного режима плавательного бассейна, с учетом значений которых производят подбор оборудования и установок, а также коммуникаций водораспределительной сети.

Ключевые слова: плавательный бассейн, водоподготовка, обратное водоснабжение, намывной фильтр, патронный фильтрующий элемент, схема водообмена, циркуляционный расход воды, восполнение потерь, водный режим.



В настоящее время в Республике Узбекистан увеличивается строительство искусственных плавательных бассейнов. Прежде всего, это связано с ростом популярности здорового образа жизни. Большое количество их построено в городах, в зонах отдыха, на стадионах, в жилых микрорайонах. Они часто входят в состав комплексов санаториев и домов отдыха.

Искусственный плавательный бассейн представляет собой комплекс сооружений и устройств, функционально связанных между собой и обеспечивающих необходимый установленный технологический режим. В комплекс бассейна входят: ванна бассейна, являющаяся основным сооружением и определяющая тип и назначение бассейна; станция водоподготовки, обеспечивающая очистку, обеззараживание, подогрев и подачу воды в ванну; вспомогательные помещения и площадки для посетителей, спортсменов, зрителей, а также санитарно-техническое и специальное оборудование, обслуживающее посетителей и создающее необходимый технологический режим. [1.с. 98-99].

Под словом бассейн, часто подразумевают ванну, как основное сооружение.

Самое широкое распространение получила циркуляционная (с системой оборотного водоснабжения) система водообмена, включающая очистку, обеззараживание и подогрев воды. В процессе циркуляционного водообмена происходит непрерывная дезинфекция и очистка воды. Для восполнения потерь воды из ванны, возникающих в процессе эксплуатации, а также для снижения концентрации растворенных и дисперсных загрязнений, вносимых в ванну, предусматривается непрерывная или периодическая подача свежей очищенной воды. Во избежание бактериального загрязнения источника водоснабжения водой из бассейна подача воды при наличии и подпитке ванны должна производиться с разрывом струи.

В Наманганском инженерно-строительном институте проведены исследования эффективности намывного фильтра при очистке воды плавательного бассейна на экспериментальной установке, схема которой приведена на рис.1. Фильтр состоит из вертикального цилиндрического корпуса диаметром -150 мм, высотой-650 мм. с коническим дном, выполненного из органического стекла. Внутри корпуса помещен патронный фильтрующий элемент диаметром-50 мм, высотой-290 мм и поверхностью фильтрования- $s=0,0455 \text{ м}^2$ [2.с-11133]. Отличительной особенностью фильтра является то, что он снабжен устройством для измерения оптической плотности жидкости и распределителем сигналов, электрически связанными между собой [3.с.1].

К основным параметрам водного режима ванны относятся: расход циркуляционной очищенной воды $Q_{ц}$, обеспечивающий функционирование оборотной системы водообмена и расход воды $Q_{дон}$, восполняющий потери, возникающие во время эксплуатации ванны бассейна.

Качество циркуляционной очищенной воды, которую необходимо подавать в ванну во время её эксплуатации, должно соответствовать, предъявляемым к ней высоким требованиям. При этом высокое качество воды должно наблюдаться в любом месте отбора проб воды на анализы.

На вопрос о том, какое количество очищенной воды необходимо подавать в ванну бассейна, не всегда отвечают правильно, так как на определение оптимального циркуляционного расхода влияют многие факторы. Некоторые авторы основным фактором, определяющим количество воды, необходимое для подачи в ванну при оборотной схеме водообмена, считают период (время) полного обновления всей массы воды, находящейся в ванне [4.с.41-42]. Таким образом, если задаться периодом полного водообмена T , час. то зная V_v , м^3 , циркуляционный расход $Q_{ц}$, $\text{м}^3/\text{час}$. определяют по формуле:

$$Q_{ц} = V_v / T \quad (1)$$

Период полного водообмена часто принимают без расчета, например, [5] рекомендуют принимать его равным 8-12 час. для спортивных бассейнов и 6-8 час. для детских, а технические условия для оздоровительных бассейнов [6] предлагают принимать 6 час. и для детских от одного до трёх час. (в зависимости от возраста детей). За рубежом период полного водообмена тоже часто принимают без расчета, в пределах 6-20 часов [7]. Однако в таких рекомендациях совершенно не раскрывается сущность циркуляционного расхода воды, не учитываются особенности и режимы эксплуатации ванн бассейнов различного назначения, необходимые условия гидравлического смешения и качество воды, поступающей в ванну и на очистку. Циркуляционный расход влияет не только на качество воды в ванне, но и на расход электроэнергии, а следовательно, на все эксплуатационные и капитальные затраты.

В некоторых странах для определения циркуляционного расхода, а следовательно, и расчета технологического оборудования, принимают не период полного водообмена, а удельный расход воды, подаваемой в ванну, на одного купающегося. Но и эти рекомендации очень разноречивы.

Очевидно, пользуясь этими рекомендациями, можно допустить ошибки при проектировании установок и оборудования и не достичь необходимого высокого качества воды в ванне бассейна.

В действительности, исследованиями, выполненными российским ученым проф. В.С. Кедровым,



было установлено, что оптимальный циркуляционный расход воды $Q_{ц}$, м³/час, должен определяться тремя условиями: режимом эксплуатации, эффектом гидравлического смешения и водным режимом с учетом качества обработки воды.

1. Из условия режима эксплуатации была получена следующая формула:

$$Q'_{ц} = \frac{FN_{\tau}}{fV_{B}\Delta t m} \ln \frac{\kappa_{ц} - \kappa_0}{\kappa_{ц} - \kappa_6} \quad (2)$$

где F – площадь поверхности воды в ванне, м²; N – число купающихся в сутки; τ – время работы бассейна в сутки, час; f – площадь водной поверхности, приходящая на 1 чел., м²; V_B – вместимость ванны бассейна, м³; Δt – время, в течение которого качество воды в ванне улучшается до требований стандарта (2-3 час); m – показатель неравномерности пребывания посетителей в ванне бассейна ($m = N_{max}/N_{cp}$); $\kappa_{ц}$, κ_0 , κ_6 – показатели, характеризующие качество воды.

Показатель качества воды κ – отношение фактической концентрации (C_b , C_c или C_b) к допустимой по норме концентрации C_n (по остаточному хлору) или обратное отношение (по цветности и взвешенным веществам).

Как видно из формулы (2), количество воды, необходимое для циркуляции в ванне в период эксплуатации, зависит от многих факторов, в том числе от показателя качества воды, выпускаемой в ванну после её обработки $\kappa_{ц}$, показателей качества воды в ванне до циркуляции κ_0 и по истечении времени $\Delta t - \kappa_6$. Оценку качества воды можно производить по концентрации C обеззараживающего реагента (остаточного хлора), взвешенным веществам или цветности воды.

2. Из условия гидравлического режима, обеспечивающего полное и надежное смешение поступающей воды с водой ванны бассейна, формула для определения циркуляционного расхода имеет вид:

$$Q''_{ц} = \frac{209V_B d_0 K}{b^2 + 6,9d_0 b} \quad (3)$$

где d_0 – диаметр впускных циркуляционных отверстий, расположенных в продольных стенах в шахматном порядке (по сортаменту = 0,025; 0,05 м.); K – коэффициент скорости: 0,9; 1,1; 1,6 и 1,8 при скорости истечения из впускных отверстий, равной соответственно 0,8; 1,0; 1,5 и 2,0 м/сек.; b – величина, м., равная для малых ванн ширине ванны B , для больших ванн (при $B > 15$ м) $b = (0,5 - 0,75)B$.

3. Из условия водного режима с учетом качества воды (по исследованиям известного русского ученого Г. Г. Рудзкого) циркуляционный расход можно определить по формулам:

для спортивных и демонстрационных бассейнов

$$Q'''_{ц} = \frac{V_B \Pi_0^{0,23} v_{\phi}^{0,11} P^{0,12}}{18,43} = \frac{V_B}{T} \quad (4)$$

для оздоровительных бассейнов

$$Q'''_{ц} = \frac{V_B \Pi_0^{0,1} v_{\phi}^{0,16} P^{0,17}}{13,6} = \frac{V_B}{T} \quad (5)$$

где Π_0 – цветность воды из источника водоснабжения, град; v_{ϕ} – средняя расчетная скорость фильтрации, равная для напорных фильтров 25-30 м/час, для скоростных 6-12 м/час.; P – загрязненность ванны в сутки, принимается равной 0,1-2 чел/м³.

Эти формулы характеризуют и качество воды, добавляемой в ванну; при этом доказано, что период полного водообмена в ванне T зависит также от продолжительности первичной обработки вновь залитой в ванну воды и может быть определен по номограммам, приведенным в [6].

Расчетным оптимальным циркуляционным расходом воды для данной ванны бассейна следует принимать наибольшее значение $Q_{ц}$ из определенных по формулам (3)-(5) значений $Q'_{ц}$, $Q''_{ц}$ и $Q'''_{ц}$. С учетом пропуска этого наибольшего расхода воды производят подбор оборудования и установок, предназначенных для обработки воды в оборотной системе водообмена и, в частности, циркуляционных насосов, фильтров, хлораторов, бактерицидных и других установок, а также коммуникаций распределительной сети.

Для ориентировочных расчетов циркуляционный расход $Q_{ц}$, для ванны бассейна можно определить по следующим упрощенным формулам:

$$Q_{ц} = q_{ц} n_n \quad (6)$$

$$Q_{ц} = 6,5 F n_n / f V_B \quad (7)$$



где q_u – удельный расход циркуляционной воды, $m^3/чел.$, равный для малых бассейнов $q_u=1,1-1,5 m^3/чел.$, для больших $q_u=0,6-1,1 m^3/чел.$; n_n число посетителей ванны в 1 час (для расчета оборудования принимается максимально допустимая пропускная способность ванны); F – площадь зеркала воды в ванне, m^2 ; f – норма площади воды, $m^2/чел.$; V_e – количество воды в ванне (емкость), m^3 .

Потери воды в процессе эксплуатации возникают в результате выплескивания ее в переливные желоба и на поверхность обходных дорожек ванны, а также из-за испарения и «уноса» ее купающимися.

Потери воды при испарении с открытой водной поверхности ванны зависят от состояния окружающего воздуха, от его влажности и скорости перемещения слоев воздуха над поверхностью воды.

Количество воды $Q_{исп}$, $m^3/час$, теряемое при испарении, определяют по формуле:

$$Q_{исп} = 1,38Fq_0 \cdot 10^{-6} \quad (8)$$

где F – площадь поверхности, m^2 ; q_0 – среднемесячное количество испаряющейся воды, л, определяемое по формуле:

$$q_0 = K_e \Delta (15 + 3v_{возд}) \quad (9)$$

Здесь K_e – коэффициент, зависящий от дефицита влажности воздуха (при $\Delta > 15K_e = 0,5$, при $\Delta < 15K_e = 1$); Δ – среднемесячный дефицит влажности воздуха, %; $v_{возд}$ – среднемесячная скорость движения воздуха, м/с.

Потери воды на выплескивание $Q_{вып}$ и особенно на сброс в переливные желоба составляет 3-5% емкости ванны бассейна в 1 час. При схеме водоотведения из переливных желобов в оборотную систему водообмена потери воды на выплескивание составляют значительную меньшую величину – около 3% емкости ванны за весь период дневной эксплуатации τ , час. Выплескивание воды из ванны на поверхность обходных дорожек составляет не более 0,6 % емкости ванны. Общие потери на выплескивание воды можно определить по формуле:

$$Q_{вып} = 0,036V_e/\tau \quad (10)$$

Потери воды вследствие уноса ее на теле и на купальных костюмах Q_k составляют от 0,15 до 0,6 литров на одного посетителя, т.е.

$$Q_k = \frac{0,15 \div 0,6N}{\tau \cdot 1000} \quad (11)$$

где N – пропускная способность ванны (число купающихся за период работы), чел./сут.; τ – период работы бассейна в течение суток, час.

Общие потери воды $Q_{пот}$ представляют собой сумму величин

$$Q_{пот} = Q_{исп} + Q_{вып} + Q_k \quad (12)$$

что составляет около 4–5 % емкости ванны за дневной период работы бассейна, следовательно, в ванну ежедневно нужно добавлять

$$Q_{доп} = Q_{пот} \quad (13)$$

Эту воду добавляют в ванну из источника, пропустив её через очистные сооружения и водонагреватель, СНиП рекомендуют добавлять свежей воды в количестве 10 процентов емкости ванны в сутки.

Кроме упомянутых потерь, вода безвозвратно расходуется на собственные нужды технологического водопровода (промывка фильтров, мытьё полов, поливка территории и т.п.). Расход воды на собственные нужды

$$Q_{сб} = 0,06F_\phi J \tau_{пр} n K_3 \quad (14)$$

где F_ϕ – площадь фильтрующей поверхности фильтров, m^2 ; J – интенсивность промывки, л · (сек · m^2); n – число промывки в сутки; K_3 – коэффициент запаса на неучтенные расходы воды.

Однако при расчете водного режима ванны этот расход воды на собственные нужды учитывать не следует. Эта вода может храниться в специальном резервуаре или быть забрана из водоисточника.

Расчет трубопроводов, предназначенных для наполнения ванны бассейна, производится в зависимости от мощности водоисточника, емкости ванны и требуемой продолжительности ее наполнения.

Число патрубков (отверстий) для наполнения можно определять по формуле



$$n_n = \frac{354V_B}{d_n^2} v_n t_n \quad (15)$$

где V_B – вместимость ванны, m^3 ; d_n – внутренний диаметр патрубков (отверстий), мм; v_n – скорость движения воды в трубке (отверстий), принимаемая не более 3 м/с; t_n – продолжительность наполнения ванны, час.

Определенные удобства при санитарной обработке дна и стен ванны создают устройства, из которых вода поступает в ванну в виде каскада, образуя незатопленный водослив. Каскад можно устроить по всей длине торцевой стены мелкой части ванны, используя желоб, встроенный в бортовой элемент ванны.

Для наполнения водой ванн бассейнов оздоровительного и лечебного назначения возможно применить устройство в виде фонтана, используя аэрацию, как метод, улучшающий качество воды.

Наиболее часто наполнение ванны водой производят, используя устройства для подачи и распределения циркуляционного расхода воды, обеспечивающие водообмен в ванне схеме оборотного водоснабжения. Наполнение ванны водой осуществляется по трубопроводам системы с использованием циркуляционных впускных отверстий, которые рассчитываются из условий создания оптимального режима водообмена и циркуляции воды в ванне бассейна.

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HISTORY OF TRAINING OF SECONDARY MEDICAL SERVICES IN UZBEKISTAN

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INTRODUCTION

The activities of educational institutions in this area have a special role in the protection of public health and the development of medical science. During the years of independence, Uzbekistan has been paying more serious attention to the development of medical education. Resolution of the President of the Republic of Uzbekistan dated May 5, 2017 No PP-2956 "On measures to further perform the system of medical education in the Republic of Uzbekistan" [11, 1], April 7, 2020 No PP-4666 "On measures to introduce a completely new system of training and continuous professional development in the field of the health care [8]. In accordance with the resolution, a number of positive steps are being taken in this area. Also, a study of the history of the system will serve for the implementation of this decision.

PURPOSE AND MISSION (MAIN PART)

The medical education system of Uzbekistan has its own history. Principally, the opening of medical schools and the study of their activities in different historical periods is one of the most actual issues.

During the years of Soviet rule, a certain amount of attention was paid to the training of the medical personnel, the provision of medical facilities with specialists. On June 1, 1931, the resolution of the Central Committee of the CPSU (b) "On medical personnel", on September 5, 1931, the resolution of the Central Election Commission of the USSR "On training of doctors" was adopted. The first medical institute in Uzbekistan was opened in 1930 on the basis of the Republican Hospital in Samarkand and was renamed the Uzbek State Medical Institute [10,4]. This educational institution was the first independent medical institute in Central Asia.

One of the most active members of the medical field is the medical staff. Nurses, paramedics and midwives have a great responsibility in maintaining and treating the health of the population. During the Soviet rule, Uzbekistan had a number of educational institutions that trained secondary medical staff. In 1940, there were 23 specialized medical schools in Uzbekistan, and in 1950-12, in 1957-14 [12,159].

There were 8 medical schools in 1940 and 3 in 1957 in Tashkent. During this period there was mainly one medical school in the regions of the republic. There are significant differences between the regions in terms of admission to these (medical) educational institutions. In 1950, 694 students were admitted to medical schools in Tashkent, 88 students in Andijan, 93 students in Kashkadarya, 34 students in Surkhandarya, 60 students in Khorezm. Although the number of population and medical institutions have increased, the (cog) contingent of medical students has not changed. For instance, in Khorezm, in 1957 the number of students admitted to this type of educational institution did not exceed 60. In 1940, a total of 4707 students studied in medical schools in Uzbekistan, while their number was 7783 in 1957 [13,136].

In the regions of Uzbekistan, secondary medical schools have been established at different times. For example, the Andijan paramedic-obstetrics school was founded in 1936. However, the school did not have its own building in 1953. In the same year, 336 students studied at this school and the school operated in an adapted building on the second floor of the Andijan city hospital [1,54].

Namangan Medical school was founded in 1938, and in the year of its opening under F.I.Kliminov's leadership, 12 teachers started training sessions for 123 students. Most of the students had just graduated from 4th grade, at which time they were considered the most literate. In 1945



Namangan Medical school was transformed into a paramedic-obstetrics school. During the war years, not only young people from Namangan, but also young people evacuated from the RSFSR, Ukraine, Belarus, Latvia and Lethuania were admitted to the school, within this time the school trained 6231 secondary medical personnel. In 1951, this medical school was reorganized into an educational institution and in 1960 it was merged with the Andijan paramedic-obstetrics school [4, 3-5].

In the 1963-1964 academic year, 66 students were admitted to the obstetrics department at the Namangan Medical school [2,95]. In 1963, a new educational building was built and commissioned for the Namangan Medical school. A graduate of the university, Professor S.P.Pulatov, candidates of science I.Turgunov, I.Usmonov, X.Muntazayev, M.Mirsaydullayev and others became well-known representatives of medical science [5,8].

The first medical school in Uzbekistan was established in 1920 in Tashkent, and in the following years their number has grown significantly, and by 1980 there were a total of 37 medical schools in the country. However, the level of training of secondary medical staff in the system of the Ministry of Health of the USSR lagged behind the requirements of the time [13, 136].

On February 21, 1946, in the southern regions the first medical school was established in Karshi this educational institution was originally started as a paramedic-obstetric school. In the first years of the existence of the school it faced numerous considerable difficulties due to a lack of classrooms, dormitories for students, and soft and hard inventory. In 1947, 270000 soums were allocated for the construction of the Karshi Medical School, and due to the fault of the leaders of some organizations, the construction of the building was delayed for several years. It was only in 1954 that the Karshi Medical School moved to a new 12 rooms educational building that had some requirements.

Termiz Medical School that was located in the south of Uzbekistan, was established in 1945. In March 1969, due to the unification of Kashkadarya and Surkhandarya regions, Termiz Medical School joined the Karshi Medical School. This created a number of problems for these educational institutions, as the material base of the Karshi Medical School was so weak that the situation was aggravated by the merger of the Termiz Medical School. Thus 850 students started to study at the Karshi Medical School. The school building was designed for 300 (students) people and after the merger, classes were held in 3 shifts. The lack of classrooms and teachers had a negative impact on students satisfactory learning, leading to a decline in the quality of trained staff. In addition to this, the lack of control over the teaching of students in the medical schools has led teachers to be indifferent to their duties. A number of shortcomings in the

organization of classrooms, laboratory rooms in the medical school had a negative impact on the quality of lessons with the help of special cabinets and laboratories in various areas of medicine would open a wide range of opportunities for students to acquire qualified knowledge [6,28,29].

In increasing the effectiveness of lessons textbooks also have a special role. On the other hand, during the soviet era, the majority of medical students were Uzbek in the republic, but the existing textbooks were mostly in Russian the lack of native language textbooks prevented for students who came from the districts, from acquiring a perfect education.

Only 18 percent of the educational institution's students were provided with dormitories. Taking into account the above-mentioned problems, in 1963 Termiz Medical School was reorganized as a branch of Karshi Medical School.

On February 8, 1964, on the basis of the Resolution of the Council of Ministers of the USSR No.74 "On measures for the further development of secondary medical education in the Republic" a number of measures were taken to improve the study and living conditions of medical students in the regions.

On April 5 1966, Shakhrisabz Medical School was established. New dormitory buildings have been built and commissioned for students of Karshi and Termiz medical schools. During 1946-1990, the Karshi Medical School trained 20000 secondary medical staff [7,72-75].

While Karshi and Termiz Medical Schools trained midwives for all fields of medicine Shakhrisabz, Sherabad, which was opened on July 14, 1982, and Denov, which was established on September 9, 1983, trained mainly nurses and paramedics [9,5].

RESULTS AND COMMENTS

These medical schools in the southern regions have almost met the demand for medical staff in medical institutions. In order to improve the quality of medical care provided to the population, it is necessary to constantly improve the skills of doctors and nurses. It should be noted that there was no management and coordination of training, distribution of medical staff in the country. Additionally there were no strict plans for the training and certification of medical staff. For instance, in the 1990s, only 7.1 percent of secondary medical staff had a category in Uzbekistan [3, 68-69]

METHODS

The article is based on the generally accepted methods- historical, comparative and logical analysis, consistency, objectivity.

CONCLUSIONS

To sum it up, the establishment of medical education in Uzbekistan has been very difficult.



Initially, medical nurses paramedics and obstetric schools were opened in the country, which trained secondary medical staff in medical institutions. Gradually, medical schools were opened in a number of cities of the Republic these educational institutions have played an important role in providing medical institutions with medical personnel with secondary education.

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STUDY OF THE PHYSICAL BASIS OF STRAIN CONVERTERS BASED ON BISMUTH-ANTIMONY TELLURIDES

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ИССЛЕДОВАНИЕ ФИЗИЧЕСКИХ ОСНОВ ТЕНЗОПРЕОБРАЗОВАТЕЛЕЙ НА ОСНОВЕ ТЕЛЛУРИДОВ ВИСМУТА–СУРЬМЫ

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Аннотация

Статья посвящена исследованию физических основ преобразователей деформаций – тензопреобразователей. В статье рассматриваются основные физические явления, протекающие в чувствительных элементах на основе теллуридов висмута–сурьмы под действием деформации, анализируются причины изменения удельного сопротивления однородных твёрдых тел, приводятся экспериментальные данные

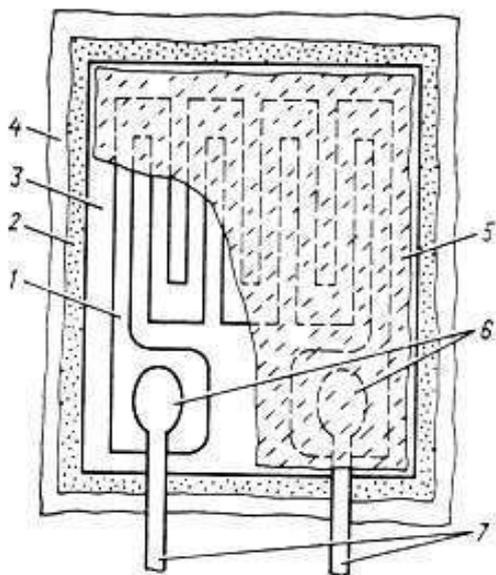
Ключевые слова: *напряжённое состояние, тензопреобразователи, деформация, чувствительный элемент тензочувствительные плёнки, коэффициент тензочувствительности, удельное сопротивление, коэффициент Пуассона, параметр решетки, гетерогенная среда.*

При экспериментальных исследованиях напряженного состояния конструкций, а также для преобразователей деформаций в различных измерительных устройствах широко применяются тензопреобразователи. Они малоинерционны, позволяют дистанционно и во многих точках проводить измерения; способ установки их на исследуемую деталь не требует сложных приспособлений и не искажает поле деформаций исследуемой детали. Малые размеры и масса тензопреобразователей позволяют размещать их в малодоступных местах и устанавливать на детали в период сборки конструкции.

Принцип измерения деформаций с помощью тензопреобразователя состоит в том, что при деформации изменяется его активное сопротивление. Тензопреобразователь конструктивно представляет собой чувствительный элемент (ЧЭ) из тензочувствительного материала, закреплённый с помощью связующего (клея) на исследуемой детали (рис.1) [1].

Рис.1. Схема тензопреобразователя:

- 1- чувствительный элемент;
- 2- связующее;
- 3- подложка;
- 4- исследуемая деталь;
- 5- защитный элемент;
- 6- узел пайки (сварки);
- 7- выводные проводники деформации от детали к чувствительному элементу [1].



Для присоединения ЧЭ в электрическую цепь в тензопреобразователе имеются выводные проводники. Некоторые конструкции тензопреобразователей для удобства установки, имеют подложку, расположенную между ЧЭ и исследуемой деталью, а также защитный элемент, расположенный поверх чувствительного элемента.

Деформация ε исследуемой конструкции, переданная с помощью связующего чувствительному элементу, изменяет его сопротивление, функционально зависящего от деформации вдоль главной оси тензопреобразователя, направление которой совпадает с направлением его максимальной чувствительности к деформации, сопротивления R до деформации, коэффициента передачи деформации $K_{пер}$ и её преобразования $K_{пр}$, т.е. $\Delta R_{\varepsilon} = f(R, \varepsilon, K_{пер}, K_{пр})$.

Преобразование измеряемой деформации в изменение электрического сопротивления происходит в ЧЭ тензопреобразователя вследствие наличия тензорезистивного эффекта в проводниковых и полупроводниковых материалах, т.е. вследствие их свойства изменять свое электрическое сопротивление при

деформировании.

Электрическое сопротивление тела изменяется при деформации, как за счёт изменения его геометрических размеров, так и за счёт изменения удельного сопротивления материала. В случае одноосного напряжения (например, растяжения) относительное изменение сопротивления dR/R или коэффициент тензочувствительности (КТЧ) т.е. K элемента длиной l с удельным сопротивлением ρ и коэффициентом Пуассона μ будет

$$K = \frac{dR}{R} = (1 + 2 \cdot \mu) \frac{dl}{l} + \frac{d\rho}{\rho} \quad (1)$$

В уравнении (1) первый член определяет изменение геометрии тела, а второй изменение удельного сопротивления; $\mu < 0,5$ и приращение сопротивления за счёт геометрии не превышает $2dl/l$. Приращение сопротивления за счёт изменения удельного сопротивления зависит от структуры и свойств материала и в некоторых случаях может быть в несколько десятков и сотен раз больше, чем изменение за счёт геометрии.

При деформации удельное сопротивление однородного твёрдого тела изменяется вследствие определенных причин:

- изменения взаимодействия между электронами и упругими волнами в кристаллической решётке в связи с тем, что деформация искажает порядок кристаллической решетки, изменяет амплитуду колебания атомов около их нормальных положений и вследствие этого изменяется длина свободного пробега электронов и их подвижность;
- изменения энергии Ферми, приводящее к изменению числа электронов носителей тока, так как из теории переноса известно, что только электроны с энергией, близкой к энергии Ферми, определяют процессы проводимости; изменения энергии Ферми в полупроводниках вносит заметный вклад в тензоэффект. При деформации происходит изменение этих энергетических уровней, и удельное сопротивление изменяется по экспоненциальному закону. Изменения энергетических уровней приводят к высокому тензоэффекту и при этом наблюдаются резкие приращения сопротивления от температуры.
- изменение зонной структуры, обусловленного изменением в перекрытии или сближением различных зон;
- возникновения новых кристаллических модификаций [2].

Нами рассматривалась полупроводниковая смесь теллуридов висмута–сурьмы, которая относится к гетерогенным полупроводниковым средам.

Для получения тензочувствительных плёнок на основе теллуридов висмута–сурьмы нами была использована как автоматизация технологического процесса получения плёнок, так и калибровочного стенда с малым значением деформации (до 10^{-4}) [3]. Образцы ЧЭ из $(Bi_xSb_{1-x})_2Te_3$ получали методом термовакuumного напыления, при этом использовали однопостовую типовую вакуумную установку УВН-73П, которая является базовым вакуумным оборудованием, позволяющим при напылении поликристаллических плёнок контролировать сопротивление образцов по свидетелю. [4]

В процессе напыления был обеспечен и поддерживался вакуум с давлением $2,7 \cdot 10^{-3} \div 6,7 \cdot 10^{-3}$ Па для получения тензочувствительных пленок, воспроизводимых по свойствам, кроме того было обеспечено термическое испарение с различными скоростями напыления и возможность осаждения парового потока сложного состава на подложке при различных температурах и положениях подложки. При этом расстояние между испарителем и подложкой для данных пленок должно быть не ближе $40 \div 45$ мм.

Эксперименты показали, что увеличение скорости конденсации при постоянной $T_{\text{п}}=90^{\circ}\text{C}$ сопровождается ростом концентрации свободной сурьмы в пленке по отношению к теллуру, а уменьшение температуры до 50°C , при постоянной $v \approx 20$ нм/с, приводит к росту концентрации свободного поликристаллического теллура [4,5]. Наилучшими тензoeлектрическими свойствами обладают пленки, полученные предварительным выпариванием легколетучего компонента теллурида висмута-сурьмы – теллура, а также пленки, полученные при оптимальных условиях их конденсации: $T_{\text{п}}=90^{\circ}\text{C}$, $v \approx 20$ нм/с.

Для получения упорядоченной гетерогенной среды из теллурида висмута и сурьмы с наилучшими тензoeлектрическими свойствами, мы проводили послойное напыление одной фазы на другую. При этом проявляется эффект самоорганизации [6], для которого необходимым условием является напыление на фазу теллурида сурьмы с меньшим параметром решетки ($a=0,4275$ нм, $c=3,0490$ нм) фазы теллурида висмута с большим параметром решетки ($a=0,43835$ нм, $c=3,0487$ нм). В результате можно предполагать, что при конденсации происходят эффекты, подобные вышеописанным эффектам, происходящим при напылении фаз арсенидом галлия и индий-мышьяка. В результате которых, получают упорядоченные гетерогенные среды с наногранулами, в нашем случае теллурида висмута и сурьмы.

С помощью расчетных методов исследования частотной зависимости сопротивления $R(\omega)$ и ёмкости $C(\omega)$, используя экспериментальные данные, нами были определены зависимости коэффициента тензочувствительности плёнок от частоты и деформации - $K(\omega, \epsilon_i)$. На рисунке 2 представлены зависимости КТЧ плёнок теллуридов висмута-сурьмы от наложенной деформации для разных частот. Из рисунка видно, что при наложении деформации увеличивается сопротивление плёнок, но уменьшается их КТЧ. Наибольшие значения КТЧ достигаются при $\epsilon_i=10^{-4}$ отн. ед. Дальнейшее увеличение значения деформации приводит к уменьшению коэффициента тензочувствительности плёнок.[7]

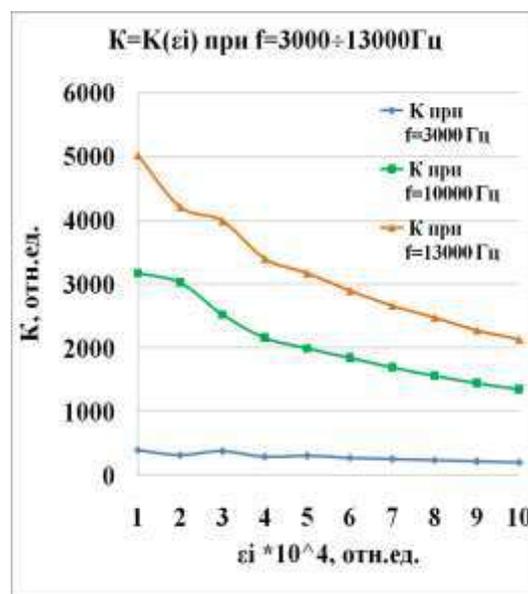


Рис.2. Зависимости КТЧ плёнок теллуридов висмута-сурьмы $(\text{Bi}_x\text{Sb}_{1-x})_2\text{Te}_3$ от наложенной деформации измеренные и вычисленные для области частот $f = 3000 \div 13000$ Гц

Таким образом, изменение величин удельного сопротивления и коэффициента тензочувствительности, полученных термическим напылением соединения $(\text{Bi}_x\text{Sb}_{1-x})_2\text{Te}_3$ в зависимости от технологических параметров можно объяснить диссоциацией соединения при испарении, степень которой зависит от температуры испарения, и изменением химического и фазового состава получаемого ЧЭ по толщине за счет различного давления паров компонентов, входящих в состав испаряемого соединения. Полученные структуры могли бы быть использованы в качестве тензопреобразователей - чувствительных элементов) малоцикловых датчиков накопленной усталостной повреждаемости.



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MODERN PEDAGOGICAL TECHNOLOGIES FOR RUSSIAN LANGUAGE LESSONS

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ANNOTATION

The article discusses the possibilities of using modern pedagogical technologies in the formation of communicative, cultural and socio-cultural competence of students.

KEY WORDS: *pedagogical technology, competence, project method, electronic board, activation of cognitive activity*

СОВРЕМЕННЫЕ ПЕДАГОГИЧЕСКИЕ ТЕХНОЛОГИИ НА УРОКАХ РУССКОГО ЯЗЫКА

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Аннотация: В статье рассматриваются возможности использования современных педагогических технологий в формировании коммуникативной, культурной и социокультурной компетентности студентов.

Ключевые слова: педагогическая технология, компетентность, проектный метод, электронная доска, активизация познавательной деятельности.

Сегодня большое внимание уделяется новым педагогическим технологиям в обучении иностранным языкам, в частности русскому в узбекской аудитории. Совершенствование учебного процесса означает не только обогащение самого содержания обучения, но и повышение научного уровня форм организации обучения, его методов и приёмов. А именно, приоритетом выступает не передача неких конкретных знаний и умений от того, кто учит, тому, кто учится, а развитие у учащегося самой способности по собственной воле приобретать эти знания и умения, когда возникает необходимость. Всё это, естественно, требует новых технологий образования – оптимальных

способов достижения решения педагогических задач в заданных условиях.

Этими требованиями времени объясняется постоянный педагогический поиск учителей, направленный на разработку эффективных средств, помогающих к освоению текстов художественных произведений в единстве содержания и формы. Традиционные уроки, предполагающие ведущую роль учителя, мало приспособлены для свободного творческого общения школьников, заинтересованного обсуждения актуальных проблем, осмысление литературного произведения. Учебный процесс должен быть организован таким образом, чтобы все участники оказались вовлечёнными в работу.



Использование компьютерной техники на занятиях позволяет учителю массу возможностей учителю в решении многих учебных задач.

При ознакомлении студентов нефилологических направлений с жизнью и творчеством писателей и поэтов можно использовать интерактивные методы с использованием современных технических средств. Например, занятие, посвященное

изучению жизни и творчества писателя И.С. Тургенева.

Оборудование: Подготовлены портрет и произведения писателя, проекционные и раздаточные материалы.

На электронной доске появляются слова: *знаю, хочу узнать, узнал*. По ответам учащихся заполняется таблица ЗХУ:

<i>Знаю</i>	<i>Хочу узнать</i>	<i>Узнал</i>
И.С. Тургенев – великий русский поэт	Более подробно о жизни и творчестве писателя	(домашнее задание: заполняется самостоятельно)

На электронной доске – словарь трудных слов, по которым проводится фонетическая минутка. Хронологическая таблица о жизни и творчестве И.С. Тургенева освещается на мониторе, на электронной доске проводится слайдовая презентация о жизни и творчестве И.С.Тургенева.

После чтения текста студенты должны составить синквейн со словом *Тургенев*.

Составление синквейна – важное умение, позволяющее излагать сложные идеи, чувства и представления в нескольких словах. Процесс составления синквейна способствует лучшему осмыслению темы.

На мониторе синквейн «Тургенев»:

1. Тургенев.
2. Талантливый, образованный.
3. Наблюдает, анализирует, сочиняет.
4. Творчество писателя – гордость России.
5. Гуманист.

Метод проектов – наиболее актуальная педагогическая технология, ориентированная на личность учащегося [1]. Некоторые темы курса «Русский язык» на нефилологических направлениях вуза позволяют применить метод проекта не только с целью активизации познавательной деятельности студентов-узбеков, но и с целью их коммуникативного развития и пополнения их культуроведческими знаниями.

Проект «Знаменитые музеи Москвы и Санкт-Петербурга» состоит из двух этапов (уроков), организуемых в определенной последовательности в соответствии с технологией использования проектной методики при обучении русскому языку [2].

Каждое из занятий планируется по следующей схеме:

I этап: А) Целеполагание (определение темы, проблемы, гипотез, целей проекта); Б) Планирование (определение методов исследования, источников информации, критериев оценки). В) Исследование (сбор информации, решение промежуточных задач);

II этап: А) «Круглый стол» с пошаговым описанием действий; Б) Решение факультативных

задач. В) Презентация (защита и оппонирование) и оценка результатов (качественная оценка проделанной работы).

I этап. Занятие начинается с краткого введения преподавателя: преподаватель приветствует всех участников проекта, знакомит студентов с основными особенностями проектной деятельности, определяет тему проекта – «Знаменитые музеи Москвы и Санкт-Петербурга». Преподаватель совместно со студентами а) формулируют проблему исследования; б) выдвигают гипотезы и определяют направления поиска информации по работе с гипотезами. Преподаватель организывает группы студентов: группа по сбору информации о Третьяковской галерее, группа по сбору информации об Эрмитаже, и определяет роли каждого члена группы (изучение истории объектов, информация об основателях, иллюстративный материал и т.д.) Студентам предлагается ряд наводящих вопросов: – Что такое галерея? Почему галерея называется Третьяковской? Для чего была создана Третьяковская галерея? Что хранится в Третьяковской галерее? Где находится Эрмитаж? Что вы знаете об истории Эрмитажа?

После ответов студентов, преподаватель дает следующую информационную справку: «Государственная Третьяковская галерея находится в Москве. Она основана известным меценатом искусства П.М. Третьяковым. Основой для создания музея явилось художественное собрание мецената, переданное им в дар городу Москве в 1892 году вместе с коллекцией его брата С.М. Третьякова. Это знаменитая сокровищница русского национального искусства» Лексические трудности при этом снимаются преподавателем посредством перевода или толкования незнакомых слов, которые даны на доске: *галерея, меценат, живопись, акварель, вернисаж*.

Преподаватель указывает на репродукцию картины, висящую на доске (или проецируемую на экран): Учитель: «Перед нами картина



Валентина Александровича Серова «Девочка с персиками» – одно из первых крупных его произведений. На картине изображена Вера Мамонтова, дочь известного мецената Саввы Мамонтова. Серов мастерски пользуется игрой света. Вся картина залита солнцем. Этот необыкновенно бодрящий солнечный свет насыщает все пространство большой и светлой комнаты. В картине Серова поражает гармония между внутренним миром персонажа и окружающей природы, наполненной чистым воздухом, теплом и светом. Эта удивительная гармоничность картины – свидетельство яркого таланта художника».

Лексические трудности снимаются преподавателем посредством перевода незнакомых слов и словосочетаний, которые даны на доске: *игра света, залита солнцем, бодрящий, гармония.*

Преподаватель: Где находится картина В.А. Серова «Девочка с персиками»?

Студенты: Картина В.А. Серова «Девочка с персиками» находится в Москве в Третьяковской галерее.

Преподаватель: Какая дата, связанная с В. Серовым, отмечалась в Третьяковской галерее? Какие картины В. Серова были выставлены в Третьяковской галерее? Почему выставка картин В. Серова вызвала большой интерес в обществе?

Ответы студентов.

Преподаватель указывает на следующее высказывание: «Картины В. Серова раскрывают сокровенные чувства русского человека». Задает вопрос: «О картинах какого из узбекских художников можно сказать то же самое?». *Ответы студентов.*

В ходе рассуждений студенты сами логически подходят к обозначению проблем и выдвижению гипотез для их успешного решения. Преподаватель при этом играет роль консультанта-координатора.

На данном этапе происходит актуализация уже известного языкового материала по выбранной теме, а также ознакомление с новыми лексическими единицами. Студентам предлагается самостоятельно отыскать дополнительный материал по данной проблеме в соответствии с определенной ролью.

II этап. Преподаватель организует «Круглый стол», на котором завершается отбор информации и ее обсуждение в группах, составляется сценарий защиты проекта.

Оформление проектной работы происходит в форме заочной экскурсии-презентации по Третьяковской галерее и Эрмитажу и защиты проекта лидерами групп.

Преподаватель предоставляет время студентам (20 мин) для завершения проектной работы, ее оформления и подготовки к защите

(презентации) результатов. Наблюдает, координирует деятельность студентов.

Доклады групп сопровождаются иллюстрациями. Во время защиты студенты задают своим однокурсникам различные вопросы. Ответы студентов также учитываются при оценивании работы.

Во время защиты проектов проводится оценка результатов проектной работы как самими студентами, так и преподавателем.

Таким образом, использование современных педагогических технологий при обучении русскому языку позволяет сформировать коммуникативные, культуроведческие и социокультурные компетенции студентов, помогает эффективно и легко усваивать учебный материал, воспитывает культуру речи на русском языке, формирует у студентов нефилологических направлений бакалавриата такие способности, как любознательность, зоркость в поисках решения проблем, способность обработки информации.

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PECULIARITIES OF MUSEUMIFICATION OF ARCHAEOLOGICAL MONUMENTS IN FOREIGN COUNTRIES

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ABSTRACT

In this article the little-studied problem such as the preservation of cultural heritage of archeological monuments through various methods of museumification is focused on.

The scientific activity of scientists in different countries on the museumification of real archeological monuments, the history of the problem is briefly described. The author also provides a comparative analysis of the work done on the museumification of real properties in different countries around the world.

KEY WORDS: *museum, museumification, archeology, analysis, organization, museum, preservation, conservation, restoration, cultural monuments, research.*

INTRODUCTION

The principle of preservation of material and cultural heritage in the world, which corresponds to the scope of foreign experience, is the museumification of archeological monuments in natural landscapes. Among the problems associated with real monuments, the main focus is on their conservation and museumification. The issues of long-term use and preservation of monuments in the open field leads to a very complex, interrelated problems having scientific, engineering, technical and legal character. The optimal way to find its modern solution is to create archeological museums – reserves [1. - p. 115].

LITERATURE REVIEW

A number of scientists are conducting research on the museumification, conservation and restoration of real historical and cultural heritage properties. In particular, M. Garber, A. Medved and M. Caulen studied the work of preservation, museumification and restoration of archeological monuments in Russia and abroad. Ya. Gulamov worked on the preservation of material and cultural monuments in Uzbekistan, A. Abdurazakov worked on the preservation and museumification of murals in Afrosiyab. M. Filanovich and A. Terenokhin studied the archeological monuments in the city of Tashkent

and its surrounding, and conducted investigations on their protection and preservation from various natural and human factors.

In these works, which were studied on the basis of a new methodology and axiological approach, material and cultural monuments were studied as a priority area of national value. In the course of the study the textbooks, manuals and monographs, focusing on the protection and repair of monuments, innovations and innovative forms in the practice of world museology, museumification and protection of real estates, were also used.

METHODOLOGY OF THE RESEARCH

Modern theoretical and methodological, interdisciplinary approaches, principles of systematization, as well as methods of comparative, systematic analysis were used in this research.

ANALYSIS AND RESULTS

Preservation of immovable (real) cultural monuments through restoration, conservation and museumification is one of the most actual issues today. Depending on the above ideas, we will consider the works designed and implemented in foreign countries. For example, in the practice of museumification in Slovakia, in the county of Herculata, located in the Rusovitsa region, experts



note that the developers have had undoubted success in preserving historical and cultural monuments [2.p.23-25]. During the excavations here by archaeologists in 1965-70s, the remains of majestic architectural structures belonged to the period of the Roman Empire in the I-IV centuries AD and the stone foundations of Slavic houses were found. In the reports of Slovak scientists on archeological finds, it is noted that Herculata was the only surviving monument of the Roman Empire. Considering the unique value of the archeological monument, it was decided to museumificate it and establish a tourist complex [1. - p. 117].

The authors of the museumification project included the followings for the on-site exposition: a part of the defensive walls; stone foundations of residential buildings of I-II centuries AD; majestic architectural object - forum of III-IV centuries; podium remains and etc. The authors of the project worked long on how to impress the ruins of the citadel. Porches of steel construction, 1.5 meters wide corridors for spectators were built around the monument. Much of the city was re-buried with soil, treated with herbicides, and its surroundings were bordered so that it would not be ruined under the influence of climate. The traditional archeological artifacts found here are placed in the museum built at the entrance.

In 1954, in the village of Mikulchitsa on the Morava River in the Czech Republic, a Slavic citadel dating back to the VII century AD, which occupied 200 hectares area, was discovered. The 5 of the 12 Christian buildings were located on the territory of the prince's palace, and the rest were on the outskirts. Tourist information corridors have been built around the temples. The roofs of the buildings there were covered with light structures and then museumificated. The exhibits found here are on display in showcases. The district of the citadel is surrounded by concrete walls [3. - p. 612-615].

During the archaeological excavations on the outskirts of Kent city in England the remains of Roman villas were discovered. After a series of scientific studies, a museumification project of this find was developed. A wooden pavilion with a low roof was built on the site, covering the boundaries of the excavation areas. In order to provide maximum natural light, the roof and walls are covered with transparent glass-like sheet materials combined with asphoblit.

Structurally, the pavilion has three dissimilar portal spaces, the longest of which is in the center and the ones on the sides are shorter but of different lengths [4. - p. 192-194.].

The next monument, which belongs to Ancient Northern Ireland, is a New Grange monument of the Stone Age. It is located in Mit County in the Boyne Valley. It was built before the Pyramids of Giza and Stonehenge, about 5,200 years ago. New Grange formed an 85-meter circular hill,

13.5 meters in diameter and 19 meters in height. The castle is surrounded by 97 large curbstones, some of which are engraved with symbols called megalithic art. This monument is today's open-air museum and is included in the World Heritage List of UNESCO.

Another type of museumification can be seen in the Archaeological Crypt of Notre Dame de Pari, opened in 1980 in Paris. This monument was found underground when construction began on the Site Island. Archaeological excavations were carried out in 1965-72s, where slabs of ancient buildings were found. Scholars have determined that the oldest of them belong to the Ancient period. The remains of the building are illuminated with artificial lighting, showcases are placed around it, and the exhibits found here are on display. There are exhibits that testify to the centuries-old cultural heritage of the country and the city. Its multifaceted collection is unique and versatile, with no value or analogue. When the spectator enters the underground museum, he or she feels the atmosphere of that period. This is facilitated by informational slide shows, audio commentaries, interactive programs [5. [https:// commons.wikimedia.org/wiki/](https://commons.wikimedia.org/wiki/)].

If such experiments are seen in the example of Greece, they radically differ from those of the above-mentioned museumificated monuments. The Akrotiri archeological site on the island of Santorini Tera was left under a volcano in 1450 BC. In the 1860s, when workers were trying to get volcanic ash to build the Suez Canal, they came across the remains of this ancient citadel. The excavations began in 1967 under the direction of Spyros Marinatos, a professor at the University of Athens. According to the scientists, the remains of 40 buildings discovered in Akrotiri cover only 1/30 of the area. Materials such as iron, wood, and glass were used to cover the roof of this monument. In order not to damage the monuments, special walkways were built around it. Most importantly, special attention is paid to maintain the environment of that period here as much as possible.

In all of the above objects, the monuments were museumificated in accordance with the requirements of museum work. But the methods used in them do not repeat each other, because archeological objects have come down to us in different states. For example, the building materials of monuments in European countries were mainly marble, stone and brick, and in many cases most of them were on the ground. In the ancient monuments in Central Asian countries mainly mud walls, and later bricks were used, most of them remained underground and the upper parts became hills. Therefore, it is very difficult to museumificate them, because the monuments, which occupy several hectares, will have to be covered with domes or arches, using light constructions in a modern style. This requires very experienced constructors, architects, and it requires a lot of money as well.



Because the material used to cover the surface is first tested in a laboratory and then selected. The materials used in European countries do not correspond to the climatic conditions of Uzbekistan. The most powerful of them can withstand from -60° to $+50^{\circ}$ degrees.

The most important feature of an archeological object for the problem under consideration is that museumification is the best way to use the monument. However, the scientific method in this field has not been fully developed yet, and the accumulated experience needs to be seriously generalized from the position of museum work.

Registration of monuments, creating their funds, archeological maps represents preventive measures aimed at preventing them from destruction. However, these measures cannot provide the information potential of the monuments. Accordingly, museumification is the only way to incorporate such a monument into the cultural environment. At the same time it allows to solve the problem of protection, because after archeological excavations the archeological object is destroyed, usually eroded, covered with grass and buried. When it finally reaches an irreversible state, the object is removed from the protection lists. Another peculiarity of museumifying most archeological objects is that it is not possible to move them to another area. Usually, an archeological monument can only be museumified at the site of its discovery. The stages of museumification of real archeological objects include: excavations, conservation, beautification of access roads, and other types of exposition interpretation. When selecting archeological monuments for museum exhibits, several types of objects are distinguished.

Archaeological monuments: ancient cities and villages, settlements, old cemeteries, irrigation systems, manufactures – a complex of crafts, that is, complexes that allow to provide comprehensive coverage of all major moments of life and activity of ancient people. Archaeological objects: individual structures, including archeological monuments too. Archaeological finds: all portable parts of an archeological monument and object. Among the monuments of the ancient past, rock carvings have a special place. Although these monuments belong to archeological monuments, however, they are not associated with excavations. Petroglyphs have a unique attraction and expressiveness, and strongly impact on the viewer. Experience has shown that sometimes museumifying the images painted on rock or building walls can damage them. Negative changes have taken place in the rock paintings painted in the caves of Lasco located in southwestern France, with a history of 17,000 years as a result of a large number of visitors entering and the change of temperature-humidity regime. That is, they were covered with mold fungi and began to get wet. Visitors to the Lasko monument have been banned

since 2001. With the special permission, five scientists are allowed to enter per day. The same can be seen in the murals of Afrosiab citadel in Samarkand. Considering these problems, it is necessary to think carefully about the ways to show the monument to the visitors of the museum.

Nowadays, in the museumification of archeological monuments a method of reconstruction based on the complete construction of the structure on the basis of the involvement of more preserved parts, excavations and etc, is mostly used. This method, which is considered to be effective from the museum point of view, has been criticized by many experts. Proponents of such an approach emphasize that making the archeological monument interesting and understandable to a wide range of visitors, which is one of the most important tasks of the archeological museum and the most practical way to solve this problem, is the use of restoration.

There are various ways to incorporate the monument into the urban organism. While some objects are museumified, others are kept in the basements of buildings, city parks, subway stations, underground passages. Complex museumification of archeological monuments is the most advanced form of museumification today, with the organization of open-air archeological reserves-museums, which allow to study the whole set of representatives of the life and activity of ancient people.

However, still, the archaeological expedition usually fulfills the simple work and leaves the excavations open, leaving the museum itself to deal with the issues of museumification. The museum, on the other hand, often lacks properly trained specialists. The organization of teams of archaeologists, restoration workshops and museum specialists is becoming important as a perspective way. Special methods for the excavation of monuments that need to be museumified are being developed. They include the methods such as removing soil from excavations, fixing the excavation walls, or replacing vertical walls with sloping walls to eliminate the risk of collapse, giving the excavation a more natural look and improving its appearance. Excavations are protected from rain and melt water by constructing wells and water return canals.

If a monument contains a number of objects belonging to different periods that overlap each other, they try to exhibit them in such a way that within a single excavation boundary the picture of the historical development of the monument should be clear and vivid by showing a system of objects belonging to different periods of time. Another way that is simple but effective is to show objects that belong to only one period of time in separate excavations. In the last decades of the XX century, the concept of "living archeology" has emerged, which means bringing a game moment to a memorial show, introducing the visitor to the cultural



paradigm, adding a game to it through action, creating a model of ancient human lifestyle. Abroad, far away from civilization with children and young people, in the restored conditions of the primitive community, such trips as finding a fire, building a shelter, and living for a few days while cooking are practiced.

The complexity of the problems standing before developer specialists: the problems from the security of existing models of other similar monuments to the collection of materials - are obvious and clear.

However, it is early and professional to put forward the problem, it gives the opportunity of trusting primarily, the desire to settle social project issues, the preparation of public opinion in the city, the history of science and technology, as well as the success of this initiative. Unfortunately, even when comparing with the problems of identification and preservation, the problems of expositional interpretation of industrial heritage are still poorly developed. Although the methods of displaying, interpreting, and preserving production processes in an artificially created museum setting are the most complex, they are still extremely interesting.

In nature reserves-museums, we accept the traditional culture as close as possible to the natural environment, in harmony with the surrounding conditions. Finally, the museum tries to recreate the tradition more precisely in its historical forms.

In the course of the study it was found that many scientists are in favor of not museumifying archeological sites. In their opinion, the underground monuments should not be discovered and should be left for future generations to study [6. - p.37.]. They believe that their life will be shorter if they are cleaned from soil and covered with various structures. In 1987, a collection of scientific works on the methodological basis of the preservation and use of monuments was published in Moscow [7.- p.105.]. Almost all the scholars' opinions in it confirm the above.

It is advisable to solve such problems with the help of innovative projects. For example, the history of historical buildings, which are historical, architectural and cultural monuments, famous people who lived or worked in it, and the main historical events related to this building can also be museumified by creating museum exhibition installations. The implementation of such projects will allow making full use of the potential of archeological monuments, historical buildings and palaces. Exhibition installations in historical buildings, palaces and palaces represent objects, documents, photographs and other exhibits that reveal certain historical themes related to this building. Design and artistic decoration are the most important prerequisites for such installations. Thus, with the help of modern technologies, visitors have the opportunity to get acquainted with the history of

tangible cultural heritage monuments. These installations remind us of the historical foundations of our ancestors and can bring back historical memory to humanity. This situation creates a modern intellectual and cultural environment that gives new life to the historical monuments of the city. In the last two decades of the XX century, new promising approaches to the exhibition of architectural monuments using technical means have emerged. One of the new approaches to solving the problem of exhibiting interiors associated with real monuments is the "audiovisual demonstration". Although there are not many examples of such expositional solutions, however, this experience is promising and worth exploring.

It should be noted that real tangible cultural heritage sites can be preserved not only through museumification, but also through restoration and conservation, slowing down the process of obsolescence. The object to be museumified always has different aspects of historical significance, among which the decisive one can be distinguished. The object can be significant as a monument of material culture history, art history monument, memorial object, life, and ethnographic monuments. It is important to decide which of these aspects will dominate and be determined first while museumifying. The choice of restoration method depends on it. Reinforcement, restoration and restoration of destroyed, damaged or ruined architectural structures, archeological monuments and other types of objects in order to preserve the historical and artistic significance of material cultural heritage monuments or to restore their previous appearance also have a positive effect. Restoration is an integral part of the protection of historical and cultural monuments and plays an important role. Often, research conducted during a restoration radically changes the formed concepts of historical development. In the XIX and XX centuries the most advanced scientific theory of restoration in relation to architectural monuments is formed.

Experts pay great attention to strictly follow the ICOMOS international standards in the restoration and repair of historical and cultural heritage sites [8. - p. 170-176.]. In accordance with these international standards, only conservation, repair and restoration works are allowed on historical and cultural monuments. This includes conservation - measures aimed at preserving the monument as it is. During the repair, it is understood to use the usual construction methods from time to time to maintain the monument without making any changes to its original structure. Restoration is the process of removing the factors that have changed the appearance of a historical and cultural heritage site over time on a scientific basis, including repair and conservation work.

The basis of modern restoration theory consists of the concept of stratification of restoration



methods and techniques, which are important for modern practice. Modern methods of restoration allow the use of construction techniques and all the physicochemical innovations to strengthen the monument. Different materials can be used for restoration, although it is not allowed to falsify the real materials, but on the surface they should be close to the materials used in the construction of the monument. Dividing the actual parts of a monument into pieces or types is usually an exception, as modern restoration techniques allow it to be strengthened without damaging the damaged structure.

Regardless of the style choice, the first stage of museumification is restoration, which is done in order to preserve the object [9. P.59-65.]. Now, instead of the notion of restoration as a whole, a different process, it is time to understand and comprehend restoration as a complex, historically diverse process divided into different forms of activity. According to it, restorers have the right to use different methods. The restoration method is a view of the actions of a restorer who achieves a specific goal using different methods of restoration. The conservation and analytical method, with the exception of the synthetic method, are also the main methods of restoration. Preservation is the most serious method of restoration, the basis of which is to confirm the importance of all the layers that appeared during the existence of the monument.

Conservation is closely connected restoration. During the conservation of the structures, the ground, walls and domes are fixed, protective pavilions and sheds are built in order to prevent the destruction of the monuments in the pre-restoration period. One of the main problems of modern restoration is the choice between originality and authenticity. Originality and authenticity are the main requirements for monuments of material culture.

CONCLUSION

In conclusion, the scientific study, preservation and museumification of the material and cultural heritage of Uzbekistan can be considered to be one of the most pressing issues of today. At present, the processes of urbanization and innovation are developing in the socio-cultural life of our country. These processes, in turn, can lead to the gradual disappearance of archaeological monuments. However, it is necessary to preserve the archeological objects and monuments, which have wonderful projects that are disappearing for the next generation. To this end, it is important to develop measures for their museumification based on world experience. The problem of museumification remains an integral part of modern museum practice and is in the focus of the world community [10. – P. 120.].

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LETTER WRITING AS AN ALTERNATIVE ASSESSMENT STRATEGY IN BIOLOGY

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ABSTRACT

This study explores letter writing as an alternative classroom assessment strategy in selected topics in Biology. Letter writing was used to determine if there is an enhancement in the students' performance in Biology compared to the traditional method of assessment during the face-to-face mode of learning. The study also aims to assess the respondents' perception of the benefits of letter writing. The respondents of the study were eighty (80) grade 10 students from two sections, heterogeneous classes. Mean, Standard Deviation, and t-test for dependent and independent samples were employed as a statistical treatment to answer the stated questions. The study reveals that the mean post-test score of the experimental group (letter writing) is statistically significantly higher than the traditional group's mean post-test score. This means that students who used letter writing enhanced their performance in Biology than in the traditional group. The result also reflects that aside from the students' better performance in selected topics in Biology, they could also acquire non-science outcomes. The implication is to use this technique as an alternative assessment strategy in other branches of Science and various delivery modes of learning.

KEYWORDS: Letter Writing, alternative assessment, the traditional method, assessment strategy

The authors declares no conflict of interest.

Highlights:

- Assessment is an integral part of education
- Letter writing is an essential activity that all students of Science need to gain a completely focused scientific understanding.
- Letter writing (Letters and persuasive writing) serves as the main ingredient in how students process Science and mathematics concepts.
- Learning can apply science skills and practices beyond the science disciplines

INTRODUCTION

Assessment is an integral part of education, specifically the part in the classroom setting; it plays at least two critical roles in higher education, ensuring institutional quality and accountability, and the other, in improving student learning (Tunku B. et al.2014). It serves to bridge the gap between what is taught and what is learned (William D. 2013)

Assessment responds directly to concerns about better learning and more effective teaching (Cross, D. R.

2010). It is a measure of the learner's progress. Because classroom assessments are created, administered, and analyzed by teachers themselves, the likelihood that instructors will apply the results of the assessment to their teaching is greatly enhanced. Educators keep on searching for strategies and approaches as well as alternative assessment strategies that will suit the need of this generation. It is necessary that the teacher shift from the traditional to a more prevailing way of assessing students' performance. With the growing attention given to the students' academic performance, teachers are encouraged to find ways to help each student embrace the importance of education. These are the educators' challenges that teachers need to surpass each day.

The traditional assessment strategies do not necessarily measure other students' skills, nor could they measure a full knowledge of the topic discussed, especially in a science subject. One of the characteristics described in Science education for sustainability is that the teaching approach should be interdisciplinary. In this way, learning can apply science skills and practices beyond the science disciplines (Zoller, U. 2012).



Even when lab investigations are included in the instructional plan that requires higher-order thinking skills, the measure of student learning is often limited to recalling factual information, restating a definition, or applying a mathematical formula and problem-solving (Hammerman E. 2009). In a Science classroom, there are so many skills that can be observed and can be used as an assessment, just by merely observing what students write, say, and do can be a form of assessing performance (Agaton P. Jr., 2016).

One suggested strategy in learning Science is letter writing which is most commonly used as an assessment strategy in language courses. Writing is considered one assessment strategy that can increase students' performance because it is assessed for recall and more conceptual understanding (Hohenshell M.L.2008). Strong writing skills may enhance students' chances for success because they are needed to accomplish their educational and employable requirements (Rao and Durga 2018).

Writing is one of the modes of doing Science, from hands-on laboratory work to internet research, reading, and oral discourse. It is an essential activity that all students of Science need to gain a completely focused scientific understanding (Wallace, C. & et.al. 2004).. Letter writing (Letters and persuasive writing) serves as the main ingredient in how students process Science and mathematics concepts. It is also an important component in understanding the relationship between science and society because it offers students opportunities to demonstrate their abilities to apply and communicate concepts, they have learned in Science units (Barber et al. 1995).

The main purpose of Science education is to build students' knowledge of scientific content and scientific thinking skills. Therefore, good reading, writing, and communication skills are indispensable to the practice of Science. And these skills can be measured through an effective assessment's strategy related to writing, reading, or other communication skills (National Research Council, 1999).

Several studies have been conducted on the use of letter writing strategy, one of which is about preservice teachers paired as pen pals with fourth graders. This was their project in language and literacy course. It was found out that this activity brought a modeling of good writing and motivational value of responding in a positive, affirming voice to young writers (Moore,R & Seeger V. 2009)

Likewise, in a study conducted in an English subject, journal writing was utilized to assess the students' understanding of themes and main characters; students believed that the writing made them think more deeply about the story (Wong B., Trevor., J & Shimmer.,

H. 2010). Letter writing was also used to develop the ability to designed effective tasks in terms of gaining high levels of cognitive activity from students. The study affirms the potential value of letter-writing projects while introducing a concern that has implications for all professional development projects (Norton, A., Kastberg, S. 2012). It was also concluded that letter writing found out to be enjoyable for the students (Gambel T. 2008)., and perceive it one of the important components in science learning (Vaughan P. & Hand B.1999).

In this study, letter writing as an alternative classroom assessment strategy was used to determine its effectiveness in the student's full comprehension of the lesson.

OBJECTIVES OF THE STUDY

- (1) Assess the level of performance of two groups of respondents in terms of;
 - (a) pre-test
 - (b) post-test
- (2) Determine the significant difference in the level of performance between two groups of respondents in terms of;
 - (a) pre-test
 - (b) post-test
- (3) Determine the level of benefits of using letter writing as an assessment strategy in biology

METHODOLOGY

The researcher focuses only on Grade 10 students with two sections. Eighty students were the respondents of this study. All the said students were used to comparing the outcome of students' performance using letter writing compared to the result in the traditional method using the objective type of test in terms of pre-test and post-test.

Respondents are chosen using quota sampling, wherein the three sections from grade 10 students are written in the paper. These papers are placed in the box. The researcher picked two papers from the box, one was the control group, and the other one was the experimental group. Since each section contains 43-45 students, each name of the students was written in a piece of paper, and the required number of sample unit was picked.

This study is experimental research utilizing a quasi-experimental design wherein the researcher allows to control the assignment to the treatment condition, the respondents are purposely chosen from the group. The research instrument used in gathering primary data is the teacher-made test for the pre-test and post-test from the third grading period in biology, covering the lessons about the three Body systems:



nervous system, endocrine system, and reproductive system.

The reliability of the individual item in self-perceived benefits of the students in letter writing was determined by Cronbach Alpha which obtained a 0.8 reliability value. The pilot testing was done from ten students from the other sections handled by the researcher who was not subjected to the study but could experience the use of letter writing in their assessment answered the survey questionnaire. The researcher used the scoring rubrics to grade the student's letter.

The Mean and Standard Deviation (SD) was used to compare the pre-test and post-test mean results

of the control and experimental group. The t-test was used to determine if letter writing has significantly affected the performance of the grade 10 students. This test compares the mean of two samples.

RESULTS AND DISCUSSION

The results concerning the use of letter writing as an alternative assessment strategy have been analyzed quantitatively. The presentation of findings followed the order of the questions enumerated in the statement of the problem.

Table 1. Mean Scores in Pretest and Posttest of the Control and Experimental Group

Group	Pre-test			Post-test		
	Mean	SD	Remarks	Mean	SD	Remarks
Experimental	15.30	4.45	Fairly Satisfactory	31.45	6.23	VS
Control	15.45	3.48	Fairly Satisfactory	23.05	5.77	VS

Legend:

41.00 - 50.00 - *Excellent (E)*

31.00 - 40.99 - *Very Satisfactory (VS)*

21.00 - 30.99 - *Satisfactory (S)*

11.00 - 20.99 - *Fairly Satisfactory (FS)*

0.00 - 10.99 - *Poor (P)*

The pre-test result of the control (M=15.45) and (SD= 3.48) and experimental groups (M= 15.30) and (SD= 4.45) were both interpreted as "fairly satisfactory." The control and experimental group's performance in the pre-test may be fairly satisfactory because of the students' poor background knowledge about the topics. Students were not able to recall the topic about organ systems when they were in elementary.

The post-test result of the control group (M= 23.05) and (SD = 5.77) was interpreted as "satisfactory". On the other hand, the experimental groups (M= 31.45) and (SD=6.23) were interpreted as "very satisfactory".

The result showed that both groups' post-test mean scores were much higher than the pre-test mean scores, which indicated that learning took place

regardless of the assessment used. However, the table revealed that the post-test of the experimental group is higher than the control group. This implies students' performance was enhanced with the use of letter writing. Preferably students enjoyed writing activity as part of the assessment process.

Table 2 presents the mean post-test score in the control group (traditional) is (M= 23.05) with (SD= 5.77) and is statistically significantly higher than its mean pre-test score of (M=15.45) with an (SD=3.48), and it was interpreted as significant. This established that the traditional group also improved. The students also learned in the discussion about the topics in the organ system.



Table 2. Difference between the Pretest and Posttest scores of the Experimental and Control Group

Control Group						
Test	Mean	SD	Mean Diff	T	P	Remarks
Pre-test	15.45	3.48	-7.60	-8.70	<0.001	Significant
Post-test	23.05	5.77				
Experimental Group						
Test	Mean	SD	Mean Diff	T	P	Remarks
Pre-test	15.3	4.45	-	-	<.001	Significant
Post-test	31.45	6.23	16.15	14.47		

The mean post-test score in the experimental group (letter writing) is (M=31.45) with an (SD= 6.23) is statistically significantly higher than its mean pre-test score of (M=15.30) with a (SD= 4.45) and it is interpreted as significant. This implies that the letter-

writing group improved their performance in biology and enhanced their letter-writing skills. This finding agreed with the other research results that respondents tend to recall the topics well when they write, and it can increase students' performance [7]

Table 3. Difference in the Performance between two Assessment Methods

Pretest						
Group	Mean	SD	Diff	T	P	Remarks
Experimental	15.30	4.45	-0.15	-	0.17	0.867
Control	15.45	3.48				
Posttest						
Group	Mean	SD	Diff	T	P	Remarks
Experimental	31.45	6.23	8.4	6.26	<.001	Significant
Control	23.05	5.57				

Based on the data, both groups have the same level of knowledge in Biology, covering the lessons about the three Body systems: the nervous system, endocrine system, and reproductive system. In terms of the post-test score of the letter-writing group (M=31.45) with an (SD= 6.23) which is statistically higher than the mean post-test score of the traditional group in which the (M= 23.05) and (SD= 5.77) and it was interpreted as "Significant." This implies that the experimental group's letter-writing method was more effective since the respondents' performance was higher than another group. In this case, the decision is to reject the null hypothesis.

In this study, the use of the traditional method and letter writing as a form of assessment affects the students' performance because both groups have surprisingly affected their post-test results. However, the

effects of letter writing as an alternative assessment strategy in biology are much higher than that of the traditional method. It only shows that letter writing is more effective than the traditional one. It established that students in the experimental group learned better than the traditional group students at the end of the experiment.

Benefits on the Use of Letter Writing

The level of self-perceived benefits of the students on the use of letter writing as a classroom assessment strategy in biology is "high" (M= 4.14) and (SD= 0.42), which means students perceive that letter writing to be highly acceptable. Based on the indicative statements, students have a clear idea and develop handwriting skills in letter writing.



Table 4: Item on Benefits of Letter Writing

Indicative Statement	M	SD	Remarks
As a student, I ...			
am now confident about my ability to write.	4.13	0.72	Agree
enjoyed writing a letter.	4.13	0.82	Agree
learned to write effective and precise sentences and paragraphs.	4.13	0.69	Agree
enhanced and widened my vocabulary skill.	4.08	0.83	Agree
have now a clear idea of the benefits of letter writing.	4.23	0.73	Strongly Agree
was able to remember the information well whenever I write.	4.18	0.64	Agree
was able to learn more Science concepts and their application in real life.	4.13	0.76	Agree
was able to organize properly different scientific ideas and concepts.	4.08	0.62	Agree
was able to improve my communicative competence.	4.10	0.78	Agree
was able to develop my handwriting skill or penmanship.	4.30	0.66	Strongly Agree
Overall	4.14	0.42	High

This implies that with the letter-writing method, students developed confidence about their ability to write, enjoyed writing letters, and learned to write compelling and precise sentences and paragraphs. They were able to remember information and learned more science concepts and their application in real life.

The results are inconsonant with the findings of several researches (Barber et al. 1995 & Gambel T. 2008), which conclude that writing was enjoyable and shows appreciation of letter writing benefits. Some students believe their essays were better organized, more fluent, and clearer than their oral articulation. In other words, they were more comfortable presenting their thoughts in writing than speaking in class.

CONCLUSION

The hypothesis stated that there is no significant difference in the students' performance in letter writing as an alternative classroom assessment strategy was rejected. The experimental group's level of performance in the post-test was statistically significantly higher than the level of performance of the

control group in the same list. This means that letter writing as an alternative assessment strategy in Biology is more effective than the traditional assessment process.

The result also reflects that aside from the students' better performance in selected topics in biology, they could also acquire non-Science outcomes. In as much as the study proved the use of letter writing could enhance the students' performance in biology, science teachers are advised to consider the use of letter writing as an alternative assessment strategy in Biology and another branch of Science.

Since our country is under a pandemic, educational institutions need various strategies to support other learning delivery models such as synchronous, asynchronous, blended, and modular. In this sense, it is suggested that researchers may conduct follow-up studies on the effectiveness of this strategy in other modes of learning delivery.

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IMPACT OF BEHAVIOURAL BIASES IN CHOOSING INVESTMENT AVENUES: AN EMPIRICAL STUDY

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ABSTRACT

The behaviour of an individual investor is expansively influenced by different biases that came into limelight in the rising regulation of behaviour finance. In finance, behavioural finance is the latest regulation that studies the cognitive psychology of the decisions that are taken by an individual related to money. The theory of standard economic had evolved this in its response and it has the ability to presume that people are sensible, prefers low risks investments and maximises their profits. In real time scenario it is seen that people are not that sensible when they make their decisions during the investment process. There are different behavioral biases factors that influence the investors while choosing their investment avenues. The objective of the study is to know the behavioural factors that affect the decision of the Investors and their impact on the investor in choosing the investment avenues. A sample of 273 respondents were taken in which Investors from different sector were surveyed with the help of standard questionnaire. Mean and t test was used to get appropriate results. It is found that there are different behavioral factors such as mood, emotional, heuristic, personality and overconfidence that influence the investors while making his investments and all the behavioural biases has a significant impact on the process of choosing the investment avenues.

KEYWORDS: Behavioural Biases, Behavioural Finance, Investment Avenues, Investors.

INTRODUCTION

The market of finance is considered to be a market where the futures are secured and in which the funds for long term are raised by the private and government companies. It is designed to sell and buy the bonds and stocks. In the economy market of India, long terms saving avenues are provided by the institutions of financial market that use to mobilize and channelize into investments. For the country's economic growth, confidence of the retail investor plays a very important role in the market. The market is perfectly predicted, the flexible process of the stocks is identified by the behavioural finance and it also helps to know the other player's behaviour that are accessing in the market. Behavioural finance is a latest concept of the theory of finance that seeks to know and make predictions of the implications of psychological process of making decisions of the systematic financial market.

There are different behavioural factors that had their impact on the investment decision of an investor. "Mood", "emotions", "heuristics", "frames", "personality" and "gambling". Studies revealed that these behavioural factors have a

significant influence on the investment decisions of n investor. The aftermath of the impact of the interdependency of these behavioural bias factors with each other revealed that, beside the factor "mood", rest of the behavioral factors shares a strong relation with each other (Charles and Kasilingam, 2016).

Behavioural factors that affect the investor's decision are discussed below:

The effects of "Overconfidence" are presented strongly in the decisions that are really tough; uncertainty is included in that process. Therefore, it is seen that overconfidence very likely affects the making of financial decisions. The cases where the decisions are made on the basis of the superficial characteristics of the situation instead of the real situation with all the evaluated details the idea or concept of "Representativeness bias" is reflected there. It can also be explained in another way, the representativeness bias is reflected where the decisions are made on the basis of stereotypes. The predisposition of individual to attribute their own success to any natural aspect like "talent" or foresightedness" is referred by Self serving

attribution bias or *“Self attribution”*. These kinds of individuals also blames outside influences for their failures, like bad luck. *“Loss aversion”* mentions the conception when the investor is suffering through huge disutility from the loss of money and prosperity than the efficacy from an almost equal gain of wealth in terms that are complete and absolute. Therefore, the risks are increased by the investors, defining it in terms of doubt and indecision so that he can avoid the least chance of loss. In the case of investments, it is suggested by *“Confirmation bias”* that the individual that is investing will probably look for the details that is supporting his or her idea which is original regarding an investment instead of seeking out for the details that challenge or oppose it. The tendency of an individual to focus on new and latest behaviour and giving little weight age to trends that are there from the longer period of time is described by *“Anchoring”*. There are people that are inclined to give more weight age to the latest experiences;

they are more likely to extrapolate the latest trends that are more frequent at chances with average and probability for longer run. The mental procedure in which an individual stick to his or her previous opinions and views or had to tendency of forecasting at the cost of acknowledgment to new details is known as *“Conservatism bias”*. Due to this it is possible that investors started under reacting to these new details, he may start maintaining imitations that is copied from the earlier estimations instead of taking actions on the latest details. It is suggested *“Availability bias”* that the investment decisions of the investors are more influenced by the recent memory, which mean that he is more influenced by the examples that are available at that time. In this condition he will not invest in that avenues those are showing loss in recent days. If the investors had seen the crisis in the stock market in some recent days, he had the tendency and fear at the same time to not to invest those markets.

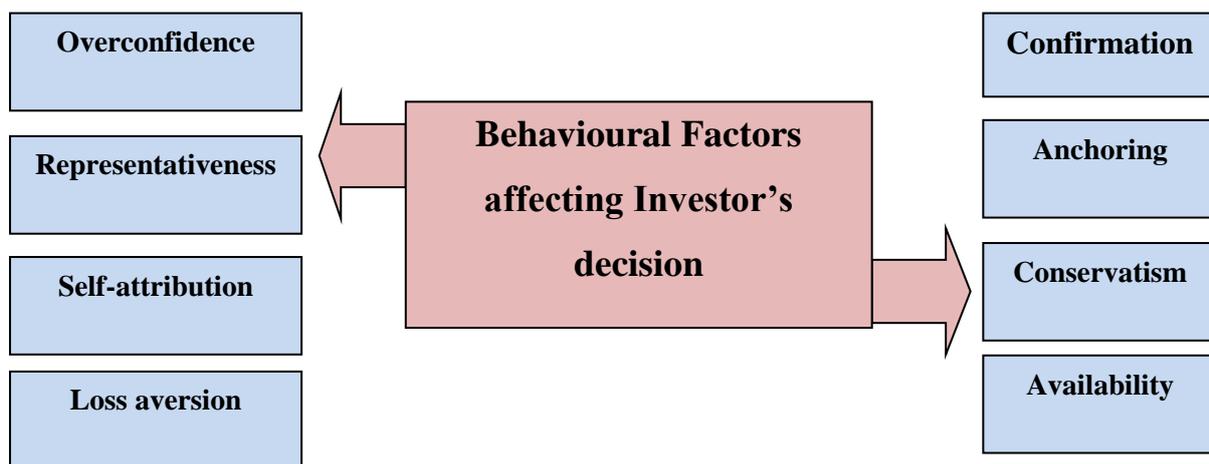


Figure: Behavioural Factors affecting Investor's decision

It is seen that in the market of Asia, the effect of the herding is more profound and at the time when the market is rising the asymmetry in their herding is also seen. In addition, it was witnessed that at the time of crisis in the whole worlds the markets of United States and Latin America are showing the presence of herding. The studies shows that the herding of the bank gets diverge with various kinds of loans. It is analysed that in comparison to any other kind of loans herding is more frequently found in the loans taken for house, property and credit cards. Furthermore, it is found that the in comparison to regional and small banks herding is found more in the bigger banks (Tran, Nguyen, & Lin, 2017). The presence of “herding” behaviour is investigated in a study amid the stock market and market of oil at the time of market distress. The investigators found that when the volatility of the stock market increases the herding behaviour is automatically reduced. It is

also analysed and it also occurs that there is inverse movement of herding behaviour in both the markers and the at the same time it is also seen that herding behaviour is enhanced more due to the unavailability of the details and information in both stock and oil market (Ben Mabrouk, 2018). There are so many insights that are offered by behavioural finance for the professional of investment and therefore, framework is also provided to evaluate the strategies for active investment for the ones that invests in the market. All over the world the capital market is growing and expanding every day. For each and every state and country it is very important to attract the capital so that their growth is increased and to raise the capital that is necessary the best route to choose is capital market. Each and every investor has its important role in the capital market and due to this it is necessary to know the individual investor's behaviour so that their perception can be easily



managed and, in that way, volatility of the market can be easily controlled (Thomas, 2018).

LITERATURE REVIEW

To achieve the financial goals, the knowledge of past experience is very necessary and on the basis of that knowledge and experiences the course of future investment actions should be taken instead of depending on the previous experiences and keep on making the mistakes due to their stay on inflexible behaviour to not adopt the latest dynamic situations of investments. On the other the hand the previous experiences are good teachers that teach positive aspects of investing to their investors that can be used to achieve financial targets by making correct decisions of the investments. The decisions of investment are prevalent economic condition dependent and it also depends on the ambiance for the avenues of the investment. Despite of the fact that the financial and investment targets of an individual are subjective in nature, they had a great effect of behavioral biases (Chopde and Kulkarni 2017). Behavioral biases like “Over confidence bias”, “Representative Bias”, “Self-attribution bias”, “loss aversion bias”, “Fear of regret/ regret avoidance”, “confirmation bias”, “Anchoring bias” and “Conservatism bias” were studied and it is seen that there is no significant difference amid the investor’s professional status relating to behavioral biases. It is also found that except “anchoring biases” all these biases have no significant difference amid the change in pattern of their profession. As this unresponsiveness is because of psychological behaviour and this is personal also for every investor, it changes from individual to individual and there is no change in them due the change in profession (Jenica, 2018)

Madaan and Singh (2019) studied the influence of behavioural biases on the process of making the decisions for an investment of an individual. The key behavioral biases that are considered in the study are “Overconfidence”, “Anchoring”, “disposition effect”, and “Herding”. It is seen that the individual’s investment decisions are highly influenced by the two behavioural biases “overconfidence” and “herding”. It is also found that the ones that are taking part in the financial markets are not rational in their process of making the decisions and they had restricted choices also. Vishnoi (2015) concluded that there is significant impact of behavioral biases on the decisions of an investor. It is also seen that there is less number of female investors as compared to male investors and the investors that belong to the age group 26-45 are more active as compared to any other age group. Majority of investors had an experience of about five to ten years of investment and others are having of less than five years. Rs. 50000-1 lakh is the

maximum amount of investment that is invested by the investors in the stock market. The aftermath of the study says that the Gwalior city’s investors are very careful regarding their investments. Therefore, the study suggests that the investors should create their portfolio before making investment and it is very important for them to learn about the different behavioural biases before making the investments.

Upadhyay and Shah (2019) found that the investors are not “rational” and the investors in more or less proportion are influenced by all the behavioural biases such as “Over confidence bias”, “Representative Bias”, “Self-attribution bias”, “loss aversion bias”, “Fear of regret/ regret avoidance”, “confirmation bias”, “Anchoring bias” and “Conservatism bias” during his process of making the investment decisions. Singh and Yadav (2016) studied that there are so many considerations like “tax planning”, “future needs”, “safety of investments” and “recurring income” that need to be considered while making the investments. Therefore it is necessary and also required by all the investors to consider these important variables while making investment decisions so as to get good returns. Muneeswaran, Babu and Gayathri (2019) found that investors from the urban and non urban areas had different risk attitude and awareness related to different avenues of investment. It is seen that marital status does not affect their level of awareness but their age difference and educational profile influences their risk attitude and risk level that they are facing is different for every individual investor. It is concluded in the study that the knowledge, investment options and risk level of any investment is provided to the investor with the help of recent technologies. Sarkar and Sahu (2018) found that there is moderate level of awareness among the investors and there financial awareness is more as compared to social learning. The attitude of perceived risk is majorly guided by “Affect” instead of “Cognition”. It is indicated by analysis done during the study that the “Investment Behaviour” of the investor of a stock market is significantly influenced by the “Demographic Factor”, “Awareness” and “Attitude of Perceived Risk”. Isidore and Christie (2018) studied that lower “overconfidence bias” is more likely to be exhibited by the investors that has low annual income but high “Representativeness”, “Loss aversion”, “Availability” and “Mental accounting” biases. These investors with low annual income are more prone to show the signs of biases since they don’t have enough money to get better advice on finance, lack of awareness and knowledge etc. It is suggested that the investors with low annual income should take the advice from the financial advisors and managers according to their situation of being prone to behavioural biases. Rehan and Umer (2017) have indicated through their study that some behavioural



biases have a deep and philosophical effect on the decisions that are made by the investors. It is constantly seen in other studied also that there is a positive impact of “Anchoring”, “Risk aversion”, “Overconfidence”, “Representativeness” and “Regret aversion” behavioural biases on the investment decisions of the investors. **Raheja and Dhiman (2019)** found that “Risk tolerance” and “Overconfidence” bias and “Regret bias” share a relation. While making an investment, the investors think that he is making all the correct decisions related to that investment and go ahead to take the risk. The relation amid decision for investment and “overconfidence bias” and “regret bias” is also found and therefore, investment decisions can be better explained by behavioural biases with the help of “Risk tolerance”.

OBJECTIVE OF THE STUDY

1. To find the behavioural factors that affects the decision of the Investors to choose the Investment Avenues.
2. To find the Impact of behavioural bias in choosing Investment Avenues.

METHODOLOGY AND SAMPLING DESIGN

The present study is done by conducting a survey in which a standard questionnaire was distributed to collect the data. A sample of 273

respondents were taken in which Investors from different sector with different occupational profile were considered. The study is empirical in nature and sampling is convenience sampling. The people were survey to know about the behavioural factors that affects their decision in choosing the investment avenues and their impact on the investor while choosing their investment avenues. Mean and t test was used to get appropriate results.

FINDINGS OF THE STUDY

Table 1 demonstrates the Demographic Profile of the Respondents in which the surveyed people had asked about their gender, age group, qualification, profession and monthly income. In the total number of 273 respondents 61.9% are male and 38.1% are female in which 17.9% belongs to the age group 21-30 years, 19.4% are from the age group 31-40 years, 22.3% and 21.6% are from the age group 41-50 years and 51-60% respectively and 18.7% are above 60 years of age. Among them 19.4% are undergraduates, 25.3% are graduates, 26.7% are postgraduates and the rest 28.6% had some other degrees as their qualification. 35.5% are businessmen, 31.5% are from the service sector and 33% are retired from their job. 15.0% are earning Rs. 15,000-25,000 per month, 17.9% earns Rs. 26,000-35,000 every month and 20.9% had an income of Rs. 36,000-45,000, 22.3% are earning 46,000-55,000 per month and the rest 23.8% had a monthly income of Above Rs. 55,000.

Table 1 Demographic Profile of the Respondents

Variables	No. of respondents	%age
Gender		
Male	169	61.9%
Female	104	38.1%
Total	273	100%
Age groups		
21-30 years	49	17.9%
31-40 years	53	19.4%
41-50 years	61	22.3%
51-60 years	59	21.6%
Above 60 years	51	18.7%
Total	273	100%
Qualification		
Under graduate	53	19.4%
Graduate	69	25.3%
Post graduate	73	26.7%
Others	78	28.6%
Total	273	100%
Profession		
Business man	97	35.5%
Service man	86	31.5%
Retired	90	33%
Total	273	100%
Monthly Income (Rs.)		
15,000-25,000	41	15.0%



26,000-35,000	49	17.9%
36,000-45,000	57	20.9%
46,000-55,000	61	22.3%
Above 55,000	65	23.8%
Total	273	100%

Table 2 Behavioural bias factors in choosing Investment Avenues

Sl. No.	Behavioural bias factors in choosing Investment Avenues	Mean Value	t Value	Sig
Mood				
1.	My market activities are influenced by my happy mood	3.53	9.52	0.00
2.	My market behaviour is affected by my physical tiredness	3.97	14.44	0.00
Emotional				
3.	I get confused for future investment when I face constant loss in my investment	4.01	16.98	0.00
4.	I am encouraged with my positive attitude to invest more in the market even after a deep fall	4.13	18.09	0.00
Heuristic				
5.	To invest in already known stocks is my preference	3.93	13.47	0.00
6.	I prefer to buy the stocks that had less risks	3.76	13.65	0.00
Personality				
7.	Self discipline is maintained during trading	3.59	8.78	0.00
8.	I always try to convert my losses into gains by investing more in the market and choosing different avenues	4.11	18.66	0.00
9.	I feel restless when I am not able to take active participation in market activities	3.61	9.77	0.00
Overconfidence				
10.	Sometimes overconfidence leads me to the investment that has no good returns	3.89	12.89	0.00

Table 2 shows the Behavioural bias factors in choosing Investment Avenues. It is seen that the activities of an investor is influenced by his mood when he says that my market activities are influenced by my happy mood with the mean score 3.53 and the investor also says that my market behaviour is affected by my physical tiredness with the mean value 3.97. In the case of constant loss the investors are confused when he says that I get confused for future investment when I face constant loss in my investment with the mean score 4.01 but at the time according to investors positive attitude is helpful for him when he says that I am encouraged with my positive attitude to invest more in the market even after a deep fall 4.13 and he also says that he invest in already known stocks is my preference with the mean value 3.93 and I prefer to buy the stocks that had less risks with the mean value 3.76. Investors also agree to the fact that discipline is very important in this field when he says that Self discipline is maintained during trading with the mean value 3.59. Loss aversion is very important in choosing the investment avenues and the investors also says that I always try to convert my losses into gains by investing more in the market and choosing different avenues with the mean value 4.11. Investors also say that I feel restless when I am not able to take active participation in market activities with the mean value

3.61. It is seen that positive attitude is the most significant behavioral bias factors that affects the decision making process of investment for an investor. According to investors overconfidence in choosing the investment is not good as sometimes overconfidence leads me to the investment that has no good returns with the mean value 3.89. One sample t-test was applied to find whether the responses to the statements are significant or not. It was found that for all the statements the value under significance column is below 0.05 hence, all the mean values for the statements have been found significantly more than the test values (3.5) hence all the solutions are significant.

CONCLUSION

The attention in the stock market is considered by the impact of behavioural biases on the decision taken related to any investment. Investors are suggested to create their selection and collection range while investing and had a complete knowledge of all the behavioral biases before making any investment in the market. It is seen that there are so many factors that are considered by the investors before making their investment decision and the most important factor is behavioural biases.



The study concluded that there are different behavioral factors such as “mood”, “emotional”, “heuristic”, “personality” and “overconfidence” that influence the investors while making his investments and all the behavioural biases has a significant impact on the process of choosing the investment avenues.

The explanations are provided by behavioural finance that why the irrational decisions for investment is made by the investors. It is also demonstrated by the behavioural finance that how the process of making the investment decisions is influenced by the emotions and cognitive errors and psychological and sociological factors are also implied by behavioural finance that affects the investor’s decision.

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COMPARATIVE STUDY OF NPAs IN INDIAN BANKS

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ABSTRACT

The strength and soundness and efficient level of banking system can be known by the quality of the assets. NPA is one of the major serious concerns for banks in India. In this paper, I have made an attempt to analyze how efficiently NPA is managed by public and private sector banks. Our results say that public sector banks have witnessed a continuous increasing trend in gross NPA as compared to private sector banks. Lastly the technology plays a major role to combat the NPA pressure of banks.

KEYWORDS: Non-performing assets (NPAs), public sector banks, private sector banks, NPA management

INTRODUCTION

The Public Sector banks or Private sector banks both plays a very important role for the development of our country. A strong healthy and sustainable environment is very much necessary for the country overall development. Banking systems contributes in every sector of a country such as agriculture, small scale industries, development of trade and commerce, generating employment opportunities. With a view to develop efficient banking system Narsimhan Committee was constituted in 1991 with the objective of examining the whole banking system in changing environment.

A banking efficiency is checked by the amount of NPA i.e. the more NPA the worst the efficiency of bank. NPA is one of the major concerns for banking system all over the world. There are many guidelines concerned for the efficient banking system such as Narasimham committee reports I and II, Verma Committee Report, Basel I, II and III. Nowadays NPA Management is directly related to functional efficiency of Banking System.

At present, due to cut throat competition between public and private sector banks PSBs are thinking to improve themselves by technologies to survive in a globalized economy.

WHAT IS NPA?

When borrowers denied repaying their loans which they have borrowed from the banks is termed as NPA for the banks. It is also called bad loans.

RBI monitors the whole banking system in India, which is also called as central bank of India. When the payment is due for more than 90 days that loan amount is termed as Non-performing assets.

REASON FOR RISE IN NPA LEVEL

From 2000-2008, the Indian banking system was lending extensively and the economy was at the boom phase but after the 2008-2009 financial crisis corporate profits starts declining. The situation becomes so serious that affects infrastructure sectors like- power, iron and steel industry.

Another reason is relaxing norms of banks for providing loan to their clients especially to big corporate houses.

CURRENT NPA SITUATION IN INDIAN BANKS

The gross non-performing asset in Indian banks is around Rs 400,000 crore (~US\$61.5 billion) that is according to RBI. It represents 90% of the total NPA in India while remaining is represented by private sector banks



MEASURES TO COMBAT NPA

NPA is a matter of concern for entire banking system, There are some of the steps to solve NPA issues' like:-

- * Banks must see the background of a borrower and reason should be checked by banks to give loans.
- * Constant and effective monitoring and controlling is the way to minimize the NPA problem.
- * Besides it, the technology also plays an important role to solve the NPA issue.
- * Government has also implemented a comprehensive 4R' strategy which consists of recognition, resolution, recovering and recapitalizing of PSBs for a clean system.

ROLE OF TECHNOLOGY IN MANAGEMENT OF NPA

Technology can bring a revolutionary change if comes to banking industry. Automated solutions not only asset in better solution but also act as an early indicators that will alert before arrival of dangers. A core banking solution is an example of this as it can stop the manipulation of NPA manually. NPA tracker and One time settlement portal ensures both transparency and speed and it helps to tackle NPA.

RESEARCH METHODOLOGY SIGNIFICANCE OF STUDY

This study is very useful to the banks to know their non-performing assets as compared to other banks. Today every bank are facing problem of non-performing assets. This analysis of non-performing assets is very useful to know their non-performing assets and causes of non-performing assets. The main source of income for the bank is interest on loan. If any borrowers are not paying any interest amount and principle amount then it creates non-performing assets. Non-performing assets are directly affecting to the income and profitability. So this study will help the banks to improve their performance in terms of profitability. This study is very useful to the public sector bank and private sector bank to know their performance in managing their non-performing assets as compared to other and improve their performance.

RESEARCH PROBLEM

The main source of income for the bank is interest on loan. The performance of bank depends upon the income or profitability. But today's major problem in bank is non-performing assets. So non-performing assets is affecting to the performance of bank because profitability is dependent on the interest on loan, and if bank is not able to recover interest amount and principal amount then it creates non-

performing assets. Profitability is directly depended on non-performing assets. This research study is based on analysis of non-performing assets in public sector bank and private sector bank.

The main research problem is "COMPARATIVE ANALYSIS OF NON PERFORMING ASSETS IN PUBLIC SECTOR BANK AND PRIVATE SECTOR BANK"

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The main research problem is "COMPARATIVE STUDY OF NPAs IN INDIAN BANKS"

OBJECTIVE

The present study is carried out by keeping these following objectives in mind -

- To compare the study of public and private sector banks in India
- To know the detailed analysis of NPA of Indian Banks.

RESEARCH DESIGN

A research design is a design in which specification of methods and procedures for acquiring the information that is needed to solve the problem. It is the overall operational pattern or framework of the project that stimulates from where and what information is to be collected, from which source and through which procedure. This research is carried out by *descriptive research* design. This research design helps us to analyze and compare non-performing assets in public sector bank and private sector bank.

SOURCES OF DATA

There are two types of data: Primary data and Secondary data. In this study I used secondary sources of data to analyze and compare non-performing assets in public sector bank and private sector bank.

POPULATION OF STUDY

In this study population includes the all public sector and private sector banks in India.

SAMPLE UNIT

In this we have taken 2 public sector bank and 2 private sector bank.



PUBLIC SECTOR BANK	PRIVATE SECTOR BANK
State bank of India	Axis bank
Punjab national bank	HDFC bank

SAMPLE SIZE

In this study i used total 3 years financial data from 2017-18 to 2019-20 from 3 public sector bank and private sector bank.

DATA COLLECTION METHOD

I use secondary data for the analysis and comparison of non-performing assets in public sector

bank and private sector bank. The secondary data used to calculate various non performing assets ratio like gross and net non-performing assets. The required data for this study will be collected from the various sources like Reports on Currency and Finance (annual reports), Monthly RBI bulletins published by RBI, Annual reports of various banks, publications and notifications of RBI, etc.

CALCULATION OF NPA OF PUBLIC SECTOR BANK

• Calculation of NPA of SBI

YEARS	GROSS NPA (AMOUNT IN CRORES)	NET NPA (AMOUNT IN CRORES)	GROSS NPA RATIO (%)	NET NPA RATIO (%)	NET PROFIT (IN CRORES)
2019-20	1,49,092	65,895	6.15	2.23	14,488
2018-19	1,72,750	66,044	7.53	2.97	14,216
2017-18	2,23,427	1,10,854	10.91	5.73	12,954

Interpretation: From the above data we can say that gross NPA ratio and net NPA ratio is decreasing

every year. Gross NPA ratio is highest in year 2018. Also amount of NPA is decreasing every year.

• Calculation of NPA of Punjab national bank

YEARS	GROSS NPA (AMOUNT IN CRORES)	NET NPA (AMOUNT IN CRORES)	GROSS NPA RATIO (%)	NET NPA RATIO (%)	NET PROFIT (IN CRORES)
2019-20	73,478.76	27,218.90	14.21	5.78	336
2018-19	78,472.70	30,037.66	15.50	6.65	(9,975)
2017-18	86,620	48,684	18.38	11.24	(12,282)

Interpretation: From the above data we can say that gross NPA ratio and net NPA ratio is decreasing

every year. Gross NPA ratio is highest in year 2018. Also amount of NPA is decreasing every year.

CALCULATION OF NPA OF PRIVATE SECTOR BANK

• Calculation of NPA of AXIS BANK:

YEARS	GROSS NPA (AMOUNT IN CRORES)	NET NPA (AMOUNT IN CRORES)	GROSS NPA RATIO (%)	NET NPA RATIO (%)	NET PROFIT (IN CRORES)
2019-20	30,233.82	13,187	4.86	1.56	1,627
2018-19	29,789.44	11,276	5.26	2.06	4,677
2017-18	34,249	16,592	6.77	3.40	276

Interpretation: From the above data we can say that gross NPA ratio and net NPA ratio is increasing

every year. Gross NPA ratio is highest in year 2018. Also amount of NPA is increasing every year.



• **Calculation of NPA of HDFC BANK:**

YEARS	GROSS NPA (AMOUNT IN CRORES)	NET NPA (AMOUNT IN CRORES)	GROSS NPA RATIO (%)	NET NPA RATIO (%)	NET PROFIT (IN CRORES)
2019-20	12,559	12,649	1.26	0.36	1,036
2018-19	11,135	11,224	1.36	0.39	1,151
2017-18	5,937.66	3,102.36	1.30	0.40	513

Interpretation: From the above data we can say that gross NPA ratio and net NPA ratio is increasing every year. Gross NPA ratio is highest in year 2019. Also amount of NPA is increasing every year.

CONCLUSION

The study says that the decline in ratio of NPAs indicates the improvement in the asset quality of Indian public sector banks and private sector banks. The huge provision amount built up over the years shows improved strength of public sector banks. The various steps initiated by banks to curb the NPAs are- Debt recovery tribunal, Lok adalats and Sarfaesi act which improves the recovery of NPAs. All these steps have improved the efficiency, profitability and strengthened the financial position of the public sector banks and private sector banks. The study also reveals that despite the huge NPA level of public sector banks, they become successful in reducing their respective gross and net NPA.

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A COMPARATIVE STUDY: RENEWABLE ENERGY VERSUS NUCLEAR ENERGY

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ABSTRACT

Capability to do work is depends upon the energy. energy conservation is different from the efficient use of energy. It means we have to increase our energy efficiency by using less amount of energy resources . To protect our environment we have to control the carbon emission at least cost and least time. Energy has many forms like electrical, mechanical chemical, thermal or nuclear and can be altered from one form to other form.

KEYWORDS: Renewable energy, Nuclear power, Energy.

1. INTRODUCTION

Energy resources are generating heat or electricity. In today's culture humans consumes extra energy than ancient human beings. Appenzeller(2004). Energy resources are divided into three categories: renewable, fossils and nuclear. Appenzeller(2004) and Cohen(1983) Fossils fuels consume energy from sun but fossils' fuels are non-renewable energy. . Karnousko(2007) Solar energy is unlimited source and it is renewable and non polluting source of energy. Wind is also unlimited source of energy. It can be converted in to energy by using wind mills. Flowing water is also source of energy .by using turbine we can generate electricity. This type of energy is called hydro electric energy. all these type of energies are called renewable energy. Paish(2002) Nuclear energy is generated by the manipulation of the nucleus atom i.e., nuclear fission and fusion of heavy elements and light element respectively. Nuclear power stations use fission reaction. Cuttler(2007).

2. RENEWABLE ENERGY PROS AND CONS

Pros:

1. Fixed energy prices : energy producing capacity from any renewable energy is depends upon the investment make on infrastructure. it s never depends upon the inflated cost of natural resource available on the earth. Karnousko(2007)

2. Continuous energy source: sun produce solar energy which is renewable .like sun, strong wind and flowing water produce constant energy. Paish(2002)
3. Reliability: sun and wind is every day present so, reliability of renewable is very high.
4. Save natural resources: renewable energy resources are not using natural resources so, our natural resources is conserved for future. Tsoutsos(2005)
5. Less operation cost: overall operation cost is very low. Low operation cost can balance the infrastructure implementation cost. Sarver(2013)

Cons:

1. High development cost: infrastructure establishment cost is very high.
2. Vulnerability: renewable energy source are completely depends on sun and wind ,so if wind is slow and heavy rain effects the production of energy . Sarver(2013)
3. Low production: thermal power stations produce abundant power but renewable energy source can't produce much energy. Weather conditions are a key factor for this renewable energy which hampers the production rate. Yang(2011).
4. Big area required for stations installation: installation of large solar panels and wind farms required big area of land to produce large amount of energy. Yang(2011).



NUCLEAR POWER

Pros:

1. Low carbon emission: Nuclear power never produces greenhouse gas like methane and CO₂, like traditional fuels i.e. coal. According to The World Nuclear Association the average emission for nuclear are 29 tonnes of CO₂ /gigawatt/hr of energy produces. With the compare of renewable source like solar i.e 85 tone/gWH and for wind it is 26 tones/GWh and for fossil fuels i.e.; coal it is 888 tone /gwh and lignite it is 1054 tones/gwh. By this comparison we can say nuclear produces less or same emission as other renewable sources. Ghiassi(2002).
2. Not irregular: Renewable energy similar to wind and solar is active only when wind is blowing and or sun is shining. Nuclear power stations can run without these type of interruptions and produce energy. Hannum(2005)
3. Low-cost to run: nuclear power station management cost like managing radioactive fuel and disposal of nuclear waste is between 33% to 50% of a coal station and 20% to 25% of gaseous stations. The energy produced in these nuclear stations are of superior quality. Vojdani(2008).

Cons:

1. If it goes wrong....: Three major nuclear meltdowns in recent years are a) Three Mile Island in 1979 b) Chernobyl in 1986 and c) Fukushima 2011. After taking all safety actions in these nuclear stations due to different causes these power stations melt down. In Chernobyl instant passing away of 54 citizens and by the International Atomic Energy Agency (IAEA) predicted a number of 4000 casualties in long term due to radiation leak. Billions of money is used up to fix these nuclear stations. Kautsk(2013) and Ten Hoeve(2012).
2. Nuclear waste: nuclear power produces nuclear waste. World produces 3400m³ nuclear waste each year, which takes many years to degrade. Kautsk(2013)
3. Infrastructure cost is very high: the initial cost to set up infrastructure is very high. It is approximately \$34-84 billion for setup and \$4-6 billion extra cost to maintain the facility.

CONCLUSION

Presently society is completely dependent upon fossil fuels like 39% natural gas, 24% coal, 8% nuclear and 6% others. These are not renewable in nature. Resources of these non-renewable energy are limited. Nuclear power comes into non-renewable sources because uranium

and similar heavy metal sources are limited. Some people think nuclear energy is renewable only due to thorium and some new technologies may provide infinite resources of energy.

Future scope

Some experts say breeder reactors always could produce fissile materials. Breeder reactors use neutrons which produced after fission to create nuclear plutonium. Thorium is a radioactive metal which is found in vegetation, water and soil. And it is safer than uranium and enormous storage to dispersion.

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CONDITION AND EDUCATIONAL STATUS OF MUSLIM WOMEN IN INDIA

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ABSTRACT

Education is the biggest weapon for development of any community. Without education any community is not properly developed. If any society, any community not properly educated it will create a barrier of particular society development. If we saw Indian communities then we saw Muslim community is the lowest educated section of Indian Society. The present study aim is to find out the condition and educational status of Muslim women in Mediaeval period, British period and Post Independent period in India. Methodology of this study is the comprehensive literature survey was conducted through various online and offline secondary sources to observe the condition of Muslim women education in India and data are correlated available in order to express the findings. This present study researcher found that Muslim girls are still lagging behind in achieving the literacy status in three stages - Mediaeval period, British period and post independent period of India and the government should provide special facilities for Muslim women to receive an education so that they could contribute to the development of the country.

KEYWORDS: Women education, Mediaeval period, British period, Post independent period, Condition, Educational status

1. INTRODUCTION

Education is the most powerful tool For Development of any society. Specifically women must have equal roles provided for progress of any society. Education is the milestone of the empowerment of women as education helps them to change their lives, response to their challenges and question their traditional roles. If women of particular community do not prosper, then the development of society is halted. Queen Rania of Jordan told that "If you educate a woman, you educate a family, if you educate a girl, you educate the future". So important to know about Muslim women education of Medieval period, British period and Post Independence India period in India.

2. REVIEW OF LITERATURE

A study conducted by **M. Indu Menon (1979)** entitled "Education of Muslim Women:

Tradition Versus Modernity" tried to discuss some of the major factors which are responsible for hindering educational progress of Muslim women are as such: Insistence on religious education, Early marriage, Seclusion and Absence of socially defined occupational role for women in Muslim community. The paper also described that the traditional attitude of the Muslim community is the most important reason for the low level of education among them.

A study conducted by **Laxmi Devi (2014)** entitled "Socio-Economic Development of Muslim Women: Impact of Education". The objective of this paper is to study the status of Muslim women in India, the reasons for their backwardness and its impact on socio-economic development. The author suggested that the state government need to provide special provisions for improving their participation in secondary, higher technical and professional



education so that they can contribute effectively to the socio-economic development of the nation.

3. IMPORTANCE OF MUSLIM WOMEN EDUCATION IN INDIA

1. To inspire the self-esteem and confidence of Muslim women.
2. Empower women by recognizing their contribution to socio-economic and political fields.
3. Raises awareness of women special rights.
4. Increasing the overall literacy rate of the country.

4. OBJECTIVES OF THE STUDY

1. To find out the condition of Muslim women education in Medieval period of India.
2. To find out the condition of Muslim women education in British period of India.
3. To find out the educational status of Muslim women in British period of India.
4. To find out the condition of Muslim women education in Post independent period of India.
5. To find out the educational status of Muslim women in Post independent period of India.

5. METHODOLOGY

By various online and offline secondary sources the comprehensive literature survey was conducted for examine the condition and educational status of Muslim women education in India and correlate the data existing in order to make known the findings.

6. CONDITION OF MUSLIM WOMEN EDUCATION IN MEDIAEVAL INDIA

Era of Muslim governance in India form the end of the twelfth century to the middle of the eighteenth century. Early in the reign, due to religious orthodoxy, the education of women did not progress in this era. The gradual change of mindset allows women to get education. The practice of purdah, combined with social ideas of women as primarily wives and mothers, prevented female education. Muslim women's education, consequently, was generally restricted to religious knowledge. Although Muslim girls (and boys) were educated in Maktab (primary schools), girls were completely absent from Madrasah (high schools/colleges). In Maktab, girls could get up to deivein years of education .Unless they could afford private instruction, girls' education was restricted to memorizing the Qura'n and learning Persian or Urdu (a combination of Persian and Hindi). However, in the Mughal royal family several women received private education. For example, Babar's daughter, Gulbadan Begum, author of the Humayun Namah, was the first Mughal woman to document the social realities of Mughal women. Zeb-un Nissa, Emperor Aurangzeb's eldest daughter, was an eminent

theologian and poet. Akbar established Jenna school for the education of women. In this period we see that for the most in cases, in andarmahal, there was a system of education for women. Ulema was appointed to teach at harems and teacher ware appointed for fine arts education. Malabar sultan ghiasuddin appointed women teachers for women learned harem. Women Literacy rate was very low in this era.

7. CONDITION OF MUSLIM WOMEN EDUCATION IN BRITISH PERIOD OF INDIA

There was such system of education for Muslim women in early British period. Because of practice of purdah, after it was gradually developed effort of different individual how it was developed it by many individuals is mentioned below:

1. Hali considered about Muslim women education although he realise that it should be give at home.
2. Tahzib- un-Niswan (women reformer) it is a newspaper it was established by Mumtaz Ali and his wife mohammadi begum, which two cough the issues of female education.
3. After wood despatch recommendation we saw the government for the first time receive direct responsibility for making women literate. wood despatch recommended that
 - a. Separate School established for the purpose of provided education girls'
 - b. He wanted to enlarge women education through grant-in-aid.
4. In the Hunter Commission recommendation we saw various measures are being took to improve Muslim women education.
5. Aligarh Muslim University established by Syed Ahmad Khan as the Muhammadan Anglo-Oriental College in 1875 for training and guidance.
6. Started Heart School Susan Jahan the begum of Bhopal for Muslim girls in 1903, school name was Sultania School. In the school where 140 girls below 10 years of age in the very first year, the arrangement of transport for every girls will go to school and back to home.
7. The annual Muslim education conference sessions at Lucknow, there a Resolution was passed to establish a girl's school in Aligarh and the school was open in 1906 .when the school was be getting only 6 girls in the school
8. Sakhawat Memorial Girls School in Bengal by Rokeya Sakhawat in 1911.
9. For girls education also supported Maulana Karamat Hussain in Lucknow started a girl's school in 1912.



10. The causes of women education was supported Lord Curzon and the support was reaffirmed with the government resolution of education policy (1913). Government resolution on education policy in 1913 recommended that the education of girls should be formed practical with reference to the rank they would fulfil in social existence. The educationalist realise the instant need of the correction in the curriculum in girls school.
11. The Indian women's University is Pune established by professor DK Karve in 1916 with particular am was providing educational systems suited to the special necessity of Indian women Hood.
12. Osmania University established by Mir Osman Ali Khan & Akbar Hydari in 1918 for Muslim education.
13. Jamia Millia Islamia University established by Mahmud al-Hasan, Mohammad Ali,

Jauhar Hakim, Ajmal Khan, Mukhtar Ahmed, Ansari Abdul, Majeed Khwaja, Zakir Hussain in 1920 for Muslim education.

8. EDUCATIONAL STATUS OF MUSLIM WOMEN IN BRITISH PERIOD OF INDIA

In the late nineteenth century, only 0.86 per cent of Muslim girls were attending given schools and the matriculation examination, no Muslim girls had passed in either Bombay or Madras. According to a research study in 1901–2, only 44,695 female was secondary students in British India. This represented four out of every 100,000 Muslim girls attended the school. Enrolment amount of Muslim girls in 1902 greater than Hindu girls in three provinces, Bombay, Madras and the United Provinces, while they fall behind in Bengal and Punjab.

Table - 1
School enrolment figures for boys and girls, 1897–1902

Sl. No.	Province	Hindu	Muslim
1	Bengal	2.0	0.8
2	Bombay	3.7	4.0
3	Central province	1.0	2.3
4	Madras	3.1	5.9
5	Punjab	1.6	0.5
6	United province	0.3	0.7

(Source: Fourth Quinquennial Review of Education, India, 1897–1902, Supdt. of Government Printing, Calcutta, 1904, pp. 308.)

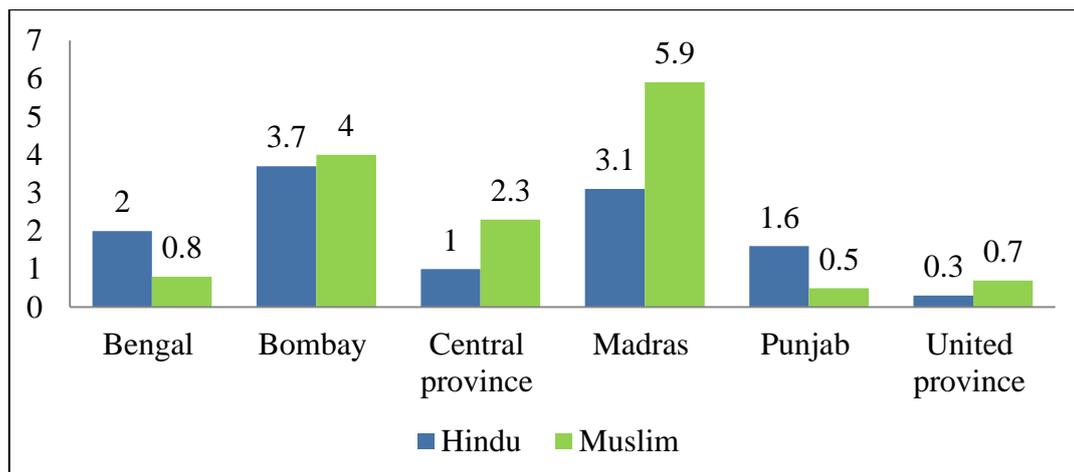




Table - 2
Muslim school enrolment figures, 1919-26

Sl. No.	Province	Year	% of Muslim female pupil of population	% of other female
1	Bombay	1916	-	-
		1926	1.4	2.1
2	Bengal	1916	1.3	1.3
		1926	1.4	1.6
3	Madras	1916	1.8	1.4
		1926	3.1	2.3

(Source: Memorandum on the Progress of Education in British India, 1916-26, Calcutta, 1927, pp. 47-59.)

Table - 3
Progress of education for Muslim and non-Muslim females

Province	Year	% of Muslim population to total population	% of Muslim pupils to Muslim population	% of Muslim pupils to total pupil
Bengal	1932	55.2	2.3	55.4
	1937	---	3.0	55.2
Bombay	1932	8.4	2.9	19.8
	1937	--	6.9	12.4
British India	1932	24.1	2.0	26.0
	1937	--	2.5	25.6
Delhi	1932	32.2	2.6	23.3
	1937	--	3.8	25.5
Madras	1932	7.5	5.1	11.5
	1937	--	6.3	11.4
United provinces	1932	14.9	0.8	15.7
	1937	--	1.0	15.5

(Source: Review of Education, vol. 1, 1932-37, Calcutta, 1939.)

9. CONDITION OF MUSLIM WOMEN EDUCATION IN POST INDEPENDENT PERIOD OF INDIA

For improve Muslim women education after post independent India many comedy and commissions NGOs gave many recommendation the following recommendations are important.

- NGOs are actively participated for improvement of Muslim women education in post independent period of India.
- In the Seventh Five Year Plan, opening of 5 more community Polytechnics and Early Childhood Education Centre in the areas predominantly inhabited by educationally backward minorities.
- A number of determinations were taken in the Programme of Action for Primary, Middle, Higher Secondary, Vocational and Technical Education.
- After independent, Kashmir University established in 1948, Marathwada University established in 1958 for Muslim education, training and guidance.
- After Independence, the government of India has determined several committees

and commissions and policies to raise and emphasize the education of a girl. With consideration to the education of minorities, some of the important committees, commissions and policies are discussed below:

1. University Education Commission (1948-49) – This commission recommended that girls are provided equal opportunities same as boys. Girls have separate responsibility as a citizen of women, for this will arrangement for special education for girls.
2. Secondary Education Commission (1952-53) – Same education will provide both boys and girls. For girls study home science should be introduced.
3. National Committee on Women Education (1958-59) – The difference between men and women in education needs to be bridged as soon as possible and funds need to be allocated as required, along with an overall plan for the expansion of women's education in each state.
4. Bhakta Batsalam Committee (1963) – Social education centres will established in rural



- areas for women. Reservation of seats in training institutions for women.
- Kothari Education Commission (1964-66) – Need to make arrangement for all girls will get job, give scholarship and also arranged free hostels for every girls.
 - National Policy of Education (1986) – Focusing on those who deprived in the minority class. Focusing on girls’ education to eliminate inequality. Access to education equality of learning.
 - Programme of Action (1992) – Self-esteem and self-confidence will increase of women. Ensuring women equal participate in developing process.
 - Gopal Singh Committee identified the Muslims and Neo- Buddhists as educationally backward minorities at the national level. So, the committee recommended the particular attempt to look into the educational status of backward classes, minorities and deprived groups in the country and to bring them at level with the prop of the society.
 - The Sachar Committee realized it obligate to review and reformation the 15- point programme because of the inane in the prior programme with consideration to the

amelioration of socio-economic and educational conditions of the minority groups.

- Amitabh Committee – The new skill development and placement programme by the private sector would be encouraged under NSDC. Scholarship amount should be raised for secondary and higher secondary schooling in order to meet all related cost.

10. EDUCATIONAL STATUS OF MUSLIM WOMEN IN POST INDEPENDENT PERIOD OF INDIA

According to Islam, “A mother’s lap is the first school for child.” from all other communities Muslim girls and women fall behind their male counterparts and women. Among Muslims, the dropout rate is 17.6 percent; it is higher than the national average of 13.2 percent. 25 percent of Muslim children age group (6 to 14 years) they never attended school or have dropped out. Only one out of the 25 under-graduate students and one out of 50 postgraduate students is in the premier colleges of the country. In all courses the Division of Muslims is very low, specifically we say at the postgraduate level.

Table - 4
Gross enrolment ratio by religious groups (2004-2005)

Religious groups	Higher education		Total	Graduation		Total
	Male	Female		Male	Female	
Hindu	15.19	10.86	13.13	13.07	9.32	12.29
Muslim	9.09	6.16	7.70	7.77	5.81	6.84
Christian	19.72	19.98	19.85	17.21	16.02	16.60
Sikh	10.77	14.99	12.01	9.01	12.4	10.62
Total	14.42	10.47	12.59	12.42	9.11	10.84

Source: Literacy rates among the religious communities in India according to the census 2011

In the above table no. 4 saw that GER in higher education Muslim male (9.09) and female (6.16) students fall behind then the other community.

GER in graduation we saw Muslim male (7.77) and female (5.81) students are fall behind then the other community.

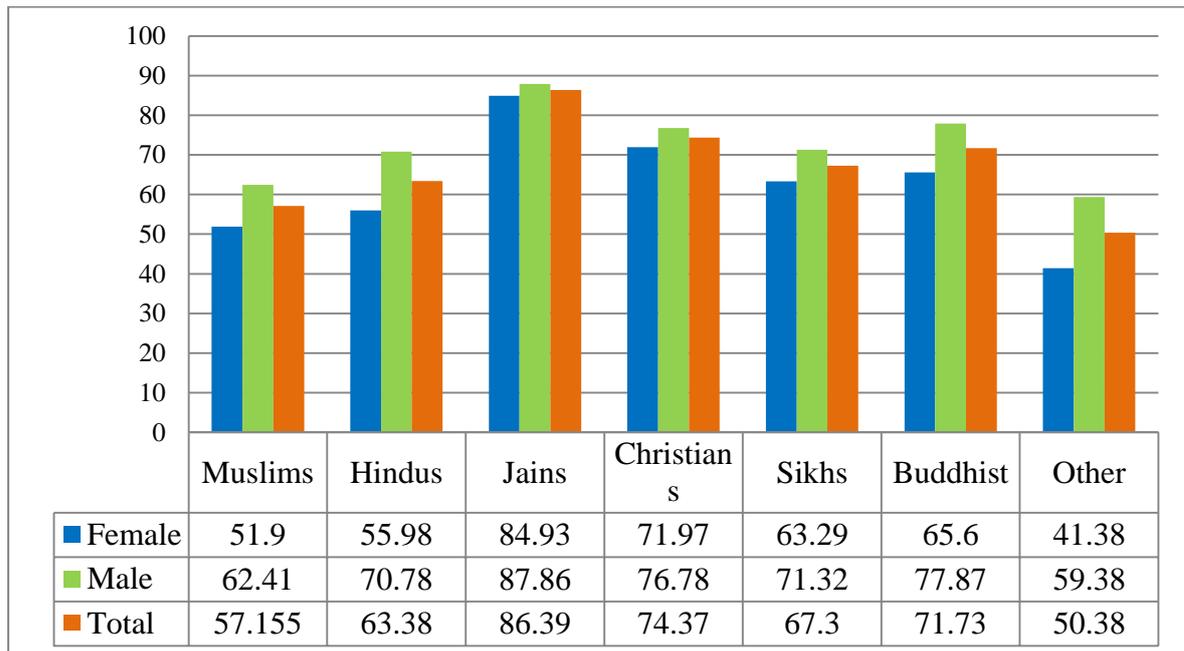
Table-5
Literacy Rate among Religious Communities: (in % age)

Religious community	Female	Male	Total
Muslims	51.9	62.41	57.155
Hindus	55.98	70.78	63.38
Jains	84.93	87.86	86.39
Christians	71.97	76.78	74.37
Sikhs	63.29	71.32	67.30
Buddhist	65.6	77.87	71.73
Other	41.38	59.38	50.38

Source: Literacy rates among the religious communities in India according to the census 2011

In the above table no. 5 saw that Muslim female literacy rate 51.9% and male 62.41%, as per the table Muslim female and male literacy

rate percentage lower than the other communities. So, Muslim women education need to improvement.



11. SUGGESTIONS

1. Muslim girls' literacy rate very low, so need to improvement.
2. Properly implement recommendation of various commission and committees in the field of education.
3. Need to awareness about women education though Imam, NGOs, mass media, local administration etc.
4. Scholarship should be provided to encourage Muslim women in education.
5. The safety and security of Muslim women in the society should be emphasized so that they can go out of the house and go to educational institutions for education.
6. Free hostels should be arranged for Muslim women to stay.
7. There is some religious orthodoxy in Muslim society which prevents Muslim women from going out of the house. These obstacles need to be removed and also need to be encouraged to study.
8. More and more Madrasah's need to be set up so that Muslim women can get an education.
9. The number of seats in higher education for Muslim women needs to be increased and seats need to be reserved.
10. Muslim women need to prevent child marriage and encourage education.

12. CONCLUSION

To sum up we can say that, three stages – Mediaeval period, British period and Post independent period Muslim girls, in particular, are

still lagging behind in achieving the literacy status. However, it can be said that, from the previous situation in different aspects of education like educational thought, literacy rate, number of school etc was develops. Muslim women participation for social prejudices is too low then we can saw that Muslim women to be left behind in the education sector form other community. At present, the participation of Muslim women in education has increased but the rate has not increase. Therefore, the government should provide special facilities for Muslim women to receive an education so that they could contribute to the development of the country.

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FINANCIAL PORTFOLIO MANAGEMENT: OVERVIEW AND DECISION MAKING IN INVESTMENT PROCESS

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ABSTRACT

In the globalization era, Portfolio Management plays a vital role to take decision in investment of various securities. The aim of the paper is to present an approach that how investment decisions are made and types of portfolio investors can form. This article proposes a framework of holistic perspective of portfolio management. This paper also reveals the various factors and process to be consider to deploy funds in a portfolio which influence the investors to take decision for "Best Investment Strategy".

KEYWORDS: Diversification; Financial Instrument; Investment; Portfolio Management; Risk; Securities

INTRODUCTION

Portfolio management is a continuous process. It is a dynamic strategy in which investor deploying their funds in different investment avenues. Portfolio refers to managing an investor's investments in the form of bonds, shares, cash, mutual funds etc. so that investor can earn the maximum profits within the stipulated time frame. The art of selecting the right investment portfolio for the investors in terms of minimum risk and maximum return is called as portfolio management. Portfolio aspect illuminates the quantitative analysis of how investor can diversify their portfolio with a specific end goal to minimize the risk and maximize the return in a stipulated time frame. A well-diversified portfolio mix of equities, debt securities, and money market instruments will provide the expected rate of return for any given degree of risk and also to mitigate (reduce) the risks. Portfolio Diversification is an investment tool which helps in keeping the portfolio healthy.

OBJECTIVES OF THE STUDY

Primary Objective

The primary objective of this study is to analysis and explore suitable Portfolio for various investors.

Secondary objectives

To help achieve the primary objective, the secondary objectives of the study are as follows:

- To examine the different attributes of various Portfolios.
- To analyse the "Best Investment Strategy" to the investors as per their risk appetite and expectation of return.
- To know the customized investment solutions to investors as per their needs and requirements.

RESEARCH METHODOLOGY

The present study is based on secondary data which was collected from various websites, journals, news etc. This data was used to identify various attitudes of different investors to achieve their objectives through constructing their portfolio.

An overview of Portfolio Management

Portfolio Management, analysing the strengths and weakness of various combination of different portfolios. It is a management technique to manage the investor's funds by selecting the best investment mix in the right proportion, to increase the return on investment and maximize the wealth of the investor. Here, portfolio refers to a range of financial products, i.e. stocks, bonds, mutual funds etc. in which investors can invest. Portfolio Management consists of two word i.e. Portfolio and Management.

The meaning of this is as follows:

Portfolio: Portfolio is defined as the composite set of financial assets in which the investor wishes to invest such as shares, bonds, debt instruments like

debenture, mutual funds, risk free financial assets like NSC, PPF etc.

Management: Management is a process of planning, decision making, organizing, leading, motivation and controlling. According to Van Fleet and Peterson defines management, 'as a set of activities directed at the efficient and effective utilization of resources in the pursuit of one or more goals.'

Portfolio Management: Portfolio Management is an art of guiding the investors what to do when to do and directing that how the investor can diversify their portfolio with a specific end goal to minimize the risk and maximize the return. It is a systematic and scientific way to manage the available funds to obtain

the maximum return at lower risk in a stipulated time frame.

FACTORS TO CONSIDER WHEN CREATING A PORTFOLIO

Building a financial Portfolio covers a certain factors that should be consider. It involves wisely unifying the financial investments, by opting for the best investment mix in the right ratio. In portfolio management investors should analyse the risk return trade-off of the portfolio as a whole, not the risk return trade-off of the individual investments in a portfolio. As, the unsystematic risk can be diversified away by combining the investments into a portfolio. The following factors to consider when creating a Portfolio are as:



Figure: 1 Factors to consider when creating a Portfolio

1. **Capital preservation:** Capital preservation is one of the primary reasons investors invest their funds in a suitable portfolio. It is a strategy for protecting the money by deploying their funds in insured accounts or fixed income-investments like fixed deposits, government bonds, and even an ordinary savings account etc. that promise safety of principal amount. Although the return on investment may be lower here but the objective of capital preservation is easily met.
2. **Customized Allocation:** Portfolio Management depicts the customized investment plan to the investor as per their needs, wealth, income, spending plan, age and capacity to handled risk. Investors can reduce their risk and increase their return through portfolio management. Portfolio management allows investors to take more informed decisions about the kind of investments.
3. **Consistency of Returns:** Consistency in returns is an important driver of overall portfolio. Standard deviation helps to measure the consistency of returns of a portfolio over the period. A smaller standard deviation reflects greater consistency and predictability.
4. **Reducing risk:** With the help of portfolio management investors can minimizes their risk which involved in investing. Every investment instruments attach their own risk, it may be unsystematic risk or systematic risk. Even an optimum portfolio cannot eliminate market risk, but can only reduce or eliminate the diversifiable risk.
5. **Diversification of Portfolio:** Portfolio diversification is the financial strategy that aims to reduce risk by allocating investments across various financial instruments. Through diversification investors have an opportunity to diversify their risk.
6. **Capital appreciation:** Capital appreciation is primary and long-term goal. Sound portfolio offers a significant return on the initial amount that the investors invested.



7. **Liquidity:** Appropriate portfolio management should ensure that there are enough funds available at short notice to take care of the investor's liquidity requirements. For example, investor could keep some money in liquid funds, which can sell off easily when urgently needed like medical emergency or any contingencies etc.

TYPES OF PORTFOLIO

Portfolio management is the strategic way of investment. The popular idiom "don't put all your eggs in one basket" reflects that if investor place all their savings in a single investment instrument he could lose everything.

Though there are several types of investment portfolios, investors make it a point to build one that matches their investment intent and risk appetite.

Based on investment strategies, these following are some common types of portfolios –

- **Aggressive Portfolio**
 Aggressive investors takes a greater risk in search of high returns. Investors who, desires high return and have a high risk tolerance for longer time horizon elect aggressive investment strategies. Generally the Aggressive Growth Portfolio investors will majorly invest in equity securities. An aggressive portfolio has a high beta.
- **Defensive Portfolio**
 A defensive investment strategy is a conservative method of portfolio. In defensive portfolio strategies investor invest

a large portion of a funds to fixed-income securities like high-quality, short-maturity bonds and blue-chip stocks etc.. This type of portfolio is well suited to those investors who have a low-risk appetite. A defensive portfolio is one comprising stocks that don't have a high beta, by creating a defensive investment portfolio, an investor has a better chance of protecting his money throughout a market or economic slowdown.

- **Speculative Portfolio**
 A speculative portfolio carries the highest risk among all types of portfolio where the investor focus on purchasing. The investor buys the financial instrument in an attempt to create profit from market price fluctuation. Investors must adopt due diligence while building a speculative portfolio as it carries risk which is pretty high.
- **Hybrid Portfolio**
 A hybrid portfolio management strategies would include mix stocks and bonds in relatively fixed proportions. This approach deals diversification across multiple asset classes. This portfolio strategy is beneficial to the investors because equities and fixed income securities have a negative correlation with one another.

Key Steps for Successful Portfolio Management

Investor consists the following key steps to invest in the portfolio:

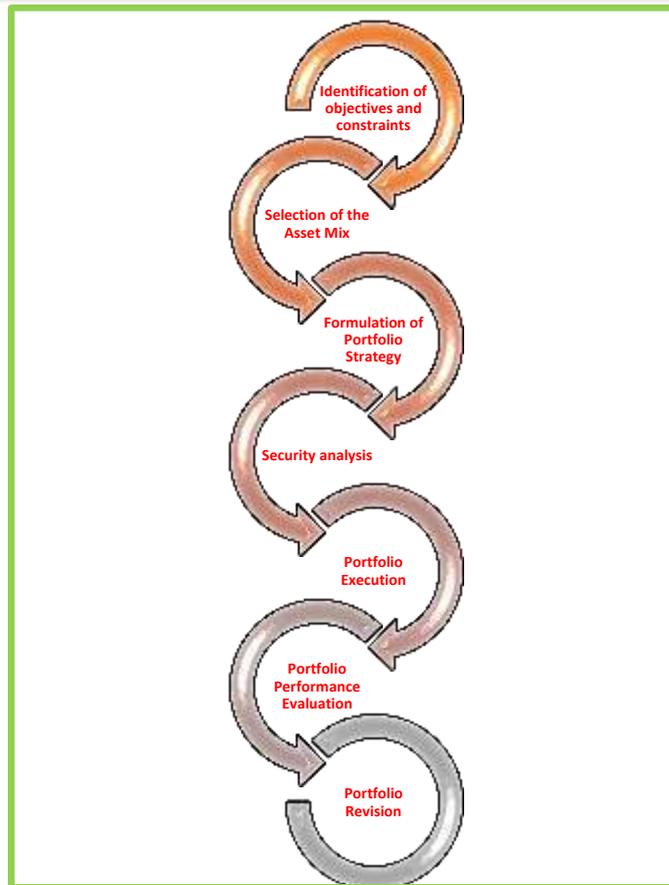


Figure: 2 Key Steps for Successful Portfolio Management

1. **Identification of objectives and constraints:** To construct a portfolio, investors should identify their set of goals and constraints. These constraints may be concern with time horizon, investment capacity, risk tolerance capacity, nature of returns etc. Whereas in setting up goals of portfolio management, investor should clearly identify the reasons to build an optimal portfolio. The relative importance of these objectives should be clearly defined.
2. **Selection of the Asset Mix:** Asset Mix is the composition of three major asset classes – equities, fixed income, and cash / cash equivalents. To design a portfolio, investor determine their risk taking ability and according to investor should decide the proportions of the portfolio.
3. **Formulation of Portfolio Strategy:** Portfolio Strategy is a roadmap by which investors can formulate their portfolio to achieve their financial goals. Investor has two ways to formulate their portfolio strategy, namely
 - i. Active Portfolio Strategy;
 - ii. Passive Portfolio Strategy.

Active Portfolio Strategy: Here investors focus on short term profit so they continuously

monitor their portfolio. In this strategy investor take benefit from small fluctuation of changes in prices of the stocks. It is continues and outgoing process of buying and selling of securities.

Passive Portfolio Strategy: Here investors emphasis on buy-and-hold portfolio strategy for long-term investment horizons, with minimal trading in the market. In this strategy investors proceed maximize returns by minimizing buying and selling. Passive investing's goal is to build wealth gradually.

4. **Security Analysis:** security analysis process is majorly associated with two perceptions: Risk & Return. The risk and return provide the framework to the investors for constructing portfolio. Investor create '**efficient portfolio**' to consider a maximum return for given level of risk. Investors will explore the risk and return characteristics of individual assets, creating all possible portfolios, selecting the most efficient portfolios. Risk and return both are highly correlated. Security analysis helps to understand the nature and extent of risk and return of a particular security in the market. Security analysis involves both micro analysis and macro analysis. Fundamental



analysis and technical analysis helps the investors to identify the securities.

5. **Portfolio Execution:** After completing the process of security Analysis portfolio plan will execute by the investor. In this process investors execute their optimal or selected portfolio strategy. Investors involve in buying and selling of securities from the market.
6. **Portfolio Performance Evaluation:** This phase involves regular analysis and assessment of portfolio performances over the stipulated period. During this phase quantitatively measured that the portfolio has outperformed or underperformed relatively as per their benchmark. The evaluation of portfolio performance is important because, the investors who has been invested his funds need to know the comparative performance of the portfolio.
7. **Portfolio Revision:** Portfolio revision reveals changing the existing mix and proportion of various securities involved in portfolio. This process also acknowledged as reallocation of portfolio. After selecting the optimal portfolio investor is required to monitor it constantly to ensure that the portfolio remains optimal with passage of time. Due to dynamic changes in the economy and financial markets the attractive securities may cease to provide high returns at low risks.

CONCLUSION

The proverb “cannot put the same shoe on every foot” indicates to the fact that everyone is different and they deserves different things in life. This reflects that a particular strategy or a portfolio is not necessarily suited to all investors. So there is no certain criteria for investment strategy for the investors. Each investor has their own vision to create optimal portfolio. Investors develop a personalized financial strategy to consider their perceived risk and return on various investment vehicles. The investor perception regarding risk and return which will actually influence the decision. **Higher risk** is associated with **greater** probability of **higher** return and lower risk with a **greater** probability of smaller return. It is important to analyse investment process of the securities to take decision for optimum and suitable portfolio.

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NEIGHBORHOOD TODAY AND YESTERDAY

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ANNOTATION

The article tells about the important social institutions of the Uzbek people for thousands of years - the historical stages of development of the mahalla, the state of the Soviet period, and the modern features of securing independence and democratic development.

KEYWORDS: *reform, social life, social institution, governance, neighborhood, self-government, neighborhood institution, democratic development, civil society, elections.*

“Соседство сегодня и вчера”

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***Аннотация.** В статье рассказывается о важнейших социальных институтах узбекского народа на протяжении тысячелетий - исторических этапах развития махаллы, состоянии советского периода, современных особенностях обеспечения независимости и демократического развития.*

***Ключевые слова:** реформа, социальная жизнь, социальный институт, управление, соседство, самоуправление, институт соседства, демократическое развитие, гражданское общество, выборы.*

INTRODUCTION

In the democratic society being built in Uzbekistan, the neighbourhood, that is, the national model of civil self-governance, is recognized directly as an institution of democracy. Its legal basis is clearly defined in Article 105 of the Constitution of the Republic of Uzbekistan: “In the towns, villages and streets, as well as in its neighborhoods, citizens’ assemblies are self-governing bodies, electing a chairman (aksakal) and his advisers for a period of two and a half years”. [1].

The interest in scientific study of this issue has only increased after the establishment of a new, fair democratic society in a number of developed countries, including the Republic of Uzbekistan.

Some theoretical and practical problems related to this topic are from Uzbek legal scholars Sh.I.Jalilov [2], A.Saidov [3], K.Komilov [4], M. Suvonkulov [5], S.Sultonov [6], A.Toolaganov [7], G.Malikova [8], G.Ismailova [9], Z.Reymova [10], historians G.Umarova [11], R.R. Shamsutdinov and A.Ishakov [12].



MATERIALS AND METHODS

The methods of comparative-critical study, analysis, historical and logical analysis of problematic historical, political, philosophical, sociological, psychological, and pedagogical literature were used in the study.

RESULTS AND DISCUSSION

Neighbourhood is a unique form of social life of people in Uzbekistan, formed over centuries. History shows that there have been neighbourhoods in our country since ancient times, The Muzrabad district of Surkhandarya region crosses the Sherabad Desert, an archaeological monument in the area near the river Ulanbulaksay, Academician Ahmadali Askarov, who conducted archaeological research in Sopollitepa in 1969-74, says that the area of Sopollitepa is about 3 hectares, and its central part is about 1 hectare. The residential complexes in the fortress are located along its inner walls; They are divided into 8 neighborhoods along the streets. [13].

Literature shows that neighborhoods have a millennium history. For example, Narshakhi in his book "History of Bukhara" returns to the fact that there were several mahallas in Bukhara 1100 years ago. In his work "Hayrat ul-abror", Alisher Navoi describes the neighborhood as "a suburban town", noting that the city of Herat is made up of "one hundred towns", that is, neighborhoods. The example of the neighborhood where Navoi lived shows how high the human qualities such as brotherhood, kindness, mentorship and discipleship are. The great thinker Alisher Navoi left warm memories and clear ideas about the neighborhoods. In his Majolisun-nafois book, Alisher Navoi writes about the neighborhoods.

"Dost Mohammad is from the Margoni neighborhood. It is good for poetry and problems". A. Navoi writes that there is respect, equality among neighbourhoods, and that horns and gadgets are well cared for. Historically, A. Navoi also lived in this neighborhood. It says about the location of the yard in which Navoi is located: "It was on the western border with the southern border of this enclosed courtyard."

In short, the great ones were kind to the neighborhood and people they lived in. Navoi has been living in Herghan's Morgan neighborhood and has made it the most beautiful place in the city. Many of his great works were also born in this neighborhood [14].

We see that during the period when Turkestan was colonized by the Russian Empire, the rule of the country was based on violence and kept as a permanent method. The Russian government has always emphasized that the Turkestan peoples "will not be subject to their will and consent" and that the country should be completely free. On this basis, Turkiston established a system of governorship of the

general. The head of the district in the system of urban and rural management is the precinct officer, who is subordinated to the elders of the makhally, fifty leaders and ten leaders. Thus, the governor-general of Turkestan kept control of his military and civilian power in his hands. The system of local government was in the hands of the Russian authorities. The Russian administration's "self-government and suffrage" is a form of brutality, which in its hands is in control of the case. [15].

An example of Tashkent is the ancient local system of local government. Generally, mahalla residents were more likely to be engaged in crafts, trade or agricultural activities, depending on the nature and nature of the area in which they live. Large neighborhoods with rich historical traditions include Oktepa, Okmachit, Balandmachit, Devonbegi, Kukcha, Almazar, Isfara Guzar, Altintepa, Agaabad, Samarkand Gate, Kamolon, Deep Bridge, Okchi, Uzbek and other mahallas [16].

At the beginning of the 20th century, the mahallas were ruled by the centurion (elders) elected by the chiefs of the ministers - the commanders. The centurion and his assistants supervised all public affairs and ceremonies in the neighborhood, as well as representing the interests of the community in city councils and city offices.

The main objectives of the makhallas are to hold rituals, to organize and beautify their territory, to educate the younger generation in a spirit of public order, to maintain order in society, to control the observance of all traditional norms, to adhere to customs and punish those who violate community obligations. Neighbourhood authorities have organized public works related to the cleaning of the ditches, the construction of streets and the improvement of the neighborhood. All this was done together by hashar.

The Soviet government regarded the neighborhood as a ruse in the past. From this he proceeded to establish a policy of building a "progressive" industrial society here by abolishing traditional national rule. Since the early 20s, the Soviet government has sought to limit and subjugate the functions of the makhallya, which has had an impact on the activities of the neighbourhood. However, the mall has demonstrated its survival and has withstood any attacks on the traditional way of life and communication and attempts to eliminate them. He preserved old customs and rituals.

In the 20-30s, the neighbourhood was involved in an "attack" on old life - in attempting to release paranoids and liberate women. At the same time, the eradication of illiteracy in the neighbourhood has played an important role in educating the masses, improving the places (building roads, teahouses, schools).

On April 17, 1932, for the first time in Uzbekistan, a Charter of the Urban Committee was



issued. In 1935-36, neighbourhood committees were established under the chairmanship of an elder in the neighbourhood to oversee all public affairs.

The Soviet government, which opposed many traditional Uzbek structures, had to retreat from the struggle with the neighbourhood. This power did not go to the mall. In 1932 the "Provision on neighbourhood committees in the cities of Uzbekistan" was issued. In 1938 the assault on the neighborhood was stopped altogether. It was decided that they should exist alongside new socialist structures and complement these structures [17].

In August 1961, the Regulation "On mahalla committees in the cities, villages, villages and villages of the Republic" issued by the Supreme Soviet of the Republic of Uzbekistan was not granted the status of a legal entity. "Neighborhood committees could not engage in any financial activity". The rights and powers of the neighborhood were limited.

After Uzbekistan gained independence, the attitude towards neighbourhood changed dramatically. In accordance with Article 105 of the Constitution of the Republic of Uzbekistan and the Law on Citizens' Self-Government Bodies adopted in the Senate in 1993, neighbourhoods have legal status and are part of the local government. The neighbourhoods, as the legal backbone of the state, have their own property, financial budget, and book-keeping account. According to this law, each neighborhood can create its own charter, open small businesses, sell its own products, distribute part of it free to the needs of the neighborhood, provide employment and cultural services to its residents.

According to the Decree of the President of the Republic of Uzbekistan dated October 10, 2013 No PQ-2050 "On the organization of training courses for training of civil self-government employees", the organization of professional and managerial skills, legal and socio-economic knowledge, their non-profit organizations, as well as the Council of Ministers of the Republic of Karakalpakstan, with the aim of facilitating the improvement of its activities aimed at the formation and development of mechanisms of social partnership with public authorities and administration;

The regional and Tashkent city governments organized training courses for civil servants in the form of public educational institutions. All the above-mentioned legal acts are, first of all, the legal basis for the implementation of the principle "From a strong state to a strong civil society". After all, in our country, the institution of citizens' self-government as one of the most important parts of civil society is an important factor in the immediate development of the institution of makhallya, which is unique to us. Consequently, the development of the mahalla institution on the basis of the Citizens' Self-

Government Institute, its transformation into the center of family business and the transfer of a number of other functions to the community are characterized by the following features:

First, increasing the role of the neighbourhood on the basis of the Institute of Civil Self-Government fully corresponds with the national mentality and centuries-old traditions and management traditions of our people;

Secondly, the institution of neighbourhood unmatched in any other country in the world is emerging as the most important part of civil society institutions in the country and plays a leading role in its development;

Thirdly, the introduction of community structures in the neighbourhood should ensure that peace and tranquility in the country should begin directly with neighbourhood, with each family living there;

Today, gatherings of citizens, which are functioning independently, are an important institution in the formation of civil society as self-governing bodies. On February 3, 2017, President of the Republic of Uzbekistan Shavkat Mirziyoev signed a decree "On measures to further improve the institution of neighbourhood". This decree marks a new stage in the further development of the mahalla institute [18]. It is also planned to increase staff and strengthen material and technical base of "Nuroni" and "Mahalla" foundations by the President; additional measures will be taken to further enhance their role and place in the life of our society".[19].

CONCLUSIONS

From the foregoing, one can say that first of all, it is related to the study and objective assessment of the reform process in the field of self-government in Uzbekistan;

Secondly, the extensive study, research and further intensification of the work done in this area on the historical roots, development, role and role of the bodies of self-governance in the country;

Third, it is known from history that the works and ideas of thinkers who lived during the medieval Renaissance in the East were related to the study of their ideas about fair civil society;

Fourth, to increase the legal culture of citizens in the process of building civil society and to increase their activity in self-government bodies;

Fifth, it is determined by the need to develop conclusions, proposals and recommendations aimed at further deepening of the role and role of self-governance bodies in the formation of civil society.

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PHRASEOLOGICAL UNITS RELATED TO PARTS OF BODY PRESENTED IN KARAKALPAK EXPLANATORY DICTIONARY

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ABSTRACT

The article informs that the phraseological units related to body parts (somatisms) presented in the explanatory dictionary of the Karakalpak language on the basis of phraseological materials. It is justified the body parts such as back, mouth, leg, head, finger, waist, hand, foot, face in the dictionary.

KEY WORDS: register, phraseology, word, dictionary, lexical group, bodyparts.

INTRODUCTION

In the history of science and culture of each nation, the formation of an explanatory dictionary is a great event in comparison with other dictionaries, because only such kind of dictionaries have an opportunity to demonstrate the nation's history, its achievements in science and culture for several centuries.

The richness of the vocabulary plays an important role in the development of any language. Dictionaries play a special role in teaching the rich vocabulary of our language to the younger generation and the general public. Vocabulary is a very simple, concise scientific task to use, and its correctness in all respects is great importance for the reader. Dictionaries, despite their simplicity and conciseness, contain a lot of information in their work. The materials collected to convey this information, the high level of its scientific discussions testify to the value of the dictionary.

One of the major works of the Karakalpak language lexicon is the Explanatory Dictionary of the Karakalpak language. This dictionary explains the meaning of words used in the Karakalpak language, including the meanings of phraseologies. In explanatory dictionary, the transmission of phraseology is carried out by a symbolic sign - a

rhombus (◊). Once the meanings of the word register are given in full, the phraseology with the word is written after the rhombic sign and its meanings are explained, examples are given.

Karakalpak Explanatory dictionary also provides rich phraseological materials, most of which consists of phraseological units (somatisms) related to body parts.

RESULT AND DISCUSSIONS

The dictionary uses the following phrases related to body parts: back, mouth, legs, head, tongue, eyes, fingers, liver, nails, heart, wrists, hips, buttocks, waist, arms, feet, abdomen, chin, shoulders, pelvis, face, height, occiput, armpit. Many of them are used in the creation of several phrases: *Arqa súyew* - support, helper, trustworthy person. Arqa súyer jalǵız tawı qız apası Aysultan edi. (Kh. Seyitov). (The only person to support was her sister Aisultan).

Arqası qozıw - excitement, curiosity. Sóylese arqası qozǵan, Júyrik bolıp kimnen ozǵan. (Ótesh shayır). (When he spoke, his back was moved, and he was ahead of all). *Den sawlıqtıń arqası* - the reason for good health is to be healthy without pain, to have a healthy body. Den sawlıqtıń



arqasında júzge shıǵıwıńız ushın, ózlerimizdi kútiwimiz kerek. (K. Smamutov). (We need to take care of ourselves so that you can reach the hundred due to health) [1. 98]. The given phraseologies differ from each other not only in their meaning, but also in the function of the keyword in the phrase. In the first and second phraseologies, the main word is from the verb, but the phraseology of **arqa** which means back does not mean the meaning of the action. In the third phraseology, although the pronoun is derived from the noun, the noun is used in accordance with the suffix when it loses its meaning. Its similarity can be found in other vocabularies. Compare: There is a birthmark on my son's back. (in the full meaning). Thanks to my parents, I have reached this level (in the auxiliary meaning). **Awız salıw** - a) mouthwash, perforating. Qoy qoraǵa awız salıp boldım (M. Daribaev). (I put the mouth on the sheepfold) b) biting, trying, snatching. Joldan nedewir jer qashıqlaǵan waqıtta tanaday bir haywan kese belden shıǵa kelip, zángilikke awız saldı (K. Sultanov). (Some distance from the road, an animal came out and put its mouth on the bell). **Awız tıyıw** - tasting of a piece of food, bread, which is ready to be eaten. Tandır japqan jengeylerden bar mirat, Ruxsat joq awız tiymey ótiwge (I. Yusupov). There is an offer from sisters-in-law who are baking bread, there is no permission to leave without touching the mouth [1.122].

Both of these phraseologies were used in connection with the action, but in the first, the change of metaphorical meaning had a stabilizing character. Therefore, in the first phraseology, the main word is considered to be verbal. However, in the second sense of this phraseology, the main word is considered to be a verb.

In the Karakalpak language there are a lot of phraseologies, the main word of which is given by the word **salıw** which has various meanings as give a hand, say a word, have a look, breathe, etc. In the second phraseology, the pronoun is a verb and has a hyperbolic meaning, in which it is stated that eating in such a small amount is equivalent to touching only the mouth.

Ayaq alıs - the state of affairs, the direction of the case, the mood, the appearance, the situation, someone's actions, behavior. Apa endi tınısh bol, kelini-qızdıń ayaq alısı jaqsı kórinedi (K. Irmanov). (Calm down now, the bride's behaviour looks good). **Ayaq astı** - any place, unknown place, unnecessary things. Álle qaydan uship kep, Basıldı ayaq astına (T. Seitzhanov). (Where did it appeared? It was trampled underfoot). **Ayaq suwıtıw** - Cooling of the feet, breathing, resting on the feet. ... Eger ara-tura ayaq suwıta qoysa, shomdı astına qoyıp otırıwǵa kerek, qıysayıp jata qoysa jambasına tósek etip salıwǵa kerek (Abdraimov). (... If the legs are cold from time to time, they should be placed under the pillow, and

if they are crooked, they should be placed on the hips). **Ayaq ushına qoyılıw** - put on the tip of the foot, the tip of the foot, the surface of the foot. Eger qız táwir bolsa, bas ushındaǵı shıra ayaq ushına qoyılsın (K. Aimbetov). (If the girl feels well, remove the candle from the tip of the head to the tip of the foot [1.134]. In almost all of these phraseologies, the keyword is the root word, and in the phraseology of foot cooling, the keyword is the verb. The word underfoot, when combined with the auxiliary verbs to do, creates a phraseology that means humiliation, contempt.

Qoy kózli bala - a child with sheep's eyes, eyes like sheep's eye, blue eyes. Atamuratıń sonǵı sózine jawırnıdan kelgen qoy kózli bala taǵı da qarsılastı (T. Kaipbergenov). (Atamurat's last words were again opposed by a sheep-eyed boy) In our opinion, in this phraseological unit sheep-eyed is a definite word with a stabilizing character, and the word child is used as an appositive, instead of the word child can be put a word that means someone: sheep-eyed boy, sheep-eyed girl, sheep-eyed bride, etc. Therefore, this phraseology had to be placed under another register word. **Bes barmaq** - [1. 277] - five fingers. Berdibay kúle shıray menen qasına kelip, bes barmaqın jazıp qol kóterip sálem berdi. (Berdibay came to him with a smile and greeted him with five fingers). **Suq barmaq** - the index finger, the longest finger in the middle of the five fingers. **Barmaq tislew** - regret, resentment, repentance for past. The following two examples are used in our language as phraseology. But the first is considered as common word. If this word sequence was given in the form of **bes barmaq birdey emes** (five fingers are not equal), it could be fully characterized as a phraseology. In addition, there are two idioms related to the word finger: **torsıysqan barmaqtaı** - like a thumb, like a wet, round finger, **bes barmaqında bilıw** - to know like five fingers, to know everything, to know the details.

We can take the second of the given phraseologies as a whole phraseological unit.

The word **bas** (head) is one of the most widely used words in the Karakalpak language. In addition to its phraseological combinations, it has 13 meanings, and the number of phraseologies is 77. We have decided to divide them into groups according to grammatical differences. Most of the phraseologies that contain the main word are used in the sense of nouns and verbs. Phrasal verbs used in the sense of a noun: alone, head, thumb, headgear, skull, head scarf, head-legs, head grief, head cause, head duty, head grief, head of the enemy, head of the hearth, head of the case, head tied, headline, headmaster.

Phrasal verbs used in the sense of the verb: to bow one's head, to experience, to meet, to leave, to fall, to raise one's head, to refuse, to come to one's head, to bow one's head, to release one's head, to



wrap one's head, to cover one's head, to sew one's head to raise one's head, to shake one's head, not to give up.

The methods of formation of the above-mentioned phraseologies are diverse. In the phraseology that comes in the sense of a noun, there are phraseologies that have the most important, prestigious meaning: the main flag, the main wrestler, the main article, the main race, and so on. In our opinion, the head scarf listed in this line cannot be a phraseology, because the scarf itself is a square that attracts others, it has no other meaning. If this word is replaced by the word handkerchief, it can be taken as a phraseology.

In the Karakalpak language, the word **bel** (back) is productively involved in the formation of phraseology. There are 12 phraseologies in the explanatory dictionary in which it participates: **Bel bala** [1.261] - a) a child born from himself; b) the son of the truth, the son of the country, who cares about the country and the people. **Bel baylaw**, **bel buwiw** - to want something, to start something, to take a risk, to start, to stand alone. **Belge túyiw**, **belge túsiw** - marking of all sorrows, worries, burdens and so on. **Beli búgiliw**, **beli buratılıw** - waist flexion, grief, anxiety. **Beli mertiliw** - disability caused by the weight of work, lifting a heavy object. **Bel bermew** - perseverance, endurance to strength and hardship. Most of these idioms are used in relation to action.

The word **bet** (face) is also used productively in the creation of phraseologies. In addition to its main and variable meanings, explanatory dictionary also has 30 phraseological meanings. Due to their large number, we have chosen to focus on their meanings only where necessary, and to mention the rest: face to face, pressing on the face, throwing at the face, looking at the face, soot on the face, seeing the face in the mirror. Some of them are different versions of the same phraseological unit while others are not relevant to the criteria of phraseology. For example, the concept of the phraseology of **bet súrtiw** is given as wiping face. ... The girl wiped her face with a handkerchief and looked at me. One of the main features of phraseology is that the word sequence has a variable, figurative second meaning. Wiping the face does not have any variable meaning, its components can be easily replaced: wiping the face, wiping the head, wiping the hands, etc. Therefore, such phrases should not be included in the list of phraseologies.

Phraseologisms in the presence of the word **bilek** (wrist) are formed by the stabilization of epithets and are used in the sense of appearance. **Aq bilek** - beautiful wrist **Jińishke bilek**, **názik bilek** - thin, delicate and weak wrist. **Talmas bilek** - strong and powerful wrist. **Som bilek**, **jumırı bilek**

- muscular and strong wrist. **Aristay bilek** - long and big.

The word eye is used very effectively in phraseology. The dictionary contains 120 phraseologies composed in its presence. They act in essence: eye contact, whitening, yellowing of the eyes, insatiability, staring, inversion, blinking, [2.298] etc. The dictionary defines the term **gegirdek** (trachea) as follows:

“Trachea- a tube-like portion of the respiratory tract that connects the larynx with the bronchial parts of the lungs. **Qızıl gegirdek bolıw** -having a big argument. **Óz gegirdegin oylaw**- to think of one's own circle, to think of one's own goal. **Gegirdekke urıw** - to eat, to spend on one's own. **Gegirdekke suw búrkiw** - shouting, talking up.” [2.15]

Initially the word is described as a part of the body. Then it is shown that it is as a part of the phraseology.

There are a lot of phraseologies in the Karakalpak language that come with the names of body parts. The phraseological units **qızıl gegirdek bolıw**, **óz gegirdegin oylaw**, **gegirdekke urıw**, **gegirdekke suw búrkiw** play an important role. They are used in literary works on various stylistic purposes. For example: 1. Tilevmuratov balalardıń qasına kelse, zavod direktorı Dawjanov penen Tilemis **qızıl kegirdek bolıp** atr eken. (K.S.) (When Tilevmuratov came to the fishermen, the director of the plant Dauszhanov and Tilemis were arguing.) 2. Iyun ayınıń on birinshi aqshamında “Jaqsılıqtıń” keńsesindegi **gegirdekke suw búrkispe** kúta háwijine minip attı (Sh.S.). (In the evening of the eleventh of June the shout in the office of "Djaksilik" was increasing.) 3. Xojaniyazov kempir menen ğarriniń **qızıl kegirdek bolıp** aytısa ketkenin sezip, artına jalt qaradı (KS). (Khozhaniyazov glanced behind him, feeling that the granny and grandad began arguing). The phraseology of **qızıl gegirdek bolıw** in the dictionary, which means a strong argument, is used as **kegirdek** in the example of the work of Sh. Seyitov. The dictionary does not specify the variant of the term **kegirdek**. In everyday speech it is pronounced in the form of **kegirdek**, and this variant is also common. It is also used in the language of the work with the meanings of loud screams and fights. In the works of Sh. Seyitov it is sometimes used in the form of **kegirdek**, sometimes in the form of **gegirdek**. The phraseological unit of **gegirdekke suw búrkiw** which is also very close in meaning to the phraseology of **qızıl kegirdek bolıw**. If the dictionary gives the meaning of shouting, rising up, it preserves the meanings and means quarreling, shouting. The meanings of shouting and arguing with each other are also given in the phraseology of the language of K. Sultanov's works.



In the dictionary the verb form of the word **gegirdek** is formed by adding the suffix of **-le** and the suffix **-tey** to form adjective.

Gegirdeklesiw (v) - Shouting, arguing

Gegirdektey (adj)- looks like a trachea. Thus, the term of this body part is explained in the dictionary by its meanings as a part of phraseology, as a verb and as an adjective.

In explanatory dictionary the word **qol** (hand) is given as part of 17 phraseologies. **Qattı qollı** - miser. **Qol qawsiriw**- bowing, kneeling. **Jekke qollı** -not to be a helper, on one's own. **Qollı boldı** - it was lost. **Qol-ayaqta turmaw** [3.166] - being anxious, screaming.

The word **taban** (foot) is one of the most effective words used in the construction of phraseologies. The dictionary contains 15 idioms related to it, most of which are verb idioms: **Taban jultıratıw** - to go fast. **Tabanın qırıp alıw** - not make others close to you, not let them pass. . **Tabanı tayıw** - a guilty dismissal from the workplace. **Tabanlap júriw**- [4.254]- being stubborn.

CONCLUSIONS

In the explanatory dictionary of the Karakalpak language, terms of body parts occupy wide place. Their meanings are explained in detail. The dictionary gives huge opportunity to understand the meanings of the terms of body parts, use them productively in literary works and appropriately in speech.

Thus, phraseologies related to body parts are common in the Karakalpak language. They make up the majority of lexical groups of phraseologies. Among them there are a great number of phraseological units whose meanings related to the action.

In summary, the study of exploring phraseological units in Karakalpak Explanatory Dictionary allows the user to have a correct understanding of the phraseological units and accurately determine their meaning.

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EMPIRICAL STUDY OF SETTLEMENT BY NTPC PANKRI BARWADIH BADKAGOAN IN JHARKHAND

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Hazaribag

ABSTRACT

NTPC Limited and National Power a Memorandum of Understanding (MOU) for running at Pankri Barwadih Barkagaon, Hazaribag, in Jharkhand. However, the project authorities by using these processual strategies take their rights to displace people from their hearths and homes but without having a qualm of introspection that the project displaced people hardly have their rights to development after displacement. However, the establishment of this coal project policy seems to be resolving the crisis of human displacement versus economic development but to what extent it does remains a significant research query. In NTPC is striving to achieve highest reliability and efficiency keeping safety and environment issues on top. With global shift in energy space, NTPC is increasingly emphasising on ESG and changed its focus to renewable for future growth while improving on sustainability matrix. Sustained efforts are underway for transforming into an Integrated Energy Company.

KEYWORDS: - NTPC, Memorandum, emphasising, efficiency.

INTRODUCTION

Since time immemorial the National thermal power plant (NTPC) coal project has been the core mechanism to the process of human survival and economic development throughout in India. Now its use is unimaginable. In a marked departure from previous such settlement issues, the state government has also proposed to handover 80 per cent of the compensation amount to the PAPs within a fortnight of getting their assent to surrender their lands. It is not simply used in irrigating lands, increasing land's productivity and bringing more land under industrial rural areas but largely utilized in controlling, harnessing electricity and catering to certain requirements of industrial establishments. NTPC Group has 70 Power stations including 26 Renewable projects. The group has over 18 GW of capacity under construction, including 5 GW of renewable energy projects. Uninterrupted supply of electricity through environment-friendly energy projects at affordable prices has been the hallmark of NTPC. Another important thing to be mentioned here that each and every case of development induced displacement is unique and needs separate strategy for the rehabilitation and resettlement of the displaced people. Thus, the annals of each development induced displacement must be studied

to rectify the problems related to industrial Mines in the field of coal rural areas.

Affected area

"Affected area" means area of village or locality notified by the concerned State Govt. under Land Acquisition Act-1894 (or equivalent Act) for setting up of NTPC project.

Agricultural labourer

"Agricultural Labourer" means a person primarily resident in the affected area for a period of not less than three years immediately before the declaration of the affected area who does not hold any land in the affected area but who earns his livelihood principally by manual labour on agricultural land therein immediately before such declaration and who has been deprived of his livelihood.

Acquisition of land

"Land Acquisition" or "Acquisition of land" means acquisition of land under the Land Acquisition Act, 1894 (1 of 1894), as amended from time to time, or any other law of the Union or a State for the time being in force.



OBJECTIVE OF THE STUDY

- ✓ To the study about business Portfolio Growth in NTPC Mines.
- ✓ To the study about Customer Focus on coal
- ✓ To the study about manifesto in Financial situation
- ✓ To the study about Sustainable Power Development
- ✓ To the study about Performance Leadership

METHODOLOGY

The research paper is an attempt of exploratory research, based on the secondary data sourced from journals, magazines, articles and media reports. Looking into requirements of the objectives of the study the research design employed for the study is of descriptive type. Keeping in view of the set objectives, this research design was adopted to have greater accuracy and in depth analysis of the research study. Available secondary data was

extensively used for the study. The investigator procures the required data through secondary survey method. Different news articles, Books and Web were used which were enumerated and recorded.

1. Age of sample worker groups in NTPC.
2. Power production and Control in Billion Units

HYPOTHESIS

Hypothesis is the process of journalising and assumptions in research.

H0: There is no sustainable growth under NTPC Coal mines in Badkagoan, Hazaribag.

H1: There is sustainable growth under NTPC Coal mines in Badkagoan, Hazaribag.

H0: There is no development of socio-economic situation in Badkagoan.

H1: There is development of socio-economic situation in Badkagoan.

ANALYSIS AND INTERPRETATION

Table no 01
AGE OF SAMPL WORKER GROUPS IN NTPC AS ON 2020-21

AGE OF GROUP	NUMBER OF JOB WORKERS		TOTAL (%)
	OFFICE BEARERS	MEMBERS	
20- 25 Years	33 (21.29%)	39 (25.16%)	72 (23.23%)
25 - 30 Years	88 (56.77%)	91 (58.71%)	179 (57.74%)
Above 30Years	34 (21.94%)	25 (16.13%)	59 (19.03%)
TOTAL	155 (100.00%)	155 (100.00%)	310 (100.00%)

Source: Secondary data Ntpc.co.in dated on November 05 2021

Table no 02
Coal production in Billion tons.

Sector	2017-18	2018-19	2019-20	2020-21
Central	364	346.09	324.11	304.03
State	367.95	343.3	348.27	344.95
Private	139.65	116.14	93.69	68.88
others	5.28	5.61	5.359	5.899
Total	876.88	811.14	771.369	723.759

Source: Secondary data compiled from NTPC annual report 2020-21

RESULTS AND DISCUSSION

Analysis and Interpretation: Age of Sample Worker Groups in NTPC as On 2020-21

It is evident that table no 01 to complete indicated only those worker groups which had completed at least 20-25 years of National Thermal Power Plant (NTPC) was selected workers in the field of coal mining areas for the working in branch . A majority (76.77%) of the worker groups selected in the sample were functioning for more than 25-30 years old. The rest are functioning for less than 30 years (23.23%). Majority of the groups were 30 years old workers in coal field areas pankri Barwadih, Badkagoan in Jharkhand.

It is evident that table no 02 the complete represents the year wise coal production under the NTPC Mines of central, state, private and other agencies. The total coal production by NTPC mines, data interpretation shown 2017-2018 876.88, 2018-2019 811.14, 2019-2020 771.369, 2020-2021 723.759 billion tons in respectively.

LITERATURE REVIEW

Sonia and Rajeev (2009)

To the while studying the effects of globalization on National Thermal Power Plant during pre and post liberalization from 1973-74 to 2008-09 revealed to the industrial positioning has failed to put up an impressive performance in post reform era. They



used four economic parameters namely number of units, production, employment and export and interpreted study results based on Annual Average Growth Rate (AAGR) calculation.

Sudan, F. K. (2010)

To the described of challenges in industrial development and policy issues by raising different questions related to mining areas. The study revealed the advantages, problems and policy options of NTPC coal sector. The study concluded that all the policy measures opted by GOI are the efforts to form a dynamic coal sector and a diversified economy providing growing employment opportunities to absorb all the labour force.

CONCLUSION

Power sector in India is characterized by shortage. Therefore there exists huge challenge in front of power companies to produce, regulate and integrate power system in India. Thermal power production in India still exists to be highest contributor in power sector. But with exhausting resources in the form of coal country must look forward for likely substitution in near future to come. In terms of efficiency power sector under the control of central government have the greatest PLF followed by private and state sectors. Indian Industries are the major consumers of electricity followed by Domestic sectors, Agriculture sector, commercials and railways. The role of NTPC Limited in power production is significant. Every fourth bulb lit in India is gifts of NTPC Ltd. NTPC have a major role to play in the power generation in India in upcoming times to come.

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A STUDY ON MARKETING OF AGRICULTURAL PRODUCTION WITH SPECIAL REFERENCE ON GROUNDNUTS

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ABSTRACT

Groundnut is one of the important oil seed.As an oil seed it contains 46-50% of oil. It is a type of cash crop, and water requirement of the crop is enough of drip irrigation. And India is one of the leading producers of groundnuts. Groundnut is called as the king'of oilseeds.Groundnut is particularly valuable for its protein content of (26%).And it also plays an vital role in the development of economy

KEYWORDS: *Groundnut, Cash crop, India, Oil seeds, Development of economy*

INTRODUCTION

Agriculture is defined as art, science, and livestock for the economic and business purposes of producing crops. It uses all the modern techniques developed on scientific principles such as crop improvement / breeding, crop production, crop protection, economics etc. to maximize yield and profit. Agriculture helps in meeting basic needs of human beings. After green revolution, farmers started using improved cultural practices and agricultural inputs to enhance the production potential per unit land, time and input.

OBJECTIVES OF THE STUDY

- To know the marketing methodology covered only Pollachi.
- To know the present condition of groundnuts.

RESEARCH METHODOLOGY

Research design

Research design is the set of methods and procedures used in collecting and analysing measures of variables specified in research problem. Descriptive research design has been followed to conduct the research study.

Sample size

The sample size for the study is 120 respondents.

Sampling method

Convenience sampling techniques was used to select the respondents.

METHODS OF DATA COLLECTION

The are two types of data which are used for collecting information's.

1. Primary data
2. Secondary data



LIMITATIONS

- Sample size has been limited to 120 respondents.
- Inferences have been framed based on the Information given by the respondents.

PROFILE OF GROUNDNUTS

Groundnut(peanut) is one of the important oilseed in the world. India is one of the most important producer of groundnut in world. It contains protines, fiber, minerals, and vitamins and it contains 46-50% of oil. In our country groundnut is one of the most important cash crop. Groundnut is grown more than 26 million hectares in the world, with a total production above 37 million metric tons . Worldwide ground nut is grown over 100 countries. In the world developing countries contributes for 97% of the global area and 94% of the global production of groundnuts. The production of groundnut in Asia and Africa is 56% & 40% of the area and 68% and 25% of the production.

IMPORTANCE OF GROUNDNUT

Groundnut is called as the king⁴ of oilseeds. It is one of the most important cash and food crop of India. Being a valuable source of all nutrient contents, it is a low priced commodity. Groundnut is also called as **peanut, wonder nut and poor men's cashew nut.**

- ♣Peanut is particularly valuable for its protein content of (26%).
- ♣ On equal weight basis of (Kg for Kg), groundnuts contain more protein than meat and about two and a half times more than a egg.
- ♣It contains addition protein, peanuts are a good source of iron ,zinc ,calcium , phosphorus , and boron.
- ♣ It contain vitamin 'E' and small amounts of vitamin 'B' complex.
- ♣Each nut has 5.6 calories, which is high in calories (calorific value of 567).
- ♣ Being an oil seed crop, it contains 46to 50% of oil.

SCENARIO OF GROUNDNUT CROP

Stylosanthinae, a sub-tribe of the cultured peanut family, belongs to the genus *Arachis* of the family *Aeschynomeneae* of *Leguminosae*. It is a self-pollinated, tropical annual legume. In places where bee activity is high, some cross-pollination may occur. Cultured peanuts have two subspecies,

Hypogea and *Fastigita*, which in turn have two vegetative varieties. Each of these vegetable varieties has different plant, pod, and seed characteristics However, most of the commercially cultivated varieties belong to the *Hypogea* (common name / market type: *Virginia* or *Sprinter*), *Fastigita* (*Valencia*), and *Vulgaris* (*Spanish*) vegetation diversity groups.

GROUNDNUT OIL

The groundnut oil is used several purpose but it is mainly used as cooking oil. Groundnut oil is also used in fatty acids manufacturing and making *vanaspati ghee* . It is used as a medium of preservative for preparation of pickles, chutney, etc.

Peanut oil is used in making various types of medicated ointments, syrups and medicated emulsions. It is used to prepare butter, milk, candy and various foods like chocolate, chutney, peanut packs, laddus, barfi (chukki), etc. It is used in many preparations, such as soap making, fuel, shaving cream, leather dressings, furniture creams, etc.

ECONOMIC AND SOCIAL IMPACT OF GROUNDNUT

Groundnut is cultivated more than 26 million hectares in the world, with average annual production above 35 million Metric tones. The average yield world over is 1348 kg/ha. India is one of the largest producers of oilseeds in the world and holds an important place in the Indian agricultural economy.

It is estimated that 26 23.444 ha area is accounted for with production of nine oilseeds, groundnut, rapeseed-mustard, soybean, sunflower, safflower, sesame, Niger, castor and linseed. of 25.14 million tons during the year 2004-05.

Similarly, in other developing countries, most peanuts are used for extraction of oil for export and domestic consumptions. For example, Sudan contributes 17 percent of the worlds groundnut export trade. Groundnuts is an important component of the Nigerian diet and contributes about 5 percent of the 58.9 grams of raw protein available per liter per day for groundnuts.

In most developing countries it provides high quality cooking oil and is an important source of protein for both human and animal food.

Exporting kernels and cakes provides much needed foreign exchange. In literature, groundnut as a cash crop dominates its role as a fully subsistence food crop. Despite the importance of peanuts for diets and their growth in many developing countries.

CHI-SQUARE

Table.1
Chi-Square Result Test Analysis of Gender

Factor	Chi-Square Tests			Asymptotic Significance (2-sided)
		Value	Df	
Price	Pearson Chi-Square	3.634 ^a	3	0.304
Labour	Pearson Chi-Square	2.602 ^a	4	0.626
Profit	Pearson Chi-Square	10.032 ^a	4	0.040
Demand	Pearson Chi-Square	7.951 ^a	5	0.159
Storage facilities	Pearson Chi-Square	9.555 ^a	4	0.049

Source: Primary Data

Interpretation

- In the above table, the price value (0.304) is greater than the significant value (0.05), so the null hypothesis is accepted. We conclude that there is no relationship between Gender and satisfaction with the price.
- In the above table, the Labour value (0.626) is greater than the significant value (0.05), so the null hypothesis is accepted. We conclude that there is no relationship between Gender and satisfaction with the labour.
- In the above table, the Profit value (0.040) is greater than the significant value (0.05), so the null

hypothesis is Rejected. We conclude that there is relationship between Gender and satisfaction with the Profit.

- In the above table, the Demand value (0.159) is greater than the significant value (0.05), so the null hypothesis is Rejected. We conclude that there is relationship between Gender and satisfaction with the Demand.
- In the above table, the Storage facilities value (0.049) is greater than the significant value (0.05), so the null hypothesis is Rejected. We conclude that there is relationship between Gender and satisfaction with the Storage Facilities.

LIKERT SCALE

Table.2
Distribution of Sample Respondents According Satisfaction Level of Price

Satisfaction Level	Respondents	Likert Scale	Total
Highly satisfied	40	4	160
Satisfied	28	3	84
Neutral	32	2	64
Highly dissatisfied	20	1	20
Total	120	10	328

Source: Primary Data

$$\begin{aligned} \text{Likert Scale} &= \sum (FX) / \text{Total No of respondents} \\ &= 328/120 \\ &= 2.73 \end{aligned}$$

Likert scale value is 2.73 and it is greater than the mid value, so the respondents are satisfied with the price.



Table.3
Distribution of Sample Respondents According Satisfaction Level Of Labour

Satisfaction level	Respondents	Liked scale	Total
Highly satisfied	56	5	280
Satisfied	37	4	148
Neutral	17	3	51
Highly dissatisfied	7	2	14
Dissatisfied	3	1	3
Total	120	15	493

Source: Primary Data

$$\begin{aligned} \text{Likert Scale} &= \sum (FX) / \text{Total No of respondents} \\ &= 493/120 \\ &= 4.10 \end{aligned}$$

Likert scale value is 4.10 and it is greater than the mid value, so the respondents are satisfied with the Labour.

SUMMARY OF FINDING, SUGGESTION AND CONCLUSION FINDINGS

Chi-square

- We conclude that there is no relationship between Gender and satisfaction with the price.
- We conclude that there is no relationship between Gender and satisfaction with the labour.
- We conclude that there is relationship between Gender and satisfaction with the Profit.
- We conclude that there is relationship between Gender and satisfaction with the Demand.
- We conclude that there is relationship between Gender and satisfaction with the Storage Facilities

Likert Scale

- ❖ Likert scale value is 2.73 and it is greater than the mid value, so the respondents are satisfied with the price.
- ❖ Likert scale value is 4.10 and it is greater than the mid value, so the respondents are satisfied with the Labour.

Suggestion

Based on the finding of the study it is suggested that the following measure may be taken by the government of tamilnadu to safe guard the interest of groundnuts in the sample area

- The groundnuts sample area is lacking availing in the institutional credit for the regular maintains of groundnuts gardens
- Heavy price of fluctuation causes unexpected loss in the income

- To stabilize a price of groundnuts and its product and the government should come forward for the implementation of price guarantee scheme.

Conclusion

The groundnuts industries growing a in terms of production however it share in oil and fats trade as consistently decline in the past four decades vast growth opportunities remain for the groundnut industry but the marketing strategy needs a reorientation to suit to emerging trend of awaking and alertness on diversification of groundnuts it a motive to recapture have to be provided priority.

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ASSOCIATED GRAPH BASED ON QUASI-IDEALS BCIK-ALGEBRAS

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ABSTRACT

In this paper, we use the notions graph based nodal ideals of BCIK – algebra and its properties. Then we study relationships between associated graph based notion of (l-prime) quasi ideals and zero divisors are first introduced and related properties are investigated. The concept of associative graph of a BCIK-algebra is introduced, and several example are displayed.

KEYWORDS: BCIK-algebra, l-prime(quasi-ideals), nodal ideals.

1. INTRODUCTION

In 2021 [3,4], S Rethina Kumar introduce combination BCK–algebra and BCI–algebra to define BCIK–algebra and its properties and also using Lattices theory to derived the some basic definitions, and they also the idea introduced a regular f-derivation in BCIK-algebras. We give the Characterizations f-derivation p-semi simple algebra and its properties. After the work in 2021[3],S Rehina Kumar have given the notion of t-derivation of BCIK-algebras and studied p-semi simple BCIK—algebras by using the idea of regular t-derivation in BCIK-algebras have extended the results of BCIK-algebra in the same paper they defined and studied the notion of left derivation of BCIK-algebra and investigated some properties of left derivation in p-semi simple BCIK-algebras. In 2021 [5], S Rethina Kumar discuss about the notions of a node and nodal ideals of BCIK-algebras. Then relationships between nodal ideals and some other types of ideals, like prime ideal and maximal ideal in BCIK-algebras.

Many authors studied the graph theory in connection with (commutative) semi group and (commutative and non-commutative) rings as we can refer to references. For example, Beck[1] associated to any commutative rings R its zero-divisor graph $G(R)$ whose vertices are the zero-divisors of R(including 0), with two vertices a,b joined by an edge in case $ab=0$. Also, DeMeyer et al. [2] defined the zero-divisor graph of a commutative semi group S with zero ($0x=0$ for all $x \in S$).

In this paper, motivated by these works, we study the associated graphs of BCIK-algebras. We first introduce the notions of (l-prime) quasi-ideals and zero divisors and investigated related properties. We introduce the concept of associative graph of a BCIK-algebra and provide several examples. We give conditions for a proper (quasi)ideals of a BCIK-algebra to be l-prime. We show that associated graph of a BCIK-algebra is a connected graph in which every nonzero vertex is adjacent to 0, but the associative graph of a BCIK-algebra is not connected by providing an example.



2. PRELIMINARIES

Definition 2.1.[3,4] BCIK algebra

Let X be a non-empty set with a binary operation $*$ and a constant 0 . Then $(X, *, 0)$ is called a BCIK Algebra, if it satisfies the following axioms for all $x, y, z \in X$:

(BCIK-1) $x*y = 0, y*x = 0, z*x = 0$ this imply that $x = y = z$.

(BCIK-2) $((x*y) * (y*z)) * (z*x) = 0$.

(BCIK-3) $(x*(x*y)) * y = 0$.

(BCIK-4) $x*x = 0, y*y = 0, z*z = 0$.

(BCIK-5) $0*x = 0, 0*y = 0, 0*z = 0$.

For all $x, y, z \in X$. An inequality \leq is a partially ordered set on X can be defined $x \leq y$ if and only if

$(x*y) * (y*z) = 0$.

Properties 2.2. [3,4] I any BCIK – Algebra X , the following properties hold for all $x, y, z \in X$:

- (1) $0 \in X$.
- (2) $x*0 = x$.
- (3) $x*0 = 0$ implies $x = 0$.
- (4) $0*(x*y) = (0*x) * (0*y)$.
- (5) $X*y = 0$ implies $x = y$.
- (6) $X*(0*y) = y*(0*x)$.
- (7) $0*(0*x) = x$.
- (8) $x*y \in X$ and $x \in X$ imply $y \in X$.
- (9) $(x*y) * z = (x*z) * y$
- (10) $x*(x*(x*y)) = x*y$.
- (11) $(x*y) *(y*z) = x*y$.
- (12) $0 \leq x \leq y$ for all $x, y \in X$.
- (13) $x \leq y$ implies $x*z \leq y*z$ and $z*y \leq z*x$.
- (14) $x*y \leq x$.
- (15) $x*y \leq z \Leftrightarrow x*z \leq y$ for all $x, y, z \in X$
- (16) $x*a = x*b$ implies $a = b$ where a and b are any natural numbers (i. e.), $a, b \in \mathbb{N}$
- (17) $a*x = b*x$ implies $a = b$.
- (18) $a*(a*x) = x$.

Definition 2.3. [3, 4], Let X be a BCIK – algebra. Then, for all $x, y, z \in X$:

- (1) X is called a positive implicative BCIK – algebra if $(x*y) * z = (x*z) * (y*z)$.
- (2) X is called an implicative BCIK – algebra if $x*(y*x) = x$.
- (3) X is called a commutative BCIK – algebra if $x*(x*y) = y*(y*x)$.
- (4) X is called bounded BCIK – algebra, if there exists the greatest element 1 of X , and for any $x \in X$, $1*x$ is denoted by GG_x ,
- (5) X is called involutory BCIK – algebra, if for all $x \in X$, $GG_x = x$.

Definition 2.4. [5,6] Let X be a bounded BCIK-algebra. Then for all $x, y \in X$:



- (1) $G1 = 0$ and $G0 = 1$,
- (2) $GG_x \leq x$ that $GG_x = G(G_x)$,
- (3) $G_x * G_y \leq y * x$,
- (4) $y \leq x$ implies $G_x \leq G_y$,
- (5) $G_x * y = G_y * x$
- (6) $GGG_x = G_x$.

Theorem 2.5.[4] Let X be a bounded BCIK-algebra. Then for any $x, y \in X$, the following hold:

- (1) X is involutory,
- (2) $x * y = G_y * G_x$,
- (3) $x * G_y = y * G_x$,
- (4) $x \leq G_y$ implies $y \leq G_x$.

Theorem 2.6.[3,4] Every implicative BCIK-algebra is a commutative and positive implicative BCIK-algebra.

Definition 2.7. [3,4] Let X be a BCIK-algebra. Then:

- (1) X is said to have bounded commutative, if for any $x, y \in X$, the set $A(x,y) = \{t \in X : t * x \leq y\}$ has the greatest element which is denoted by $x \circ y$,
- (2) $(X, *, \leq)$ is called a BCIK-lattices, if (X, \leq) is a lattice, where \leq is the partial BCIK-order on X , which has been introduced in Definition 2.1.

Definition 2.8. [3,4] Let X be a BCIK-algebra with bounded commutative. Then for all $x, y, z \in X$:

- (1) $y \leq x \circ (y * x)$,
- (2) $(x \circ z) * (y \circ z) \leq x * y$,
- (3) $(x * y) * z = x * (y \circ z)$,
- (4) If $x \leq y$, then $x \circ z \leq y \circ z$,
- (5) $z * x \leq y \Leftrightarrow z \leq x \circ y$.

Theorem 2.9. [3,4] Let X be a BCIK-algebra with condition bounded commutative. Then, for all

$x, y, z \in X$, the following are equivalent:

- (1) X is a positive implicative,
- (2) $x \leq y$ implies $x \circ y = y$,
- (3) $x \circ x = x$,
- (4) $(x \circ y) * z = (x * z) \circ (y * z)$,
- (5) $x \circ y = x \circ (y * x)$.

Theorem 2.10. [3,4] Let X be a BCIK-algebra.

- (1) If X is a finite positive implicative BCIK-algebra with bounded and commutative the (X, \leq) is a distributive lattice,
- (2) If X is a BCIK-algebra with bounded and commutative, then X is positive implicative if and only if (X, \leq) is an upper semi lattice with $x \vee y = x \circ y$, for any $x, y \in X$,
- (3) If X is bounded commutative BCIK-algebra, then BCIK-lattice (X, \leq) is a distributive lattice, where $x \wedge y = y * (y * x)$ and $x \vee y = G(G_x \wedge G_y)$.

Theorem 2.11.[3,4] Let X be an involutory BCIK-algebra, Then the following are equivalent:

- (1) (X, \leq) is a lower semi lattice,
- (2) (X, \leq) is an upper semi lattice,
- (3) (X, \leq) is a lattice.

Theorem 2.12. [4] Let X be a bounded BCIK-algebra. Then:

- (1) every commutative BCIK-algebra is an involutory BCIK-algebra.
- (2) Any implicative BCIK-algebra is a Boolean lattice (a complemented distributive lattice).

Theorem 2.13. [3, 4] Let X be a BCK-algebra, Then, for all $x, y, z \in X$, the following are equivalent:

- (1) X is commutative,
- (2) $x*y = x*(y*(y*x))$,
- (3) $x*(x*y) = y*(y*(x*(x*y)))$,
- (4) $x \leq y$ implies $x = y*(y*x)$.

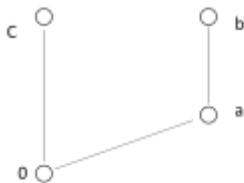
3.[5] NODAL IDEAL OF A BCIK-ALGEBRA

We denote BCIK-algebra $(X, *, 0)$ by X .

Definition 3.1.[5] A node of X is an element of X is comparable with every element of X . It is clear that 0 is a node in every BCIK-algebra

Proposition 3.1.[5] An element $a \in X$ is a node if and only if for every $x \in X$ either $a*x=0$ or $a=x$.

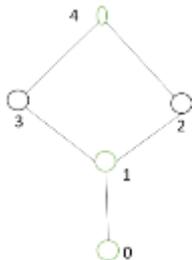
Example 3.2. a) Let $X=\{0,a,b,c\}$. For all $x,y \in X$, we define, $*$ as follows:



*	0	a	b	c
0	0	0	0	0
A	A	0	0	a
B	B	a	0	b
C	C	c	c	0

Then $(X, *, 0)$ is a BCIK-algebra. 0 is only node of X and $\text{atom}(X)=\{a,c\}$.

b) Let $X=\{0,1,2,3,4\}$. For all $x,y \in X$, we define, $*$ as follows:





*	0	1	2	3	4
0	0	0	0	0	0
1	1	0	0	0	0
2	2	1	0	1	0
3	3	3	3	0	0
4	4	4	4	4	0

Then $(X, *, 0)$ is a BCIK-algebra. $\{0,1,4\}$ is the set of all nodes of X and $S(X) = \{0,4\}$ and $\text{atom}(X) = \{1\}$.

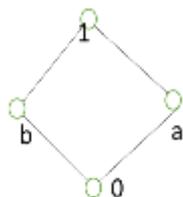
b) Let $X = \{0, a, b, 1\}$. For all $x, y \in X$, we define, $*$ as follows:



*	0	a	B	1
0	0	0	0	0
a	a	0	0	0
b	b	b	0	0
1	1	b	A	0

Then $(X, *, 0)$ is a BCIK-algebra. All elements of X are node $S(X) = \{0, a, b, 1\}$ and $\text{atom}(X) = \{a\}$.

d) Let $X = \{0, a, b, 1\}$. For all $x, y \in X$, we define, $*$ as follows:



*	0	A	b	1
0	0	0	0	0
a	a	0	a	0
b	b	B	0	0
1	1	1	1	0

Then $(X, *, 0)$ is a BCIK-algebra. $\{0,1\}$ is the set of all nodes of X , $S(X) = \{0,1\}$ and $\text{atom}(X) = \{a,b\}$.

Proposition 3.3. If X is bounded, then $\{0,1\} \subseteq \text{node}(X) \cap S(X)$.

Definition 3.2. An ideal I of X will be called a nodal ideal of X , if I is a node of $I(X)$. we denote all nodal ideals of X by $N(X)$.

Example 3.4.[5] a) X and $\{0\}$ are trivial nodal ideals of ever X .

b) In Example 3.3, (a), we have $I(X) = \{\{0\}, \{0,c\}, \{0,a,b\}, X\}$. But only $\{0\}$ and X are nodal ideal of X .

c) In Example 3.3, (b), $\{0\}, \{0,1,2\}, \{0,1,2,3\}, X$ are all of nodal ideals of X .

d) In Example 3.3, (c), $\{0\}, \{0,a\}, X$ are all of nodal ideal of X .

e) In Example 3.3, (d), we have $I(X) = \{\{0\}, \{0,a\}, \{0,b\}, \{0,a,b\}, X\}$. And $\{0\}, \{0,a,b\}, X$ are all of nodal ideals of X .



Theorem 3.5.[5] Let I be an ideal of X . If for all $x, y \in X$ such that $x \in I$ and $y \notin I$, the relation $x < y$ is satisfied, then I is a nodal ideal of X .

Proof. If I is not a nodal ideal of X . So there $x, y \in X$ such that $x \in I$, $y \notin I$ and $x \not< y$. Thus it is contrary, so every ideal J of X is comparable with I , that is, I is a nodal ideal of X .

Example 3.6. In Example 3.3,(d), Let $I = \{0, b\}$. we have $a, b \in X$, $b \in I$ and $a \notin I$, but $b \not< a$, so I is not a nodal ideal of X .

Theorem 3.7. Let I be a nodal ideal of positive implicative BCIK-algebra X . Then for every $x, y \in X$, such that $x \in I$ and $y \notin I$, the relation $x < y$ is satisfied.

Proof. Since I is a nodal ideal of X , so for all $x, y \in X$, such that $x \in I$ and $y \notin I$, we have $(x] \subseteq I$ and $I \subseteq (y]$. Thus $(x] \subseteq I \subseteq (y]$, so $x \in (y]$, then $(\dots(x*y)*\dots)*y = 0$, since X is a positive implicative BCIK-algebra, we have $(x*y)* = x*y$, therefore $x*y = 0$, thus $x < y$.

Example 3.8. In Example 3.3,(b), X is a BCIK-algebra but is not positive implicative BCIK-algebra. Let $I = \{0, 1, 2\}$. Then I is a nodal ideal of X , $2 \in I$ and $3 \notin I$, but $2 \not< 3$.

Corollary 3.9. Let X be a BCIK-chain. If I is a (positive implicative) ideal, then I is a nodal ideal.

Proposition 3.10. x is a node in X if and only if principle ideal $(x]$ is a nodal ideal of X .

Proof. Let x be a node in X and I be an ideal of X . If $x \in I$, then $(x] \subseteq I$. Let $x \notin I$. Now, if $I \not\subseteq (x]$, then there exists a $y \in I$ such that $y \notin (x]$, so for all $n \in \mathbb{N}$, $y \not\leq x^n$, so $y \not\leq x$ and since x is a node, then $x < y$. Thus $(x] \subseteq (y] \subseteq I$. That is $x \in I$, its contrary, so if $x \notin I$, then $I \subseteq (x]$.

Theorem 3.11. Let I be a non-principal nodal ideal of lower BCIK- semi lattice X . Then I is a prime ideal.

Proof. Let I be a non-principal nodal ideal of X and $x \wedge y \in I$ and $x \notin I$ and $y \notin I$. Thus $(x \wedge y] \subseteq I$. On the other hand, since $x \notin I$ and $y \notin I$ then $(x] \not\subseteq I$ and $(y] \not\subseteq I$, so $I \subset (x]$, and $I \subset (y]$, thus $I \subset (x] \cap (y] = (x \wedge y]$, it is contrary, thus $x \in I$ or $y \in I$, so I is a prime ideal.

Example 3.12. In example 3.3,(d), $I = \{0, a\}$ is prime ideal but is not a nodal ideal.

Corollary 3.13. Let I be a principal nodal ideal of implicative BCIK-algebra X . Then I is a prime (maximal, irreducible, obstinate) ideal.

Theorem 3.14. Let X be a lower BCIK-semi lattice. Then the annihilator of node(X) is a nodal ideal of X .

Proof. If $\text{node}(x) = \{0\}$, then $(\text{node}(X))^* = X$. Now, let $0 \neq a \in \text{node}(X)$. We have $(\text{node}(X))^* = \bigcap_{s \in \text{node}(X)} \{s\}^*$ and $\{a\}^* = \{x \in X : x \wedge a = 0\}$. Since $0 \neq a \in \text{node}(X)$, so $x \wedge a = x$ or $x \wedge a = a$, thus $x \wedge a = 0$ if and only if $x = 0$, then $\{a\}^* = \{0\}$. So $(\text{node}(X))^* = \bigcap_{s \in \text{node}(X)} \{s\}^* = \{0\}$. Therefore $(\text{node}(X))^*$ is a nodal ideal of X .

Theorem 3.15. Let X be a bounded implicative BCIK-algebra and I be a non-principal nodal ideal of X . Then for any $x \in X$. Then for any $x \in X$, exactly one of x and N_x belongs to I .

Proof. If $x \notin I$ and $N_x \notin I$ for some $x \in X$, then $x \wedge N_x = x*(x*(1*x)) = x*x = 0 \in I$, which implies $x \in I$ or $N_x \in I$, which is a contradiction. If $x \in I$ and $N_x \in I$ for some $x \in X$, then $1 \in I$ as I is an ideal, this impossible. Summarizing the above facts obtain that exactly one of x , N_x belongs to I .

Proposition 3.16. If positive implicative BCIK-algebra X has n node, then it has at least n nodal ideals.

Proof. If x is a node of X , then $(x]$ is a nodal ideal. Now, let x and y two nodes of X . If $(x] = (y]$, then $x \in (y]$ and $y \in (x]$, since X is a positive implicative BCIK-algebra, thus $x*y = 0$ and $y*x = 0$, so $x \leq y$ and $y \leq x$, thus $x = y$. Therefore, if X has n node, then it has at least n nodal ideals.

Example 3.17. In Example 3.3,(a), let $I = \{0\}$ and $J = \{0, c\}$ be ideals of X . Then $I \subseteq J$ and I is a nodal ideal of X but J is not nodal ideal of X . So extension property for nodal ideal in X is not valid.



Theorem 3.18. If I and J are two nodal ideals of X, then

- (i) $I \cap J$ is a nodal ideal of X,
- (ii) $I \cup J$ is a nodal ideal of X.

Theorem 3.19. For any X, $(N(X), \cap, \cup, (0], X)$ is a bounded infinitely distributed lattices, i.e. it is bounded lattices and satisfies for any $I, J_i \in N(X)$ ($i \in A$), $I \cap (\cup \{J_i; i \in A\}) = (\cup \{I \cap J_i; i \in A\})$.

Proof. By Theorem 3.20, $(N(X), \cap, \cup, (0], X)$ is a bounded lattice. Let $x \in I \cap (\cup \{J_i; i \in A\})$, then $x \in I$ and $x \in \cup \{J_i; i \in A\}$, so there exist a $j \in A$ such that $x \in J_j$, thus $x \in I \cap J_j$, thus $x \in I \cap J_j$, so $x \in \cup \{I \cap J_i; i \in A\}$. Now let $x \in \cup \{I \cap J_i; i \in A\}$, so there exist $j \in A$ such that $x \in I \cap J_j$, thus $x \in I$ and $x \in J_j$, then $x \in \cup \{J_i; i \in A\}$, thus $x \in I \cap (\cup \{J_i; i \in A\})$, therefore $I \cap (\cup \{J_i; i \in A\}) = (\cup \{I \cap J_i; i \in A\})$.

- Example 3.20.** (a) In the general every nodal ideal is not an implicative ideal. In Example 3.3, (b) $I = \{0, 1, 2\}$ is a nodal ideal but is not an implicative ideal, because $3*(4*3) = 0 \in I$ but $3 \notin I$.
- (b) In the general every nodal ideal is not a commutative ideal. In Example 3.3, (b), $I = \{0, 1, 2\}$ is a nodal ideal but is not a commutative ideal.
- (c) In the general every nodal ideal is not a normal ideal. In Example 3.3, (b), $I = \{0, 1, 2\}$ is a nodal ideal but is not a normal ideal, because $4*(4*3) \in I$ but $3*(3*4) \notin I$.
- (d) In the general every nodal ideal is not an obstinate ideal. In Example 3.3, (b), $I = \{0, 1, 2\}$ is a nodal ideal but is not an obstinate ideal.
- (e) In the general every nodal ideal is not a nodal ideal. In Example 3.3, (a), $I = \{0, c\}$ is a normal ideal but is not a nodal ideal.
- (f) In the general every positive implicative ideal is not a nodal ideal. In Example 3.3, (d), $I = \{0, a\}$ is a positive implicative ideal but is not a nodal ideal.
- (g) In the general every maximal ideal is not a nodal ideal. In Example 3.3, (a), $I = \{0, c\}$ is a maximal ideal but is not a nodal ideal.
- (h) In the general every obstinate ideal is not a nodal ideal. In Example 3.3, (d), $I = \{0, a\}$ is an obstinate ideal but is not a nodal ideal.
- (i) In the general every nodal ideal is not a Varlet ideal. In Example 3.3, (d), $I = \{0, a, b\}$ is a nodal ideal but is not a Varlet ideal.
- (j) In the general every Varlet ideal is not a nodal ideal. In Example 3.3, (a), $I = \{0, a\}$ is a Varlet ideal but is not a nodal ideal.

Proposition 3.21. Let $(x, *, 0)$ and $(X', *, 0')$ be two positive implicative BCIK-algebra and $f: X \rightarrow X'$ a homomorphism. Then the following are satisfied:

- (a) If f is injective and $J \in N(X')$, then $f^{-1}(J) = \{x \in X: f(x) \in J\} \in N(X)$,
- (b) If f is bijective and $I \in N(X)$, then $f(I) \in N(X')$.

Proof.(a): Since $f(0) = 0'$, so $0' \in f^{-1}(J)$, thus $f^{-1}(J) \neq \emptyset$. Let $x * y \in f^{-1}(J)$ and $y \in f^{-1}(J)$. Then $f(x) *' f(y) = f(x * y) \in J$. It follows that $f(x) \in J$. So $x \in f^{-1}(J)$. This says that $f^{-1}(J)$ is an ideal of X.

Now, let $x \in f^{-1}(J)$ and $y \notin f^{-1}(J)$. Then $f(x) \in J$ and $f(y) \notin J$. Since J is a nodal ideal of positive implicative BCIK-algebra X' , then $f(x) < f(y)$, thus $f(x * y) = f(x) *' f(y) = 0'$, since f is injective, we get $x * y = 0$, thus $x < y$, so $f^{-1}(J)$ is a nodal ideal of X.

(b): Since $f(0) = 0'$, so $0' \in f(I)$. If $x, y \in X'$, $x * y \in f(I)$ and $y \in f(I)$, then there exist $a \in X$ and $b \in I$ such that $f(a) = x$ and $f(b) = y$. Also since $x * y \in f(I)$, there exists $c \in I$ such that $f(c) = x *' y = f(a) *' f(b) = f(a * b)$, since f is injective, $a * b = c$, so $a \in I$, thus $f(a) = x \in f(I)$, therefore $f(I)$ is an ideal of X' .

Let $x, y \in X'$, $x \in f(I)$ and $y \notin f(I)$, then there exists $a \in I$ and $b \in X - I$ such that $f(a) = x$ and $f(b) = y$. Since I is a nodal ideal of X, so $a < b$, then $a * b = 0$, thus $f(a) = x$ and $f(b) = y$. Since I a nodal ideal of X, so $a < b$, then $a * b = 0$, thus $f(a) *' f(b) = f(a * b) = f(0) = 0'$, so $f(a) < f(b)$, then $x < y$, therefore $f(I)$ is nodal ideal of X' .



4. CONGRUENCE RELATION ON BCIK-ALGEBRA RESPECT A NODAL IDEAL

For every nodal ideal ideal I of X , we define θ_I if and only if $x*y \in I$ and $y*x \in I$. θ_I is congruence relation on X . For $x \in X$, let C_x be the equivalence class of modulo θ_I and X/I be the equivalence set X/θ_I . We define $*$ on X/I , by $C_x * C_y = C_{x*y}$.

Theorem 4.1. Let I be a non-principal nodal ideal of lower BCIK-semi lattices X and for any $x, y \in X$, $(X * Y) \square (Y * X) = 0$. Then $(X/I, *, C_0)$ is a BCIK-chain.

Proof. Let $C_x, C_y \in X/I$. Since $(x*y) \wedge (y*x) = 0 \in I$ and by Theorem 3.11, $x*y \in I$ or $y*x \in I$, and so $C_x * C_y = C_{x*y} = C_0$ or $C_y * C_x = C_{y*x} = C_0$, equivalently, for any $x, y \in X$, $C_x \leq C_y$ or $C_y \leq C_x$. That is to say that X/I is a BCIK-chain.

Theorem 4.2. Suppose I_1 and I_2 are nodal ideals of BCIK-algebra X_1 and X_2 , respectively. Then $I_1 \times I_2$ is a nodal ideals of the direct product of BCIK-algebras X_1 and X_2 .

Proof. Let $I_i (i=1,2)$ be a nodal ideal of $X_i (i=1,2)$ and $x*y \in I_1 \times I_2, y \in I_1 \times I_2$. Then $(x*y)(i) = x(i)*y(i), y(i) \in I_i$, Where $x(i)$ is the i -projection of x . So $x(i) \in I_i$. This shows that $x \in I_1 \times I_2$. Obviously, $0 \in I_1 \times I_2$. Hence $I_1 \times I_2$ is an ideal of $X_1 \times X_2$. Now, let $x, y \in X_1 \times X_2, x \in X_1 \times X_2$ and $y \notin X_1 \times X_2$. So $x(i) \in I_i$, thus $y(i) \notin I_i$, thus $x(i) < y(i)$, then $x < y$. Therefore $I_1 \times I_2$ is a nodal ideal of the direct product $X_1 \times X_2$.

5. ASSOCIATED GRAPHS

In what follows, let X denote a BCIK-algebra unless otherwise specified.

For any subset A of X , we will use the notations $r(A)$ and $l(A)$ to denote the sets

$$r(A) := \{x \in X / a*x = 0, \text{ for all } a \in A\},$$

$$l(A) := \{x \in X / x*a = 0, \text{ for all } a \in A\}$$

Proposition 5.1. Let A and B be subsets of X , then

- (1) $A \subseteq l(r(A))$ and $A \subseteq r(l(A))$,
- (2) If $A \subseteq B$, then $l(B) \subseteq l(A)$ and $r(B) \subseteq r(A)$,
- (3) $l(A) = l(r(l(A)))$ and $r(A) = r(l(r(A)))$.

Proof. Let $a \in A$ and $x \in l(A)$, then $x*a = 0$, and so $a \in r(l(A))$. This says that $A \subseteq r(l(A))$. Dually, $A \subseteq r(l(A))$. Hence, $A \subseteq r(l(A)) = A \subseteq l(r(A))$.

Assume that $A \subseteq B$ and $x \in l(B)$, then $x*b = 0$ for all $b \in B$, which implies from $A \subseteq B$ that $x*b = 0$ for all $b \in A$. Thus, $x \in l(A)$, which shows that $l(B) \subseteq l(A)$. Similarly, we have $r(B) \subseteq r(A)$. Thus $l(B) \subseteq l(A) = r(B) \subseteq r(A)$.

Using $A \subseteq r(l(A)) = A \subseteq l(r(A))$ and $l(B) \subseteq l(A) = r(B) \subseteq r(A)$, we have $l(r(l(A))) \subseteq l(A)$ and $r(l(r(A))) \subseteq r(A)$. If we apply $A \subseteq r(l(A)) = A \subseteq l(r(A))$ to $l(A)$ and $r(A)$, then $l(A) \subseteq l(r(l(A)))$ and $r(A) \subseteq r(l(r(A)))$. Hence $l(A) \subseteq l(r(l(A)))$ and $r(A) \subseteq r(l(r(A)))$.

Table 1: *-operation.

*	0	a	b	c	D
0	0	0	0	0	0
a	a	0	0	0	0
b	b	a	0	a	0
c	c	a	a	0	0
D	D	B	A	B	0

Table 2: *-operation.

*	0	1	a	b	C
0	0	0	c	c	A
1	1	0	c	c	A
A	a	a	0	0	C
B	b	a	1	0	C
C	c	c	a	a	0



Definition 5.2. A nonempty subset I on X is called a quasi-ideal of X if it satisfies $(\forall x \in X)(\forall y \in I)$
 $(x * y = 0 \implies x \in I)$

Example 5.3. Let $X = \{0, a, b, c, d\}$ be a set with $*$ -operation given by Table 1, then $(X; *, 0)$ is a BCIK-algebra (see[3,4,5]). The set $I = \{0, a, b\}$ is a quasi-ideal of X .

Obviously, every quasi-ideal I of a BCIK-algebra X contains the zero element 0 . The following example shows that there exists a quasi-ideals I of a BCIK-algebra X such that $0 \notin I$.

Example 5.4: Let $X = \{0, 1, a, b, c\}$ be a set with the $*$ -operation given by Table 1, then $(X; *, 0)$ is a BCIK-algebra (see[3,4,5]). The set $I = \{0, 1, a\}$ is a quasi-ideal of X containing the zero element 0 , but the set $J = \{a, b, c\}$ is a quasi-ideal of X , but the converse is not true. In fact, the quasi-ideal $I = \{a, b, c\}$ in Example 5.3. is not an ideal of X . Also, quasi-ideals I and J in Example 5.4 are not ideals of X .

Definition 5.5. A (quasi-)ideal I of X is said to be l-prime if it satisfies

- (i) I is proper, that is, $I \neq X$,
- (ii) $(\forall x, y \in I)(l(\{x * y\}) \subseteq I \implies x \in I \text{ or } y \in I)$

Example 5.6. Consider the BCIK-algebra $X = \{0, a, b, c, d\}$ with the operation $*$ which is given by Table 3, then the set $I = \{0, a, c\}$ is an l-prime ideal of X .

Theorem 5.7. A proper (quasi-) ideal I of X is l-prime if and only if it satisfies $l(\{x_1, \dots, x_n\}) \subseteq I \implies (\exists i \in \{1, \dots, n\})(x_i \in I), \forall x_1, \dots, x_n \in X$.

Table 3: $*$ -operation.

*	0	a	b	c	D
0	0	0	0	0	0
a	a	0	a	0	0
b	b	B	0	b	0
c	c	a	c	0	A
d	d	d	d	D	0

Table 4: $*$ -operation.

*	0	1	2	a	B
0	0	0	0	a	A
1	1	0	1	b	A
2	2	2	0	a	A
a	a	A	a	0	0
b	b	A	b	1	0

Proof. Assume that I is an l-prime (quasi-) ideal of X . We proceed by induction on n . If $n=2$, then the result is true. Suppose that the statement holds for $n-1$. Let $x_1, \dots, x_n \in X$ be such that $l(\{x_1, \dots, x_{n-1}, x_n\}) \subseteq I$. If $y \in l(\{x_1, \dots, x_{n-1}\})$, then $l(\{y, x_n\}) \subseteq l(\{l(\{x_1, \dots, x_{n-1}, x_n\})\}) \subseteq I$. Assume that $x_n \notin I$, then $y \in I$ by the l-primeness of I , which shows that $l(\{x_1, \dots, x_{n-1}\}) \subseteq I$. Using the induction hypothesis, we conclude that $x_i \in I$ for some $i \in \{1, \dots, n-1\}$. The converse is clear.

For any $x \in X$, we will use the notation Z_x to denote the set of all elements $y \in X$ such that $l(\{x, y\}) = \{0\}$, that is, $Z_x := \{y \in X / l(\{x, y\}) = \{0\}\}$, which is called the set of zero divisors of x .

Lemma 5.8. If X is a BCIK-algebra, then $l(\{x, y\}) = \{0\}$ for all $x \in X$.

Proof. Let $x \in X$ and $a \in l(\{x, 0\})$, then $a * x = 0 = a * a$, and so $l(\{x, y\}) = \{0\}$ for all $x \in X$.

If X is a BCIK-algebra, then Lemma 5.8 does not necessarily hold. In fact, let $X = \{0, 1, 2, a, b\}$ be a set with the $*$ -operation given by Table 4, then $(X; *, 0)$ is a BCIK-algebra (see[3,4,5]). Note that $l(\{x, y\}) = \{0\}$ for all $x \in \{1, 2\}$ and $l(\{x, y\}) = \emptyset$ for all $x \in \{a, b\}$.



Corollary 5.9. If X is a BCIK-algebra, then $l(\{x, y\}) = \{0\}$ for all $x \in X$ with $l(\{x, y\}) \neq \emptyset$.

Lemma 5.10. If X is a BCIK-algebra, then $l(\{x, y\}) = \{0\}$ for all $x, y \in X_+$, where X_+ is the BCIK-part of X .

Proof. Straightforward.

Lemma 3.11. For any elements a and b of a BCIK-algebra X , if $a * b = 0$, then $l(\{a\}) \subseteq l(\{b\})$ and $Z_b \subseteq Z_a$.

Table 5: *-operation.

*	0	a	b	C
0	0	0	0	0
A	A	0	a	A
B	B	b	0	B
C	C	C	C	0

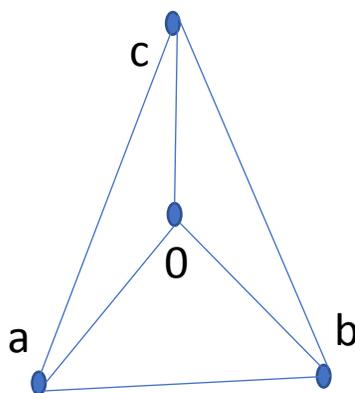


Figure 1: Associated graph $\Gamma(X)$ of X .

Proof. Assume that $a * b = 0$. Let $x \in l(\{a\})$, then $x * a = 0$, and so $0 = (x * b) * (x * a) = (x * b) * 0 = x * b$. Thus, $x \in l(\{b\})$, which shows that $l(\{a\}) \subseteq l(\{b\})$. Obviously, $Z_b \subseteq Z_a$.

Theorem 5.12. For any element x of a BCIK-algebra, the set of zero divisors of x is a quasi-ideal of X containing the zero element 0 . Moreover, if Z_x is maximal in $\{Z_a | a \in X, Z_a \neq X\}$, then Z_x is l-prime.

Proof. By lemma 5.8, we have $0 \in Z_x$. Let $a \in X$ and $b \in Z_x$ be such that $a * b = 0$. Using Lemma 3.11, we have $l(\{x, a\}) = l(\{x\}) \cap l(\{a\}) \subseteq l(\{x\}) \cap l(\{b\}) = l(\{x, b\}) = \{0\}$, and so $l(\{x, a\}) = \{0\}$. Hence, $a \in Z_x$. Therefore, Z_x is a quasi-ideal of X . Let $a, b \in X$ be such that $l(\{a, b\}) \subseteq Z_x$ and $a \notin Z_x$, then $l(\{a, b, x\}) = 0$. Let $0 \neq y \in l(\{a, b\})$ be an arbitrarily element, then $l(\{b, y\}) \subseteq l(\{a, b, x\}) = \{0\}$, and so $l(\{b, y\}) = \{0\}$, that is, $b \in Z_x$. Since $y \in l(\{a, x\})$, we have $y * x = 0$. It follows from Lemma 3.11 that $Z_x \subseteq Z_y \neq X$ so from the maximality of Z_x it follows that $Z_x = Z_y$. Hence, $y \in Z_x$, which shows that Z_x is l-prime.

Definition 5.13. By the associated graph of a BCIK-algebra X , denoted $\Gamma(X)$, we mean the graph whose vertices are just the elements of X , and for distinct $x, y \in \Gamma(X)$, there is an edge connecting x and y , denoted by $x-y$ if and only if $l(\{x, y\}) = \{0\}$.

Example 5.14. Let $X = \{0, a, b, c\}$ be a set with the *-operation given by Table 5, then X is a BCIK-algebra (see[3,4,5]). The associated graph $\Gamma(X)$ of X is given by the Figure 1.



Table 6: *-operation.

*	0	a	b	c	D
0	0	0	0	0	0
A	A	0	a	0	A
B	B	b	0	b	0
C	C	a	c	0	C
D	D	d	d	d	0

Table 7: *-operation.

*	0	1	2	3	4
0	0	0	0	0	0
1	1	0	0	1	1
2	2	1	0	2	2
3	3	3	3	0	3
4	4	4	4	4	0

Example 5.15. Let $X = \{0, a, b, c, d\}$ be a set with the *-operation given by Table 6, then X is a BCIK-algebra ([see 3,4,5]). By Lemma 5.8, each nonzero point is adjacent to 0. Note that $l(\{a, b\}) = l(\{a, d\}) = l(\{b, c\}) = l(\{c, d\}) = \{0\}$, $l(\{a, c\}) = \{0, a\}$, and $l(\{b, d\}) = \{0, b\}$. Hence the associated graph $\Gamma(X)$ of X is given by the Figure 2.

Example 5.16. Let $X = \{0, 1, 2, 3, 4\}$ be a set with the *-operation given by Table 7, then X is a BCIK-algebra ([see3,4,5]). By Lemma5.8, each nonzero point is adjacent to 0. Note that $l(\{1,2\}) = \{0,1\}$, that is, 1 is not adjacent to 2 and $l(\{1,3\}) = l(\{1,4\}) = l(\{2,3\}) = l(\{2,4\}) = l(\{3,4\}) = \{0\}$. Hence, the associated graph $\Gamma(X)$ of X is given by Figure 3.

Example 5.17. Consider a BCIK-algebra $X = \{0, 1, 2, a, b\}$ with the *-operation given by Table 4, then $l(\{1, a\}) = l(\{1, b\}) = l(\{2, a\}) = l(\{2, b\}) = \emptyset$, $l(\{a, b\}) = \{a\}$, and $l(\{1, 2\}) = \{0\}$. Since $X_+ = \{0, 1, 2\}$, we know from Lemma 3.10 that two points 1 and 2 adjacent to 0. The associated graph $\Gamma(X)$ of X is given by Figure 4.

Theorem 5.18. Let $\Gamma(X)$ be the associated graph of a BCIK-algebra X . For any $x, y \in \Gamma(X)$, if Z_x and Z_y are distinct l-prime quasi-ideals of X , then is an edge connecting x and y .

Proof. It is sufficient to show that $l(\{x, a\}) = \{0\}$. If $l(\{x, y\}) \neq \{0\}$, then $x \notin Z_y$ and $y \notin Z_x$. For any $a \in Z_x$, we have $L(\{x, a\}) = \{0\} \subseteq Z_y$. Since Z_y is l-prime, it follows that $a \in Z_x$ so that $Z_x \subseteq Z_y$. Similarly, $Z_y \subseteq Z_x$. Hence, $Z_y = Z_x$, which is a contradiction. Therefore, x is adjacent to y .

Theorem 5.19. The associated graph of a BCIK-algebra is connected in which every nonzero vertex is adjacent to 0.

Proof. It follows from Lemma 5.8.

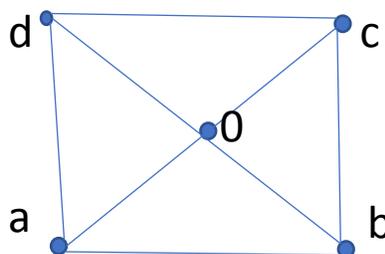
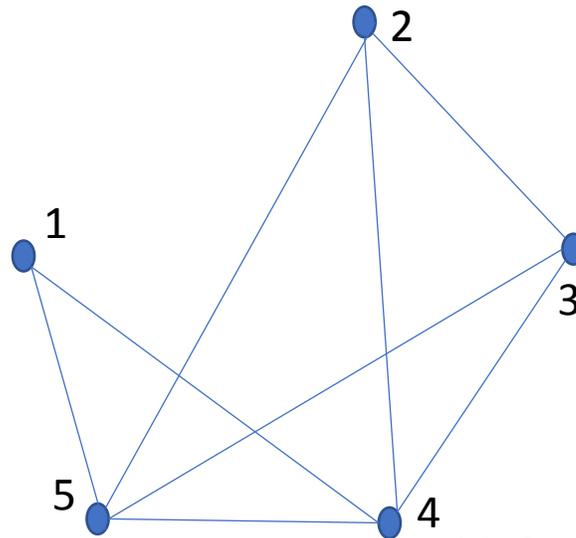
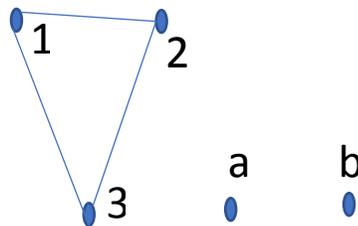


Figure 2: Associated graph $\Gamma(X)$ of X

Figure 3: Associated graph $\Gamma(X)$ of X Figure 4: Associated graph $\Gamma(X)$ of X

6. CONCLUSION AND FUTURE RESEARCH

Derivation is a very interesting and are of research in the theory of algebraic structures in mathematics. The theory of derivations of algebraic structures is a direct descendant of the development of classical Galosis theory. The notions of BCIK-algebras were formulated S Rethina Kumar. The concept of nodal filter for a meet semi lattice introduced in 1973 by J. C. Varlet, then Nodal Filters of BL-algebras introduced in 2014 by R. Tayebi Khorami and A. Borumand Saeid.

In this paper, we have introduced the associative graph of a BCIK-algebra with several examples. We have shown that the associative graph of a BCIK-algebra is connected, but the associative graph of a BCIK-algebra is not connected.

In our future work is to study how to induce BCIK-algebra from the given graph (with some additional conditions):

- (1) Developing the properties of quasi ideal of BCIK-algebra,
- (2) Finding useful results on other structures,
- (3) Constructing the related logical properties of such structures.

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ISSUES OF ORGANIZATION OF PROJECT METHODOLOGY WHEN TEACHING ENGLISH LANGUAGE IN A TECHNOLOGY UNIVERSITY

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ANNOTATION

The article briefly presents the history of the application of the project method and the implementation of project activities in teaching foreign languages, gives examples of tasks for organizing project activities in modern textbooks in English, identifies the problems of performing such tasks and formulates the need to form project competence of students, for which an attempt is made to determine the essence and content of project competence in the form of its main components.

KEY WORDS: *project activity, project method, definition and components of project competence.*

ВОПРОСЫ ОРГАНИЗАЦИИ ПРОЕКТНОЙ МЕТОДИКИ ПРИ ОБУЧЕНИИ АНГЛИЙСКОМУ ЯЗЫКУ В ТЕХНОЛОГИЧЕСКОМ ВУЗЕ

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Аннотация:

В статье кратко представлена история вопроса применения метода проектов и реализации проектной деятельности при обучении иностранным языкам, приведены примеры заданий для организации проектной деятельности в современных учебниках по английскому языку, обозначены проблемы выполнения подобных заданий и сформулирована необходимость формирования проектной компетенции обучающихся, для чего предпринята попытка определить сущность и содержание проектной компетенции в виде ее основных компонентов.

Ключевые слова: *проектная деятельность, метод проектов, определение и компоненты проектной компетенции.*

The relevance of the chosen topic is due to insufficient research of the conditions and factors of the effectiveness of the organization and the use of project activities in teaching a foreign language. According to educational standards, secondary school is designed to form a universal personality with a

system of knowledge and skills, as well as a set of various personal qualities, capable of forecasting and analysis and ready for communication and interaction not only in their native language, but at least in one foreign language. To achieve this goal, it is proposed to use the project activities of students. This goal is



also reflected in the Federal State Educational Standard (FSSES) for secondary complete education. The project activity, which allows reaching a qualitatively new level, has already found application in various educational institutions. She not only helps students to reveal their leadership and other personal qualities, motivates project participants, but also teaches them to work in a team, independently, and, in addition, to adequately assess their strengths and weaknesses, to bring what has been started to the end. The use of project activities finds its special opportunities in foreign language lessons. This is due to the fact that society places high demands on not only its knowledge, but also free ownership.

Both in world and domestic pedagogical science and practice, numerous attempts to consider the content of the concept of project activity and to characterize the method of projects, as well as to apply it in the learning process have been made repeatedly. In Uzbekistan, at the beginning of the twentieth century, a group of teachers under the leadership of Abdulla Avloniy is making efforts to introduce the project method into teaching, but not so successful [8]. In foreign pedagogy, the American psychologist D. Dewey gives a detailed description and justification of the project method [4]. Attempts to revive this method in the 90s in our country were undertaken by I.A. Winter [5]. At the turn of the XX and XXI centuries, in his works E.S. Polat presents a methodological description of the use of project activities and examines the features of its use in the implementation of the academic discipline "foreign language" [6].

Currently, the authors of various educational and methodological complexes in a foreign (in particular, English) language regularly refer to the project method and offer assignments for the implementation of project activities. So, for example, in the educational and methodological complex "Enjoy English-3" [6], third-year students are given the opportunity to make a toy for a Christmas tree, the main steps for making crafts are described, and a list of materials that must be used in the work is given. In the educational and methodological complex "Spotlight-5", students of the fourth year of studying English are given the task to draw a map; make a sundial [3]. In the 1st year (educational-methodical complex "Enjoy English-1". Freshmen who study English are invited to come up with a model of a robot, answer questions to determine the purpose for which this robot was created, and then present a presentation-story about the work done ...

In practice, however, in the implementation of these project tasks, a number of obstacles arise and contradictions arise: examples of tasks similar to the above can be found in almost every textbook on a foreign language, but teachers, as a rule, omit them, students do not perform these tasks. Why is this happening? It seems that this happens due to the fact

that to complete such a task, neither in educational-methodical complexes, nor in teaching materials the main thing is given for the teacher: it is not shown how to prepare for the implementation of project activities, technologically work out the project, how to interact with the teacher with students and students with each other at the stages of preparation and implementation of the project. Educational and methodological materials do not take into account the interests of the students themselves at the stage of defining the project idea, do not provide students with the opportunity to present their ideas, address them to others. The lack of technology for the development of the project and its planning (that is, the sequence in which certain stages must be performed) is very significant, the content is not reflected and the speech material in the target language is not presented. It is also unclear how to evaluate the final product, since there is no set of criteria and a scale for assessing, and it is also unclear who should evaluate the project results. Finally, in the scheduling and thematic planning, there is no time for the implementation of the project. However, it is obvious that if students cannot develop skills in project activities in secondary school, then, faced with the need to carry out this type of activity at work, in a university, they will not be able to show their best.

Therefore, it seems advisable not to put up with the situation when the task is given to make a project, but in practice its implementation becomes almost impossible. The solution is seen in the development of project competence, which will prepare students for project activities.

Analysis of the pedagogical literature shows that such issues as the content and essence of project competence, as well as the theoretical and methodological foundations of its formation in the educational process, were not sufficiently reflected in it. Therefore, the task arises to reveal the essence and content of the project competence of students in the process of learning a foreign language.

The term "project competence" itself is already found in research, but not in a sufficiently developed form. Following such researchers as I.A. Zimnyaya, E.S. Polat, I.A. Sergeev [5, 6, 7], it seems possible to define project competence as an integrative characteristic of a subject, expressed in a person's ability and readiness for independent theoretical and practical activities in the development and implementation of projects in various fields, and also highlight the following main components of project competence: 1) cognitive - knowledge of the essence of design, the peculiarities of organizing relevant activities in the native and foreign languages, types of projects, awareness of the age and personal needs of the participants; 2) activity-based - knowledge of the technology of designing and evaluating various types of projects, the design



process, the result of the corresponding activity, the ability and willingness to organize any project activity in the native and foreign languages; 3) sociocultural - knowledge about the national and cultural characteristics of the country of the target language, the culture of speech behavior; 4) linguistic communicative - the level of proficiency in a foreign language and the ability to communicate in it to achieve the goal; 5) reflexive-evaluative - the ability to adequately assess project activities and their results, readiness for reflection.

The effectiveness of the implementation of the designated components of project competence is largely ensured by the student's personal qualities (readiness for reflection and self-organization, motives of activity, volitional qualities, optimism, belief in oneself and one's own strengths, etc.)

Project work involves careful planning and flexibility on the part of both the trainer and the learner. Due to the dynamic nature of this activity, not all problems can be foreseen; moreover, sometimes the project may move in a different direction than originally planned. The design work is organic and unique to each class. This makes such work interesting, stimulating and meaningful for the participants.

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INDIVIDUAL WORK OF UNIVERSITY STUDENTS IN STUDYING FOREIGN LANGUAGES DURING PANDEMIC PERIOD

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ANNOTATION

The article raises the problem of reducing the performance of homework in a foreign language, as one of the main ways to consolidate the material received in an online lesson, control and self-control. Using the Internet service Learningapps.org, the author proposes an online homework experiment with a group of students; which contributed to the popularization of homework among students, increased the percentage of the quality of knowledge and developed the skill of working with information.

KEY WORDS: internet service; online homework; Learningapps.

ИНДИВИДУАЛЬНАЯ РАБОТА СТУДЕНТОВ ВУЗА ПО ИЗУЧЕНИЮ ИНОСТРАННЫХ ЯЗЫКОВ В ПЕРИОД ПАНДЕМИИ

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Аннотация

В статье ставится проблема снижения выполняемости домашней работы по иностранному языку, как одного из основных способов закрепления материала полученного на онлайн занятии, контроля и самоконтроля. При помощи интернет-сервиса Learningapps.org автор предлагает эксперимент на тему «Домашняя работа онлайн» с группой студентов; который поспособствовал популяризации домашней работы среди студентов, увеличил процент качества знаний и развился навык работы с информацией.

Ключевые слова: интернет-сервис; домашняя работа онлайн; Learningapps.

It is difficult to argue with the fact that homework is a necessary element of the educational process, especially in a foreign language, as it helps

the student to strengthen the knowledge gained and is a powerful tool for control and self-control.

But, unfortunately, the role of homework has greatly decreased over the past decades, and at the



moment many students do not have the proper motivation to complete it. It is often easier for students to use ready-made answer banks or to copy from their classmates, which leads to the loss of the importance of homework in the educational process. The new generation, students of the digital age, want teachers to speak the same language with them, and digital technologies are one of the ways of communication. In this regard, one of the main reasons for the lack of motivation among students for homework is the retrograde ways of doing it. I have conducted a survey among students of 1st year students; they were asked to answer the question: would they be interested in receiving homework online, through some network resources. The expected result was the overwhelming prevalence of supporters of this idea, which prompted me to conduct an experiment on the introduction of online homework in a foreign language using an Internet service.

To implement the experiment, the following preliminary stages were worked out:

- analysis of thematic planning for which the Internet services will be used;
- planning of universal educational activities of students;
- formation of goals for the use of network services (study of new material, consolidation, generalization of the material, control);
- analysis and selection of effective types of Internet services;
- creation of assignments for students to practice on the service and step-by-step instructions for working with it on YouTube video hosting;
- the introduction of Internet services in educational activities as a trial material in the classroom to familiarize students with the service itself and how to work with it;
- experimental implementation as homework;

The ultimate goal of this experiment was to introduce online homework as a permanent element of the educational system in foreign language lessons.

At present, it is difficult to imagine the effective work of a teacher without the use of information technology. One of the resources that the Internet provides us is the use of Internet services, which enable the teacher to develop not only various tasks and develop a cognitive interest in the subject, but also to implement the principle of students' activity in the learning process, which has been and remains one of the main in didactics [1, c. 21].

After analyzing the Internet resources recommended for training, I chose the Learningapps.org Internet service.

This service was created to support the educational process with the help of interactive applications. The use of the service does not provide for any collection of funds. There is a wide selection

of ready-made assignments of the desired topic in any subject. The service also provides an opportunity to share the finished product via social networks, web links and QR codes. The service is accessible from any gadgets that have access to the Internet [3].

Also, this service contributes to the implementation of the following modern educational technologies:

1. Multilevel training, which allows you to help a weak student and pay attention to a strong one. At the same time, strong students are affirmed in their abilities, and the weak are given the opportunity to experience educational success. The level of motivation for learning increases.

2. Information and computer technologies that allow a person to more successfully and quickly adapt to the environment and the ongoing social changes, thereby responding to the demands of the information society.

3. Health-preserving technology, which, through the introduction of interactive, ensures the physical and psychological well-being of students.

4. Game methods that broaden the horizons, develop cognitive activities, form certain skills and abilities necessary in practical activities [2, p. nine].

All exercise templates of the LearningApps.org service are conditionally divided into 5 categories:

1. Choice.
2. Distribution.
3. Consistency.
4. Filling.
5. Online games.

How can we use them in a foreign language lesson? In fact, everything is limited only by your imagination.

For example, to memorize new words, you can use the game "Find a Pair", "Crossword", "Find a Word", while practicing spelling and computer keyboard skills.

In teaching English, we encounter various types of activities, one of which is working with text. Consider an example: homework includes reading and translating a text, and the teacher plans to take students to a brief retelling of this material, while the vocabulary of this text is already familiar to the students. In this case, the following work option can be offered: the teacher prepares the game "Make a Sequence" in advance, where the text is simplified to simple sentences that are entered into the allocated cells. I would like to note that this study of the text makes it much easier for students to memorize the use of the practiced vocabulary in context, the students' confidence in retelling the text increases and they quite easily cope with this task, as well as writing their own story on sample.

Using all sorts of quizzes trains your grammar and text skills very well. And using the audio / video



content template, students practice listening and speaking skills.

The service is interesting not only by the use of different templates, all kinds of intelligent interactive tasks, but also by the fact that you can create an account for each of your students, where they can independently train the material of the lesson learned, and also participate in the educational process as consumers and developers. With the help of this service, you can organize project activities, where students can create their applications for a specific topics, thereby developing their creative potential [3].

The teacher, in turn, has the ability to monitor the activity of students on the service and control the execution of assignments using pivot tables in the personal account. There is also an opportunity for reflection, using a local chat service, where students can discuss certain tasks, both with the teacher and among themselves.

Thus, having completed all the preparatory work, I began my experimental work.

The experiment lasted for a month. I selected students from one parallel with approximately equal cognitive abilities and divided into experimental (group No. 1) and control (group No. 2) groups, where students of group No. 1 received their homework through the Internet resource, and students of group No. 2 did it in workbooks. The students took a responsible attitude to the experiment and actively participated in it. Based on the results of the topic, a test was written. After analyzing the work, the following results were established. The percentage of the quality of the assimilated material according to the module of group No. 1 was 70%, while in the control it was only 40%. These results proved that online homework has a beneficial effect on the level of knowledge of students.

At the end of the experiment, the students of group No. 1 asked to continue their homework in electronic form, and I, in turn, had an idea to introduce homework through the Internet into group No. 2, and later into other groups.

Of course, this project has its drawbacks:

- a lot of time is spent on compiling tests, but this is a temporary phenomenon, because in the future they will not be required to compile, since you will have your own bank with developments. You can also use the material of colleagues, but they do not always correspond to the topic of your lesson.

- weakening of the calligraphy skill, since students mainly use a computer to complete the assignment. But the main thing here is to understand that everything is good in symbiosis, and this service should be used with the classic writing training in the lesson.

- lack of Internet or gadget. Unfortunately, in this case we are powerless, but there is always an alternative. This is doing homework in writing, and

then doing its electronic counterpart in the lesson. In addition, the degree of informatization is increasing every year and should come to naught within a certain time. Moreover, in some universities, this problem is not relevant even now.

Thus, analyzing all of the above, I was convinced that by doing homework via the Internet, students spend less of their free time, they do it with pleasure, learn to work with information on their own, develop self-control, get rid of the fear of mistakes, knowing that the test can be done remake.[4]

I believe that the Online Homework project can radically change the attitude of students to doing homework, and also simplify the work of colleagues, so that they do not have to sit on dark nights with stacks of notebooks.

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PECULIARITIES OF THE ORGANIZATION OF MULTI-ETHNIC, CONVENED MAHALLAS DURING THE YEARS OF INDEPENDENCE

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ANNOTATION

The article examines the topical problems of reforming the system of mahallas in Uzbekistan, the peculiarities of organizing the activities of multinational, religious communities and democratic factors in the years of independence, It is narrated on the content of the Mahallabay Working System.

KEYWORDS: Ministry of Mahalla and Family Support, Appeal to Oliy Majlis, "New Uzbekistan - New Mahalla", religious communities, interethnic harmony, religious tolerance, national and cultural centers, universal values, indicators for assessing the activities of mahallas, Mahallabay Working System.

Аннотация

В статье рассматриваются актуальные проблемы реформирования системы махаллей в Узбекистане, особенности организации деятельности многонациональных, религиозных общин и демократические факторы в годы независимости, Обсуждается на содержание рабочей системы Махалбая.

Ключевые слова: Министерство махалли и поддержки семьи, Обращение к Олий Мажлису, «Новый Узбекистан - Новая Махалля», религиозные общины, межнациональное согласие, религиозная толерантность, национально-культурные центры, общечеловеческие ценности, индикаторы для оценки деятельности махаллей, махалбайская рабочая система.

Аннотация

Ушбу мақолада Ўзбекистонда маҳалла тизимини ислоҳ қилишнинг долзарб муаммолари, мустақиллик йилларида кўп миллатли, конфессияли маҳаллалар фаолиятини ташкил этишнинг ўзига хос хусусиятлари ва демократик омиллари, “маҳаллабай” ишлаш тизимининг мазмун-моҳияти ҳақида тўхталиб ўтилади.

Таянч сўзлар: Маҳалла ва оилани қўллаб-қувватлаш вазирлиги, Олий Мажлисга мурожаатнома, “янги Ўзбекистон- янги маҳалла”, конфессияли маҳаллалар, миллатлараро тотувлик, диний бағрикенглик, миллий маданий марказлар, умуминсоний қадриятлар, маҳаллалар фаолиятини баҳолашнинг индикаторлари, “маҳаллабай” ишлаш тизими.

1.Relevance of the topic. Disciting new nationalities in the Uzbek community in the Uzbek people of the Uzbek people in the context of the independent development of our country is teasing the new statehood in the Uzbek community, to modernize the activities of self-government in the formation of civil society. Tolerets, one of the democratic principles,

are clearly arising not only states but also in individual levels. At the same time, I have to say that in today's globalization, to comply with the needs of the important factors of world policy, about 200 of more than 1,600 nationalities, about 200 nationality have only one of the more than 1,000 nations, ensuring interethnic harmony throughout this



environment For regular study of their interests, psyche, aspirations, this is always consideration in political, social life, has shown the consequences, causing serious benefits, and the consequences.

Tolerance means respect for the lifestyles of various ethnicity people, respectively and religious views. A modern concept of tolerance should be noted that in the forming this concept, UNESCO is important. [1.34.b]

Today, the Israeli President has adopted a number of decrees in the country, as well as the formation of interethnic relations on the basis of democratic inter-ethnic relations, "on May 19, 2017" Interetharian relations and friendship with foreign countries. The decrees "On Improvement" Decrees are first established by the Cabinet of Ministers of the Republic of Uzbekistan, and at the same time the following tasks were set; Ensuring relations and cooperation of government agencies with national cultural centers and friendly services located in the country; The tasks of presiding and developing unique national traditions, customs and pics of different nationalities and pics living in our country are the mutual understanding of many candied neighborhoods, as well as the only Uzbekistan ". I would like to emphasize that the universal ideas, strengthening equal mutual beneficial relations for them is one of the priorities of our state policy. The issue was also taken by the appeals of our President Sh. Mirziyoyev, 2020-May Be 30 December: "We will take our work to a qualitatively new level in society. It is well known that with a resolution of the General Assembly of the United Nations annually, July 30, the Day of International Friendship of International Friendship. Therefore, I invite this date to determine this date as "People's Friendship Day" in Uzbekistan. "[www.gazeta.uz]. Today,

representatives of more than 130 nationalities and ethnic groups are living in Uzbekistan. They work hard in all fields and industries to build a democratic legal state based on developed market economies and the formation of a strong civil society. During the years of independence, 120 activists of national cultural centers were awarded State Prizes, including the medals, including 14 Hero of Uzbekistan.

The Republican Center for Friendly Cultural Center, 138 national cultural centers, Uzbekistan, as well as 34 friendly organizations, preserving the history, culture, spiritual values, traditions, traditions and traditions of Uzbekistan and comprehensive development, harmonizing interethnic relations, combine interethnic relations, play an important role in the sustainable development of society and the state. [5.70.b] It is a great family of about 10,000 mahallas in Uzbekistan, which is a huge family, which has never been defeated in the history of different religious denominations, and the Uzbek

people are still tolerant of being depressed. When the President described the neighborhood as Sh. Mirziyoyev as the "Democratic Career", they noted that they meant democratic and universal universal principles of multiental neighborhoods. As a symbol of the neighborhood system, we consider it expedient to pay a great deal of attention to the principle of tolerance in the places where tolerance. Zero, "New Uzbekistan" is based on the principles of mutually beneficial and equality - "Let's live free in Uzbekistan and prosperity." Requires to unite around the good idea. The Republican International Culture of Culture and the Republican Charitable Foundation "Mahalla" of the republic held scientific-practical seminars and roundtables on "Uzbek multi-ethnic family." The extent to the chairmanship of the organizer, organizer "Afrosiyob" such as Afrosiyob in Tashkent is also indication of the extent of interethnic harmony in Uzbekistan. [1.38.b] "In the implementation of the neighborhood management, the views of different nationalities living in the neighborhood and religious world views should be taken into account based on the principle of religious tolerance. The neighborhood must be chaired by the organization and conduct of measures based on their national and religious values. It is advisable to operate on the basis of "mahalla - all of us,". In the democratic development of society, the interest of citizens must be fully addressed. To do this, representatives of the community should be acquainted with the official concepts of religion, the general information relating to religion. "[4.45.b] During the years of independence, it was focused on the unique aspects of the organization of multi-ethnic, candy mahallas, where sufficient legal conditions have been created for comprehensive work of other nationalities to work in every direction. The data obtained during the study showed that one of the two respondents are almost a multi-ethnic state. [2.145.b] During the study, most of respondents (88.0%) responded positively to their relations with their neighbors belonging to another. [2.146.b] The research information can be concluded that the principles of peace, interethnic harmony of peace, interpretation of interethnic harmony and inter-religious tolerance indicates that the place in strengthening the civil agreement is important. According to the appeal of the head of our state in appeal, in 2021 the economy of our country was aimed at increasing at least 5%. However, the uncertainty in the global economy requires a long time to find and mobilize additional reserves of economic growth. Therefore, the President sets out the task of explaining and developing the "growth points" in the field of all levels. It was noted that the representatives of economic complexes should be home to the neighborhood and need a vertical



system, the activities of all organs. [9.uzSMU.uz] The Mahallabay's recommendations on the basis of the "Mahallanese Chairman of the Mahalla" on the basis of the "Mahallanese Chairman of the Mahalla" on the basis of the capabilities of the Mahalla and the Sahallabayi's recommendations are lifiable today for thousands of citizens living today is getting prosperous. Mahallabay's focuses on the knowledge and opportunity to work in the system, the importance of teaching more than 20,000 employees and giving them all powers in addressing the issue. The Academy of Public Administration has been set up to organize courses for neighborhood chairmen and all employees involved in this system, for which the task of develop special programs and manuals. The neighborhood processing system includes the following functions: The analysis of business activities in the neighborhoods, the desire of businesses and needs to work in the neighborhoods, to provide recommendations for employment of families, to teach unemployed mahalla, to study the current potential of each neighborhood (vacant buildings, lands, land). , Assistance in the implementation of new entrepreneurial projects in the neighborhood and developing a plan to increase the business potential of the neighborhood. In order to turn the mahalla institute a separate organizational structure by President Shavkat Mirziyoyev, "PF" On measures of the health and spiritual environment and the development of the mahalla and women's family and women's system of family and women. " Decrees of 15 Decrees were adopted 5938. This decree envisages the work and provision of material and technical bases to the latest information technical means.

CONCLUSIONS AND SUGGESTIONS

In Uzbekistan, I think it should be done to do a following work on improving the activities of multinational, candy mahallas:

1. Further strengthening of bilateral cooperation with national cultural centers and friendly cooperation in the pursuing of nationlived communities.
2. Organization of cultural and educational activities between multinational mahallas under the motto "Uzbekistan".
3. Location of banners, which reflect interethnic harmony under the neighborhoods.
4. Development of integrated legislation on the activities of multi-ethnic neighborhoods.
5. Development of a comprehensive guide on the activities of national cultural centers.
6. Development of a long-term strategy for the development of the Mahallabay performance system.

The conclusion is that we can see a correlation between the state and the society due to the attention

of the unique Institute in building Shmirziyoev's attention to the neighborhoods of our President Sh.M. Mirziroev, which indicates democratic principles in Uzbekistan. Also, poverty reducing poverty, creating new jobs through the Mahallabay operating system. In short, we recognize that the "New Uzbek-New Mahalla" is becoming an integral part of civil society. In addition to ensuring the independence of local issues in the Self-Management system, ensuring the independence of local citizens 'assembly in the system of local mahalla, to reorganize the overheded neighborhoods, to reorganize and organize the overall joint mahalla citizens' assembly done. Democratic principles and universally recognized values are granted depending on the high attention of many attention to many candy neighborhoods. For interethnic harmony is a mirror for democracy.

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IMPLEMENTING TECHNIQUES OF PAIR AND GROUP WORK ORIENTED LEARNING LANGUAGE

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ABSTRACT

In this article describes techniques pair and group oriented learning how these technologies allow to adapt the learning process to the needs of students, teaching content of varying difficulty, the specific characteristics of each institution.

KEY WORDS AND EXPRESSIONS: *oriented learning, communicative ability, mentality, technologies, learning process, video recorders, urinalysis, specific characteristics, dialogue.*

INTRODUCTION

The theoretical justification of this technology is based on the fact that the bulk of the differences in the level of students learning ability is reduced, first of all, to the time required for student learning. We studied the ability of students in a situation where the time to study the material is not limited, and these were allocated a category:

- Poor talent, who are unable to reach a pre-planned level of knowledge and skills, even at great expense of teaching time;

- Talented (about around 5%), and often on the forces with which can not handle all other;

- Students make up the majority (about around 90%), whose ability to assimilate knowledge and skills depend on the costs of training time.

If each student to take the necessary time to it, appropriate personal abilities and capabilities, it is possible to be sure that the development of a basic core curriculum. It requires schools differentiation, in which the student flow is divided into movable composition group seizes program material to a minimum (state standard), basic, variability (creative) levels.

Last years the imperative need of using a foreign language appears in all areas of a science, manufacture and culture. In present teaching foreign languages effectively with the innovative methods is the main task for our teachers. Researches of methods of teaching have shown, that all named problems will effectively solved, if we

apply elaborations of various innovators for amplification of a traditional technique of teaching that can increase essentially quality of teaching foreign (in particular English) language.

MATERIALS AND METHODS

Imperfection of the existing approach to teaching foreign language, which is focused only on communicative purposes to the detriment of such kinds of language activity as reading and the writing, that has led to the low level of knowing a foreign language of graduates of high school. Hungyo & Kijai state that the “activities used by teachers in the integrated approach are real-life activities and situations and thus create an interactive learning environment. In other words, when using the Integrated-skill Approach, teachers face their students with communicative situations that have to as real as possible so that students realize the importance of learning the foreign language. In the given theoretical part of work, it is necessary to pay attention on those basic statements in which the most essential parts of activity are reflected and generalized.

The organizational model of a school includes three options for differentiating instruction.

1. Picking classes of uniform composition from the initial stage of schooling based on the diagnostics of dynamic characteristics of the person and the level of mastery of the general education skills.



2. Inside the class differentiation in the middle tier, carried out by the selection of teams to separate education at different levels (base and variable). In the presence of a stable interest group becomes a class with in-depth study of specific subjects.

3. Profile education in primary school and high school, organized on the basis of psychodiagnostics, peer review, recommendations of teachers and parents, students self-determination.

Collective mutual learning technology - has several names: "structured dialogue", "work in the removable structure pairs."

When working on this technology uses three types of couples: static, dynamic, variation and consider them.

Static pair. It optionally combine two students, the changing roles of "teacher" and "student"; so can engage two weak student, two strong, strong and weak under the condition of mutual psychological compatibility.

Dynamic vapor. Choose four students and offer them the job, which has four parts; after the preparation of his part of the task and the task of self-control student discusses three, t. e. with each partner, and each time it is necessary to change the presentation logic, accents, tempo, etc., and therefore include a mechanism to adapt to the individual needs of fellow.

Variation of steam: In it, each of the four members of the group gets its task, executes it and analyzes together with the teacher, conducts mutual learning on the circuit with the other three comrades, as a result, each learns to four servings of educational content.

The course of the lesson depending on the age, the content of lessons, teaching material and the amount of time allotted to study it, can be arranged in different ways.

Prepare to engage with such technology is the selection of educational material, and additional reference materials, distribution and assimilation of content units, the development targets.

The benefits of collective mutual learning technology:

- as a result of recurring exercises improving the skills of logical thinking and understanding;

- In the process of mutual communication includes a memory, being mobilized and updating of previous experience and knowledge;

- Every student feels at ease, working at their own pace;

- Increased responsibility not only for their success, but also for the results of collective work;

- Eliminating the need for curbing the rate of employment, which has a positive effect on the microclimate in the team;

- Forming an adequate self-esteem of the individual, their capabilities and abilities, strengths and limitations;

- A discussion information partners with several replaceable increases the number of associative relationships, and therefore provides a longer lasting absorption.

Technology cooperation: involves training in small groups. The main idea of training in cooperation - study together, not just to help each other, to recognize their achievements and successes of fellow.

There are several options for collaborative learning. Consider the most interesting of them.

Education team: We pose the group goal. Success can be achieved only by constant interaction of all members of the group (team) when working on the topic, problem or issue. The aim is that each team member has mastered the necessary knowledge, skills and abilities, and to the whole team knew what hit each.

Evaluation of group activity depends on the type of work and didactic purposes. After the assignment the teacher gives all groups of test to check understanding of new material. Test targets students perform individually. At each group its particular task score exhibited one at all. When performing each individual member of the task team exhibited score. In this case, stimulated by helping a teammate in the understanding and assimilation of the material.

DISCUSSION

Pair work is a much-loved, much-used teaching technique—and with good reason. It reduces teacher talk time, lets students working with a variety of classmates, gives you the freedom to monitor, and gets all students talking (not just the most outgoing!). Plus, because it takes the focus off their individual contributions, introverted students enjoy pair work too. Because you can never have too many ideas, we've rounded up a list of our favorite pair work activities. Enjoy!

1. Interview: An oldie but a goodie. Mix interviews up with unusual or funny questions, or by changing the content to suit the unit you are currently studying

2. Speed conversations: Anyone who knows anything about speed dating can imagine how this one works! Arrange chairs in two lines, facing each other. Now pose a question, and tell your students that they must talk with their partner about that topic or question for two minutes straight. When you call time, line A will move along one chair to their right, therefore giving each student a new partner to talk with. Repeat.

3. Picture dictation: Pairs sit back-to-back, each with a piece of a paper. Student A starts drawing something, and describes what they are drawing while doing it. Student B must try to follow



Student A's instructions. When they've finished, pairs compare pictures to see how similar or different they were. Ask students to discuss the differences with their partner. This activity can be used to practice different ways of asking questions, giving instructions, discussing similarities and differences, and other grammar constructions.

4. Guess who? : A great way to use board games in class! Student A chooses a character from a series of available character pictures. Student B partner asks about A's character's appearance in order to reveal who they chose. This is a great way to practice asking and answering the "Wh-questions". You can use the Guess Who? Original board game, download a printable available online, or create your own by cutting and pasting pictures of well-known people.

5. Pen and paper games: Think hangman and picture. Playing these games in pairs requires students to listen and respond effectively. You can also add a content review twist to classic tic-tac-toe, in which students answer questions from their exercise book (such as those found at the end of chapter review sections), and win the chance to add an "X" or "O" to the board for each correct answer.

6. Memory: A twist on the classic game, in this version you'll need to first create a set of cards in which each correct pair forms a question (use color-coding to aid students as they play). When a student correctly matches a question, their partner must answer it. This activity works well at the start the semester, to find out students' feelings about a new subject, and to introduce controversial or interesting topics.

7. Forbidden words: Sometimes called Yes/No, in this activity pairs ask and answer questions, though are not allowed to say the words yes or no. When they do, the other student scores a point and play repeats. You may choose to create a championship style activity where winners of pair Yes/No matches play together, until class's ultimate winner is revealed! (Other words to "forbid" are maybe, um/urh/eh, I, and you.)

8. Storytelling: Tell your class a story, making sure there are several important plot points throughout. In pairs, students must then retell the story. You may like to extend the activity by asking students to write the story out in bullet points, identify questions they would ask the characters, illustrate it, act it out, record it, or create a script.

"Saw": Students are organized into groups of 4-6 people. Studying the materials to work on, which is divided into fragments (logical or semantic units)? Each in groups fulfills its part of the job. Then the students studying the same question in different groups meet and exchange information on experts this issue so - called experts meeting.

Then they returned to their group and teach new things they have learned themselves, other

members of the group. Those, in turn, report on their part of the job (as the teeth of a saw).

Because the only way to master the material throughout the theme - it is to listen carefully to his team-mates and to make records in notebooks - no additional effort on the part of the teacher is not required. Students want their comrades faithfully fulfilled their task, because it will affect their final grade. Report on the whole subject in each individual and the team as a whole. At the final stage the teacher can ask any student team to answer any question on this subject learning together. The class is divided into homogeneous in terms of training groups of 3-5 people. Each group receives one job - a part of a large topic. As a result of the joint work of individual groups and of the assimilation of the material is achieved as a whole.

Within the group of students the role distribute themselves to perform general tasks, and the group has a dual task: the achievement of cognitive, creative goals and implementation in the course of the assignment of a certain culture of communication and organization of joint activities.

Group receives awards depending on achievement of each student. The basic ideas common to all three options described the organization of small groups - common goals and tasks, individual responsibility, and equal chances of success. Consider the basic steps of the teacher, who decided to try his hand in organization cooperative learning.

1. He needs to think about placement of children of workers places, so they can see each other's faces (or tables to put an angle to one another (to work in threes), or by the two together, arranging chairs on the two opposite each other).

2. In preparation for the occupation to allocate one - two tasks that require certain actions after understanding. Group on mastering new material.

3. Divide the class into groups of 2-3 people. and provide an opportunity for students themselves to define the role of each in the quest.

4. When working in groups on the new material is necessary to formulate two or three questions to each student group. When the student answers the first, one of the remaining two have to find confirmation or refutation of his answers, and the third student records, for example, come up with the answers or examples to support the idea expressed. Then circle the students switch roles.

5. Giving students the opportunity to discuss the material in pairs before to give individual job. It provides the opportunity to train in pairs than control work is carried out or test.

6. Students should be able to (before giving their notebooks with the control (independent) work to the teacher) to check each other's work in a group and be sure to get proper informed of the assignment of each student.



7. Clearly communicate the purpose in the beginning of the lesson and to work in groups.

8. The throughout the work to monitor the activity of the students and help to group if required.

It appears to us that the wisest course of action under present circumstances is to concern ourselves less with theory and more with finding out what techniques succeed best with our students. What we have in mind is nothing so formal as a method or so well developed as an approach. It might be more accurate to think of it simply as an attitude toward language teaching.

The chief purpose of my research work is to try to spell out some of the possible implications of such an attitude. For the sake of clarity, I would like to tell that teaching is more of an art than a science.

Language teaching has always been, and remains, more of an art than a science. That is to say, it is largely intuitive and dependent on the personal abilities and convictions of the teacher. It appears that most of the teachers' success is the result of such qualities as enthusiasm, intelligence and love for students. The present may well be one of the most unusual periods the twentieth century has seen in the development of methods of language instruction. It is probably the time when there is least agreement as to what method should be preferred. One method has succeeded another.

Enacting the stories is stories form an integral part of teaching a language. These stories help teach the students about the formation of sentences and how to express their thoughts and a lot of other things and plus they help in keeping the students interest alive as the story's end is something that every student wants to know. It appeals to the inquisitive nature of the students.

Any unfinished story always keeps the mind of the reader agitated.

Although this method of using stories has been implemented the procedure of teaching the language through it is generally not right. The evaluation procedure of testing the students in their proficiency over the language is through questions based on the story. This is generally not that effective.

Due to this the students generally tend to take up the stories as a chapter rather than looking at it as an interesting read. A story is supposed to appeal to the creative part of the brain. It helps us be more imaginative, by trying to visualize the things that are happening inside the story. It should not only teach them the language but it should also help them in extracting a lesson from the story. Keeping questions for evaluation kills the entire idea of imagination for the students look at the story as something that they need to learn for answers.

There is a better way of using the stories to English using stories. The students can enact the stories or the plays. In this way the students are

personally engaged with the stories. They can bring their own interpretation of the character to life. It is interesting for the students to understand the characters and put themselves in their positions. It engages their creativity by allowing them to create the entire set, assign the characters and play it out according to what they had imagined. It also helps them understand other people's interpretation of the story and helps them have a healthy conversation about it which again helps them in learning the language. It removes the dull aspects and makes the learning more colorful without maximizing the learning of the language. It may not be perfect but it will leave a deep impression on their mind.

The story will help them learn the language, as they will be enacting it by dialogue, which they will themselves extract from the stories and also modifications can be made to the plays to help the students be more interactive and creative. They can add more lines, characters change the ending, bring in an interesting twist etc. The more creative the modification, more are the points awarded to the team. This also leads to personality development and helps them work as a team player and all the way the student was learning the language.

For example: if Julius Caesar was taught using the traditional methods of questions and answers the student would never understand the deep emotions of Brutus, the cunningness of Cassius, the loyalty of Antony, the tragedy of war, the brilliance in Antony's speech and many other such aspects of the story for which the Carol, Harry Porter, and all the epic stories. Emotions help define the story and they form a very important aspect of the language and one's personality. If these emotions are left out then it would be very difficult to express ourselves. On the other hand if such stories are enacted then every intention of the story becomes clear. The students have to immerse themselves into the atmosphere of the story and they have to put them in their positions.

This entire process has many benefits besides being a very effective method of teaching the language; it helps preserve the literature, which is nothing but our culture.

This method brings about the total learning experience that was meant to be provided by the story and in the end the student will definitely be able to answer questions without even preparing for it as an exam, besides the entire process is fun and not at all boring. Hence, it ensures the learning process is complete.

Teaching through conversations. Conversations are by far the most useful ways of teaching the language. When a child learns his or her mother tongue it is by the conversations made by the others. The child is never taught the language but is still able to percept the meaning and learns it



automatically to use it in day to day life. No one ever teaches the kids the characters of the language or how to make sentences or the grammar of that language.

CONCLUSION

The sentence construction and the grammar is not something that can be entirely taught by rules. They have to be taught intuitively. That can only happen through a lot of reading and a lot of listening. This can be taken care of easily as every conversation needs a topic. The topic can be given to the students in form of written documents which they have to first read then form an opinion and then have a conversation about it or it can be spoken out and then they can listen, understand and also take part in the conversation.

Educational game is the method that consolidate the material by different games. They are recreational activity. Games are an important part of a teacher's repertoire. Although they are recreational activities by nature whose main purpose is enjoyment, in the language learning process their purpose is to reinforce what has already been taught. In the course of a game, learners are engaged in an enjoyable and challenging activity with a clear goal. Often, students are so involved in playing the games that they do not realize they are practicing language.

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HISTORY OF RESEARCH WORKS IN THE FIELD OF MATERNAL AND CHILD HEALTH IN UZBEKISTAN

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ANNOTATION

This article summarizes the views and arguments regarding research projects, searches of researchers and researchers devoted to the protection of motherhood and childhood during the years of Soviet power in Uzbekistan.

KEY WORDS AND PHRASES: *Uzbekistan, motherhood and childhood, health, science, research, history, department, fertility, obstetrics, pediatrics.*

DISCUSSION

Caring for mothers and children in the society and the protection of their health is one of the main determinants of the well-being of the future generation. In each state, this issue is approached from a certain people's mentality, economic development and social status. In particular, during the years of Soviet power, certain measures were taken to protect motherhood and childhood, consultations for women and children, milk distribution units, nursery were opened and sections were established for them in the structure of various hospitals, and the number of treatment places increased.

During the years of Soviet power in Uzbekistan, the work on the establishment of the health sector was carried out in conjunction with research work. Since the 20-ies of the XX century, measures were taken to develop secular medical science in the country, scientific-research institutions of various specialties of Medicine were established. In particular, the establishment of the Research Institute for the protection of motherhood and childhood also coincides with this period.

The first research work on obstetrics in Uzbekistan was carried out by the members of the department "Obstetrics and gynecology" of the Medical Faculty of Turkistan State University. Department founder K. T. Khrushchev, he led the department until 1924 year. Department professor after him A. M. Novikov, professor F. N. Tavladarov, professor S. K. Xaskin, A. A. Kogan, X. S. Umarova managed. A. B. Yakhina-Teregulova, M. A. Daniaxy, G. M. Kutumova, D. P. Livanov, A. F. Popov, M. A. Finkel, G. D. Asfandiyorova, T. I. Kopitovskaya became one of the first in Turkey and began research

in obstetrics. The research conducted research on the causes of infertility in Central Asian conditions, the use of analgesic drugs in the process of childbirth and other problematic issues of science. The results of the study were stated in the form of lectures at scientific conferences and used in practice. For example, 1925 year in the II Congress of Central Asian doctors G. L. Vanshteyn and E. Korchis gave a lecture on the above-mentioned issues. In 1929, a meeting of representatives of the Central Asian republics on maternity and childhood protection will be held. At The Convention. A. Shorokhova reported that in her speech she described the results of her research on the prevalence of maternal and child diseases in the country, their prevention .

In the revitalization and development of research works in this field, the role of the research Institute for the protection of mother and child health, which worked in 1927-1940, became great. Since 8 March 1927, the institute has been working as its first director N. I. Osipovsky became. The employees of this institute were provided with the following organizational and scientific work: measures to reduce the incidence and mortality of children in Uzbekistan, to prevent common diseases among children, to improve the work of the elderly, to protect the health of mothers and to reduce death. The opening years of the institute B. M. Deych, S. E. Volkenshteyn, D. L. Rijick, Z. Y. Germinovich, A. P. Vasilev such scientist worked. The scientific staff of the Institute conducted research on such issues as prevention and elimination of various diseases that spread among mothers and children, treatment of infertility. In 1940, this institute was finished with the opening of the pediatric faculty at the Tashkent Medical Institute .



From the researcher N. B. Karkadinovsky conducted a study in 1927 on the causes of indifference in rural women in Tashkent district and found indifference in 8, 1 percent of women who underwent control. In the same year V. V. Yasevich conducted a research on this issue in the Khorezm district.

In Uzbekistan, the founders of pediatric science A. N. Ustinov, R. S. Gershenovich, V. I. Lisenko, N. I. Osipovsky became. In 1920 at the faculty of medicine professor A. N. Ustinov the establishment of a children's clinic for 15 seats under the leadership of was a very big event in the development of Yulka pediatric science. In The Clinic. A.N. Ustinov together with B. M. Deych, V. N. Lisenko, R. S. Gershenovich, I. A. Garitovsky conducted research on the treatment of sick children, the study of various children's diseases that spread throughout the country. 1924 year scientific society of pediatricians was established at the clinic. From 1924 year this clinic N. I. Osipovsky managed and with him R. S. Gershenovich, K. T. Titov, N. I. Ivanov, N. A. Garitovsky, clinical intern A. M. Maksudov went to work. 1930 year N. I. Osipovsky after was transferred to the leadership of the Moscow children's clinic, the clinic was opened by R. S. Gershenovich managed. Together with him from the well-known pediatrician S. M. Metkis, M. Z. Lyubenskaya, K. T. Titov, N. I. Ivanov, A. M. Maksudov, A. A. Nojik-Bussel, X. T. Glezer, D. I. Ishakova, I. F. Fazilov conducted a joint research.

Scientific conferences dedicated to the issue of motherhood and childhood protection were also held in Uzbekistan, and many topical issues related to the sphere of activity were discussed. In 1929, the first meeting of the staff of the Central Asian maternity and childhood protection institutions was held, where lectures were heard on the establishment of sphere activities, organization of maternity affairs, treatment of infertility, opening of nursery, children's and women's consultations, training of personnel for the sphere and other issues. At the conference, women's paranja and chachwon, as well as his mother and child health on the harmful aspects of R. S. Gershenovich, F. N.Y. Tavildarov, R. N.Kazorosians made a lecture. The authors of the report tried to analyze the impact of paranja and chachwon on the health of women and children in accordance with the results of the research conducted by the staff of the research Institute for the protection of motherhood and childhood. For example, R. S. Gershenovich and F. N. Tavildarov at the report of scientific employee of the Institute A. D. Asfandiyorova took a survey of 120 women, noting that conversations were organized between them on the favorable and unfavorable sides of paranja and chachwon. As a result of the research, it is revealed that most women wear paranja and chachwon, which causes a lot of discomfort for them. According to R.S. Gershenovich, there are cases when under

paranja and chachwon seriously affect the organism of a young baby. First of all, it is difficult to breathe under paranja as a result of a lack of fresh air, the child experiences a violation in the digestive organs, a favorable environment for the development of various infectious diseases occurs, and also the sunlight, which is desperately necessary for the human body, is blocked.

R.N.Kazorosyan is based on the negative effect of paranja and chachwon on the body of pregnant women, especially the violation of blood circulation in the female body. Paranja and chachwon served as one of the main factors in the prevalence of some eye diseases among women. For example, studies have found that women with paranja and chachwon soles have a lot of time without sunlight, which has a serious effect on the eye light. Operating in the Khiva city outpatient clinic of 1928 year, the doctor Sec conducts research on the prevalence of eye diseases among different strata of the population and studies 3273 patients. In experiments, the same thing can be seen that glaucoma – eye disease is equally common among women and men in many countries of the world. But in Uzbekistan, a large part of those infected with this disease were women. The doctor Juravlev, who worked in the hospital in the old part of Tashkent 1919-1928 years, found out that 83, 9 percent of patients with glaucoma were women, according to studies conducted on the prevalence of eye diseases among the population.

The research Institute for the protection of motherhood and childhood in Uzbekistan was reorganized in 1966 and renamed in 1969 as the Pediatric Institute. At the institute there were mainly 2 departments: pediatrics and obstetrics and gynecology. 3 of 86 employees of the institute were doctors of science, 21 candidates of science. The research work focused mainly on the solution of issues such as improving the health care provided to mothers and children, conducting profiling work in this area, reducing maternal and child mortality. According to the results of the study, the incidence of children in the Republic was 25 – 30 percent, mortality was reduced by 24 percent. In 1966-1990, 12 doctors of Science, 80 candidates of science were prepared at the Institute, 22 sets of scientific works, 12 monographs, more than 1000 scientific articles were published and 364 advanced experiments were used in practice.

In short, as a result of the consistent research carried out in Uzbekistan on the protection of mother and child health, it became known that diseases such as rishta, malaria were completely eliminated. The scientific-research institute for the protection of motherhood and childhood functioned even with interruptions in Soviet times. Research in this area was carried out by scientists of medical institutes in Uzbekistan and certain achievements were achieved.



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MENTAL-EMOTIONAL DISORDERS IN PATIENTS WITH ONCOLOGICAL DISEASES

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ANNOTATION

According to the World Health Organization (WHO), cancer is one of the major causes of death worldwide and the number of deaths from the disease is increasing year by year.

Cancer brings physical, emotional and social challenges to patients. The high levels of depression, anxiety and suffering associated with this pathology are leading to psychological and emotional problems in cancer sufferers and their families.

KEYWORDS: tumor, mental hangover, narcotic analgesic, medical psychologist, depressive syndrome, emotional state, reactive neurosis and psychosis, ocularization, delirium, chemical therapy, light therapy, psycho-oncologist, pseudovrach.

DISCUSSION

It is known that a patient with a malignant tumor is detected, as far as possible, should be aware of the presence of this disease in it. How does the doctor behave in such situations. Usually, it is said that "you really have a tumor detected, but it is safe, that is, it does not risk your life, it can be treated." But the doctor should tell his relatives that the patient has a dangerous type of tumor. The fact is that sooner or later the patient will learn about his illness from relatives, or not, he will notice from the behavior of doctors, from the communication he has with the patient. Here, especially nurses should be very careful. Because the patient sometimes tries to find out the truth from the nurses by deceiving them, and it turns out that this is also true. A patient who knows that he has a dangerous ill can commit suicide. Sometimes the patient leaves a letter to a loved one and there also indicates from whom he knows the secret. In some cases, the patient learns his illness from the patients. Therefore, doctors should not tell a second patient about the illness of another patient. A patient who knows the secret may have severe resistance to treatment, abandon treatment and leave the hospital or cause a great deal of distress in the treatment business.

As a rule, in a patient with a secret, initially a mental hangover occurs, this message is received as

a judgment, which he issued about death. It remains to know what he will do, the dreamer will make different plans, he will not be able to make a clear decision, the doctors will think that I was not mistaken, ask for a re-examination. Consultation with other specialists or other medical centers requires consultation from a loved one.

From the diagnostic and therapeutic methods used, the patient can also learn about their type of disease. For example, many people know that the method of light therapy is often used in malignant tumors or prescribe narcotic analgesics to relieve pain, weight loss is typical for cancer.

This means that keeping a secret in oncology is a very difficult task, but it is necessary to strive to get out of it and after the patient has learned the secret, the doctor should also think about how to behave. As a rule, patients with cirrhosis develop reactive neurosis or reactive psychosis. Here, of course, you will need the help of a psychologist and it is necessary to use it more efficiently. In general, in the scientific centers of oncology, workplaces for psychologists should be allocated. In almost all developed countries, medical psychologists operate in medical institutions. Talking with a medical psychologist before any treatment of patients increases their self-confidence, their desire to live.



In oncological diseases, reactive states are manifested, first of all, with the development of a restless – depressive syndrome. Sometimes the patient appears completely indifferent to his illness and can reach the level of complete denial of the conclusions of doctors. If the operations performed on the patient are successful, the symptoms of reactive neurosis and psychosis begin to decline on their own.

If the disease worsens the patient's condition by taking the outbreak, mental disorders can develop, various hallucinations and delirions. They are most often observed in patients with advanced cachexia and can manifest as acute manifestations, as well as with remission.

It is necessary to decide on an individual basis to give information about the disease to patients with identified dangerous diseases. The should take into account the age of the patient, the role he holds in the family and society. Of course, before the patient is given information about his illness, his type, it is necessary to consult with his close family members. If the family members are against this, it is better not to open the secret.

The doctor should approve his opinion if the patient, who heard the message, denies the information that "I do not have cancer, I do not believe". Only in fate, when a malignant tumor is detected as a result of all Examinations, it can be told to the relatives of the patient. Because, a mistake in the diagnosis of oncological diseases can lead to severe complications. Unfortunately, the diagnosis of " malignant tumor " is encountered in medical practice, when it turned out to be safe in recent examinations. Sometimes an error is also made in histological examinations. This means that inspections must be carried out with extreme accuracy.

There are also disadvantages to not informing the patient about the disease. For example, it is necessary to inform the parents of a planned young man or girl about the illness of her child in the near future, following all the laws of deontology and ethics. Unaware that the disease is serious, the patient may not come to treatment at the indicated time and may not take the necessary medications on time, or may go on long trips, taking harmful physiotherapeutic procedures. It is also necessary to remember that in those professions that make money to work with this disease, that is, there are dangerous situations for the life of the pilot, train driver, driver and the like himself and others. There are a lot of such situations and they need to be taken into account by the doctor.

After the patient is informed about the disease, it is necessary to give detailed information about the benefits of its treatment. The doctor is very skillful, it is necessary to conduct a conversation with the patient, having correctly selected each sentence.

It is also beneficial to give examples of patients who have been treated with this disease and have observed good results.

After diagnosis, patients usually observe strong emotional responses, which include sadness, anger, anxiety, a feeling of weakness, depression, etc., after the first moment of the shock. Therefore, the doctor's work will be aimed at mitigating the emotional impact that cancer can have on the future, providing emotional support and coping strategies for the patient and their family members to cope with the disease.

A qualified doctor is able to find a language even with extremely difficult oncological patients, using reliable psychological methods, and can absorb into them his opinion. And the opinion of the patient is aimed at fulfilling the recommendations of the doctor, there are many patients who do not abandon the recommendations of the doctor and live with hope for life, even until the last days of their life, when the condition is aggravated. To achieve such co-existence with the patient, the oncologist must be an extremely skillful psychologist.

Treatment of cancer with surgery, chemical therapy, light therapy has aggressive, painful, irritating and finite effects. Psychological help, therefore, can help to manage pain and relieve emotional tension, help the patient to adhere to medical treatment.

In oncological hospitals, psychological help consists not only of a psychological interview, but also it is necessary to take advantage of all the opportunities that distract the mind of the patient.

The intervention of a psycho-oncologist at the stage of cancer remission is based on facilitating the expression of fears and anxieties, both for the patient and for their relatives, due to uncertainty and the risk of relapse of the disease. For a psychologist, it is important to gradually return to normal, to strengthen psycho-therapeutic communication, to eliminate emotional disorders and to provide the necessary psychological means.

Carrying out various activities also reduces psychological tension. It is also useful to conduct psychological conversations, organize meetings with famous doctors, while breaking down a number of patients. As already mentioned above, it is necessary to provide psychological support not only to the patient himself, but also to his close family members. If psychologists and oncologists do not deal with them, patients and their loved ones lose valuable time to other treatments, which are extremely necessary for proper treatment, referring to physicians and pseudo-doctors who promise to "completely get rid of cancer."

It should not be forgotten that not yet developed cocaine or drugs that completely rid the body of cancer. However, supporting modern methods of treatment, the patient can completely get



rid of malignant tumors, as in the initial stage. It is necessary to conduct explanatory work on it to patients and their relatives. It is also very important in hospitals to hang scientific-popular Wall gazettes about this, to prepare small-scale brochures.

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MEDICAL PERSONNEL OF TREATMENT INSTITUTIONS IN UZBEKISTAN PROBLEMS OF SUPPLY

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ANNOTATION

The history of Uzbekistan in 1917-1945 is characterized by socio-political complexity, exacerbation of contradictions and contradictions in all spheres, exacerbation of social problems. In various spheres of state and public life, new procedures and methods of work were introduced in accordance with the requirements of the new system, which, in turn, created enormous difficulties for ordinary people. In particular, these changes have affected the performance of the health sector.

KEY WORDS: *Uzbekistan, venereologists, phthisiatricians, obstetricians-gynecologists, infectious disease specialists, therapists, pediatricians, Syrdarya region, Navoi region, Tashkent Institute of postgraduate Medical Education.*

DISCUSSION

The development of society and the state in many respects depends on the personnel working in the field, which is one of the main base points of a particular sector. In particular, medical personnel occupy an important place in social life, they are entrusted with a responsible and honorable task, such as maintaining the health of people, treating the sick.

In the years of Soviet rule, a number of measures were taken to prepare medical personnel with higher and secondary education in Uzbekistan, to provide personnel of therapeutic institutions, and their number increased from year to year.

In 1940, a total of 3,158 doctors worked in Uzbekistan, in 1980 45,995 doctors, in 1989 68,477 doctors. The average medical staff increased from 12.3 thousand people in 1940 to 3386000 people in 1989. In Uzbekistan, too, there has been a sharp increase in the work of training medical personnel, but most of the medical personnel with higher education have been working in the treatment institutions of large cities. For example, in 1960, 5,549 of 12,106 doctors in Uzbekistan operated in Tashkent city, but only 82 doctors in Jizzakh region, 166 in Sirdarya region, 172 doctors in Navoi region operated. In general, 80 percent of medical workers with higher education worked in city and district centers.

From the dissatisfaction of the conditions created for doctors, some specialists refused to come to the places where they were sent and work. In 1957,

32 of the 52 doctors who were sent to the region of Surkhandarya came to work, but no more.

The sending of representatives of the indigenous population by the Ministry of Health to medical universities was not put on a sufficient agenda at that time. Therefore, very few of the personnel working in the regions were made up of representatives of the local population. And doctors from other cities and villages went to their places when their prescribed periods were over. In the same way sent more young personnel instead of qualified specialists. And this seriously affected the quality of work on the protection of public health and treatment.

The reason why medical personnel leave their jobs was mainly because they provided accommodation. In 1958, 223 out of 311 doctors in the Surkhandarya region were not provided with housing. Especially in the Termez, Denov, Angor districts, the provision of medical workers with housing became unsatisfactory.

Even in the city of Tashkent it was not possible to fully provide the state of the doctor with personnel. In 1947 Tashkent city 1606 doctor's state was allocated for treatment institutions, 940 individuals worked in them.

Due to the lack of doctors in the treatment facilities, patients were often received by secondary medical personnel. In 1948, in rural ambulances of Samarkand region 36.3 percent of patients received feldshers. In some districts, the figure was very low. For example, the reception of doctors in the



outpatient clinics of Nurota district of Samarkand region was 18, 2 percent.

In the regions of Uzbekistan, it was problematic to provide the population with doctors of certain medical specialties. For example, in the Andijan region in 1953 there were 537 doctors, in 1959 their number was 859. But in 1955 year there were 35 obstetricians and gynecologists in the region, in 1959 they became 33, x-rays decreased from 16 to 13 in 1958. In the regional treatment institutions, especially venereologists, fiziators, obstetricians, infesionists, therapists, peditricians lacked. If the oculist doctor was in only three districts of the province, then in one district there were no neurologist doctors.

1957 year in Kuva, Buvayda, Baghdad districts of the Fergana region, none of the therapeutic institutions-doctors did not operate. The task of the therapist in the grandmother's district was performed by a gynecologist, an infectionist in the Baghdad district. In 7 units of 26 rural precinct hospitals in the region, there were no medical personnel with higher education at all.

Despite the fact that tuberculosis is common throughout the Republic, x-ray doctors are very few. For example, in 1957 in Tashkent region there were 27 x-ray specialists, of which only 8 worked in rural areas. 1969 year 521 of the States allocated to anti-tuberculosis institutions of Uzbekistan for doctors remained vacant due to lack of personnel. The shortage of personnel in this area was especially strong in Tashkent region, Kashkadarya region, Fergana region, Sirdarya region, Tashkent City, Khorezm region. In this regard, work in the QQ ASSR was good and there were only 4 staff of the existing 83 states.

Although the increase in the number of medical personnel in the Republic from year to year was noted, but the shortage of medical personnel with higher education in the regions was still strong. For example, in 1970, the personnel provision of treatment facilities in Kattakurgan, Narpay, Akdarya districts of Samarkand region was very low. Because, due to the fact that there were not enough conditions for medical personnel in the places, they abandoned their jobs. In 1970 in this region, 75 doctors and 60 doctors went to work elsewhere. In the same year, the personnel provision of treatment facilities in the Namangan region was 91, 1 percent.

The role of secondary medical personnel in maintaining the health of the population in Uzbekistan cannot be overemphasized. In the 80-ies of the XX century in Uzbekistan there were 113 medical specialists of the specialty of Medicine. They made up a large part of the staff of all treatment institutions as the main performers of the treatment process. All the treatment procedures prescribed by the doctors were carried out by secondary medical personnel.

6 thousand 595 feldsher-obstetrics punches in the villages of Uzbekistan provided independent medical care to the population of 18 thousand feldsher, obstetricians and nurses. Residents of the village of the republic received medical care mainly from the feldsher-akusher punks. In the mountainous and desert regions, 70-80 percent of patients received first aid from feldshers, midwives and nurses. 41, 0 percent of patients in Bukhara, Namangan, Kashkadarya region initially applied to secondary medical personnel.

In rural areas, secondary medical workers have added a number of complex functions of the health care business at the same time. They performed such tasks as the organization of sanitary education promotion among the population, the organization of vaccination work against various diseases, the registration of the population in the dispensary, treatment. 56, 2 percent of the ambulance calls were served by the feldsher brigade. This indicator was even higher in some regions.

In Soviet times, problems were also accumulating in the organization of the qualification work of medical personnel. In the territory of Central Asia, The Tashkent Institute of professional development of doctors was the only training center for retraining medical personnel. The medical staff of the institute was retrained in such directions as specialization, general training, qualification on a particular topic, internship course.

The number of those who were sent from the regions of Uzbekistan for training in the courses of professional development increased from year to year. In 1949-1951 years in Bukhara region only 102 doctors underwent retraining courses and training. In 1956 45 doctors were sent from Andijan region to training courses, in 1960 their number was 91.

Scientific staff and teachers of the Institute Professor R. A. Abdullaev, S. A. Agzamkhodjaev, D. F. Karimova, M. H. Hamidova, A. A. Said-Ahmedov, Sh. H. Khodjaev Professors, teachers and scientific staff such made a great contribution to the revival and development of the work of professional development of doctors of the Republic for many years.

In almost all regions of Uzbekistan, in most cases, the leadership of the health care system is assigned people who do not have practical experience.

In short, a number of practical works on providing medical personnel of treatment institutions in Uzbekistan, training specialists in various specialties of medicine, training of medical personnel have been carried out, although many achievements have been achieved, but when the indicators in this regard are analyzed in comparison with the allied republics, the presence of a large discrepancy in the middle and the due to the fact that most of the treatment institutions of Uzbekistan provide medical



personnel with higher education, patients were received by secondary medical staff. In addition, due to the shortage of specialists in various specialties of medicine, namely pediatrics, obstetrics, fiziator, venereology, cases of skin-venous diseases of the obstetrician-gynecologist, tuberculosis venerologist were encountered.

The lack of professionalism in some of the medical personnel, the lack of knowledge and experience in accordance with the modern requirements, irresponsibility and cold-blooded approach to their duties, the escalation of bribery and malnutrition among them negatively affected the quality of treatment work, which caused a large number of complaints and complaints of patients.

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DEVELOPMENT OF MEDICINE IN THE ERA OF TIMURIDS

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ANNOTATION

This article summarizes information about the development of medicine in the era of Amir Temur and the Timurids, in particular, the opening of health resorts, about the personal physician of Sahibkiran and used to treat medical literature. In addition, the contribution of Mirzo Ulubek and Alisher Navoi to medical science is analyzed.

KEYWORDS: Timurids, medicine, Dor ush-shifo, Timur's rules, Book dome, Laws of Medicine, hospitals, sanatorium, Bahr-ul-javohir.

DISCUSSION

Medicine in the timurian period is not a direct continuation of medicine in the pre-Christian and Karakhanid periods. A whole century of devastation and stagnation lies between the Somonids and the Karakhanids and the Timurids. It is known that at the beginning of the XIII century the Mongol-Tatar troops invaded Central Asia, destroying many cities and villages with land, finding cultivated areas and destroying all cultural riches. Hospitals, pharmacies, medical schools appeared. Many healers were executed. Medicine, like other spheres, began to experience severe depression. Such a case lasted more than a century.

In the era of Amir Temur and Timurids, medicine developed, among other areas. The scientific basis of this science was created. The first hospitals were opened. World-famous scientists in the field of Medicine have grown. Well-known healers from many countries of the world also gathered in Samarkand. One of the reasons for this was the storage of rare books in rich libraries under Amir Temur's authority with an idea related to medicine. And this is the ancient and medieval East of the healers of that time—it served as an important factor in the study of the achievements of Western medicine and the development of medicine.

Historical sources reported that the greatest healers of the East served in the Amir Temur palace. At that time there was a hospital named "Dor ush-shifo" in Samarkand, the capital of the sultanate. He was led by the well-known physician of his time, Mir Sayyid Sharif Sherozi, on the proposal of Amir

Temur. Hisomiddin Ibrahim Kirmani, Mawlono Fazlullah Tabrizi, Mansur ibn Muhammad, the famous representatives of medicine of that time, took a worthy place in the development of the medical sector and left behind them a rich cultural heritage of medicine.

It is written in the "Timur tuzuklari" that he issued a decree on the construction of hospitals in each city and village. Given the fact that he firmly demanded the unconditional execution of his decrees, sentenced those who did not fulfill the decree to the death penalty, at that time it is possible, although in cities and villages there is no doubt that hospitals were restored unconditionally. During the reign of Amir Temur and Timurids, old hospitals were renovated, rebuilt and new ones were built. It is noteworthy that some hospitals were built in the bosom of healing mineral waters and springs, courtesy nature. Large gardens around them have been restored.

On the side of the Timur there was a hospital in each city, where experienced doctors worked. In Samarkand it was a large hospital named "Dor ush-shifo" ("Healing place") headed by the well-known healers of its time, Mir Sayyid Sharif Sherozi (1330-1414). This physician was originally from Juran and came to Samarkand on the invitation of Temur and headed this hospital. The same period in Samarkand lived another major physician—Mansur ibn Muhammad. The full name of this scientist is Mansur ibn Muhammad ibn Ahmad ibn Yusuf ibn Ilyas.

From the mature healers of that period, we are also known as Mawlono Fayzullah Tabriziy and



Hisobiddin Ibrahim Kermoniy. Mevlana Fayzullah Tabrizi was the personal physician of Temur. He was with the king in all his travels.

It is known from history that Amir Temur also carried doctors among his armies in order to help those who were wounded in the battle and patients. Mevlana Fayzullah Tabrizi was his personal physician. After Amir Temur took over Damascus, Mevlana encouraged the most famous healers of his time, such as Jamaliddin and Mevlana Suleiman, to go to Samarkand. In turn, they have also added a significant share in the rise of medical science.

One of the services of Amir Temur in front of science (also in front of medicine) has been restored in Samarkand (Shokh palace) a library named "the dome of books", in this library it has collected rare books related to all fields of science, including medicine. These books are allowed to be used only in this place.

When the Tomb of Amir Temur, Bibikhanim and his sons Shokruh Mirzo, Jahongir Mirzo, granddaughter Muhammad Sultans was opened, it was known that their corpse was mummified, some fragrant medicinal substances were sprinkled. This is evidenced by the fact that the medicine of that time was developed at a high level.

Amir Temur divided social groups into categories and assigned them a large salary, giving the healers the upper category (they were called "Regiments of the kingdom").

During the reign of Amir Temur, Samarkand was a large hospital named "Dor ush-shifo" (healing place), and this hospital was headed by the well-known physician Mir Sayyid Sharif Sherozi (1330-1414). During this period, another major physician lived and worked in Samarkand, and he was Mansur Ibn Muhammad (XIV-XV). Until now, he has become a treatise on the structure of the human body, a full medical book by Mansur.

The second stage of the rise of Movorounnahr coincides with the era of Mirzo Ulugbek, the grandson of Amir Temur. During the reign of Mirzo Ulugbek in one of the major hospitals in Samarkand worked Burkhoniddin Zeki ibn Avaz, the great physician of his time. He was invited by Ulugbek from the Iranian city of Kerman. He did scientific work together with the treatment of patients. His first book is the commentary of Najibuddin Samarkand, who lived in the XIII century, on the book "causes and symptoms of diseases".

Doctors such as Mir Sayyid Jurjani, Mawlono Izaddin Masud-Sherozi, Mawlono Farrukh also worked in the Amir Temur palace.

These sanctuaries continued later and served in the palace of Shahrukh of famous healers such as Shamsiddin Adam and Nizamiddin Sherozi, in the

residence of allomai zaman Mirzo Ulugbek named after Burhoniddin Kermani.

In the time of timurid Malika Milkat ogo and Temuri Mirzo Allauddavla, the largest hospitals of that time were built and famous medical doctors were involved in it to work.

Temuri Abu Said built a health resort on the banks of the hot spring water in the village of Mirzo Oba. During the international time Huseyn was built this place, around which he built flowerbeds and gardens.

The great poet Alisher Navoi also made an invaluable contribution to the development of Timurid medicine and opened several hospitals on his own account. They provide free medical services to people in need. Also, in the madrasahs built by the poet, future healers were prepared.

In the kingdom of Timurids mainly served as Abu Ali ibn Sina theory and practice program. Healers basically identified four elements: land, water, air and fire, that is, customer's temperament, dry, warm and cold. The diseases were treated while through the same items. Observing the development of the science of the media of that time, we can be sure that a harmonious combination of theory and practice is provided in this process.

Mawlono Dervish Ali, Mawlono Kamoliddin Masud Shervani gave lessons to the Taliban in the madrasahs "Gavharshad ogo" and "Ixloisiya". Mawlono Darvish Ali was well aware of his blood transfusion and retrieval work.

Mawlono Nizomiddin Abdulkhay worked at "Dor ush-shifo", which was founded by Alisher Navoi. He made his scientific discoveries in this regard, improving the medical knowledge of the structure of blood vessels, the methods of their treatment.

In addition, the healers, who lived during the reign of Amir Temur and Temurids, had already received comments on works created in the medical field.

As we have already noted, Amir Temur has also done a lot in the field of Public Health. For example, by calling to the presence of the historian Tajiddin Ahmadi, who lived in the XIV century, Ibn Sina's "Medical law" translated the book into the old Uzbek language and showed enthusiasm in communicating it to different segments of the population, in particular to the healers.

The medical cuffs of his time were the ones below. Najibuddin was a famous physician of Samarkand and lived in the XIII century. "Al-asbob va-l-alomat", that is, "causes and symptoms of diseases", wrote the work.

The work of the famous physician Ali ibn an – Nafis Al – Qarshiy "Al-Mu'jaz", who came out of his contemporaries-Karshi, is also a valuable resource so far.



Another of the famous healers, the work of Muhammad Jalaluddin, who was considered a scientist of his time, "Muolajati ilohiy", was considered a very unique guide.

After the death of Amir Temur, Herat became one of the centers of the state of timurids. Mansur ibn Muhammad ibn Yusuf ibn Faqih Ilyos, one of the famous healers of his time, created several works about. One of his works is called "Risola dar tashriki badani". The author gives quite detailed information about the nature, structure, diseases of bones, nerves, muscles, arterial and venous blood-vessels in this book. Another work belonging to this author was called "Kifoyai Mansur" or "Kifoyai Majokhidia". In this book he gave advice and scientific conclusions about their prevention and treatment of diseases that are likely to appear in different organs of the human body. At the end of the book, an analysis about simple and complex drugs is presented. Another of the greatest healers of the 12th century is Joseph Kharawi. He wrote a special work on medicine called "Bahr-ul-Javahir".

Well, thanks to the conditions created for the development of medical science in the timurid period, great achievements were made in this regard. Hospitals and health facilities were restored to treat patients. Based on historical sources, it can be said that in the state of Amir Timur and timurids a special structure was created that coordinated the medical sphere. The construction of hospitals, supply, provision of medical facilities with qualified doctors have been intensified.

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INTRODUCTION OF NEW TECHNIQUES IN THE FIELD OF HYDROMECHANICS IN TURKISTAN

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ANNOTATION

In this article, the issues of the state of hydraulic engineering works in the Turkistan region at the end of the XIX – beginning of the XX centuries and the introduction of new techniques into this area were revealed through the analysis of sources.

KEY WORDS: canal, ditch, plantation, hydraulic engineering, hydraulic reclamation engine, oil engine, siphon elevator, drainage, groove, water carrier, firm, credit.

DISCUSSION

The fact that farming in the Turkistan region is based on artificial irrigation, the possibility of obtaining higher yields from irrigated lands every year prompted the colonists of the Russian Empire to make changes in the field of hydraulic engineering. Stream – head of a clan, waterman, who is working in Turkistan, was criticized in the Russian press for the fact that the watermans could not meet the requirements of the new conditions, the use of primitive technical means in irrigation works. The work on rational use of water and the regulation of peasant Affairs began in 1870 – ies, on August 2, 1888, a special regulation was adopted aimed at "Water regulation". In this regulation, the organization of hydrotechnical and hydromechanical works, rational use of canal and sewage water was entrusted to irrigator and 2 technical assistants. Technical means were needed for such activities as cleaning and re-starting old beehives, extracting new channels and ditches, extracting water for the vacant land, digging canals, raising water above them with the help of technical means. The productivity of the work performed on the hoe and *dapata* was low, and again it took a long time. In 1890 –ies from the center of Russia and abroad was brought an instrument (instrument) measuring the volume of water flowing in the ditches and canals. They are installed in the location of each mile (950-1000m) of the channels, measuring the amount of water. In the Samarkand

region, black and white Wasps were identified with this device, 32 cubic feet of water flowed, which watered 600 desyatina land. At the end of the XIX century, machinery and equipment used in the excavation of canals and ditches, a mechanical hoist that lifts water upwards, techniques such as steaming came into the country.

In particular, work on the transmission of water through a mechanical hoist to crop lands located above 5-7 arshins (1 arshin -71 cm) from the ditches and channels was worthy of attention. In 1905 , 500 desyatina, engineer Arseyan –500 desyatina, trade firm "Aris K" - 700 desyatina, N.Gen fon Bekman mechanical hoist in Teshen oasis of the Caspian Sea region. N.Қorokin -300 desyatina, Mr. Butayev – 100 desyatina, economic sarb (Uzbek) Polatjon Qosimboyev – 60 desyatina brought water to the yarth. Mechanical hoists were installed on dozens of main channels and their network ditches in 1898-1905 years. In the above years, 1.457.637 rubles were spent on digging channels and mechanical hoists. 1.720 miles of channels have been dug, "- provides information, "Turkistan collection".

The use of new techniques, such as steam engine, oil engine, has also begun to be introduced in the release of water to the top. Steam engines (machine)was also widely used in all peasant farms of the Empire. In particular, in samara and Voyska – Donskoguberna, 1 desyatina cost from 30 rubles for raising water on the ground in a steamer, from 72 rubles to 100 rubles in some uncomfortable and high



places, from 57 rubles to 125 rubles in a line. In Tbilisi (Caucasusorti), water with a steamer is about 30 meters above ground, and the berish costs 200 rubles. In some uyezds in the Caucasus, it also cost 333 ruble. 1 desyatina in Syrdarya to raise water to the ground costs from 60 rubles to 100 rubles. In the Kharkov governorate, Bulgarians received 1 desyatina from 35 rubles to 60 rubles for land irrigation rent, in Rostov 80-100 rubles.

Thanks to the fact that it was expensive to raise the water with dvigatel, a siphon-elevator was used, which was brought from Russia to the country. Raising the water of Syrdarya with a siphon – elevator up to 2-10 arshin (1 desyatina ground) cost 35 rubles.

From the steam engine and siphon – elevators to the fields of crops not only with cotton wadded (spike), but also with horticulture, gardening and vegetable farming, there was a risk of raw water. At the beginning of the XX century, many "Siphon – elevator Lemishel N 10" branded devices were brought to the country, they cost from 25-55 rubles per desyatina, if 1200 desyatina brought water to the ground. One siphon-elevator can supply 2-13 acres of land with water and 40 peasant farms.

In 1914, in the emirate of Bukhara, "barley model farm" was established, specializing in cotton growing, gardening, livestock. Water discharge to this farm was considered a problem, its cultivated land was located at an altitude of 14,75 sashin (1 sashin-70cm). For this reason, the extraction of water from the ground every 1 desyatina required 200-250 rubles. To this area, water was extracted with the help of a steam-powered engine of the Maltsev Joint-Stock Company plant. Specialist engineers offered to install an oil engine instead of oil rigging. However, this proposal could not solve the problem of water production without implementation barley exemplary farm property was sent to the purchase of increased sales in 1916, " writes historian scientist S.Shadmanova. During the colonial years, measures were also taken to improve soil fertility through drains in Turkey, to use water resources in an inexpensive and convenient way, to establish hygienic rules. The drains were closed and open, and expert engineers recommended building closed drains. Open drains are expensive, they have to be repaired at least once a year, and also quickly the pipe will be filled with mud. There was a need for special stalls and tools, technical equipment in order to install, cut, connect one to the other closed drainage pipes, which were inexpensive. For this purpose, the lathe cutting the pipe, the metal cutting screw press, the cupboard metal clamps, which firmly hold the tube connected to the other, also entered the country as a technical means.

Agronomist A.I.Shahnazarov in Tashkent 1902 when establishing hydrotechnical and hydro meloration works in Turkistan on the basis of period "School of agricultural hydrotechnics" opened on the

initiative of A.I.Shahnazarov and the "gardeners school" vs organized by R.Shreder was also significant. At the school of hydrotechnics taught arithmetic, geometrics, russian language, religious studies (law of Khuza) sarb(Uzbek) language, jurisprudence, metrology, physics, botany, special education, woodworking, gardening, geodesy, construction culture etc. The period of study at the school was three years, and those who graduated from a city knowledge institution for at least two years were accepted to study. Two years were given theoretical knowledge, and the third year was full practice. Those who graduated from school took the post of stream-head of a clan or waterman. The school also had a head, two teachers operating, and a workshop of locksmith equipment. The annual cost of the school is 7000 rubles, and 4500 rubles are covered from the state treasury, and the remaining funds from the account of the Zemstvo of the Republic of Turkey. In the school workshop there were new technical tools for 331 rubles. There was a boarding school for 19 people. Also in the school, children of European nationality and the local population studied, the number of pupils did not exceed 35-45 people. The goods available at the school of hydrotechnics were collected in a small amount in the school workshop of hydrotechnical equipment, in 1909-th year, about 9,000 rubles. The school of agricultural hydrotechnics also had its own land area. Although the agricultural schools operating in Pishpek and Kopal are located at long distances from Tashkent (500,1300, Mi), they are called agronomists A.I.Shakhnazarov, S.B.Ponyatovsky visited several times and gave lectures in the direction of hydrotechnics, hydromeloration. However, the material and technical base in these schools is failing and there are no new technical means for practice, qualified specialists.

At the end of the XIX – beginning of the XX century, it was not at the level of demand, no matter how much the Imperial and local administrators tried to carry out extensive work on hydromeloration in Turkestan, the introduction of new technical means in the country. While the new techniques were few, their price was high. For this reason, irrigation work was carried out mainly by farmers through simple labor weapons (hoe, lapata). Graf, who inspected the territory of the Republic of Turkey between the years 1908-1909 K.Palen: "the rise of agricultural culture in the country in 1900-1908 years are not enough that an average of 550 thousand rubles is spent every year, the experience suggests that every year an average of 63.500 rubles should be spent on work, information from agriculture, labor weapons, machinery, development of modern agriculture in general. K.Palen's "agricultural cooperations", it was believed that the new techniques farmers could freely, at any time, buy, sell water elevators to their long-term credit evasion. In 1911, there were 31 credit union associations in Turkistan, with 4



thousand members, in 1917 there were 833 Credit Union and 194 thousand members. They gave credit to peasant farms on the condition of a payment of 51 percent in the amount of 12 million rubles.

At the beginning of the XX century, Russian hydrotechnics brought the drilling rig to the country, using groundwater, to establish irrigation work through artesian wells. Russian engineer Matisev with the help of this tool practically tested the fact that the release of water from 1 desyatina ground will cost from 64 rubles to 31 rubles in the steppe desert. According to his calculations, if the farmer receives an average profit of 100 rubles from each desyatina land, irrigation of lands through water in Artesian areas with a drilling rig will be significant, and labor productivity will also increase. In his opinion, starting from 1910-th year, annually for the population transferred to irrigation and melioration work, the transfer of funds in the amount of 6-7 million rubles was considered significant. Water and steam, oil engines, siphon – elevators, equipment necessary for the construction of drainage from the beginning of the XIX-early XX centuries, facilitated the labor of peasants and served in a certain sense to the growth of the peasant culture. Due to them, labor productivity increased, the melioration of the soil improved, water was removed from the vacant lands, crop areas expanded, productivity increased. However, the new technical tools were mainly used by representatives of the population who moved to Turkistan. The fact that the main goal was aimed at raising the culture of the farm of the settlers in the country was openly stated by the administrators of the Empire.

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THE USE OF INNOVATIVE TECHNOLOGIES IN THE TEACHING OF THE FRENCH LANGUAGE

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ABSTRACT

The article substantiates the problems of application of innovative educational technologies in the teaching of the French language in higher education. It aimed at the free choice of the educational process through the organization of a unified educational environment and management of the students' activities. The new possibility of using the Active learning method is based on the development of improving innovations, diagnostics of the quality of the educational process and the development of variability on the basis of independent and personally significant teaching.

KEYWORDS: *innovation, French, reading, listening, speaking, methods of teaching a foreign language.*

ИСПОЛЬЗОВАНИЕ ИННОВАЦИОННЫХ ТЕХНОЛОГИЙ В ПРЕПОДАВАНИИ ФРАНЦУЗСКОГО ЯЗЫКА

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Аннотация: В статье обосновывается проблематика применения инновационных образовательных технологий в преподавании французского языка в высшей школе, нацеленных на свободный выбор организации учебного процесса посредством организации единой образовательной среды и управления деятельностью студентов. Предлагается новая возможность использования метода активного обучения за счет разработки улучшающих инноваций, диагностики качества образовательного процесса и развития вариативности на основе самостоятельного и лично-значимого учения.

Ключевые слова: инновации, французский язык, чтение, слушание, говорение, методика преподавания иностранного языка.

Сегодня умение владеть иностранными языками становится одной из неотъемлемых составляющих профессионального образования. Из-за высокого показателя сотрудничества с зарубежными партнерами у специалистов в различных областях спрос на изучение языка у них выше. В современном обществе иностранные языки становятся важной составляющей профессионального образования. Такие знания

люди изучают сначала в школе, колледже, лицее, а затем в институтах, на учебных курсах или самостоятельно, знакомясь с базовыми информационными наборами, помогающими в изучении иностранного языка. Сегодня существует большая коллекция учебных материалов для людей с разным уровнем владения языком. Успех в достижении этой цели зависит от практических методов и квалификации



учителей. Возможность использования информационных технологий и современных методов обучения способствует быстрому пониманию нового материала.

Комбинируя различные методы, педагог сможет решать те или иные образовательные программы. В связи с этим учителям и студентам необходимо ознакомиться с современными методами обучения иностранным языкам. В результате формируются навыки выбора наиболее эффективных способов достижения поставленных целей. При этом использование нескольких методов обучения и обучения дает эффективный результат. Обучение происходит небольшими шагами и основано на существующей системе знаний учащегося. По мере того, как время прогрессирует, инновации появляются во всех областях. В преподавании языка также появляются различные стили. При обучении английскому языку хороший результат дает пошаговое обучение, основанное на потенциале и уровне ученика, его возрасте. При этом учащиеся делятся на группы на основе обучения на начальном этапе, обучения на среднем этапе, обучения на более высоком этапе. Для каждого этапа со стороны преподавателя разрабатывается специальная программа.

Основной целью обучения иностранным языкам является овладение учащимися коммуникативными умениями во всех видах речевой деятельности и развитие способности учащихся использовать язык как средство общения, т.е. практическое овладение иностранными языками, задача учителя выбрать такие методы обучения, которые позволили бы каждому ученику проявить свою активность.

В чем же различие между традиционными и современными технологиями обучения.

В традиционных технологиях обучения:

- в центре технологии обучения - учитель;
- суть обучения - передача знаний (фактов);
- обучающиеся играют пассивную роль на занятиях;

Современные же технологии обучения основаны на следующих положениях:

- в центре технологии обучения - обучающийся;
- роль учителя – научить учиться;
- в основе учебной деятельности - сотрудничество;
- обучающиеся играют активную роль в обучении;
- суть технологии - развитие коммуникативной компетенции учащихся и способности к самообучению.

Информационными технологиями как правило называют технологии, использующие такие технические средства обучения как аудио, видео-технику, компьютер, интерактивные

доски). Но в настоящий период – период всеобщей компьютеризации, говоря об информационных технологиях, нужно говорить прежде всего о компьютере и Интернет-ресурсах.

О безграничных возможностях компьютера и интернета знают все и останавливаться здесь не стоит. Нужно отметить только, что использование компьютера и интернет ресурсов

- позволяют отработать как основные аспекты языка (лексику, грамматику, фонетику), так и развивать виды речевой деятельности (аудирование, чтение, письмо, говорение).

- создает условия для получения любой необходимой учащимся информации (в том числе и страноведческой)

- повышает мотивацию к изучению иностранного языка

- способствует расширению кругозора учащихся

Включая компьютер и интернет в работу на уроке, мы создаем модель реального общения, тем самым реализуя такие принципы, как коммуникативность, интерактивность и аутентичность, а соответственно решаем основную задачу - развитие коммуникативной культуры студентов.

Чем хороши игровые технологии? Игра – это естественная для ребенка форма обучения. Обучая посредством игры, мы учим детей не так, как нам удобно дать материал, а как детям удобно и естественно его взять.

Существует много разных классификаций. Согласно одной из классификаций игры делятся на подготовительные (фонетические, орфографические, лексические и грамматические) и творческие (игры для развития основных видов речевой деятельности). По этой классификации видно, что игровые игры позволяют отрабатывать как основные аспекты языка (лексику, грамматику, фонетику), так и развивать основные виды речевой деятельности (аудирование, чтение, письмо, говорение).

Согласно другой классификации игры подразделяются на предметные или лингвистические, сюжетно-ролевые и деловые.

- На первом (или начальном) этапе обучения уместны предметные или лингвистические игры, т.к. на этом этапе только формируются языковые навыки. Данные игры способствуют накоплению лексического запаса, овладению грамматическими и фонетическими навыками.

- На среднем этапе более уместны сюжетно-ролевые игры. Ролевая игра – это игровая деятельность, в процессе которой учащиеся выступают в определенных ролях. Учебный характер игры ими часто не осознаётся. Для учителя цель игры – формирование и развитие речевых навыков и умений учащихся.



Ролевая игра управляема, но она обладает большими обучающими возможностями.

- На старшем этапе рекомендуют применять деловые игры - учебно-деловая игра представляющая собой практическое занятие, моделирующее приближенную к реальным условиям профессиональную деятельность.

Применяя игровые технологии, мы реализуем принципы коммуникативности, ситуативности и функциональности. Т.е. происходит общение в проектируемых нами ситуациях, имитирующие реальные.

Применение игр на уроках развивает коммуникативные способности, ведет к снятию языкового барьера, развивает компенсаторные умения, т.е. умение выходить из положения при нехватке иноязычных средств общения, повышает мотивацию учащихся к изучению иностранного языка и развивает творческие способности.

Метод проектов – это совокупность действий учащихся в их определённой последовательности для достижения поставленной задачи, которая должна завершиться вполне реальным, осязаемым практическим результатом, оформленным тем или иным образом.

Основное предназначение метода проектов состоит в предоставлении учащимся возможности самостоятельного приобретения знаний в процессе решения практических задач или проблем, требующего знаний из различных предметных областей. Преподавателю в рамках проекта отводится роль разработчика, координатора, эксперта, консультанта.

Этапы работы над проектом:

- Предпроект – формулирование темы проекта для группы учащихся

- Планирование работы над проектом: определение временных рамок, ограничивающих этапы работы; обсуждение вариантов оформления выполненной работы.

- Аналитический этап: исследовательская работа учащихся и самостоятельное получение новых знаний; поиск и сбор информации; обмен информацией с другими лицами (учащимися, учителями, родителями, и т.д.); изучение специальной литературы, привлечение материалов средств массовой информации, Интернета.

- Этап обобщения: систематизация, структурирование полученной информации в виде рефератов, докладов, фильмов, спектаклей, стенгазет, журналов, презентации в Интернете и т.д.).

- Презентация полученных результатов.

Таким образом, метод проектов основывается на принципе “обучения посредством деятельности”, в которой ученик

выступает активным участником. В основе него лежит не информационный подход, ориентированный на развитие памяти, а деятельностный, нацеленный на формирование комплекса мыслительных способностей, необходимых для исследовательской деятельности.

Метод проектов – это многоуровневый подход к изучению языка, создающий такую среду, где возникает естественная потребность в общении.

Обучение в сотрудничестве – это обучение в малых группах. Основная идея этой технологии - создать условия для активной совместной учебной деятельности всех учащихся. Ученики разные - одни быстро “схватывают” все объяснения учителя, легко овладевают материалом, коммуникативными умениями, другим требуется больше времени и дополнительные примеры, разъяснения. Если в таких случаях объединить ребят в небольшие группы и дать им одно общее задание, оговорив роль каждого ученика, то возникает ситуация, в которой каждый отвечает не только за результат своей работы (что часто оставляет его равнодушным), но, что особенно важно, за результат всей группы. Поэтому слабые ученики стараются выяснить у сильных все непонятые ими вопросы, а сильные ученики заинтересованы в том, чтобы слабые ученики поняли материал, и зачастую это делают лучше, чем учитель, так в силу возраста понимают друг друга лучше. Таким образом, совместными усилиями ликвидируются пробелы.

Основные принципы данной технологии:

- группы учащихся формируются учителем заранее с учетом психологической совместимости детей. При этом в каждой группе должен быть сильный, средний и слабый ученик;

- группе дается одно задание, но при его выполнении предусматривается распределение ролей между членами группы;

- оценивается работа не одного ученика, а всей группы;

- учитель сам выбирает ученика, который будет отчитываться за задание.

Стоит отметить, что данная технология очень экономит время на уроке.

Такую форму обучения удобно применять для тех тем, которые не очень сложны и на которые отводится не очень большое количество часов. Или когда уроки по тем или иным причинам отменяются, как, например, во время карантина.

Суть блочно-модульного обучения – это самостоятельное изучение темы учащимися по материалам, разработанным и предоставленным учителем. Роль учителя – организовать, проконсультировать и проконтролировать.



Блок подразделяется на модули – уроки. Как готовится модульный урок? Учителем пишется методическое пособие для учащихся или, как еще называют модульная карта. Что включает в себя модульная карта:

- формулировка темы урока;
- формулировка интегрирующей цели, где сформулировано, что к концу урока учащийся должен знать;
- учебный материал с выделенными основополагающими идеями;
- упражнения на закрепление материала;
- контроль усвоения знаний.

Плюсы такой технологии то, что учащиеся учатся работать самостоятельно и у учащихся есть возможность работать в индивидуальном ритме.

Под проблемным обучением понимают обучение, протекающее в виде разрешения создаваемых в учебных целях проблемных ситуаций. Т.е. ученик ищет ответ на вопрос самостоятельно.

Различают три формы проблемного обучения:

- метод проблемного изложения, когда учитель сам ставит проблему и решает ее;
- частично-поисковый метод (совместное обучение), при котором учитель ставит проблему, а решение достигается совместно с учащимися;
- исследовательский метод, при котором учащиеся и формулируют проблему, и находят ее решение. В этом методе учащиеся проявляют наивысшую самостоятельность.

Первоначально предполагалось, что, используя метод проблемного обучения, учитель заранее знал то, что должно быть найдено учеником и подводил его к правильному ответу. В настоящее время используется более сложный вариант этого подхода, когда конечный результат неизвестен не только ученику, но и учителю.

Благодаря технологии проблемного обучения, мы развиваем самостоятельность учащихся и их мышление.

Таким образом, подводя итог, можно сделать вывод, что современные технологии обучения, развивают коммуникативные способности учащихся, развивают активность и мышление учащихся, их творческие способности, способности к самообучению и повышают мотивацию учащихся к изучению иностранного языка.

В структуре метода активного обучения французскому языку выделяют 3 этапа:

1. Ориентация. Преподаватель предлагает режим работы (ex: par équipes), разрабатывает вместе со студентами цели и задачи занятия (ex: étude et construction de la phrase), формулирует проблему (ex: travaux d'été).

2. Подготовка - этап изучения ситуации (ex: sur ce modèle, présentez les travaux des camps, des vignes, du jardin, de la maison, en été ou en automne (cultivateur, vigneron, berger, ménagère, fermière, etc.).

3. Обсуждение. Преподаватель проводит обсуждение через систему взаимодействий: преподаватель - студент, преподаватель - группа, студент - группа, студент - студенты, группа - группа). (ex: décrivez en une dizaine de lignes l'activité à laquelle vous avez pris part).

Для самооценки студентам даются критерии к оцениванию устных и письменных ответов одноклассников.

Метод активного обучения французскому языку позволяет сформировать индивидуальность мышления за счёт наглядности, привлекательности и позиционности; влияет на формирование коммуникабельной и толерантной личности, обладающей организаторскими навыками, умеющей работать в группе; повышает эффективность усвоения программного материала. Составляющей метода активного обучения французскому языку является рефлексивность как механизм самоотчета студента.

Кроме общеучебных умений собирать и анализировать информацию, структурировать и представлять ее, метод активного обучения французскому языку позволяет выйти на развитие интеллектуальных и метакогнитивных умений. Студент оценивает информацию, точно определяет свою речевую цель, которую он хотел бы достичь; планирует свою деятельность; даёт оценки и самооценки; отслеживает собственные ошибки и исправляет их.

Таким образом, метод активного обучения французскому языку является составной частью традиционной методики преподавания. Усвоение студентами французского языка с помощью метода активного обучения обеспечивает развитие интеллектуальных способностей, позволяют научить видеть и развивать особые ассоциативные формы мышления, т.к. студенты, проявляя интерес, мотивируются на усвоение материала, проявляют скрытые способности к усвоению нового материала.

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SOCIAL NORMS AND THEIR ROLE IN SOCIETY

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ANNOTATION

In the days of primitive society, when there were no laws and rules, the driving force of people were instincts. With the development of humanity, the dependence on the power of instincts began to weaken. They were gradually replaced by social norms, they were born in the early stages of the formation of society itself. People needed to solve many problems together, and for this they already needed generally accepted rules. The social norms of primitive society no longer gave the right to rash, impulsive actions that did not lead to serious consequences. Between the desired actions of the person himself and the surrounding world, rules have appeared to regulate the behavior of each person in society. These rules became known as social norms.

KEY WORDS: *society, social norm, laws and rules, development of humanity, power, activity.*

DISCUSSION

Social norms are rules of behavior, expectations and standards that regulate people's behavior and social life in accordance with values. Compliance with these norms is usually ensured in society through the application of social rewards and social punishments, i.e. positive and negative sanctions, acting as a more specific, direct and direct element in the structure of social regulation. It is especially important for the value-normative regulation of the life of society to divide them into legal and moral ones, which are manifested in the form of a law, sometimes a state or administrative normative act, contain even dispositions that determine the conditions for the application of this legal norm, and sanctions implemented by the relevant authorities. Compliance with the second-is provided by the power of public opinion, the moral duty of the individual. A culture that prescribes standards of correct behavior is called a normative culture. Social norms can be based not only on legal and moral norms, but also on customs and traditions.

Customs and traditions — rules of behavior that have become mandatory by force of habit and are repeated from generation to generation;

Moral norms are rules of behavior based on the ideas of society or individual social groups about good and evil, bad and good, fair and unfair, honest and dishonest, and similar ethical requirements and principles. A significant part of moral norms is developed and supported by society as a whole or by the majority of its members.

Norms of etiquette — a set of formal rules of behavior in pre-defined situations, including norms of communication, business protocol, etc.

Legal norms — requirements set forth in state laws. Compliance with legal norms is ensured by state coercion.

Aesthetic norms-apply to art, nature, man and his actions.

Political norms are the regulators of political life, expressed in international treaties, declarations, and political principles.

Religious norms — the rules of behavior, the commandments contained in the holy books and church regulations.

Corporate norms — the rules of conduct established in large organizations, and enshrined in the charter, codes, agreements and ideology of organizations.

In order for social norms to have a real impact on human behavior, it is necessary for a person to: know the norms, be willing to follow them, and perform the actions prescribed by them.

The observance of social norms by the members of the society is necessary to maintain stability in the society. In this respect, social norms are as important as the rules of the road for the organization of the movement of transport. If drivers do not follow the basic rules, for example, they will drive in the oncoming lane or get behind the wheel while intoxicated, then driving on the roads will become impossible or extremely dangerous. The rules governing the behavior of people, the actions of



social groups, collectives, and organizations, together constitute social norms.

The emergence of social norms and their development express the tendency of society to maintain public order in the process of exchanging material and spiritual goods. Objects of exchange act as those values that a person seeks to receive, master, and therefore exchange relations acquire a normative and value character, and repeated, stable connections that arise in the process of exchanging activities become familiar standards of what is due, possible, and expected.

The main features of social norms include:

1. Social norms are general rules—they establish the rules of behavior in society, determining what the behavior of subjects can or should be from the point of view of the interests of society. At the same time, social norms act continuously in time, have multiple actions and are addressed to an indefinite circle of people.

2. Social norms regulate the forms of social interaction of people, that is, they are aimed at regulating social relations.

3. These norms arise in connection with the volitional, conscious activity of people.

4. They arise in the process of the historical development and functioning of society. Social norms, being an element of society, reflect the processes of its development, affect their pace and nature.

5. Social norms correspond to the type of culture and the nature of the social organization of society. The famous German sociologist M. Weber believed that it is culture that allows people to give meaning to the world, to create a basis for judging the interaction of people. Culture is expressed primarily in the content of social norms. From this point of view, you do not need special knowledge to notice the differences in social norms belonging to different cultural traditions (for example, European and Asian). However, as N. N. Tarasova rightly notes, "there are differences in the social regulation of the life of societies belonging to the same cultural tradition, although not so fundamental, related to the individual historical fate of a particular people," which, in particular, is inherent in Russia as a multinational country.

6. The nature of the organization of society has a greater impact on the significance of a particular type of norms in society, on the relationship of norms in the social regulatory system.

Thus, social norms are general rules related to the will and consciousness of people for regulating the forms of their social interaction that arise in the course of the historical development and functioning of society, corresponding to the type of culture and the nature of its organization.

The analyzed norms have different content, depending on the nature of the relations that they regulate, different ways of occurrence and different

bases of occurrence, in this regard, both for theory and for practical activity, classifications of social norms are important. There are many classifications of social norms proposed by scientists in the legal literature, such a variety can be explained by the fact that a particular classification is based on different criteria. The most common systematization of them is based on two criteria:

- by field of activity.

- by mechanism (or regulatory features).

According to the sphere of activity of social norms, there are economic, political, religious, environmental, etc. The boundaries between them are drawn depending on the sphere of society in which they operate, on the nature of public relations - the subject of regulation.

Economic norms are of particular importance for our country in the context of the formation of a market economy and are self-regulating principles of economic activity of the society.

Political norms are designed to regulate the relations of social groups, citizens to state power, relations between peoples, the participation of the people as a whole and individual social groups in state power, the organization of the state, the relationship of the state with other organizations of the political system of society.

Religious norms regulate the relations of believers to God, the church, and each other, as well as the structure and functions of religious organizations. Religious norms are of great importance. The existence of different faiths and trends dictates the need to allocate a set of moral and ethical regulations—an integral part of religious beliefs. Religious canons are a regulatory system that has been operating in society since the earliest stages of human development. A special role in the possibility of the existence and recognition of religious norms was played by the provision of the "Universal Declaration of Human Rights": "Everyone has the right to freedom of thought, conscience and religion; this right includes the freedom to change his religion or belief as an individual. And together with others, in public or in private, in teaching, in worship, and in the performance of religious and ritual rites."

By mechanism (or regulatory features): morals, law, customs, and corporate norms. Here the difference lies in the process of forming norms, the form of their fixation, the nature of the regulatory impact and the methods and methods of ensuring.

Despite the highlighted classifications, it is important to understand the integrity and dynamism of the entire system of social norms, since it is a necessary condition for the life of society, a means of public administration, organization and functioning of the state, ensuring coordinated interaction of people, human rights and stimulating the growth of the well-being of the people. The significance of the classification analysis in this work is to identify the significance of each group of social norms, to



determine their role in the process of regulating social relations, and possible options for their interaction.

The rules governing the behavior of people, the actions of social groups, collectives, and organizations, together constitute social norms. A social norm is a rule of socially significant behavior of members of a society. An integral, dynamic system of social norms is a necessary condition for the life of society, a means of public administration, organization and functioning of the state, ensuring coordinated interaction of people, human rights, and stimulating the growth of the well-being of the people.

The system of social norms reflects the achieved degree of economic, socio-political and spiritual development of society, they reflect the quality of life of people, the historical and national characteristics of the country's life, the nature of state power. The norms regulating social relations reflect and concretize the actions of objective laws, trends in social development, i.e. such laws that act with natural-historical necessity. The objective nature of these laws is organically linked to their scientific understanding by people and their use in purposeful social activities.

Social norms are also connected with the laws of natural and technical sciences, with the very scientific and technological progress of society, of the entire human civilization.

Considering social norms in their entirety and identifying the features of their typology, we tried to identify the relationship between different norms in social life at the present stage and prove that the requirement of our time is to use all social norms, especially traditions and customs, norms of cohabitation, which were forgotten as a result of the dominance of legal norms. Meanwhile, it is traditional norms that can become an effective tool in overcoming negative phenomena that manifest themselves in people's behavior.

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GREEN REDUCTION OF SOME AROMATIC NITRO COMPOUNDS BY IMMOBILIZED BAKER'S YEAST

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ABSTRACT

Green chemical reduction of selected aromatic nitro compounds like o-nitrobenzoic acid, m-nitrobenzoic acid and p-nitrobenzoic acid will be done by involving microbial transformation. In microbial transformation Baker's Yeast (Saccharomyces cerevisiae) is used in immobilized form. Utilisation of baker's yeast for reduction of nitro compounds is cost effective and environmental friendly. The reduction products will be isolated and purified by chromatographic techniques and characterized on the basis of spectral analysis viz. IR, NMR spectral data.

KEYWORDS: Baker's Yeast, Chromatographic technique, Green reduction, Microbial transformation, Spectroscopic technique.

1. INTRODUCTION

Immobilized enzymatic methods used for the resolution of racemic mixture of amino acids at industrial level were initially done by Tanabe, Seiyaku Company, Japan. For separation of racemic mixture of DL-N-acetyl amino acids, enzyme amylase was used which carried out the deacetylation of L-form only, which was separated out easily. The remaining D component of amino acid was racemized and the racemate is subjected to deacylation. Thereafter the cycle is repeated till resolution is complete. The process is applicable for resolution of all DL-amino acids. One of the immobilized enzyme technique uses a polymer matrix DEAE-Sephadex having ionic binding with enzymes entrapping them as microdroplets. Enzyme glucose isomerase¹ is immobilized and is used for effective conversion of glucose syrups to fructose syrups. Historically, invertase is perhaps the first enzyme reported in an immobilized form². A large number of immobilized invertase systems have been patented³. The possible use of whole cells of yeast as a source of invertase was demonstrated by

D'Souza and Nadkarni in 1978⁴. The enzymes have been immobilized using the whole cells of *Escherichia coli*. This was considered as the first industrial application of an immobilized microbial cell. The initial process made use of polyacrylamide entrapment which was later substituted with carrageenan treated with glutaraldehyde and hexamethylenediamine. Kyowa Hakko Kogyo Co. used Dualite A7. Phenol formaldehyde resin has also been used for adsorbing aspartase in a continuous process⁵. Other important firms using immobilized enzymes on commercial basis include Mitsubishi petrochemical Co.⁶ and Purification Engineering Inc⁷. Some other firms, like Tanabe Seiyaku and Kyowa Hakko of Japan, have used the immobilized fumarase for the production of pharmaceutical malic acid⁸. Pharmaceutical industries have utilized the concept of immobilized enzymes technique using penicillin acylase enzyme for the production of 6-aminopenicillanic acid (6-APA) by the deacylation of the side chain in either penicillin G or V⁹. More than 50% of 6-APA is being produced today enzymatically by using immobilized enzyme technology. Immobilized enzymes are also



finding used in the detecting Heroin and its Metabolites¹⁰ and last but not least in hazardous waste treatment¹¹⁻¹². Asymmetric synthesis of amino acids, steroids etc through transformation by oxidoreductase enzyme have significance in the field of biotechnology.

Oxidoreductases enzyme has gained vital importance in the field of clinical diagnosis as being usable as biosensors. For deoxygenation of beverages and glucose removal from egg before dehydration for preventing Maillard reaction glucose oxidase enzyme in its immobilized form is used. Future applications for oxidoreductases can be in areas as diverse as polymer synthesis, pollution control and oxygenation of hydrocarbons¹³⁻¹⁴. One of the major limitations in the use of enzyme which act on macromolecular substrates or particulate or colloidal substrates like starch or cellulose pectin or proteins has been the low retention of their realistic activities with natural substrate due to the steric hindrance. Efforts have been made to minimize these problems by attaching enzymes through spacer arms¹⁵.

The immobilization of whole cells or enzymes enhances the operational stability. Immobilization is beneficial on several accounts and affords easier isolation of the products. In addition, reuse of catalyst is often possible. The product formation rates in such cases are usually high¹⁶, not only due to minimal inhibitory influences but also because of high cell population. Continuous operation can be performed easily under these conditions since the immobilized cells can be easily removed from the reaction medium and thus reused repeatedly.

In the present work the aromatic nitro compounds viz. *o*-nitrobenzoic acid, *m*-nitrobenzoic acid and *p*-nitrobenzoic acid were reduced by using immobilized Baker's Yeast in water. The immobilized BY was obtained by immobilizing BY in polyacrylamide gel.

2. MATERIAL & METHODS

For green reduction of nitro compounds *o*-nitrobenzoic acid, *m*-nitrobenzoic acid, *p*-nitrobenzoic acid, Baker's Yeast, Acrylamide, N,N'-methylene bis acrylamides, N,N,N,N-tetra methyl ethylene diamine (TEMED), Trihydroxy methyl amino methane, ammonium per sulphate and sucrose were used of AR grade (Sigma Aldrich).

2.1 General Procedure

To a water-suspension (100 ml) of ImBY (Immobilized Baker's Yeast) at 30°C. After 30 min substrate (2 mmol) separately dissolved in absolute alcohol (minimum quantity) was added. The resulting solution was magnetically stirred for suitable period. The suspension changes its colour from orange to

yellow during the course of reaction.

After the completion of the reaction the resulting mixture was filtered. The water was removed from the solution by distillation. The residue was then extracted repeatedly with diethyl ether. The ether layer was allowed to evaporate. After evaporation product was isolated, purified and characterized by combined application chromatographic techniques and spectroscopy.

2.2 Immobilization of Baker's Yeast in polyacrylamide gel

Laboratory as well as industrial scale immobilization of BY using various types of supports such as polyacrylamide, cellulose, agar, alginate¹⁷, chitosan¹⁸, keisgular¹⁹, K-carrageenan²⁰, polyurethane²¹ and montmorillonite k-10 has been well reported. These chemicals provide have been porous networks of polymer for entrapment. However for the present work the Baker's Yeast immobilized in polyacrylamide gel has been used. Since it is easy to prepare and change the characteristic properties of polyacrylamide gel as an experimental equipments.

The polyacrylamide gel incorporating BY was prepared by using the following solutions-

1. 1.0 ml of solution E
2. 0.5 ml of solution F
3. 0.5 ml of solution G
4. 2.0 ml of solution H

The composition of the above solutions were as follows-

Solution E: Acrylamide 10 gm and N, N'-methylene bis acrylamide 2.5 gm in 100 ml double distilled water (DDW)

Solution F: Tris 5.98 gm *, TEMED** 0.46 ml and 1N HCl 48 ml to 100 ml solution.

Solution G: APS (Ammonium per sulphate) 560 gm in 100 ml double distilled water.

Solution H: sucrose 34.2 gm in 100 ml DDW.

*Tris = Trihydroxy methyl amino methane

** TEMED = N, N, N', N'' - tetra methyl ethylene diamine.

For preparation of 5% polyacrylamide gel above solutions were mixed in the ratio in following manner as mentioned earlier.

E + F + H + (Baker's Yeast) + G

As the solution of APS (Solution G) is free radical generator, was added after BY was mixed well in solution containing mixture of E, F, & H is because the gel formation is a free radical initiated process.

The Chemical structure & pictorial depiction of the entrapment of the BY are shown in the on Fig.1.

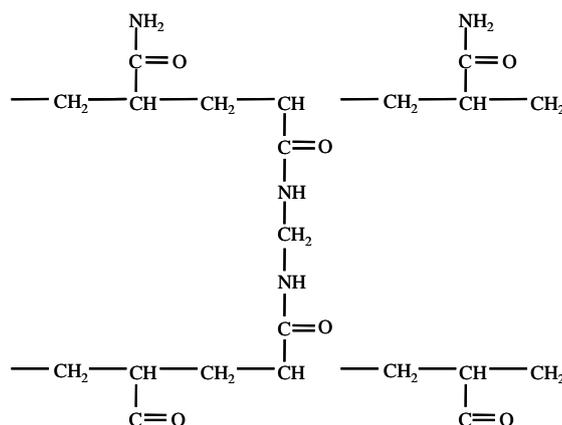


Fig.1: Structure of crosslinked polyacrylamide & bis acrylamide

3. RESULTS & DISCUSSION

Immobilized Baker's Yeast reduced products i.e. *o*-aminobenzoic acid, *m*-aminobenzoic acid and *p*-aminobenzoic acid were obtained in reasonably good yields. TLC was used to find out the purity of products. The identity of products was further

confirmed on the basis of IR and NMR data have been given in Table 1,2 and 3. The IR spectra were recorded on a NICOLET (USA) make FTIR spectrophotometer. The ¹H NMR was recorded on a JOEL-300ml FTNMR (Japan).

Table 1: Characterization table for reduction of *o*-nitrobenzoic acid

Name of substrate	M.P. (°C)	IR Data (cm ⁻¹)	NMR Data (δ value)	Product Identified	Yield (%)
<i>o</i> -nitro benzoic acid	146	3083-3070s (Ar-H stretching) 3059s (C-H stretching) 3278,3156d (N-Hsym.stretch) 1670b (N-H bending) 1290s (C-N stretching) 3862-3278s (O-H stretching) 1737 s (-C=O stretching) 1226 s (-C-O stretching) 988-920 b (O-H bending) 808-734 (v,s) (<i>o</i> -substitution)	8.9(1H), 4.5 (2H), 7.7 (1H), 6.9 (1H), 6.6 (1H), 5.9 (1H)	<i>o</i> -amino benzoic acid	90.7

Table 2: Characterization table for reduction of *m*-nitrobenzoic acid

Name of substrate	M.P. (°C)	IR Data (cm ⁻¹)	NMR Data (δ value)	Product Identified	Yield (%)
<i>m</i> -nitro benzoic acid	174	3101-3084s(Ar-H stretching) 3065s (C-H stretching) 3292,3175d (N-Hsym.stretch) 1659-1597 b (N-H bending) 1285-1215 s (C-N stretching) 3849-3292 s (O-H stretching) 1732 s (-C=O stretching) 1285-1215s (-C-O stretching) 975-905 b (O-H bending) 796-690 (m) (<i>m</i> -substitution) 858-794 (m) (<i>m</i> -substitution)	9.2-10.5 (1H) 3.8 (1H) 7.2 (1H) 6.6 (1H) 5.2 (1H) 4.9 (1H)	<i>m</i> -amino benzoic acid	91.4



Table 3: Characterization table for reduction of *p*-nitrobenzoic acid

Name of substrate	M.P. (°C)	IR Data (cm ⁻¹)	NMR Data (δ value)	Product Identified	Yield (%)
<i>p</i> -nitrobenzoic acid	188	3104-3073 (Ar-H stretching) 3070s (C-H stretching) 3294,3176d(N-Hsym.stretch) 1693-1673 b (N-H bending) 1361-1334 s (C-N stretching) 3852-3294 s (O-H stretching) 1723 s (-C=O stretching) 1275-1200s (-C-O stretching) 1066-921b (O-H bending) 882-829(m) (<i>p</i> -substitution)	8.9 (1H) 5.1 (2H) 6.7 (2H) 5.5 (2H)	<i>p</i> -amino benzoic acid	93.2

4. CONCLUSIONS

1. Reduction of nitro compounds by baker's yeast is eco- friendly, regio- and stereo selective processes.

2. The use of immobilized Baker's yeast (ImBY) as biocatalyst has several advantages such as removal of the biocatalyst from the reaction mixture is easy and its repeated use is also possible.

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RIGHT TO INFORMATION ACT, 2005 (INDIA): A TOOL FOR SOCIAL CHANGE IN INDIAN SOCIETY

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ABSTRACT

In today's era, the new source of power is not money in the hands of few but information in the hands of many. In a democratic society, information is like oxygen which helps in the survival and smooth functioning of democracy. Information is the key to knowing which gives shape to thoughts and without thoughts, there is no expression. The struggle to get information led to the formation of the Right to Information Act, 2005 in India (RTI Act). This act was the first of its kind which came into existence not because of the government but because of the demands of the people. This paper assesses the journey of the RTI Act in bringing social changes in Indian society and how the RTI Act is harnessed as a tool for promoting participatory development, strengthening democratic government, and facilitating effective delivery of social-economic services. The paper further analyses the advancement of the RTI Act in the past years and how it has proven itself to be beneficial for the people of our country.

KEYWORDS: Social Change, Impact, Right to Information, Social Development.

INTRODUCTION

Information is the key to knowing which gives shape to thoughts and expression. Article 19 of the Indian Constitution has provided us with the right to freedom of speech and expression¹. This fundamental right also inculcates in itself right to know. It started in 2004 when a small town in Rajasthan named Bewaar where the workers of MKSS started a mass movement on their right to know. Finally, the RTI act was passed in 2005.² RTI is also a part of a person's fundamental right to life (article 21). RTI is a right of a person to demand information from a government and getting it promptly and there is no requirement to give reasons for getting information as it is a person's fundamental right. Right to Information is the right of all citizens regardless of their age, sex, economic status and it is not important that the information directly affects a person's private affair. This right to get information is very important for an individual in India as our

country has a democratic government that belongs to the people and therefore the information which is shared by the government should also be known to the people regarding what government does and also to make them answerable to people for their actions, eventually reducing corruption.³

Democracy should not be only considered a form of government where the participation of people is nearly restricted to the periodical exercise of the right to franchise. It should also involve people's participation in its functioning and accountability. The RTI act has crossed a journey of a decade and it has helped significantly to promote transparency and accountability of public authority and has set up a practical regime for giving citizens access to information that is under the public authority which was the very objective of the RTI act.⁴

The statute of RTI has given people enormous rights to know about whatever is happening in the government. It has not only given a

¹ Narender Kumar, *Constitutional Law of India* 227 (Allahabad Law Agency, Faridabad, 8th edn., 2011)

² Dheera Khandelwal and Krishna K. Khandelwal, *A Commentary and Digest on the Right to Information Act, 2005* 67 (The Bright Law House, New Delhi, 1st edn., 2007).

³ P. K. Saini and R. K. Gupta, *Right to Information Act, 2005: Implementation and Challenges* (Deep and Deep Publication, 1st edn., 2018).

⁴ J. P. Mittal, *India's Fight Against Corruption* (Atlantic Publishers and distributors Pvt. Ltd., New Delhi, 1st edn., 2017).



duty to furnish but also a duty to disclose or publish information. RTI should not be only considered as a piece of legislation but it is also an aspect of the society which has helped sufficiently to bring social changes. It provides people with a mechanism to access information that can be used by them to hold the government to account or to seek an explanation as to why decisions have been taken by whom, with what consequences and outcome. It has been mandated that every public authority is required to provide reasons for its administrative and quasi-judicial decisions to persons seeking information under section 4(1) (d) of the act therefore there is no scope for any arbitrary decision.⁵

Its impact on the public has been so deep that it has successfully proved to be a threat to the government and has forced them to have behaved and had changed their attitude a lot. There are strict and stringent rules of giving information to people and not doing the same amounts to fines or punishment. RTI is harnessed as a tool for promoting participatory development, strengthening democratic government, and facilitating effective delivery of social-economic services. Promotion of citizen-government partnership is another important aspect of RTI which has helped in designing and implementation of development programs for improving quality of life, which calls for increasing people's option for higher earnings, better education and health care and a cleaner environment with a richer cultural life.⁶

IMPORTANCE AND NEED OF RTI ACT IN CHANGING SOCIAL IDEOLOGY

Information is an empowering tool for knowledge that provokes thought and without thinking process, there is no expression. Freedom of expression is a running theme of democratic governance.⁷ Information is oxygen for the democratic society. The distinguished statesman emphasized that communication is at the heart of all social intercourse "it is essential that all men and women in all social and cultural environments should be given the opportunity of joining in the process of collective thinking thus initiated, for new ideas must be developed and more positive measures must be taken to shake off the prevailing inertia. With the coming of a new world communication order, each people must be able to learn from the others, while at the same time conveying to them their understanding

of its condition and its view of world affairs. Mankind will then have made a decisive step forward on the path to freedom democracy and fellowship". In the beginning, people were not civilized; they always tried to have controlling power with themselves.

In the primitive days, everyone was against everyone so, life was solitary, poor, nasty, and brutish. In the primitive days, people were not organized and there was no meaning of liberty and freedom. With the transformation from an uncivilized society to a civilized society people tried to understand the relevance of liberty and freedom in their social life. They tried to make themselves informed about the activities happened around the world. Most of the civilized society adopted the democratic culture so as India. In a democracy, people are sovereign and not the government. In a democratic country like our people have the right to know every act and activity that the government is doing in their name. People also have the right to take part in day to day working of the government.⁸

The necessity to legislate a law on right to information was acknowledged unanimously by the chief minister's conference "effective and responsive government" was held on 24th May 1997 at Delhi. Intending to make the government more transparent, open, and accountable towards the general public, the Indian government appointed a working group on Right to Information to promote the open and transparent government.⁹ Government has three organs legislature, executive, and the judiciary. Legislature and judiciary conduct their business in the open forums in the form of parliament and court. They discharge their responsibility without any fear and favour. They provide full opportunity to all concerned to join the debate and know the facts available with them but this concept is not with the executive branch of the government. Generally, the decision on any matter is taken by this organ of the government in the closed dark room without consulting the concerns of the sovereign "we the people of India" by the servant "the government".

The symbolic relationship of sin and secrecy is now universally recognized. It has been observed that any government which operates in greater secrecy is more prone to corruption as compared to a government that operates in greater openness. That's why the information is considered a significant step in empowering the people to combat corruption. Officials often abuse their discretionary powers to suit various political or other vested interests or to misappropriate the funds. The right to information, therefore, is an important tool to check the abuses of

⁵ S. P. Sathe, *Right to Information*, (Lexis Nexis Butterworths, New Delhi, 1st edn., 2006).

⁶ Dr. T. Sita Kumari, "Whistleblowers and the Laws In India- A Brief Study", Vol. XII, No. 3 *Nayaya Deep*, 63 (2011).

⁷ Madabhushi Sridhar, *Right to Information Law and Practice* 98 (Wadhwa & Company, Nagpur, 1st edn., 2006).

⁸ Kailash Thakur, "The Right to Information Act, 2005: A Movement from Darkness to Light" 48 *Civil, and Military Law Journal*, 170 (2012).

⁹ B.R. Saini, "Appraisal of Right to Information in India" 11 *M.D.V. law Journal*, 143 (2006).



administrative discretion and to ensure a fair process. This right is also necessary for protecting civil liberties for example, by making it easier for civil society groups to monitor wrongdoing such as encounter killing or abuse of preventive detention law. The Information helps strengthen the foundation of democracy.

Unlike an autocratic government, a democratic government needs to be based on the trust of the governed. It should therefore perform the function as much as possible keeping in view the public so that the citizen knows its aims, policies programs and help the government to accomplish them. On the contrary maximum secrecy in the government functioning would tend to promote more corruption, nepotism, and misuse or abuse by the authority, and thereby the government is alienated from the governed. Openness in government functioning is regarded as an essential ingredient of democracy and the right to information as a fundamental democratic right.¹⁰

To be an effective and meaningful democracy, it should have a responsive administration which is a bilateral process. On the one hand, the administration is required to be citizen caustic which implies that it should be responsive towards the legitimate needs, aspiration, and grievances of the citizens, and on the other hand, citizens also required to be co-operative and vigilant as it is the eternal vigilance of the enlightened citizens which facilitates accountability and prevents the arbitrariness in the public administration. Right to know is an effective tool or a mean for the citizen's enlightenment which provides them access to the government departments and documents and also enables them to acquire knowledge of what is happening in the government.¹¹

Information tends to remove unnecessary secrecy surrounding the decision making process in the government to improve the quality of decision-making in public policy and administration. This right enables the citizens of the country to know about the government's decision and also their basis so that they can exercise sound judgments on the merits of public policies and respond appropriately to influence the process of policy formulation and decision-making in public governance.

To strengthen the grassroots of the democracy and to ensure people's participation and to bring the local government under the public secreting to avoid the costly mistake, the information should be given to the citizens. Consideration the importance of the information James Madison observed: "A popular government without popular information or means of acquired it, but a prologue to

a farce or a tragedy or perhaps both".¹² Sometimes government withholds the information from its citizens based on feudal, colonial, and technical grounds. However, transparency, accountability, and fairness demand equality, and openness are some of the principles of good governance.

Information is required for mainly three purposes:

1. The evaluation of the government by the citizens.
2. Citizen's participation in the decision-making process of the public authority.
3. To keep eye on the deeds of the government.

Consumer information is also one of the other areas where it is important to have proactive disseminating of information. Information is considered as the currency that every citizen requires to participate in the life and governance of the society. The greater opportunity to the citizens of the access to the information, the greater would be the responsiveness of the government towards the community needs and the greater restriction are placed on the access, the greater feelings of powerlessness and alienation are to be felt. Without a piece of proper information, people cannot exercise their rights in a true sense as the government holds the information as national resources and hold that for the benefit of the citizens and not for their benefits. It follows that government and its officials hold the information as the trustees for the people.¹³

The net result of the secrecy is the disempowerment of the common people and their exclusion for the process which vitally affects their existence. Getting information on various matters as employment scheme, obtaining a certificate for various purposes, recommendations for different types of loans, access to different poverty alleviation programs, irrigation, drinking water, sanitation, education, and more is a must for the common people of the country whether provided proactively or on request. Though the free flow of information in India is required but remains severely restricted also.

The Prima Facie impact of the RTI is that it provides every individual citizen of the country a right to access information hence it puts power directly into the hands of the foundation of the democracy, the citizens of the country. The judiciary has already granted the acknowledgment to the Right to Information as a part & parcel of the fundamental right of freedom of speech and expression and this right is considered important for many of the reasons as follows:

1. Effective People's Participation

As the governance in any democratic country implies the effective participation of the people of the country in the process of the

¹⁰ Devender Singh, "Implementation of Right to Information Act, 2005, National and International experience" *AIR* 99 (2006).

¹¹ *Ibid.*

¹² B.R. Saini, "Appraisal of Right to Information in India" 11 *M.D.V. law Journal* 145 (2006).

¹³ Ram Naresh Prasad, "Right to Information: Fundamental right of consumers" *AIR* 92(1095) 138 (2005).



government but for that, the citizens must have the necessary information that exactly shows how things are being done and also participates in planning processes and judgment of whether certain plans and schemes are useful for them or not. The concept of the Right to Information not only helps in improving the quality of the decision-making process by removing unnecessary provisions of secrecy but also facilitates the process of the policy formulation on the issues of their concern.¹⁴

2. RTI Helps in Democratization of Governance

Access to the information is the requirement for the democratization of the governance. It helps in many ways to check the misuse of the administrative authority for their gains, the process to promote justice, equity, and fair play. That's why L.D. White observed. "Power in a democracy requires control, greater the power greater should be the control". Right to information is one of the devices necessary for disciplining the power and ensuring better accountability.¹⁵

3. RTI Creates Public Accountability

In any democratic system of governance the government runs for the benefit of the public at large and not for the benefit of one or a few persons, therefore, the Government from the village to the central level has to be accountable towards the people and the People should have a right to know what their Government is doing. A right to information will ensure that people can hold public bodies accountable regularly, without having to lay the entire burden on their elected representatives who are themselves often unable to get the information sought despite all the resources at their command. The right to information is primitive of a culture of accountability by providing access to information about finances, proceedings, and decisions of all the social actors whose activities impact the public. It can provide a check on mismanagement, abuse of discretion, bribery, other forms of corruption and malpractices. This shall bring a degree of regularity in the process.¹⁶

4. Rule of Law

Right to information reduces the chances of misuse of the resources available with the government, lessens the corruption, helps in better governance functions, making service providers accountable for their functions, creating a participatory and transparent environment for the

people to contribute in policy formulation and in establishing the rule of law. Taken in the true spirit, information has the potential to bring about the required change in the system of administration and getting the obligation to do certain things that are generally ignored.¹⁷

5. Check and Balance of the Discretionary Powers

Since officers are given discretionary powers for carrying out their duties in an effective manner, they can abuse this discretion to favour the various political and vested interests or to misappropriate the funds. In absence of any legislation on the Right to information they tend to hide the information from disclosure although it is possible by the court's intervention in practice this is not possible for poor people or villagers as the cost, distance, and delays matter. Another problem is the lack of transparency regarding the selection criteria for public posts. The selection of inappropriate employees into the government adds to the inefficiencies and ills in the government. Access to Information is considered a potent tool or instrument not only to check the misuse of administrative discretion but also to ensure fairness by promoting openness, transparency, and accountability in administration.¹⁸

6. Check Administrative Efficiency

Administrative Efficiency in any Government comprises of conducting the administration without any unnecessary delays and also any hidden or corrupt motives. If people do not know what is happening in their society, and if the actions of those who rule them are hidden, then they cannot make a meaningful part of their society.¹⁹

It is quite seen that grievances of any citizen are kept pending for long periods even for months or years without disposal in several cases. In some other cases applications are simply disposed of by saying that the government or the concerned authority finds no reasons to accede to the request etc. now the Right to Information Act requires information about the pendency of the applications and reasons as to why such applications have not been disposed of or reasons for their rejection, this is likely to improve the efficiency of various departments.

7. Ensures Transparency

There is a presumption that everything done by the government is done for the public welfare and done honestly with optimum benefits from the funds available. However, as we all know, in recent times, this presumption has been eroded to a great extent by making misuse, misappropriation, and also careless use of public funds. To counter this, it is

¹⁴ Rajvir S Dhaka, "Right to Information and Good Governance" 4 *Indian Journal of Public Administration*, 536 (2009).

¹⁵ *Ibid.*

¹⁶ P.S. Bawa, IPS (Retd.), "Right to Information Act: A Tool of Management and Good Governance" 63 *Indian Police Journal (Prev, Police R & D Journal)* 65 (2013).

¹⁷ *Ibid.*

¹⁸ Sapna Chadah, "Good Governance Practices Relating to RTI Implementation in India" 5 *Public Administration Law Journal*, 261 (2011).

¹⁹ *Ibid.*



indispensable that there should be complete transparency in all public dealings. The concept of Right to Information bounds the concerned officials for careful utilization and application of funds. Transparency will also help people to hold the officials accountable for their mishandling of public time and money.²⁰

8. Creating a More Democratic and Open Society

For better democratic governance, participation in the decision-making process is not possible without maintaining the transparency and sharing of the information so free flow of information is essential for identification and solution of the problems. Though openness is essential to the functioning of a democratic society, yet secrecy also bears the same quality on certain genuine grounds like privacy, defence matters, diplomatic affairs, crime investigation, trade secrets, and similar other reasons. So, it is to be admitted that complete openness is neither feasible nor desirable. Accordingly, a balanced approach has to be drawn between the needs of openness and the requirements of secrecy but this balance has to be tilted in favour of openness.²¹

9. Protection of Civil Liberties

The right to information is essential for protecting the liberties of the citizens by making it easier for civil society groups to keep an eye on wrongdoings like custodial deaths and the exploitation of preventive detention legislation. No democracy can be meaningful where civil society cannot audit the performance of the elected representatives, the bureaucrats, and the other functionaries who act on behalf of the state. To be able to audit the performance of the government, the people have to be well informed of its policies, actions, and failures. Hence an informed citizenry is a condition precedent to democracy.²²

10. Reducing Poverty

Legislation on the right to information is fundamental to furthering the effective development of the society and eradicating poverty. Information can empower poor communities to battle the circumstances in which they find themselves needy and helpless and also help in keeping the balance of unequal dynamic power that exists between the people marginalized through poverty and the government. No development is worthwhile that thrives on improvisation of a large number of people

and exploitation of the poor and no democracy is worth its name in which authorities can function in secrecy and people are ignorant and therefore can be managed. Right to know, right to health, right to work, and right to shelter are the emerging human rights of the twenty-first century.²³

11. Effective and Proper Implementation of Schemes of Government

In rural areas, numerous schemes such as for providing food, housing, employment, and education are run by the central and state government. These schemes are intended for the poorest of the poor in the rural areas and a wide criticism is spread that these funds have been consistently misappropriated or misused on a large scale. In most cases, people do not know about the existence of such schemes, even if they know they do not get their entitlements available under the scheme or accept less than their allocation.²⁴

Furthermore, records are often hampered because no one outside the administration has access to them. Thus, information ensures greater transparency than ever before in the working of the public bodies. The disclosure of vital information thus results in checking corrupt practices in the delivery of services and ensuring the reach of entitlements to the poor and also makes the administration more accountable.²⁵

12. Ensure the Strengthening of Public Opinion

Access to information is essential to the health of the democracy because peace and harmony cannot flourish under a weak democracy.²⁶ Even if the government provides the right to information, the citizens resort to media like newspapers, radio, television, etc for day-to-day information about the government activities. The media provides a link between the citizens and its government. The media help to create what can be termed as “free market place ideas” which promote free thought. So, it is necessary that the media can access information. The media’s right to an informal marketplace a special privilege but rather an aspect of the public’s right to know. The lack of a right to access official information causes many problems for the media. Balanced reporting becomes difficult when the primary sources of information are denied. In

²⁰ P.S. Bawa, IPS (Retd.), “Right to Information Act: A Tool of Management and Good Governance” 60 *Indian Police Journal (Prev, Police R & D Journal)* 65 (2013).

²¹ M. Sarojamma, “Right to Information for a Transparent and Democratic Government” 11 *Andhra Law Times* 19 (2013).

²² *Ibid.*

²³ S.P.Sathe, “The Right to Know: Proposed Constitutional and Legislative Strategies” 24 *Indian Bar Review* 96 (1997).

²⁴ Mulage, Bheemabai S., “Impact of Right to Information Act on common people” 14 *Karnataka Law Journal* 23 (2011).

²⁵ J.P. Rai, “The Right to Information Act, 2005: Retrospect and Prospects” 42 (2) *The Banaras Law Journal* 74 (2013).

²⁶ Shashi Bala Kashyap, “The Right to Information and the Role of Media” 39 (162) *Indian Socio-Legal Journal* 29-30 (2013).



absence of exact information, they provide biased news, suppressing or distorting information. By providing the right to information, media and citizens would together make the government more accountable.²⁷

13. Protecting Other Rights

Freedom of Information laws can improve the enforcement of many other economic and political rights. In India, the FOI laws are even used to enforce the ration distribution by revealing that food vendors are not providing the government subsidized food to impoverished citizens. This has resulted in substantial changes in the food distribution system to ensure that citizens, as well as vendors, are getting their food and compensation accordingly.²⁸

14. Redressing Past Harms

Almost all newly developed or modified constitutions include a provision regarding a right to access any information from the government bodies as a fundamental human or civil right. Following the dissolution of the Soviet Union, most of the Central and Eastern European countries adopted laws to regulate access to the files even of the former secret police forces. In some of the countries, these files are made available to individuals to see what is being held on them. In Mexico, President Fox in 2002 ordered the declassification of all the files of previous human rights abuses so that the families could find out what happened to their loved ones who disappeared.

CONDITION FOR ADOPTION OF FREEDOM OF INFORMATION LAWS IN INDIA

There have been a variety of internal and external pressures on governments to adopt FOI laws. In most countries, civil society groups as anti-corruption, media, and environmental groups are playing a key role in the promotion and adoption of laws.²⁹ International organizations have also demanded transparency into the different matters so finally the government had to accept and recognized themselves as the user of the FOI laws.

1. Corruption and scandals

The crisis was brought into the force due to a lack of transparency in the working of the government. A series of transactions were done by the government which came under the preview of the corruption as opened in the case of MKSS Rajasthan. Continues opening of such type of corruption and scandals had led to the adoption of FOI laws. Anti-

corruption campaigns have been highly successful in transitional countries through which an attempt was made to change their cultures. In long-established democracies such as Ireland, Japan, and the UK, laws were finally adopted as a result of persistent campaigns by civil society for political scandals relating to health and the environment.³⁰

2. International pressure

The international community has been influential in promoting access to the information as the International bodies such as the Commonwealth, Council of Europe and the Organization of American States have drafted guidelines or model legislation and the Council of Europe decided in September 2003 to develop the first international treaty on access. The World Bank, the International Monetary Fund, and others have pressed countries to adopt laws to reduce corruption and to make financial systems more accountable.³¹

3. Modernization and the Information Society

The expansion of the Internet into everyday life has increased the demand for more information by the public, businesses, and civil society groups. Inside the government, the need to modernize record systems and the move towards the government has created an internal constituency that is promoting the dissemination of information as a goal in itself. In Slovenia, the Ministry for the Information Society was the leading voice for the successful adoption of the law.³²

CONCLUSION

The success of landmark legislation is often given to the people who are harnessing information relentlessly for the public good- may it be to expose public scandals, or to compel authorities to be more accountable, or to redress public grievances. Corruption is one of the biggest challenges in India to date and is the biggest hindrance to the development of the country. Corruption in India is deep-rooted and people are concerned about corruption at the "cutting edge level of administration". RTI has proved to be a weapon to fight against corruption, arbitration, and misuse of power.

No doubt RTI has been one success in the country still it lacks at some points in the enactment. The hierarchical system followed by the act of filling an application first to the public authority who is to give the information within 30 days, if that doesn't happen then filling the first appeal and then the

²⁷ Mullick Souvanik, "Right to Information and the role of media" 96 *AIR* 31 (2009).

²⁸ *Ibid.*

²⁹ Mool Singh Kaachhwaha, "Right to Information Act, 2005- Importance and Impediments" 12 *SCJ* 8 (2014).

³⁰ Soli J. Sorabji, "Freedom of Press: Paradoxes and Problems" 46 *IJPA* 27 (2000).

³¹ M. Sarojamma, "Right to Information and the role of the judiciary about freedom of speech and expression" 4 (13) *Andhra Law Times* 10 (2010).

³² M.D. Krishna, "Right to Information in India: Critical Analysis" 3 (2) *Bangalore Law Journal* 221 (2010).



second appeal has also provided an edge to the smooth functioning. Also, writing an application is a very easy deal that does not require some specific qualification. Finally, citizens are highly empowered with the revolutionary act of RTI by giving them the power to seek transparency, accountability. RTI Act has lead people in the last fifteen years to get the power in their hands and also allowed them to participate in the functioning of the government.

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CITIZENS' SATISFACTION ON ECONOMIC AND INVESTMENT PROMOTION SERVICES OF A COASTAL TOWN IN CAMARINES SUR, PHILIPPINES

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ABSTRACT

This study assessed the people's satisfaction on the Economic and Investment Promotion Services of a Local Government Unit (LGU) in Camarines Sur, Philippines utilizing the Citizen Satisfaction Index System (CSIS) initiated by the Department of the Interior of Local Government (DILG). Particularly, it determined the awareness, availment, and satisfaction of the citizens on Economic and Investment Promotion Services provided by the LGU. The study used a mix of quantitative and qualitative research methods through face-to-face interviews with 150 actual residents randomly sampled from the barangays with male and female equal distribution of the target LGU. Samples were drawn from barangays where most people resided. Barangays with larger shares of the population had more spots and respondents in the sample. The latest 2015 census data on population and housing was the basis for allocating the spots among the barangays according to population share. The multi-stage probability sampling was employed to give all citizens, 18 years old and above, an equal chance to be selected as a participant (CSIS, 2019). The residents of this coastal, 4th class municipality had a low level of satisfaction but high in need for action on Economic and Investment Promotion. Their recommendations focused on the need for livelihood trainings on the production of local goods as well as conduct of promotional activities of these locally-produced goods. With 67.33% of the household-respondents who are beneficiaries of the Pantawid Pamilyang Pilipino Program (4Ps), another recommendation centered on giving attention to the conduct of promotional campaigns of the local tourist attractions because the citizens believe that tourism activities could help create local employment for them to improve their economic condition.

KEYWORDS: *Citizen Satisfaction, Local Government Unit, Basic Services, Economic and Investment Promotion*

INTRODUCTION

Local Government Units (LGUs) play a significant role in the development of their constituents. Basic services should be their main priority in order to implement these services to a high standard (Leal, R.C. et.al., 2020). As provided in Section 16 of the Local Government Code of 1991, all local government units are mandated to provide basic services that will answer to the needs of their citizens. Of these local basic services, the Economic and Investment Promotion Services is increasingly recognized as an indispensable driver of sustainable development with the potential to lift households and communities out of poverty.

In most rural communities like the target LGU in this study which is a 4th class coastal municipality, most of the citizens still depend on low productivity-subsistence farming as their livelihoods. According to Leur, A.V. (2017), there is more to rural economies than farming. Rural areas are characterized by a great diversity of economic activities, including processing and marketing of agricultural products, tourism, mining and services. Harnessing the potential of rural economy through decent work is key to sustainable development goals' pledge to leave no one behind (Leur, A.V.,2017).

The author firmly believes in Petrin, T. (1994) stressing that economic vitality of a country is no doubt a necessary condition for social vitality. Without it other important factors that make living attractive in

certain areas, such as education, health, social services, housing, transport facilities, flow of information and so on, cannot be developed and sustained in the area in the long run.

In fact, the Department of the Interior and Local Government (DILG) issued a Memorandum Circular No. 2020-167 dated Dec.9,2020 "Guidelines on Promoting Local Economic Development and Investment Promotion and Establishment of LEDIP Office/Unit in all Provinces, Cities, and Municipalities." This is aimed at enhancing the capabilities of LGUs to improve local economy as they play an active role in attracting investments. In addition, the presence of Local Economic and Investment Promotion Office in all provinces, cities and municipalities is deemed necessary to encourage more investments and competitiveness in the locality to sustain economic development.

With these, local governments must be efficient, responsive and effective in delivering the basic services as their mandates. To note, the DILG has been utilizing performance measurement tools for LGUs as early as the 1980s. As local governance is a vast domain in terms of conceptual breadth, programs were focused on building the internal capacity of LGUs and on developing outcome indicators on a number of thematic performance areas (Citizen Satisfaction Index System, 2019).



As the intended recipients and end-users of public services, the citizens are deemed in a better position to determine whether or not these services are delivered according to their needs and to the extent that they fulfill their everyday and long-term human development requirements. Thus, getting their sentiments, opinions and insights based on their own perception and evaluation as consumers of local public services is a logical method of shaping what local governments need to do to ensure welfare of the citizens, without neglect of statutory requirements expected from them (CSIS, 2019).

Through DILG Memorandum Circular 2019-12, the Citizen Satisfaction Index System was implemented in municipalities targeted by the DILG Regional Office in order to equip them with tools and procedures for wider implementation in the following years. Local Resource Institutes are contracted by the Department as partners in gathering data and interpreting results for development and research purposes (CSIS, 2019).

OBJECTIVES OF THE STUDY

This study assessed the people's satisfaction on the Economic and Investment Promotion Services of a Local Government Unit (LGU) in Camarines Sur, Philippines. Specifically, it aimed to: 1) describe the socio-demographic profile of the respondents; 2) determine the satisfaction level of the citizen – respondents on the Economic and Investment Promotion Services provided by the target LGU; 3) provide the target LGU basis for crafting well-informed policies and management decisions that focus on economic and investment promotion as areas for socio-economic development.

MATERIALS AND METHODS

The Study Site. The study site is a coastal municipality in the province of Camarines Sur and is classified as 4th class. Based on data from 2015 Census of Population, it has a total population of 17,764 which denotes a positive growth rate of 0.78% or an increase of 714 people from the previous population of 17,050 in 2010 (Philippine Statistics Authority, 2016). The municipal center of this town is situated at approximately 14°1' North, 123° 16' East in the island of Luzon. It has a total land area of 141.27 square

kilometers or 54.54 square miles which constitutes 2.57% of Camarines Sur's total area.

Research Design

The study used a mix of quantitative and qualitative research methods through face-to-face interviews with actual residents randomly sampled from the barangays of the target LGU. The CSIS uses multi-stage probability sampling in order to ensure that every citizen, 18 years old and above, male or female, who have lived at least six months in the municipality, is given an equal chance to be selected as a participant in the study with no preference for any particular socio-demographic characteristic, political/ideological orientation or religious belief (CSIS, 2019). The survey measured the citizens' awareness, availment, and level of satisfaction of the Economic and Investment Promotion Services provided by the local government unit. The key results of the survey are the main information gathered from the citizens to assess how well public services by their LGUs are received or perceived in their point of view. Citizens' perception domain are the core concept; reasons that substantiate the core concepts; general attitudes of citizens toward the LGU; overall satisfaction, overall need for action; and recommendations for improvement.

Sampling Procedures

The research utilized multi-stage probability sampling in selecting the 150 respondents, as set by CSIS framework. This sample had a margin of error of +/-8% at 95% confidence level. Multi-stage random probability sampling warranted that a cross-section of citizens in an LGU was included in the sample. Since the CSIS was interested in the general population, the sample was likely drawn from barangays where most people resided. Barangays with larger shares of the population had more spots and respondents in the sample. The latest 2015 census data on population and housing was the basis for allocating the spots among the barangays according to population share. The total number of spots was 30, as required by CSIS framework, distributed among the barangays except the 4 barangays with very small population of less than 500.

RESULTS AND DISCUSSION

1. Socio-Demographic Profile

Table 1

Distribution of Respondents According to Socio-Demographic Profile

Relationship to Household Head	Frequency	Percentage Score
1 - Household head	62	41.33
2 - Spouse/ Partner	59	39.33
3 - Son/ Daughter	10	6.67
4 - Brother/ Sister	3	2.00
5 - Son-in-Law/ Daughter-in-Law	3	2.00
6 - Grandson/grand daughter	1	0.67
7 - Father/ Mother	10	6.67
8 - Other relative	2	1.33
Total	150	100.00
Civil Status	Frequency	Percentage Score
1 - Single	14	9.33
2 - Married	93	62.00



3 - Widow/er	7	4.67
4 - Separated/ Annulled	4	2.67
5 - Common Law/ Live in	32	21.33
Total	150	100.00
Age Group	Frequency	Percentage Score
1 - 18→24	15	10.00
2 - 25→29	16	10.67
3 - 30→34	15	10.00
4 - 35→39	18	12.00
5 - 40→44	16	10.67
6 - 45→54	28	18.67
7 - 55→64	30	20.00
8 - 65→74	7	4.67
9 - 75 and above	5	3.33
Total	150	100.00
Educational Attainment	Frequency	
1.- Elementary Undergraduate	14	9.33
2 - Elementary Graduate	35	23.33
3 - High School Undergraduate	30	20.00
4 - High School Graduate	48	32.00
5 - College Undergraduate	9	6.00
6 - College Graduate	9	6.00
7- Vocational/TVET	5	3.33
Total	150	100.00
Employment Status	Frequency	
Working at least 40 hrs/wk	29	19.33
Working less than 40 hrs/wk	53	35.33
Not employed but looking for work; have worked in the past	6	4.00
Not employed but looking for work; have not worked in the past	5	3.33
No job, not looking for work; have not worked in the past	17	11.33
Not employed, not looking for work; have worked in the past	16	10.67
Student (not working)	11	7.33
Retired (not working) / Too old to work	13	8.67
Total	150	100.00
Occupational Category		
Officials of Government, corporate managers	7	8.54
Managing Proprietors and Supervisors	1	1.22
Professionals	5	6.10
Service, Shops, Market Workers	1	1.22
Farmer/Forestry, Fisherman	38	46.34
Traders and related workers	2	2.44
Laborers/Unskilled workers	15	18.29
No Response / Unknown / Cannot Remember	5	6.10
Others (Specify)	8	9.76
Total	82	100.00

Table 1 shows that among a total of 150 citizen-respondents, 62 were household head or 41.33%. More than half (62.00%) were married, 20.00% were within the age range of 55-64 years old, and 32.00% or 48 of them graduated in high school. Probably because of their age or big responsibility as household head, 90.00% of the respondents do not attend school anymore. Fifty-three or 35.33% of the respondents were employed and working for at least 40 hours per week; clustered in the occupation category of farmer/forestry, fisherman (46.34%), and laborers/unskilled workers (18.29%). Of these, only 7 or (8.54%) were government officials or corporate managers. Since most of them were working as farmers

and fishermen, 67 or 81.71% of the respondents are working within their barangays and 15 or 18.29% were within their municipality.

It is highly noted that (67.33%) or 101 of the households were beneficiaries of the Pantawid Pamilyang Pilipino Program (4 P's). Based from the report of "The Official Gazette of the Republic of the Philippines," beneficiaries of the 4Ps are selected through the National Household Targeting System for Poverty Reduction (NHTS-PR), which identifies who and where the poor are in the country. In addition, to become eligible for the program, they must be residents of the poorest municipalities, based on 2003 Small Area Estimates (SAE) of the National Statistical



Coordination Board (NSCB). These households are those whose economic condition is equal to or below the provincial poverty threshold (<https://www.officialgazette.gov.ph/>). Having this significant number of household beneficiaries of 4Ps, poverty is very evident. According to the report of the International Labour Office (2007), generation of jobs is a main concern of local communities. As a matter of fact, many of the policy initiatives of LGUs ultimately aim for sustainable employment and livelihood. These statements would make sense in the need to evaluate the delivery of services by the LGU specifically on the economic and investment promotions which main concern is to alleviate poverty if not to eradicate totally.

2. Service indicators under economic and investment promotion service

There were 16 indicators investigated under Economic and Investment Promotion. Based from the LGU Service Delivery Baseline Data, it did not provide

services on Organization, Accreditation and Training of Tourism-related Concessions, Organization and Development of Farmers, Fishermen and their Cooperatives, Access to Facilities that Promote Agricultural Products, Post-harvest Facilities and Accessible Farm Harvest Buying/trading Stations. This non-provision of essential services is not surprising that according to "The Philippines – Canada Local Government Support Program: A Case Study of Local Government Capacity Development in the Philippines,"(2006), when the local government code was implemented in 1991, many local governments lacked the capacity to carry out their enhanced mandate. This is despite of the fact that the outstanding features of this code are: (1) it grants local government units significant regulatory powers, including land classification and community-based forestry and fisheries; (2) it devolves to local government units the responsibility for the delivery of basic services (e.g. agriculture extension, public works, health, housing, social welfare, tourism and investment promotion).

Table 2
Service indicators for employment, livelihood and business promotion
2.1 Employment, Livelihood and Business Promotion

Service Indicators on Economic & Investment Promotion	Awareness		Availment		Satisfaction			Needs Action		
	Yes	No	Yes	No	Yes	No	Adjectival Rating	Yes	No	Adjectival Rating
Public Employment Services	29 19.33 %	121 80.67 %	6 20.69 %	23 79.31 %	6 (100%)	0 (0%)	Small Sample	2 33.33%	4 66.67 %	Small Sample
Regulation and Supervision of businesses	36 24.00 %	114 76.00 %	16 44.44 %	20 55.56 %	15 93.75%	1 (6.25 %)	High	8 50.00%	8 50.00	Low
Promotion of Barangay Micro-Business Enterprises	30 20.00 %	120 80.00 %	7 23.33 %	23 76.66 %	7 100.00%	0 0%	Small Sample	3 42.86%	4 57.14 %	Small Sample
Livelihood program	48 32.00 %	102 68.00 %	9 18.75 %	39 81.25 %	9 100.00%	0 0%	Small Sample	2 22.22%	7 77.78 %	Small Sample

Among the indicators under Employment, Livelihood and Business Promotion, Public Employment Services had a very glaring low awareness with only 29 or 19.33% out of 150 respondents were aware of it. With this low awareness level, availment was similarly low with only 20.69% of those aware have availed of this service. Those who did not avail declared that there are no existing programs on this service area.

Specifically, under Regulation and Supervision of Businesses, awareness was low getting only 24.00% of the citizens surveyed. The same low rating was noted along availment which only 44.44% of the citizens who are aware have availed. Those who did not avail was for the reason that they do not have business of their own and that they do not have idea about regulations on running business. Worth noting is the high satisfaction rating of 93.75% among those who availed of this service because they were granted with business permits. Further, 50.00% of those who expressed they are satisfied declared that there is no need for action, hence; low in need for action.

In terms of service on Promotion of Barangay Micro Business Enterprises, less citizens are aware of it having only 30 or 20.00% of 150 respondents disclosed that they are aware. From these 30 citizens aware, only

7 or 23.33% claimed that they have availed which resulted to low availment rating. Those who did not avail cited that there is actually no program on this service area in their barangay. It is good to cite that 100.00% of these respondents who availed declared their satisfaction although noted as Small Sample. The same Small Sample was noted under need for action with 42.86%.

Establishing a business requires compliance with a strict legal regime; local governments should make an effort to systematize the processing of requirements. For instance, the Business Permit and Licensing Division-Business One Stop Shop (BPLD-BOSS) aims to streamline the process of obtaining a business permit with systematic implementation (Leal, Rosalie C. et.al., 2020). When all these are in place, customers must be aware of the applicable legal obligations; they must be aware that businesses are subject to inspection, but customers expect suitable and prompt activities by regulators or government. With these, government then needs to guide and inform customers how they will carry out their obligation in the process of providing the service (Leal, R.C. et.al., 2020).



Another indicator that got low awareness rating was Livelihood Programs with 32.00%. This low percentage of awareness got a much lower percentage in availment at 18.75%. Such low availment could be attributed to the reason cited by those who did not avail that only very few citizens at most only the 4P's beneficiaries can avail of the livelihood program. Other respondents declared the absence of this particular service in their barangay. On the other, 100.00% satisfaction was conveyed by 9 respondents but noted as Small Sample. In the same way, as to the need for action, a small sample was recorded.

The Philippine Department of Social Welfare and Development has led in the provision of

opportunities for income-generating activities and livelihood development through the implementation of the Sustainable Livelihood Program since 2011. The objective of which is to reduce poverty and inequality by generating employment among poor households and by moving highly vulnerable households into sustainable livelihoods and towards economic stability (retrieved from <https://www.worldbank.org/en/country/philippines/publication>). This suggests that the local government may tap other agencies and NGOs for providing livelihood programs to its citizens.

Table 3
Service indicators for tourism promotion
2.2 Tourism Promotion

Service Indicators on Economic & Investment Promotion	Awareness		Availment		Satisfaction			Needs Action		
	Yes	No	Yes	No	Yes	No	Adjectival Rating	Yes	No	Adjectival Rating
Development and maintenance of tourist attractions and facilities	42 28.00	108 72.00 %	19 45.24 %	23 54.76 %	18 94.74%	1 5.26%	High	3 15.79%	16 84.21 %	Low
Product/brand Marketing & Promotion of Local Goods and Tourist Attractions	17 11.33 %	133 88.67 %	2 11.76 %	15 88.24 %	2 100.00 %	0 0%	Small Sample	0 0.00%	2 100.00 %	Small Sample
Investment promotion activities such as trade fairs, fiestas, business events and similar events	52 34.67 %	98 65.33 %	46 88.46 %	6 11.54 %	41 89.13%	5 10.87 %	High	11 23.91%	35 76.09 %	Low

Along Product/brand Marketing and Promotion of Local Goods and Tourist Attractions, only 17 out of 150 respondents or 11.33% are aware of this service, hence; rating is low on awareness. In same manner, availment was lowest with 11.76% on a 73.77% cut-off. Citizens surveyed cited that they do not have locally – made products for display or promotion because there is actually no existing program on this particular area.

Under Investment Promotion Activities such as Trade Fairs, Fiestas, Business and Similar Events, awareness was also low with only 52 out of 150 households or 34.67% revealed they are aware. On the contrary, availment was high having 46 out of 52 who are aware have availed resulting to 88.46% high availment rating. Those citizens who did not avail

confided that promotion activities on investment are seldom conducted and if there was an activity on this, it was only during the town fiesta that it is conducted (66.67%). Moreover, this high availment rating was equally rated high in satisfaction on 89.13%. This could be attributed to the statements of those who availed that trade fairs and other similar activities happened only during the town fiesta. However, those who expressed they are not satisfied was actually for same reason that it was only during fiesta that these activities happened which could mean that citizens felt the need of this investment promotion activities on a regular basis and not only during fiesta celebration that happened only once in a year. Similarly, a low need for action resulted from 35 out of 46 or 64.45% who stated that there is no need for action along this specific service area.

Table 4. Service indicators for agricultural support
2.3 Agricultural Support

Service Indicators on Economic & Investment Promotion	Awareness		Availment		Satisfaction			Needs Action		
	Yes	No	Yes	No	Yes	No	Adjectival Rating	Yes	No	Adjectival Rating
Access to irrigation facilities or equipment	15 10.00 %	135 90.00%	2 13.33%	13 86.67%	1 50.00%	1 50.00 %	Small Sample	1 50.00%	1 50.00 %	Small Sample
Prevention and control of plant and animal pests and diseases; fish kills and diseases	42 28.00 %	108 72.00%	18 42.86%	24 57.14%	18 100.00 %	0 0%	High	10 55.56%	8 44.44 %	Low
Distribution of planting/ farming/fishing materials and/or equipment	70 46.67 %	80 53.33%	28 40.00%	42 60.00%	25 89.29%	3 10.71 %	High	8 28.57%	20 71.43 %	Low
Water and soil resource utilization and conservation projects	22 14.67 %	128 85.33%	7 31.82%	15 68.18%	7 100.00 %	0 0%	Small Sample	1 14.29 %	6 85.71 %	Small Sample
Enforcement of fishery laws in municipal waters	56 37.33 %	94 62.67%	39 69.64%	17 30.36%	35 89.74%	4 10.26 %	High	21 53.85%	18 46.15	Low



Under this service area, the specific service indicator on Access to Irrigation Facilities or Equipment also got low awareness rating of only 10.00% of the total respondents declaring that they are aware. The same low rating on availment (13.33%) or 86.67% of those who are aware did not avail because as the surveyed citizens cited, there are no irrigation facilities that the municipality offered. In addition, a Small Sample was noted under satisfaction rating and Need for Action.

Serious attention should also be given to the service on Water and Soil Resource Utilization and Conservation Projects. This must also be noted that awareness was low with 22 out of 150 or 14.67% of the respondents disclosed that they are aware of this service. Moreover, availment was also low getting only 31.82% of those aware have availed. The citizens who did not avail cited that there is actually water scarcity in their area. Considerably, a Small Sample was recorded for both Satisfaction and Need for action with only 7 respondents.

In terms of availment, still the service on Product/brand Marketing and Promotion of Local

Goods and Tourist Attractions was the lowest on 11.76% availment rating. This target coastal municipality has a big potential for tourism industry. Javier and Elazigue (2011) state that tourism as a product and service-oriented industry, could generate widespread benefits and impacts to the economy and society. In view of the socio-economic benefits that could accrue to communities, it is imperative that communities capitalize on opportunities from tourism. One of the major authorities which provide the key roles to this success is that of local government units (LGUs). LGUs could provide the ideal, authority, infrastructure, policy and planning procedures to maximize the benefit for its communities. LGUs play a major role in a community's development, provide the links between the people and government, address its community's problems and concerns, enforce policies and hold influence over its communities. The LGUs are also intermediaries in channelling the framework of government into each individual community in order to create a beneficial outcome.

High Satisfaction			
Low Need for Action	2 Exceeded Expectations	1 Continued Emphasis	High Need for Action
	3 Secondary Priority	4 Opportunities for Improvement	
Low Satisfaction			

Figure1. Action Grid

Source: CSIS Manual, 2017

Under the dimensions of Satisfaction and Need for Action, this study made use of an Action Grid which is a tool to prioritize the different services. The indicators are regrouped into four quadrants to provide general recommendations to the LGU and other audiences (CSIS Manual, 2019).

On the overall, Economic and Investment Promotion was low in satisfaction (56.35%) but high in need for action (90.48%). Service areas falling under Opportunities for Improvement are those targeted as critical areas for improvement because they were relatively low in satisfaction but were deemed to highly require local government action. Moreover, these services are deemed to be critical points for serious quality improvements. The negative aspects of delivery of these services can be presumed as drivers for dissatisfaction; but if addressed, they can be potential drivers for satisfaction. Therefore, these services should be given the highest priority and attention. This may also suggest or reflect local issues in the communities that demand attention of local authorities (CSIS Manual, 2019).

The local government unit as mandated service provider should begin to think about how to deliver better services and how to mobilise the resources to do so. Similarly, this target LGU needs to join forces with other LGUs and levels of government, community groups and the private sector, and to look

for examples of innovation and best practices to help address its service delivery challenges (Yule, A. 2006).

It must be highly noted that all the indicators under Economic and Investment Promotion were rated low in awareness although the lowest were on Access to Irrigation Facilities or Equipment (10.00%) and Product/brand Marketing and Promotion of Local Goods and Tourist Attractions (11.33%). In terms of availment, still the service on Product/brand Marketing and Promotion of Local Goods and Tourist Attractions was the lowest on 11.76% availment rating. On the other hand, along satisfaction, although 6 indicators were noted as Small Sample, all the others were rated high which highest was on Prevention and Control of Plant and Animal Pests and Diseases (100.00%). As to the need for action, aside from those noted as Small Sample, other indicators were rated low.

CONCLUSION AND RECOMMENDATIONS

Based on the summarized results of the survey, the following conclusions were drawn. Most of the respondents were working as farmers and fishermen. Moreover, many of the households were beneficiaries of the Pantawid Pamilyang Pilipino Program (4Ps) whose economic condition is equal to or below the provincial poverty threshold.

All the indicators under Economic and Investment Promotion were rated low in awareness



although the lowest were on Access to Irrigation Facilities or Equipment (10.00%) and Product/brand Marketing and Promotion of Local Goods and Tourist Attractions (11.33%). In terms of availment, still the service on Product/brand Marketing and Promotion of Local Goods and Tourist Attractions was the lowest on 11.76% availment rating. On the other hand, along satisfaction, although 6 indicators were noted as Small Sample, all the others were rated high which highest was on Prevention and Control of Plant and Animal Pests and Diseases (100.00%). As to the need for action, aside from those noted as Small Sample, other indicators were rated low.

On the overall, services under Economic and Investment Promotion was rated low in satisfaction but high in need for action. This particular service belongs to quadrant 4 indicating opportunities for improvement. This must be given attention since this is targeted as critical area for improvement. This could also mean that services under this area should be given the highest priority and attention specifically on activities and programs that would serve as a source of livelihood and income for the citizens.

Hence, citizen-respondents recommended the following:

1. In line with economic and investment promotion, the LGU and other concerned agencies, such as the Department of Agriculture and the Bureau of Fisheries and Aquatic Resources should intensify promotion and information dissemination about livelihood projects to reach out residents living in far-flung areas.
2. Citizens suggested that promotional activities on local tourist attractions in this municipality be intensified because they believe that this would help create local employment for them.

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COVID-19 PANDEMIC: MISSED INITIAL AND FOLLOW UP APPOINTMENTS AT AN ACADEMIC MEDICAL INSTITUTION IN SOUTH INDIA

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ABSTRACT

The global outbreak of COVID-19 has greatly influenced the health care delivery system and health seeking behavior by patients. This study aimed to explore the missed patient appointments and the factors lead to missed appointments, at an academic medical institution in South India during COVID-19 pandemic. The study used descriptive retrospective survey design to collect register based data from all departments of the hospital during the period 1st January 2020 to 30th June 2020. Among the 8390 missed patient appointments reported during this period, 4670 patients were included in the sampling frame and 130 samples were selected using systematic sampling. Socio demographic variables, clinical variables and reasons for missed appointments were collected from hospital data base and telephonic interview. Age ranged from 1 month to 85 years with the median age of 42 (\pm 22.9) years. Male female ratio was 1:1. Of this 69.5% (90) patients were married and 41.5% was educated up to high school. Majority of the cases (57.7%) belonged to nuclear family; highest representation was from the economic non priority subsidy. More than half of missed appointments were noted in the medicine department and the most of the appointments was review cases. Reported reasons for missed appointments were personal constraints (50.8%), financial and family constraints (5.4%) time constraints (5.4%) hospital related reasons (4.6%) and COVID-19 related reasons (2.3%). During COVID-19 pandemic there was no significant number of missed appointments in the study centre. The missed appointment group belonged to non priority economic category. The majority of cases found were review appointments. When enquiries were marked departmental-wise for the missed appointments, medical departments had more missed appointments than others. The present study highlights the need for developing strategies to ensure healthy flow of non COVID health care services during pandemic period.

KEYWORDS: COVID-19, Health care services, Missed Appointments, Non-COVID Health Care, Pandemic



INTRODUCTION

The COVID-19 is a global pandemic which have greatly influenced the health care seeking behaviour of the people. It adversely affected the routine health care delivery and health service uptake by patients. In this study, missed appointments are defined as hospital appointments scheduled by patients but did not attend. Considerable reduction in the number of patients seeking essential health care during the time of pandemic were reported during SARS,⁽¹⁾ Ebola⁽²⁾ and MERS-CoV.⁽³⁾ One third of care seekers avoiding or delaying care seeking is reported from USA due to COVID-19.⁽⁴⁾ A report from Spain showed a drop of 40% in the cardiac catheterization for STEMI.⁽⁵⁾ A previous study from this centre on paradigm shift in health care seeking behavior of patients during 1st January to 30th June 2020, identified 31.01% decrease in the number of patients seeking non COVID health care compared to the previous year.⁽⁶⁾ Age wise fall percentage was highest in the pediatric group (37.22%) and lowest in senior citizen group (29.26%). There has been a significant drop in both in-patient and out-patient footfall for hospitals during this period.⁽⁷⁾⁽⁸⁾

It is critical to maintain essential non COVID health services especially for the vulnerable populations, such as children, older persons, people living with chronic conditions or disabilities.⁽⁹⁾ Factors like distance from a service center and disease severity were reported to have a significant association with a reduction in the utilization of the health service delivery during pandemics.⁽⁵⁾ However, impact of COVID 19 pandemic on care-seeking behavior of the non-COVID patients is not well studied. Since this institution is in the epicenter of first COVID 19 case reported in the country, the caution and response of the non COVID patients have generated curiosity among public health workers.

OBJECTIVES

This study aimed to; (i) to identify the socio-demographic and clinical variables of the patients missed scheduled appointments for non-COVID health care during COVID-19 period (ii) to explore the factors lead the patients to missed appointments for non-covid health care during COVID-19 period

METHODOLOGY

Research Design: This study used descriptive retrospective survey design, based on data from the departments providing non COVID health care at an academic medical institution, from 1st January 2020 to 30th June 2020. Information about their appointments was extracted for this specific period and patients were filtered using the inclusion criteria: (1) patients with phone number in the booking register and (2) willing to participate in the study.

Study Population & setting: Patients missed scheduled appointments for non COVID health care during COVID-19 period at an academic medical Institution in South India

Sampling and sample size: There were 1,89,140 booked appointments in the hospital during this period, of which 19,965 were at emergency medicine dept. Excluding the cases at emergency medicine dept there were 1,69,175 appointments. Among this 8390 missed appointments were reported during this period. Of this 4670 patients who met inclusion criteria formed the sampling frame. Sample size was calculated using Cochran formula at 95% confidence interval and 3.5% precision. Sample sizes of 130 patients were selected using systematic sampling. By dividing the allocated sample size number to the total number of patients missed appointed during study period contributed the sampling interval. First case was selected using simple random sampling and every 35th sample was selected using random sampling from the sampling frame and continued counting until the desired sample size was obtained.

Data collection: Demographic variables such as age, gender, marital status, illness, and department were collected from hospital register. The patients were approached over telephone and semi structured interview were conducted after getting their consent to collect data on education, economic activity, socioeconomic strata, family structure, and type of illness and factors of nonattendance. The patients were given with 6 point rating scale to mark their perception regarding general health and health in particular to the illness at the time of survey (0- not alive, 1- very poor health, 2- poor health, 3- average health, 4- good health, 5- very good health). Data collected regarding the home remedies, self management measures used. The patients were also asked to report if they have consulted in the local health facility during the study period.

Data analysis: Microsoft Excel 2007 was used for data entry and management. Socio demographic data and clinical data analyzed in frequencies, percentage, median, and standard deviation using SPSS version 25 IBM. The factors lead to missed appointments were coded and content analysis done.

RESULTS

The proportion of the total booking cancellation to total appointments from the time period of 1st January 2020 to 30th June 2020 was 4.4%. Among 130 samples selected, the age ranged from 1 month to 85 years with the median age of 42 (\pm 22.9) years. Fifty five patients (42.6%) who missed the appointments were in the age group of 35-64 years. The missed appointment from the pediatric group was 20.2%. There were 19.4 % (15-34 years) and 18.5% (\geq 65 years) missed appointments in the respective age groups. Out of 130 patients selected



65 were males and 65 were females. Of this 90 (69.5%) patients were married, 38 (29.2%) were unmarried and 2 (1.5%) were widowed. The education was up to high school in 41.5% and above high school in 33.8%. The remaining 32 (23.1%) were illiterates. Majority of the cases (57.7%) belonged to nuclear family and 42.3% belonged to joint family.

Economically inactive patients were 71.1% and active patients were 28.9%. The socio economic status of their family is also studied. The highest representation was from the non priority subsidy – blue ration card holders (31.4%) followed by priority households- Below poverty line (28.9%), general non-priority (26.4%), most economically backward (2.5%), and no ration card (2.5%). Among the total patients, those who attended departments except emergency were 160785 (89%). Among them 48097 (25.5%) were new cases and 112688 (59.9%) were review cases. Out of 130 missed samples studied 87 (66.9%) patients were old cases booked for review and 43 (33.1%) were new cases.

Among the 130 missed samples studied, 13 (10%) patients were booked for their cardiac complaints and 6(4.6%) patients with neurological complaints. The patients with respiratory, reproductive and surgical complaints were 3.8% in each (Fig 1). Among total samples studied 88(67.7%) were booked for consultation in the medicine department, 18 (13.8%) in the surgery department, 10(7.7%) in the pediatric department, 8(6.2%) in the obstetrics and gynecology departments, and 6(4.6%) in the emergency medicine department (table 1).

Among 130 patients interviewed, 66 (50.8%) patients reported personal constraints as reason for missed appointments, 7(5.4%) patients reported financial and family constraints, 7(5.4%) patients reported time constraints, 6(4.6%) patients reported hospital related reasons and 3(2.3%) persons reported COVID 19 related reasons. Among 130 samples 41(31.5%) patients not reported any reason for missed appointments (figure 2). The patients marked their perception on general health and health in particular to illness. Out of 130 samples, 80 (61.5%) reported very good health status in particular to the disease and 81(61.8%) patients reported very good health in general as per their perception. Only four patients reported poor health both in particular to disease and general health. Three patients were not alive at the time of survey. Forty one (32%) patients reported that they have managed with home remedies and 33(25.4%) continued with same prescription during this days of missed appointments. Only 7 (5.3%) patients availed health care from local health facility.

DISCUSSION

The COVID-19 outbreak has profound impact in the delivery of essential health services in other

areas of health care across the globe.⁽¹⁰⁾ Major impact has been found as the under-utilization of important health care services for patients with non-COVID-19 related health needs. As the pandemic continues it becomes more essential to find out different strategies to tackle these effects with minimal risk to the patients and health professionals. The inequities in health and health seeking behavior of people, arise because of the circumstances in which they grow, live, work, the systems put in place to deal with illness and their age.⁽¹¹⁾

In the present study the middle aged category was the major proportion among the missed appointments. A previous study from this centre also reported 32% patient fall rate in the middle aged adult category during 1st January to 30th June 2020 when compared to the previous year.⁽⁶⁾ The studies from different parts of India reported that aging is a major risk factor for several debilitating and life threatening diseases⁽¹²⁾. Also non-adherence to long term treatment was found largely in the middle aged category.⁽¹³⁾ This draws attention to the reports that the chronic illness rates swell in the middle age. Hence it is a matter of importance to support middle aged group to manage their conditions by timely interventions.

Family is a crucial demographic variable when considering the health related outcomes. The studies conducted in health and medication adherence in relation to family support, reported both supportive and obstructive behavior from the family. In the present study majority of the patients missed appointment were married and belong to nuclear family. Findings from other studies also endorse interventions that help family members to develop actionable plans supporting patients' self-care and train them to communicate the health outcome.⁽¹⁴⁾

Education and socioeconomic status are two major factors influencing the way people live, their consequent chance of illness, and their risk of premature death.⁽¹⁵⁾ Previous investigations reported that low socioeconomic status was usually associated with increased risk of the disease conditions.⁽¹⁶⁾ In the present study a good proportion of patients missed scheduled appointments were educated and belonged to the non priority households. Hence it can be considered, education and the awareness thereby may lead them to strict adherence to the lockdown instructions and self management of the illness. As WHO reported, it is the right time for the governments, civil society, and other organizations to come together in taking action to improve the lives of citizens & achieving health equity.⁽¹¹⁾

Evidences from studies conducted in the context of previous epidemics identified that people lose trust in the healthcare system and develop a fear of getting the disease from the health facility. Thus, they avoid seeking treatment for their illness or sending family members for medical care, the



consequences of which may be increased mortality.⁽¹⁷⁾ In our study the majority of patients missed appointments were follow up cases and the rate was high in the medical departments especially cardiac and neurology departments. A previous study from this centre also reported 31.4% fall rate in the review cases in the year 2020 when compared to 2019 with more decline in the medical departments.⁽⁶⁾

The total proportion of missed appointments to the total appointments during the study period was only 4.4%. Most of patients reported that their perceived health was good in general and particular to the illness. The studies exploring the people's attitude towards COVID 19 Pandemic reported that the people are willing to follow government guidelines on quarantine and social distancing.⁽¹⁸⁾ The study results also showed that patients managed by following same prescriptions, home remedies, and self management instead of attending the appointments in hospital. Very few of them had to attend the local health care facility. The explored reasons for missed appointments were also personal in high percentage and very little in direct relation to COVID 19 pandemic. Hence it is clear that people in this part of the country adhered to the COVID 19 protocols of government without a major change in health seeking behavior.

CONCLUSION

During COVID 19 pandemic there were no significant numbers of missed appointments in the study centre. The socio demographic data as identified in the study, the missed appointment group belonged to non- priority economic category. The majority of cases found were review appointments. When enquiries were marked departmental-wise for the missed appointments, medical departments had more missed appointments than others. The present study highlights the need for developing strategies to ensure healthy flow of non COVID health care services during pandemic period.

ABBREVIATIONS

COVID-19: Corona Virus Disease 19; SARS: Severe Acute Respiratory Syndrome; MERS-CoV: Middle East Respiratory Syndrome Corona Virus; STEMI: ST-Elevation Myocardial Infarction; WHO: World Health Organization

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TABLES AND FIGURES

Table 1: Department wise missed appointments in frequency & percentage

Department	Total Attended Appointments		Samples from Missed Appointments	
	Frequency	(%)	Frequency	(%)
Medical departments	92752	51.3	87	67.7
Surgical departments	44492	24.6	14	13.8
Paediatrics	7418	4.1	10	7.7
Obstetrics & Gynaecology	16123	8.9	11	6.1
Emergency and others	19965	11.04	8	4.6
Total	180750	100	130	100

Fig -1: System wise illness percentage reported in missed patient appointments

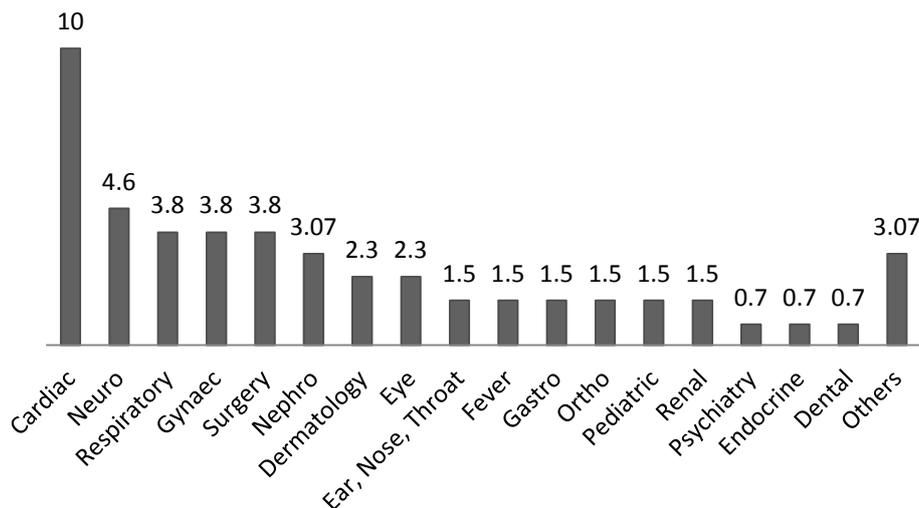
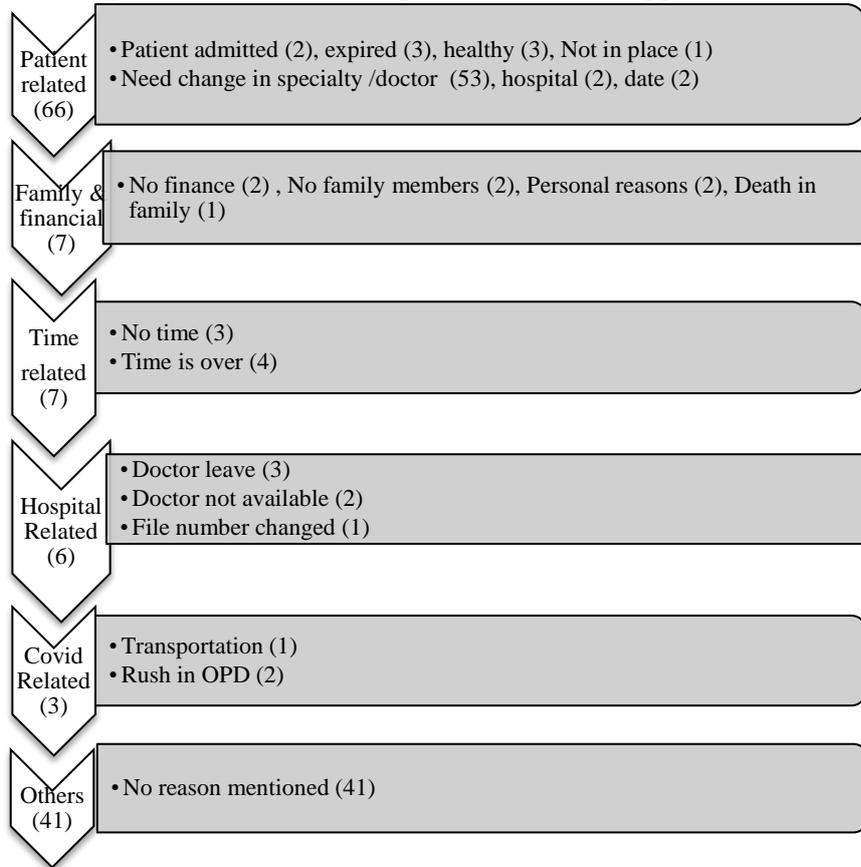


Figure 2: Factors lead the patients to missed appointments





In Vitro Organogenesis – Regeneration of Shoot From *Carthamus tinctorious*

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ABSTRACT

Callus induction and in vitro plantlet regeneration system for safflower (Carthamus tinctorious L) using root, hypocotyls, first leaf, cotyledon were optimized by studying the influence on organogenesis of seedling age, media factor, growth regulator and excision orientation.

Supplementation medium with auxin and cytokinin ratio >1 enhance growth rate of callus culture growth regulators IAA, NAA, BAP, kinetin in the medium where found effective for callus induction and regeneration in all explants.

The BAP-(5mg/l), NAA-(3mg/l) (5-7) explants and cotyledonary derived callus more shoots were produced on explants cut from more basal region of cotyledon from 5-7 day old seedling than from older seedlings are more distal cut side MS medium was superior to SH - M and B5.

Capitula induction was observed in both callus mediated shoots on cotyledon and shoots on rooting medium with sucrose IAA, NAA and IBA well developed plantlet were transferred to the field.

KEYWORDS: *Carthamus tinctorious L: Safflower, organogenesis, callus, explants.*

ABBREVIATIONS: IAA: Indol Acetic acid, IBA: Indol butyric acid, NAA: Alpha naphthalene acetic acid, MS: Murashige and Skoog, B5: Gamborg, SH-M: Mitchell and Gildow.

INTRODUCTION

Carthamus tinctorious L (Safflower) Asteraceae, is an important oil seed crop of semiarid subtropical regions average temperature of 17 - 20°C appear to be best for vegetative growth and optimum temperature for flowering is 24 to 32 °C. Safflower occupies unique position among oilseed crops and due to high content of linoleic.

The young plant is used as a leaf vegetable (Anonymous 1950) the oil seed used for industrial and edible purpose. Safflower is considered salt tolerant specially sodium salt.

Modern techniques like embryo rescue and other biotechnological tools may play an important role in overcoming such barriers. Development and cytoplasmic genetic male sterility system for hybrid breeding a successful outcome of ongoing efforts to use polyembryony for varietal improvement and confirmation of apomixis in safflower.

Flower yield and pigment content of flower have gained economic importance due to increasing countries and their use in medicine for curing several diseases. Genetic transformation of safflower to impart resistance to biotic and abiotic factors in addition to development of seed with altered fatty acid and protein profiles.

In vitro plant regeneration system is a basic necessity for such approaches direct somatic embryogenesis from cotyledon explants (Mandal et al. 1995) and in vitro shoot regeneration has been reported in safflower (George and Rao, 1982; Tejavathi and Anwar 1996) However response varies cultivar and regeneration of whole plant.

MATERIALS AND METHODS

Certified seeds of safflower (*Carthamus tinctorious L*) were obtained from National Environment Engineering Research Institute (NEERI) Nagpur, India. Seeds were surface sterilized with 0.1 % (w/v) mercuric chloride for (HgCl₂). 3 min with constant shaking followed by three washes for 1 min each in sterilized distilled

water seeds were then germinated and grown on a sucrose (3%) agar 0.8 % under ih photo period of fluorescent light. Explants were isolated cotyledon – (15-17 mm²) from 3 to 5 days old seedlings leaf explants (15-17 mm²) were isolated from the shoot obtained in vitro from the cotyledon explants on medium supplemented with 500µl of BAP and 1250µl of NAA were added and volume was made up 250 ml by adding distilled water. Explants were transferred onto callus induction medium.

Induction and callus

Callus induction was carried out on MS, SH-M, B5 medium supplemented with BAP and NAA either alone or in combination. After 21 days of inoculation completely differentiated dense mass of callus showing further regeneration ability were taken as a standard measure to calculate percentage of causing each regeneration step was further carried out for period of 21 days subculture onto fresh optimum callus induction .After three weeks of culture responded explants where further transferred on fresh medium containing same concentration of BAP and NAA.

Shoot induction from explants and calli (250 mg- 300mg/culture) was carried out on MS, SH-M medium containing BAP-5mg/L and NAA 1 mg/L. regenerated shoot were about 1cm and were separated from explants and callus.

Rooting of resulting shoots (1-1.5 cm) long from explants and calli was attempted on MS SH-M, and B5 without growth regulator and with sucrose (1-9%) NAA- 5mg/L both combination of BAP- 0.25 mg/L.

Hardening

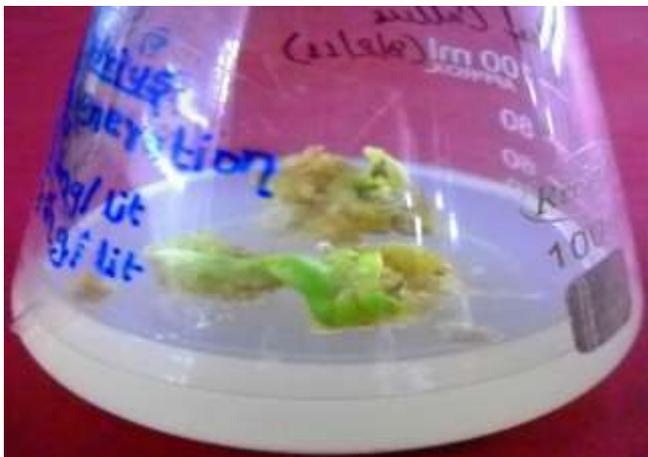
Rooted plantlets were removed from culture vials after agar had been removed by washing with sterile water, the plantlets were planted in a pots containing 1:1 sterilized potting mixture soil and washed sand (with pebble size of 0.5 -1.0 mm).the plants were placed outside in the shade (light max 83.46 m⁻² s⁻¹µm, temperature 25 +/- 4 °C) irrigated at 3 days interval with tap water.



1.1 First Leaf Explant



1.2 Callus induction from first leaf



1.3 Sub culturing of calli of leaf explant.



1.4 Shoot Proliferation



1.5 Direct multiple shooting from First Leaf



1.5 Direct multiple shooting from First Leaf .



1.6 Hardening-Acclimatized Plant in the pot

RESULT AND DISCUSSION

Regeneration response was best on the MS medium supplemented with 3mg/lit NAA & 5mg/lit BAP gave callus induction in first leaf explants and direct shoot regeneration was observed in first leaf. Brownish green slow growing friable callus was obtained after 18 days of inoculation & shoot regeneration was obtained after 32 days of inoculation.

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INFLUENCE OF HARVEST TIME OF WINTER WHEAT VARIETIES TO THE GRAIN YIELDS IN THE CONDITIONS OF THE SOUTHERN REGION

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ABSTRACT

This article describes the differences of winter wheat "Selyanka", "Jayhun", "Krasnadarskaya-99" and "Turkiston" in the conditions of ancient irrigated, grazing light gray and barren soils of Kashkadarya region. the Turkestan variety was observed on May 14, May 22, June 8, respectively, while the phase was observed on May 21 and the full ripening phase on June 7; Krasnadarskaya-99 variety matured on May 16, May 24, June 10 and Jayhun variety on May 18, May 26, June 12, or the Turkestan variety growing season was 1 day, Krasnadarskaya-99 variety ripened for 3 days and Jayhun variety ripened 5 days later than Selekt. Turkestan and Krasnadarskaya-99 varieties of winter wheat and Selyanka and Jayhun varieties of winter wheat in the conditions of high irrigated soils, when the harvest period reaches the stage of full ripening on June 5-7 in the conditions of light gray soils grazing in order to obtain high and quality harvests of winter wheat. June 7-12 to reap the full maturity stage, when the impact of information.

KEYWORDS – previously irrigated, grazing light gray soil, barren soil, winter wheat varieties "Selyanka", "Jayhun", "Krasnadarskaya-99" and "Turkiston", harvest dates, grain harvest of winter wheat.

1. INTRODUCTION

Nowadays, the steady growth of the world's population is important in meeting the growing needs of humankind in food and agricultural products, as well as in increasing the yield and quality of cereals, including winter wheat. It is also home to more than 200 million people in more than 100 countries around the world. Wheat is planted on more than a hectare and 729.0 million tons of grain is grown. Of this, the share of winter soft wheat is 90-95 percent. At the same time, in many countries there is a growing interest in the timing of the harvest of winter wheat in order to obtain high quality crops. According to a report by the United Nations (UN) and the Food and Agriculture Organization (FAO) in October 2017, global grain production was high in 2017, at 2.612 billion tonnes, up from 6.8 million tonnes in 2016. tons. The huge reforms implemented in Uzbekistan over the past short period of independence

have made it possible to radically diversify agriculture and fully provide the population with ecologically clean food products and export them. One of the important tasks in the Action Strategy for further development of the Republic of Uzbekistan for 2017-2021 is "3.3. Application of intensive methods in agricultural production, first of all, modern agro-technologies that save water and resources", [1,2,3].

Taking into account these tasks, to conduct scientific research on the maintenance of soil fertility and land reclamation, as well as the development of optimal timing of sowing, irrigation regimes, mineral fertilizer standards, harvesting timing of winter wheat in different soil climates. is up to date.

Lukyanenko P.P. in gaining high and quality grain harvest from winter wheat. Krasnodar Agricultural Research Institute, Saratov Agricultural Research Institute



"Yuga-Vostoka" and Serbian Novi Sad Field Vegetable Research Institute (Russian Federation), International IKARDA, SIMMIT leading research centers Autumn wheat agrotechnologies from foreign scientists: Sayko V.F, Prutskov F.M, Osipov I.P, Nikolaev E.V, Wahdan A.A, Abd El Aty, Ibrahim M., Dr. Zoltán Adamis, János Kátai and studied by others.

Research on the characteristics of the variety, adaptation to different soil and climatic conditions, the development of agrotechnologies for obtaining high and high-quality grain crops in the cultivation of winter wheat on irrigated lands of the Republic Khalikov B., Siddikov R., Amanov A., Khalilov N., Atabaeva H., Ibragimov N., Amanov O., Bakhranov A., Isaev S., Abdurahmanov S., Hoshimov I and other scientists conducted scientific research [4,5,6,7,8,9].

The shelf life of grain is the period of complete shelf life of all quality indicators in the baking of edible bread. The shelf life of seed grains is slightly shorter than the shelf life of grains used for consumption. Storage of seed grains is divided into two shelf life. The first shelf life is the biological shelf life, which is called the final shelf life of the grain, or the period during which it is able to retain its viability, even if only one. The second is the shelf life, which is important for the farm, depending on the type of grain, the period of germination that meets the requirements of state standards. The technological shelf life of grains is also taken into account. This shelf life is the period during which the grain mass fully meets the conditioning requirement according to the state standard, depending on the area of use (technical purposes for feed for consumption), [10].

If the varietal purity of the seeds is 99.5%, they are divided into the second and third categories if the first is 98 and 95%. Variety purity of elite seeds should be 99.7%. The quality indicators of seeds of winter wheat cereals are as follows: the main seed quantity (purity), contamination and germination. Depending on these parameters of the grain, the seeds are divided into different classes, [15,16,17,18,19,20].

The study of winter wheat varieties Selyanka, Jayhun, Krasnadarskaya-99 and Turkiston on the timing of harvest, as well as the effect on the quality of grain has not been studied in the conditions of lightly irrigated pastures and light gray and barren soils of Kashkadarya region.

The Aim of the study

To determine and recommend recommendations for the production of high-quality grain of winter wheat from Selekt, Jayhun, Krasnadarskaya-99 and Turkestan varieties in the conditions of ancient irrigated pastures and light gray and barren soils of Kashkadarya region in the southern region of Uzbekistan.

Object of research: ancient irrigated grazing light gray and barren soils, winter wheat varieties

"Selyanka", "Jayhun", "Krasnadarskaya-99" and "Turkiston".

As a subject of research growth and development and yield of winter wheat, as well as the technological quality of the grain.

2. THEORY

Conducting laboratory and field experiments, phenological observations and biometric measurements, soil and plant sampling and their analysis in the research work "Methods of field opiods with cereal cultures", "Methods of state sortoispytaniya selskokhozyaystvennyeken kultur", "Methodology of agricultural culture", "Methodology of agricultural culture" «Methods of biochemical research of plants», «Methods of conducting field experiments» and «Methods of agrochemical, agrophysical and microbiological research in polyvnykh khlopkovy rayonax carried out on the basis of guidelines, manuals, [11,12,13,14].

Once the grain crop is ripe, it is definitely time to start harvesting them. However, the yield is lower than the identified biological yield structure and approbation data. This is due to the fact that the harvest was not carried out on time, the work was not organized properly. Failure to take into account the economic characteristics of varieties of winter wheat, the lack of placement of varieties depending on the characteristics of the region at the time of sowing affects the yield and technological quality of grain.

3. STATEMENT OF THE PROBLEM

Kashkadarya region is located in the south-west of Uzbekistan, its northern and western sides are surrounded by mountains. Therefore, the Karshi steppe (Bahoristan, Mubarek, Mirishkor, Kasbi, Kasan, Karshi and Nishan districts) located in the region receives cold air from the north and hot air from the west from Karakum. This situation in turn creates a sharp continental climate. Summers are hot, long and dry, winters are short and cold, and springs are relatively humid. The weather changes with the wind blowing from the steppe to the mountains. Positive temperature is + 49000-5000 degrees, effective temperature is + 2519-2980 degrees, cold days are 213-233 days.

The first autumn frost occurs from October 14 to November 2, and the last spring frost occurs on March 16-25. Constant temperature above +10 degrees occurs 14-19 times in a typical gray soil zone.

In the zone of typical and light gray soils it is +25.3 degrees. The average daily temperature in July is +28 degrees in the middle reaches of Kashkadarya and +31.6 degrees in the desert zone. The maximum temperature in this zone reaches 47-50 degrees. During



this period, the relative humidity decreases to 22%, and during the day there is a hot wind due to drought.

Precipitation is very low, 40-140 mm during the growing season, 104-394 mm in autumn, winter and spring. Moisture evaporation is 1110-1580 mm during the growing season and 394-402 mm during the off-season.

In the 2011 experiment, the average daily air temperature rose from 5-8°C in January and February to 35°C in July, then dropped to 10°C in December. In 2012, it rose sharply from 10°C in January to 35°C in May, and to 38°C in July and August.

Field experiments were carried out on the experimental plot of the Kashkadarya Research Institute of Cereal Breeding and Seed Production in the conditions of ancient irrigated pastures of light gray and barren soils of Kashkadarya region. The mechanical composition of the soil of the experimental field is sandy, the groundwater depth is 2.5-3.0 m, the area of winter wheat varieties "Selyanka", "Jayhun", "Krasnadarskaya-99" and "Turkiston" is 360 m². (row length 64.3 m, ie 8 rows x 0.7 = 5.6 m), of which 180 m² are taken into account, 4 rows, all options are schematically placed in one tier and determine the optimal timing of ripening of winter wheat grain, harvest - Science-based technology for the timely and correct organization of harvesting The purpose of the creation of the INI.

Field and laboratory experiments were carried out on the basis of the methodological manual of the All-Russian Scientific Research Institute of Botany. Phenological observations and biometric analyzes were carried out in accordance with the methodological guidelines of the State Commission for Variety Testing of Agricultural Crops.

In the conditions of ancient irrigated grazing light gray soils, the content of humus in the tillage (0-30 cm) layer of the soil is 1.26%, total nitrogen 2.13%, phosphorus 2.11%, potassium 2.41%, their mobile forms are 14, respectively. 6; 25.3; At 223 mg / kg, the soil volume was 1.32 g / cm³, the specific gravity was 2.74 g / cm³, and the porosity was 51.8%, while the plowing of the soil in the conditions of ancient irrigated grazing fallow soils (0-30 cm) in the layer contains humus 1.14%, total nitrogen 2.43%, phosphorus 2.31%, potassium 2.32%, their mobile forms are 13.9, respectively; 22.5; At 212 mg / kg, the soil volume was 1.34 g / cm³, the specific gravity was 2.76 g / cm³, and the porosity was 52.4%.

The results of the research show that the number of plants per 1 m² of each variety, the number of productive stems, accumulation and plant height were as follows based on the biological characteristics of the varieties, ie the number of plants per 1 m² of Selyanka variety of winter wheat grown in light gray soils. 308 grains, the number of productive stalks was 385 grains, the accumulation was 0.8 grains and the plant height was 82 cm, while the Turkestan variety of winter wheat was 383 in accordance with the above; 479; 1.1 and 84 cm, Krasnadarskaya-99 variety 305; 381; 1.7 and 80 cm and 306 in the Jayhun variety of winter wheat; 386; 1.2 and 92 cm. When studying the same varieties in the conditions of barren soils, the Selyanka variety of winter wheat had 309 plants per 1 m², the number of productive stems was 387, the accumulation was 0.9 and the plant height was 85 cm, while the Turkestan variety was 385; 473; 1.2 and 89 cm, 308 in Krasnadarskaya-99 variety; 379; 1.5 and 86 cm and 307 in Jayhun variety; 383; 1.2 and 87 cm were observed.

We know that each variety can be distinguished according to its biological characteristics. Depending on the results of phenological analysis, it is possible to determine the duration of the process of growth and maturation of the plant. According to the results of the observation, Selyanka variety of winter wheat, grown in light gray soils, passed into the milk ripening phase on May 12, wax ripening phase on May 20 and full ripening phase on June 6, Turkestan variety on May 13, May 21, June 7, respectively. ; Krasnadarskaya-99 variety was matured on May 15, May 23, June 9 and Jayhun variety on May 17, May 25, June 11, or Turkestan variety vegetation period was 1 day, Krasnadarskaya-99 variety was 3 days late and Jayhun variety was 5 days late compared to Selekt variety. . In the study of winter wheat varieties under similar tillage conditions, Selyanka variety entered the milk ripening phase on May 13, wax ripening phase on May 21 and full ripening phase on June 7, Turkestan variety on May 14, May 22, June 8, respectively; Krasnadarskaya-99 variety matured on May 16, May 24, June 10 and Jayhun variety on May 18, May 26, June 12, or Turkestan variety has a 1-day late ripening period, Krasnadarskaya-99 variety has a ripening period of 3 days and Jayhun variety has a 5-day late ripening period. , Table 1.



Table-1
Influence of winter wheat varieties on phenological observations

№	Varieties	Grassing	Gathering	Tubing	Forming ears	Ripening period			Vegetation period
						milk ripening	wax ripening	Fully ripening	
In light gray soil conditions									
1	Selyanka	20.11	7.01	10.03	20.04	12.05	20.05	6.06	185
2	Jayxun	23.11	12.01	15.03	25.04	17.05	25.05	11.06	190
3	Krasnadarskaya-99	23.11	10.01	13.03	23.04	15.05	23.05	9.06	188
4	Turkiston	21.11	8.01	11.03	21.04	13.05	21.05	7.06	186
In the conditions of barren soils									
1	Selyanka	21.11	8.01	11.03	21.04	13.05	21.05	7.06	186
2	Jayxun	23.11	13.01	16.03	26.04	18.05	26.05	12.06	191
3	Krasnadarskaya-99	23.11	11.01	14.03	24.04	16.05	24.05	10.06	189
4	Turkiston	22.11	9.01	12.03	22.04	14.05	22.05	8.06	187

In the research methodology, using a four-term harvest, the 1st harvest is carried out when the plant stem is 75% yellow (approximately 10 days before full ripening); 2nd harvest when the plant reaches the full ripening phase; 3 days after the full ripening phase of harvest 3; The 4th harvest was carried out 20 days after the full ripening phase, Table 2.

According to the results, a separate harvest period was determined for each variety. In the conditions of ancient irrigated grazing light gray soils, depending on

the harvest time, the highest yield was 61 ts / ha from Krasnadarskaya-99 variety when the 2nd crop reached full maturity, the lowest yield was 52.1 ts / ha from Jayhun variety, 4th crop. when carried out after 20 days from the full ripening phase in all varieties ranged from 32.8 ts / ha to 42.4 ts / ha. It was observed that the highest yields were obtained from the Selyanka variety at 53.3 t / ha and the lowest yield at the Krasnadarskaya-99 variety at 50.7 t / ha when the same varieties were grown in loamy soils.

Table -2
Impact of harvest times on grain yield of winter wheat, ts / ha

№	Sorts	1st harvest	2- acceptable term	3 rd harvest	4 th harvest	Назоратга нисбатан фарқ		
						With respect to the 1 st harvest	With respect to the 2 nd harvest	With respect to the 4 th harvest
In light gray soil conditions								
1	Selyanka	59,5	60,0	54,9	36,1	-4,6	5,1	-18,8
2	Jayxun	49,1	52,1	48,0	38,7	-1,1	4,1	-9,3
3	Krasnadarskaya-99	51,9	61,0	55,3	42,4	3,4	5,7	-12,9
4	Turkiston	53,5	55,0	48,8	32,8	-4,7	6,1	-16,0
In the conditions of barren soils								
1	Selyanka	50,6	53,3	52,1	50,0	1,6	1,2	-2,1
2	Jayxun	49,7	51,5	48,8	46,9	-0,9	2,7	-1,9
3	Krasnadarskaya-99	46,1	50,7	48,3	45,5	2,1	2,4	-2,7
4	Turkiston	51,0	51,5	48,1	46,8	-2,9	3,4	-1,3



Samples from winter wheat varieties were first taken from freshly harvested wheat grains and placed in a thermostat at 200 C to determine germination, and 100 grains from each variety were placed in parallel in 4 turns, Table 3.

While the moisture content of the grain harvested from the Selyanka variety of winter wheat was 12.5% when it was originally brought from the field, the moisture content of the grain also changed during storage due to air temperature and relative humidity. The germination energy was initially 2%, 79% after 1 month, 99% after 3 months, the yield varied from 12.2% to 99%, and the initial moisture content of the grain in the Jayhun variety of winter wheat was 11.4%. In this case, the grain harvested from the field was put into production. In this case, the germination energy is 3%, germination 18%,

after 1 month, the moisture content of the grain is 13.4%, germination energy is 81%, germination is 87%, after 3 months, the moisture content of the grain is 12.5%, The germination energy was 98%, the germination rate was 98%, the yield of winter wheat Krasnadarskaya-99 was 12%, the germination energy was 2.2%, the germination rate was 24%, and the germination rate was 12.2% after 1 month. %, germination energy 88%, germination 90%, initial moisture content of grain 12.5% when sown after 3 months, it germination energy 98%, germination 98%, winter wheat Turkestan wheat initial moisture content 12.4%, germination energy 2%, germination 16%, after 1 month the initial moisture content of the grain 13.3%, germination energy 67%, germination 78 %, Initial humidity after 3 months was 14%, germination energy was 99%, germination was 99%.

Table-3

Dependence of winter wheat grain germination on the physiological dormancy period of grain

Tracking time	Selyanka			Jayhun			Krasnadarskaya-99			Turkiston		
	grain moisture,%	ignition energy,%	yielding, %	grain moisture,%	ignition energy,%	yielding, %	grain moisture,%	ignition energy,%	yielding, %	grain moisture,%	ignition energy,%	yielding, %
After the harvest	12,5	2	12,2	11,4	3	18	12	2,2	24	12,4	2	16
After 1 month of storage	13,6	79	80	13,4	81	87	12,2	88	90	13,5	67	78
After 3 month of storage	14	99	99	13,8	98	98	12,5	98	98	14	99	100

5. CONCLUSION

Selyanka variety of winter wheat, grown in Kashkadarya region on irrigated, grazing light gray soils, passed to the milk ripening phase on May 12, wax ripening phase on May 20 and full ripening phase on June 6, Turkestan variety on May 13, May 21, 7, respectively. June; Krasnadarskaya-99 variety was matured on May 15, May 23, June 9 and Jayhun variety on May 17, May 25, June 11, or Turkestan variety vegetation period was 1 day, Krasnadarskaya-99 variety was 3 days late and Jayhun variety was 5 days late compared to Selekt variety. .

2. In the study of winter wheat varieties in the southern soils of the southern region, Selyanka variety entered the milk ripening phase on May 13, wax ripening phase on May 21 and full ripening phase on June 7,

Turkestan variety on May 14, May 22, June 8, respectively; Krasnadarskaya-99 variety was matured on May 16, May 24, June 10 and Jayhun variety on May 18, May 26, June 12, or Turkestan variety with Selekt variety had a 1-day growing season, Krasnadarskaya-99 variety with 3 days and Jayhun variety with 5 days late ripening. ;

3. Turkestan and Krasnadarskaya-99 varieties, Selyanka and Jayhun varieties of winter wheat grown in ancient irrigated soils in the southern region of the country in the conditions of light gray soils grazing in order to obtain high and high-quality winter wheat. Harvesting is recommended when it reaches the full ripening phase by June 12th.

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THE CONNOTATIVE SPHERE OF THE SEMANTIC FIELD “EVIL SPIRITS”

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ABSTRACT

In linguistics, there are several definitions of the term connotation. By the term connotation, we mean the additional meaning of a linguistic unit with elements of semantics and stylistics. In the course of our analysis, we tried to identify the components of the connotation of the semantic field “evil spirits” using the example of the Uzbek and Russian languages.

KEY WORDS: *Connotation, semiotics, psycholinguistics, linguistics, macroidiom component, microidiom component, genera of lexical units.*

DISCUSSION

The term connotation first appeared in (scholastic) logic and in linguistics this term was introduced by Port Royal in the 17th century. In linguistics, this concept means emotive-colored elements of the content of expressions, correlated with the pragmatic aspect of speech [2,80]. There is no specific definition of the concept. Connotation may or may not be accompanied by denotation. Since demonological vocabulary does not have a specific denotation, the connotation establishes an ideal object, which does not have a real equivalent, but the name of a word or phrase is not devoid of meaning. The Tolia connotation is any component that complements the subject-conceptual content of a linguistic unit and gives it expressiveness, it is understood as “an additional value of an evaluative, emotional or stylistic nature acquired by a linguistic unit (i.e., fixed in the language system) in the process of its implementation in the text (both oral and written) [9, 90]. V.N. Tolia, studying the problem of connotation, distinguishes three directions: the semiotic direction, the psycholinguistic direction, the linguistic direction. The latter direction includes several branches [ibid.]. In the stylistic approach, the term connotation means expressive, stylistic and evaluative elements. Under the expressive-stylistic

coloring of a word, D.N. Shmelev understands “information that contains some indication of the speaker's attitude to the phenomena indicated by these words, signals the conditions under which speech communication occurs, which characterizes the speaker from different sides” [11, 249]. The lexicological direction studies the additional meanings of linguistic expression. O.S. Akhmanova, along with the conceptual core, distinguishes in the meaning of the word “pragmatic content” - “additional subjective knowledge about what is called by the word. Pragmatic content includes two elements: evaluative values and cultural associations” [1, 95]. The culturological approach, in our opinion, is an equally important aspect of describing the connotation, since national specificity plays an important role in the formation of traditions and ideas that prevail in a particular society. Thus, it is difficult to give an exact definition of the concept of connotation for the reason that this term is interpreted in different ways and there are many approaches and synonyms. We consider it important to pay attention to the structure of connotation in literature (demonological vocabulary), since this issue has not been fully developed by scientists.



Structure and Components of Connotation

Intralingual connotations	1. Diachronic 2. Motivational (synchronic)	Archaic Obsolete Portable
Foreign language	Functionally stylistic	Scientific, stationery, Sublime, lowered
	Idiom (macroidiom components)	Literary, colloquial, vernacular, dialectal
	Microidiome components	Slang, professional (special), marks associated with biological characteristics of a native speaker - gender, age, etc. - youth, children, etc.
	Psychological emotional	Positive, negative, neutral
	Expressive Phonomasemantic	Abusive, rude, ironic, affectionate, contemptuous, dismissive, respectful, diminutive, derogatory, humorous, disapproving, approving, familiar, reproachful
	National-cultural	Comes from national specifics

Considering the table described by E.M. Storozheva, we can conclude that the composition of intralingual components includes a motivational component. It supplements the objective meaning of a linguistic unit with an associative-figurative representation of the designated reality based on the internal form of the name, that is, on the basis of features that motivated the rethinking of this phenomenon [8, 90]. In literature and in works with a historical theme, archaisms are often used to denote the color of that era, and they also perform a stylistic function to create an atmosphere of solemnity in the text. The image of Satan and the demon in Uzbek literature is based on the legends about him in the Koran. There are about 11 mentions of the word Iblis, (suras 2; 34/7; 11/15; 31/32; 17/17; 61/18; 50/20; 116/38; 74/75) which in some contexts is unambiguous with the word Satan (Suras 2; 36/7; 20/20/120) is also used about 88 times. Jaloliddin Rumi in Masnavi's work draws great attention to demonology: *"Shunda u: hop seni ko'r shayton, la'nat bo'lsin deyamin g'irladi. Buni eshitgan shayton tezda kamgarga ko'rinib, shunday dedi: — Ey shumkampir... Sening bu qilig'ing umrim bo'yi xayolimga ham kelgan emas. Qur'ondagi zarhallarni olib, yuziga yopishtirish kimning ham aqliga keldi? Nega meni ayblaysan? Sen hiyla va yovuzlikda yuz shaytonga dars berasan. Menga tuhmat qilma..."* Demonological images have always been relevant in the literature of many nations and nationalities, this image has always had and has its place in the visual arts, in oral folk art, folklore and

in modern literature. In our opinion, this is the main reason that archaisms are rarely found in demonological vocabulary, since the essence of demonological images has always had its significance in Uzbek, Russian and foreign literature. Since outwardly linguistic connotations include macroidiom and microidiomal aspects. Macroidiom connotations include literary, colloquial, vernacular, dialectal. Demonological vocabulary is widely used in the literature of all nations and people of the world. Such works as Byrom Manfrede, Goethe Faust, W. Barlow "The Demon of the Lord" K.Barker "The Book of the Demon" in Russian Literature N.Gogol "Evenings on a Farm Near Dikanka" M.Lermontov "The Demon" M.Bulgakov "Master and Margarita" N.Gogol "Viy" V.Orlo "Altisi Danilov" in Uzbek literature J.Rumi "Masnavi", Attar "Ilahi-name", A.Hamadoni "Azat" A.Kodiriy "Jinlar bazmi" are vivid examples of works by the main character which is the image of evil spirits. In our opinion, demonological vocabulary cannot be divided into literary and colloquial, since the same lexical units are used in both macroidiom components. Microbiome components include jargon, professional (special), marks associated with biological characteristics of a native speaker - gender, age. M. Ford in "Luciferian Witchcraft" divides Lilith into younger and older. The word Lilith is of Hebrew origin, which translates as a demoness. In the Talmud, she is described as a woman with long hair and wings. J. Blair in his doctoral dissertation concludes that the word Lilith in the biblical text means a bird. Ushakov's dictionary gives the feminine gender of the word devil, which has the



connotation of an evil woman. Pisemsky A.F. in his work "Bitter fate" uses the word devil "Matryona". I will not curse Ali so that you, devil, fall into tartars and torments of eternity, here is my motherly word for you!" The lexical units of demonological vocabulary can be heterogeneous, have an association of the opposite sex, and a group of lexical units have no gender at all.

Gender lexical units of demonological vocabulary

Male. p Female p has no gender

Demon demones (Lilith) ghoul

Devil bream

Vampire flywheel

- mermaid chitnik

Brownie – blaznila

Expressive connotation is of great importance in demonological vocabulary. The specificity of demonological vocabulary and the semantic field of "evil spirits" is that almost all phraseological phrases and lexical units belong to the category of abusive words marked in the dictionary with a swear word, an abusive expression, a swear word. (Damn it, go to hell, damn it, damn it, damn it, what a leshak, etc.). Since the national specifics of each nation is less changeable than other spheres of everyday life, and it is this that determines the national spirit that has been formed over the centuries. For linguodidactic purposes, it is advisable to carry out a simultaneous description of the national specifics of the semantics of only one language, while the second acts as a mirror reflecting the national specifics of the first, as the background of the description, the Russian word Leshy "Master of the forest in mythology" are two words, each of which is semantically different from English.

The English word goblin is a forest owner, silvan is a bream. The national specificity of the semantics of the lexical unit of language A relative to language B does not coincide with the national specificity of the unit of language B relative to the language A.

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THE ACTIVITY OF THE PROSECUTOR'S OFFICE IN TURKESTAN (20th years of XX century)

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ABSTRACT

The article covers a wide range of primary sources, such as the organization of the activities of the State Prosecutor's office in the Turkestan ASSR, the work done by the prosecutor's office, the issue of personnel in the system, their social status.

KEY WORDS: *Turkestan ASSR, People's Commissariat of Justice, State Prosecutor's Office, Prosecutor's Office, Regional Prosecutors, Prosecutor's Control, Personnel Issues.*

DISCUSSION

Prosecutor's office, which monitors the implementation of laws, also plays an important role in the law enforcement system of the state.

The life of the peoples of Central Asia has long been regulated by Islamic law – the *Sharia*, during which time the courts, prosecutors, lawyers, notaries, in general, the functions of the judiciary were performed by *muftis*, *muhtasibs* and *judges*. After the Russian Empire established its rule in Turkestan, a separate institute of prosecution was introduced. Initially, the duties of the prosecutor in the country were performed by the Governor-General of Turkestan and representatives of the local administration. On the basis of the "Regulations on the management of the Turkestan region" adopted on June 12, 1886, from 1887 the posts of prosecutor and his assistant were introduced in the regional courts[1].

After the Soviets took power in Turkestan, the judiciary began to be reorganized from an ideological and class point of view. The former Imperial Prosecutor's Office was abolished by a resolution of the Provincial Council of People's Commissars (CPC) on December 12, 1917, but prosecutorial control was maintained in the imperial courts operating during this period. In particular, the prosecutor's office of the Tashkent Judicial Chamber functioned until 1919[2]. The department had a

chamber prosecutor, 2 assistant prosecutors, a department secretary, a typist, a registrar and an interpreter[3]. However, they were strongly controlled by the Soviet government, including the commissariat.

Although Soviet power was established in the country, the prosecutor's office was not initially established. One of the main reasons for this was the revolutionary political situation in the entire Soviet state, as well as the widespread use of repressive methods by the Bolsheviks to punish the enemies of power.

The process of developing the Statute of the State Prosecutor's Office in the Turkestan ASSR began in early 1922. Initially, this bill was considered at the 8th session of the Commissariat of Justice on March 23, 1922, and then discussed at the meeting of the Central Committee of the Turkestan Communist Party, the ICC. After a long debate, the Turkestan Central Executive Committee (CEC) adopted the Regulation on the State Prosecutor's Office on May 9, 1922, which came into force on June 3. It should be noted that although there was considerable controversy and debate over the development and adoption of this legislation, it was almost indistinguishable from the law adopted in the RSFSR[4].

On the basis of the decision of the Turkestan CEC by October 31, 1922, another Regulation on the activities of the prosecutor's office was introduced



into practice[5]. Although this Regulation was developed under the law of the RSFSR, some changes can be seen in it. For example, the provincial prosecutor's office has been empowered to suspend the execution of illegal decisions and orders of local councils. However, the provincial prosecutor's office has never done such a thing during the period under investigation. The Charter also defines the legal status of national and local prosecutors. According to him, the TASSR prosecutor monitored the operation of all people's commissariats, institutions and organizations in accordance with Soviet legislation. In addition, orders and instructions were developed for all prosecutors in the republic within the framework of Soviet law, which were binding, and on the basis of which prosecutors carried out their activities on the ground. The Prosecutor of the Republic of Turkestan annually reports to the Presidium of the Turkestan CEC on the activities of himself and all its constituent bodies[6].

During this period, the Commissioner of Justice was simultaneously the Republican Prosecutor. The head of the prosecutor's office was his deputy and a member of the board. The regional prosecutor, his deputy and the assistants of the regional prosecutor under the regional courts functioned in the regions and were organized in all regions of the TASSR. By the order of the Commissariat No. 66 of May 15, 1922, Uspensky was appointed to the post of Samarkand regional prosecutor, Smirnov to Fergana region, Grigorev to Yettisuv, Verdinsky to Amudarya, and Kiselev to Turkmen region[7].

In 1922, the following places were allocated to the regional prosecutor's offices in the state: Syrdarya - 16, Fergana - 13, Samarkand - 12, Turkmen - 12, Yettisuv - 17, Amudarya - 6[8]. It should be noted that during the period under review, along with other judicial bodies, there was a constant shortage of staff in the states where the prosecution system was established.

The responsibilities of the district prosecutor are divided between the prosecutor and his assistants. Local prosecutors also had the authority to attend all meetings of local executive committees, to challenge decisions and orders issued by them, and to demand their change. It should be noted that in the initial period, the powers of prosecutors were limited, and they were only involved in supporting public prosecution in court proceedings.

Regional prosecutors of the Republic of Turkestan are required to report quarterly to the Republican Prosecutor and the regional executive committee on the work done by him and his assistant. In 1923, a total of 54 prosecutors and 101 technicians served in the TASSR regions. Of these, 6 were regional prosecutors, 16 were assistant prosecutors under regional courts, and when distributed by regions, there were 3 assistant prosecutors in Syrdarya, Samarkand, Fergana and Yettisuv regions,

and 1 assistant prosecutor in Amudarya region. There was a constant lack of prosecutors on the ground. The largest number of prosecutors was in the Syrdarya region, and in 1923 a total of 13 prosecutors served in the region[9].

In the districts, there were prosecutor's offices, where the assistant regional prosecutor, secretary and mail carriers work. During this period, there were 28 prosecutor's offices in the territory of the Republic of Turkestan[10].

The TASSR prosecutor's office was given the task of combating bribery, career-related crimes, squandering of economic property, and violators of tax laws as its first priority. Also, in the fight against crime, the state prosecutor's office shall: a) prosecute officials and citizens on its own initiative or on the basis of applications and complaints received; b) control over the conduct of inquiries and preliminary investigative actions, as well as provide instructions and explanations to the investigative bodies on the preliminary investigation and other related issues; c) referring cases to the court or closing the case, received from the bodies of inquiry; g) the preparation of an indictment and a decision to dismiss the case after the preliminary investigation; d) the defense of public prosecution in court; e) to verify the lawfulness of the detention of prisoners in places of deprivation of liberty and the legality of their release, and other similar powers[11].

On the basis of the decision of the Turkestan CEC of August 1, 1922, the Criminal Procedure Code of the RSFSR came into force in the territory of TASSR. At the same time, the decision strengthened the prosecutor's supervision over the investigation of crimes. Prosecutors were given additional powers, such as access to all materials related to criminal cases, additional instructions on ongoing investigations, and the transfer of the investigation to another investigation unit.

Prosecutors have been more active in supporting the prosecution in court. In particular, they participated in 470 of the 479 court hearings held in the first half of 1922 with indictments. If we look at the participation of prosecutors in the trials at the regional level, the Fergana Prosecutor's Office participated in the trial 101 times, and the prosecutor and assistant prosecutor of the Amudarya region participated in the trial 21 times[12].

In 1923, the Turkestan CEC adopted another resolution on the activities of the prosecutor's office. According to it, all inquiry bodies were directly subordinated to the state prosecutor's office. It is also planned that the police and criminal investigation departments will assist the prosecutor's office in ensuring the execution of inquiries and court decisions.

The Soviet prosecutor's office conducted a large-scale investigation. In particular, in the first half of 1923, the Turkestan Prosecutor's Office conducted 4,308 investigations. In terms of regions,



the Syrdarya region investigated 1,233 cases, the Yettisuv region prosecutor's office 803 cases, the Turkmen region prosecutor's office 723 cases, the Samarkand region prosecutor's office 712 cases, the Fergana region prosecutor's office 468 cases and the Amudarya region prosecutor's office 369 cases. Surprisingly, the Syrdarya Regional Prosecutor's Office conducted the most inquiries, but ranked last among the provinces in terms of indictments (7.7 percent of the total). According to the results of the investigation, Amudarya region ranked first in Turkestan, ie 48 out of 123 cases (39.2%) were prosecuted[13].

During its existence, the TASSR Prosecutor's Office has also carried out a number of activities to monitor the observance of the law in penitentiary institutions. In particular, in 1922-1923, the Fergana Regional Prosecutor's Office conducted 125 inspections of regional penitentiaries at various levels and found that 33 prisoners had been illegally detained and 18 had been released. During this period, the Syrdarya Regional Prosecutor's Office released 22 prisoners, the Samarkand Regional Prosecutor's Office released 15, and the Amudarya Regional Prosecutor's Office released 9 illegal detainees[14].

During the period under review, illegal actions by officials (especially those in charge of executive committees) were common. For example, the prosecutor of the Samarkand region, Wojciechowski, received information that the Samarkand city judge had received additional payments from the population. Of the 343 complaints received by the Fergana regional prosecutor's office in 1923, 140 were related to the illegal actions of officials. In total, in 1923, the prosecutor's office received 877 complaints against officials, most of which were found to be valid[15]. However, the Soviet prosecutor's office did not fight them enough. The reason was that the immunity of prosecutors was not ensured, and if an assistant prosecutor initiated a case against an official on his own initiative, the provincial party committee or executive committee would take action against that prosecutor. In particular, in September 1923, the executive committee of Kattakurgan district in various ways obstructed the investigation of a murder case by the prosecutor's office. The Jizzakh District Executive Committee ordered the arrest of the victim in protest of the prosecutor. The Turkestan County Executive Committee has decided to arrest the assistant prosecutor on charges of incompetence[16].

On September 13-18, 1923, the First Council of the TASSR Prosecutor's Office was held. The meeting analyzed the short-term activities of the Soviet prosecutor's office and identified the next tasks of the prosecutor's office, consisting of 23 items. According to it, the prosecutor's office was to carry out its activities in two directions: to ensure the protection of Soviet law and to perform its judicial

functions. The importance of these two functions of the TASSR prosecutor's office in the establishment and implementation of Soviet legislation in the country was also emphasized by the State Prosecutor of the Republic of Turkestan in an interview with Turkestan'skaya Pravda[17].

Frequent rotations of prosecutors have also become commonplace. They were now transferred to other areas when they began to study a case. For example, in October 1922, A. Voitsekhovskiy served as a prosecutor of the Turkmen, Samarkand and Syrdarya regions[18]. In general, during 1922, such cases were observed 5 times in Tashkent, 3 times in Samarkand, 4 times in Yettisuv, and 2 times in Amudarya region. Similar situations continued in later years[19]. This process has undoubtedly had a negative impact on system performance.

"... Although prosecutors were required to keep the doors open' of all judicial and other Soviet institutions open[2], by 1924 the Prosecutor's Office of the Republic of Turkestan had great difficulty in carrying out its duties. The Soviet government wanted to solve this problem by recruiting staff from the RSFSR, as well as by increasing the number of staff in the prosecutor's office. For this purpose, the number of states assigned to the TASSR Prosecutor's Office was increased from 82 to 177 and distributed to the systems as follows: 10 employees to the State Prosecutor's Office within the Commissariat, 6 to the Prosecutor's Office under the Turkestan Branch of the Supreme Court. The number of employees of the regional prosecutor's office has also increased significantly. During this period, the regional prosecutor's office had 69 employees: 6 regional prosecutors, 6 deputy prosecutors, 11 assistants, 6 secretaries, 11 deputy secretaries, 6 typists, 6 assistants, 6 translators, 11 correspondents carrier[21].

The number of staff in the district prosecutor's offices has also been increased. As a result, they had 92 employees (assistant prosecutor, secretary, mail carrier)[22].

The Communist Party of Turkestan also controls the state prosecutor's office. According to the decision of the Central Council of the Party of September 13, 1922, the provincial and district party committees supervised the activities of prosecutors. In addition, candidates for the post of prosecutor and his assistants in the country were nominated by a decision of the party's central council.

There was a constant shortage of staff in the states allocated to prosecutors. In the Amudarya region, one assistant replaced the two assigned prosecutors, while in the Fergana region, six prosecutors worked in nine states[23]. This situation also caused a lot of misunderstandings and confusion in the work of prosecutors.

Focusing on the level of education of the state prosecutors of the Turkestan ASSR, it can be said that the majority of employees were those with



secondary and lower education. In 1922, 8 of the prosecutors working in the system had higher education, 13 had secondary education, and 4 had lower education. According to their ethnic composition, 13 of them were Russian, 6 were indigenous, 1 was Jewish, 4 were Polish, and 1 was German[24].

During the period of revolutionary change, the justice workers of the Republic of Turkestan were paid insignificant salaries. This led to a deterioration in their financial situation. As a result, many experienced workers left their jobs to pursue other occupations, farming and handicrafts. The Turkestan regional prosecutor said in a report: "Employees are leaving their jobs due to the rapid rise in prices in the markets and untimely payment of salaries" [25]. Such cases have been reported in all prosecutors' offices in the country. For example, in a short period of time in Tashkent, six assistant prosecutors resigned due to lack of funds. The situation in the judiciary of the Bukharan People's Soviet Republic (Bukharan SSR) is completely different[26].

Insufficient funds have been allocated for the activities of prosecutors, let alone for their work. A report to the provincial prosecutor's office said: "... there is no money to buy a postage stamp to send even the most important official correspondence"[27]. There was also a constant shortage of legal literature and stationery. Chimdin, the assistant prosecutor of the Yettisuv region, wrote to the commissariat on July 1, 1924, stating that the work of the prosecutor's office had been suspended due to a lack of funds for the chancellery and other daily expenses[28]. Such data testify to how difficult the social and material security of the Soviet prosecutor's office was.

In conclusion, it can be said that the state prosecutor's office established in the country has done a number of things despite the difficult political and material conditions. However, like other law enforcement agencies, it acted on the instructions of the Bolshevik authorities and expressed their interests. As a result, the activity of the Soviet prosecutor's office during this period became one-sided.

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AN ANALYSIS OF PRADHAN MANTRI FASAL BIMA YOJANA (PMFBY): EXPECTATION AND REALITY IN JHARKHAND

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ABSTRACT

Pradhan Mantri fasal Bima yojana (PMFBY) and is a scheme of central government of India. This scheme is a risky venture which is susceptible to various risks arising from weather variability, fluctuations in input and output price, difficulties in storage pest attack and diseases. Although there are many risk mitigating tools, whenever there is a crop failure, crop insurance is considered to be the effective mechanism to compensate the farmers for their losses. One of the policy interventions in recent times to minimise the risk associated with agricultural production is the introduction of Pradhan Mantri Fasal Bima Yojana (PMFBY) in 2016. The previously implemented schemes because of their lower penetration and coverage met with limited success. To protect and double farmers' income by 2022 is the major objective and a shift from increasing farm production to increasing farm income is the important policy change of this present scheme. Using secondary data, the present paper is an attempt to examine the performance of the scheme.

KEYWORDS:-PMFBY, crop insurance, compensation, fluctuations.

INTRODUCTION

Agriculture is exposed to various types of risks such as production, ecological, market. Production risks have different dimensions: 'micro' or idiosyncratic risk affecting an individual or household, covariant risk affecting groups of households (e.g. rainfall) and 'macro' or systematic risks affecting regions (e.g. Droughts). Variations in weather indicators (rainfall, humidity, temperature etc.) Affect the crop yield adversely. Again Crop yield is affected by weather induced natural disasters like droughts, flood, hurricane cyclone and hailstorm. Apart from weather risks unforeseen contingencies like infestation of plant disease and pest attack very often causes huge crop loss. In addition to production risk, there is also substantial market risk in agriculture due to wide variations in input and output prices. Crop prices are more volatile because of difficulties in storage owing to perishability of the products.

The question is how farmers can be protected from the various risks by minimizing crop losses. Crop insurance is one of the mechanisms to mitigate production and market risks which results in instability in income resulting from various uncertain events. Crop insurance is a risk transfer mechanism that transfers the production risk from the insured to the insurer and reinsurer. Though crop insurance does

not reduce the risk of crop failure and thus, is not preventive.

Two major issues have emerged in respect to pulses production in the country. First, the limited genetic potential for high yields and second their vulnerability to pests and diseases. Compared to other food grains crops, yield potential of the pulses has been rather low. Newer varieties of pulses need to be developed so that the crop cycle fits well into cropping systems that the farmer's adopt. Another important issue is limited mechanization potential, especially for planting and harvesting of the crop. Suitable plant types need to be developed for mechanical harvesting with pods above the canopy and sturdier plants.

PRECONDITIONS FOR IMPLEMENTATION OF THE SCHEME

Overview of Jharkhand

Issuance of Notification by State Govt. for implementation of the Scheme (PMFBY) will imply their acceptance of all provisions, modalities and guidelines of the Scheme. The main conditions relating to PMFBY which are binding on State is as follows:



- ✦ Adoption of innovative technology especially Smart phones/ hand held devices for capturing conduct of CCEs through CCE-Agri App and use of NCIP platform for flow of information and auto administration of the scheme
- ✦ State has to conduct requisite number of Crop Cutting Experiments (CCEs) at the level of notified insurance unit area;
- ✦ CCE based yield data will be uploaded on the National Crop Insurance Portal/submitted to Insurance Company within the notified cut-off date.

Pradhan Mantri Fasal Bima Yojana (PMFBY)

After the non-satisfactory performance of the previous crop insurance programme simple mentioned in India, the NDA government introduced PMFBY in the year 2016 in order to reduce the hardship on farmers and stabilise their income. The scheme aims to support sustainable production by providing financial support to farmers suffering crop loss/damage arising from unforeseen events. The scheme also aim and encouraging farmers to adopt innovative and modern agricultural practices. Thus, PMFBY is an important and ambitious scheme aimed at ensuring stable incomes for farmers in the event of agrarian uncertainties. It is one of the largest experiments of its kind in the world given its potential to benefit millions of small and poor farmers.

Coverage of Crops

The schemes provides coverage of the following crops:

- ❖ Food crops (Cereals, Millets and Pulses),
- ❖ Oilseeds
- ❖ Annual commercial/ Horticultural crops

Premium Rates

The premium rates for Food Crops and Oilseeds (FCOS) is fixed at 2 percent of the Sum Insured or Actuarial rate, whichever is less, for kharif season and 1.5 percent for rabi season. For commercial/horticulture crops, premium rate of 5 percent is fixed to be paid by the farmer. The Central

government and the State government will equally share the difference between premium rate and rate of insurance payable by farmers as premium subsidy.

LITERATURE REVIEW

Suman Devi (2015)

Agriculture production and farm incomes in India are frequently altered by natural disasters such as droughts, floods, cyclones, storms, landslides, earthquakes, etc.

Dr. Rahul Reddy (2017)

The ongoing national agricultural scheme is a good step forward to insure risk of millions of farmers whose livelihood depends on the pattern and distribution of monsoon rain in India .Department of agriculture, cooperation and farmers welfare ministry of agriculture and farmers welfare krishi bhavan.it provides guidelines and frame work for insurance scheme and its procedure.

Mridusmitha choudary (2018)

This scheme will let farmers pay a very low premium to insure their crops .Farmers will have to pay premium of only 2% of the some insured for kharif crops, 1.5% for rabi crops and 5% for horticulture and cash crops

Objective of the Scheme

Pradhan Mantri Fasal Bima Yojana (PMFBY) aims at supporting sustainable production in agriculture sector by way of

- ✦ Providing financial support to farmers suffering crop loss/damage arising out of unforeseen events
- ✦ Stabilizing the income of farmers to ensure their continuance in farming
- ✦ Encouraging farmers to adopt innovative and modern agricultural practices
- ✦ Ensuring flow of credit to the agriculture sector which will contribute to food security, crop diversification and enhancing growth and competitiveness of agriculture sector besides protecting farmers from production risks.



DATA INTERPRETATION

Table no 01
Crop contribution to total pulse production as on 2019-2020

(Area-lakh ha, Production-lakh tons, Yield-kg/ha)

Crop	2019-202			Contribution%	
	Area	Production	Yield	Area	Product ion
Gram	105.73	111.58	1056	36.01	45.53
Tur	44.59	41.80	937	15.19	17.06
Urd	50.31	32.84	653	17.13	13.40
Mung	40.70	19.01	467	13.86	7.76
Other Kharif Pulses	18.74	7.99	426	6.38	3.26
Other Rabi Pulses	33.53	31.83	903	11.42	12.99
Total Kharif Pulses	137.60	90.06	654	11.42	36.75
Total Rabi Pulses	156.00	155.00	654	53.13	63.25
Total	293.60	245.06	654	165	200

Source: DES, Ministry of Agri. & FW (DAC&FW), Dated on 2019-20.

On the basis of table no 01 Crop contribution to total pulse production as on 2019-20 Area 293.6, Production 245.60, Yield 654, and contribution % Areas165, Production 200.

CONCLUSION

This study is very helpful to analyse and evaluate what is this scheme and its use for the agricultural people. Our population is increasing as well as demand will also increase which we have to resort to increase the production. It is a challenge for us to ensure supply of pulses as pulse crops are primarily taken up for cultivation under rain fed condition in poor soils and are prone to production losses due to moisture stress. State Governments will review the performance of the scheme after one year and point out corrections, if any, required in any of the provisions of the scheme to Govt. of India.

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NATIONALITY IN ENGLISH AND UZBEK PROVERBS

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ABSTRACT

A comparative study of English and Uzbek proverbs, emphasizing this feature of proverbs whose pragmatic nature is not revealed today, arising from a series of similarities and differences in non-sister languages. The content, the similarity is revealed. The meanings of the proverbs and their meanings are analyzed.

KEYWORDS: folk sayings, nationalism, pragmatism, comparison, diamond.

The Law on Education¹ adopted on May 19, emphasizes the scientific potential in the development of education.

Every nation sees its future through the present generation. Literature, especially folk oral poetry, serves as a basic tool for determining human perfection. If the first song sung to a child is *alla*, then the introduction to the world, the environment, the family, nature, is based on fairy tales, anecdotes, songs of folklore. When these genres are analyzed and conveyed to the child, a brief conclusion to be drawn from it is explained through a proverb. Folk proverbs are phraseologies that are based on many years of experience of the people, passed from mouth to mouth, from generation to generation, polished, sometimes in their own sense, sometimes in a figurative sense. In all nations, the creator of proverbs is the people. These proverbs are like a mirror that reflects the linguistic features, customs and traditions of their people. These features of proverbs are studied in the field of pragmalinguistics. One of the first to determine the subject of pragmalinguistics was G. Klaus. He describes pragmatics as "the study of the relationship between characters and the individuals who create, transmit, and receive these linguistic signs".² Therefore, the study of linguoculturological and pragmatic features of articles is one of the most relevant topics.

It is no secret that the experience of developed countries in the field of education is important in educating the younger generation. There is a growing demand for English language education today. That's the point the study of the Uzbek language in comparison with the English language allows us to study the linguistic, pragmatic features of the two languages, to get to the root of the language, relying on the specific nationality of the languages. Through the study of folk proverbs, it is possible to see in two languages the reflection of the life of the people, their way of life, customs, specific traditions, their attitude to these traditions and its periodicity. The study of proverbs, one of the most important genres of folklore, and folk art in general, is very important today.³ In proverbs, the idea is clear, the conclusion is complete, the expression is concise, but in this shortness and clarity, the depth and breadth of meaning is hidden. Proverbs are the basis of the vernacular. Regardless of the language, proverbs can be a great teacher and helper to penetrate into the way of life of a people, their worldview, culture, customs, traditions, works of art. If we translate the English proverb *diamond cut diamond* into Uzbek, it will be *olmos olmos bilan kesiladi*.⁴ An alternative to

¹Law of the Republic of Uzbekistan "On Education" May 19, 2020.

²Course work on the pragmatic features of the text. Nabyeva .D. - Andijon :. 2011. 18 pages. 3rd page

³Akhmedova K. U Linguoculturological and semantic features of English and Uzbek proverbs. - U.: 2014. 107 pages. 11th page.

⁴<https://n.ziyouz.com/portal-haqida/xarita/hikmatlar/jahon-xalqlari-maqollari/ingliz-xalq-maqollari-608>



this in Uzbek folk proverbs is *achchiqni achchiq kesar*.⁵ Diamond is a precious stone. Scraping it creates a *diamond*. A diamond cutter is also used to cut the thickest glass. This means that the sharpest cutting tool is made of diamond. In both languages, when the proverb is used figuratively, it is said that good should be treated with good, evil with evil, and reason with reason. Instead of a conclusion, the idea is expressed that although the form and the symbol used are different, that is, in one language the nature of the symbol is expressed by its sharpness, in another language it is expressed by the bitterness of taste. Mutual contextual antonyms can be seen in the nature of two languages. Content, on the other hand, created lexical synonymy.

You lose nothing by asking. In the Uzbek translation of the English proverb *so'rab hech narsa yo'qotmaysan*, you can see an exemplary idea in the sentence.⁶ The emphasis on proverb analysis is that in any situation that is vague, abstract, or incomprehensible, it is important to ask openly from a democratic standpoint, and there will be no loss. At the same time, the principles of transparency in English education are evident. The Uzbek version of the proverb is *bilmaganni so'rab o'rgangan olim, orlanib so'ramagan o'ziga zolim*.⁷ In this proverb, which has the form of a two-line byte, melody, rhyme, it is necessary to give up the shame, which is typical of the Uzbek people, to ask anything that is incomprehensible, and if it is not asked, it is an ax to one's foot. There is a hint that it will hit. The alternatives to these proverbs in the same language express the same content, reflecting the democratic nature of the British, the shame of the Uzbek people.

The proverb *what the heart thinks the tongue speaks* is translated from English into Uzbek as *yurak istaganini til gapirad*.⁸ The proverb is used in its own sense and is expressed through a specific name. The Uzbek version is *til — dil kaliti, til — dil tarjimoni, til — dil jarchisi*.⁹ In Uzbek linguistics, language is *the key, the translator, the herald of all thoughts in the heart*. Another peculiarity of the Uzbek language is the use of the word language in the artistic style, which belongs to the synonymous series of the heart, and along with this artistic color,

the word *language* also create melody and rhyme. It is possible to observe that any thought expressed in oral speech first appears in the heart, and the word in the heart can be metaphorically compared to *a key, a translator, a herald*. In English, the word heart is used interchangeably with the word heart.

When the following proverb *a burnt child dreads the fire* is translated into Uzbek, the phrase *a burnt child is afraid of fire*¹⁰ appears. This proverb can be used both literally and figuratively. The meaning of this proverb is expressed in the words of burning from boiling water, fire, sunlight, that is, injuries from high temperatures. Uzbeks have an educational tool associated with this process, which is instilled in the child's mind from an early age. The whole family gathers around the table, the older ones sit in the net and the younger ones race. Grandpa caresses the little baby and explains to him how hot it is, how it burns, how it hurts when it burns, and puts the baby's hand close to the hot pot of tea and food to feel the temperature from a distance. As a result, the young child's mind quickly becomes aware of the heat. In English, burning is treated with sunlight and coffee is explained to the gut. The above examples were of the proverb being used in its own sense. The Uzbek version of the proverb has a figurative meaning when it says, *qaynoq sut ichib og'zi kuygan qatiqni ham puflab ichar*.¹¹ Yogurt from dairy products is always cold, and milk is drunk boiled. It is natural for a person who drinks hot milk with a burning sensation to drink yoghurt with caution. Applies to any situation in a figurative sense. The same applies when you encounter an obstacle, such as overcoming an obstacle. In ancient times, there was a fire-related tool called a sandal. In the dead of winter, a hole was dug in the middle of the house, and a thick rectangular table was placed over the coals and covered with a thick blanket. On all four sides of this sandal, all members of the family put their feet up, warmed up very close to each other. Family adults tell exemplary stories, fairy tales, legends, advice, interesting stories enriched child's thinking by telling. Around the hot sandals, they both avoided the cold and felt the tenderness of affection. This oriental relationship was very important in the upbringing of children. At the same time, important properties of heat are absorbed into the child's mind.

*What does 'Don't wash your dirty laundry in public'*¹² translates to Uzbek as *odamlar oldida kir*

⁵Uzbek folk proverbs. -T: "Sharq". 2005. 510 pages. 52nd page

⁶<https://n.ziyouz.com/portal-haqida/xarita/hikmatlar/jahon-xalqlari-maqollari/ingliz-xalq-maqollari-608>

⁷Uzbek folk proverbs. -T: "Sharq". 2005. 510 pages. 138th page

⁸<https://n.ziyouz.com/portal-haqida/xarita/hikmatlar/jahon-xalqlari-maqollari/ingliz-xalq-maqollari-608>

⁹Uzbek folk proverbs. -T: "Sharq". 2005. 510 pages. 84th page

¹⁰<https://n.ziyouz.com/portal-haqida/xarita/hikmatlar/jahon-xalqlari-maqollari/ingliz-xalq-maqollari-608>

¹¹Uzbek folk proverbs. -T: "Sharq". 2005. 510 pages. 288th page

¹²<https://n.ziyouz.com/portal-haqida/xarita/hikmatlar/jahon-xalqlari-maqollari/ingliz-xalq-maqollari-608>



kiyimingni yuvma. In a sense, it is impolite to wash one's clothes in public, while in a figurative sense, it is a sign that any mistakes and shortcomings should not be exposed to strangers. The Uzbek proverb *do'stim deb siringni aytma*¹³ is synonymous with the English proverb *what does' Don't wash your dirty laundry in public*. The reason for this proverb is that you should never tell a secret to anyone, and that a person who is a friend today can become an enemy over time.

Another English proverb about lying is *a liar is not believed when he speaks the truth*.¹⁴ The Uzbek equivalent is *yolg'onchi chin deyolmas, chin desa ham, el inonmas*. This proverb about the consequences of lying and its consequences has a place in human education. If a person is accustomed to lying, his truth will be considered a lie. This causes him and those around him a great deal of anxiety. The tragic consequences of this are revealed in the works of Alisher Navoi in Uzbek classical literature, Abdulla Avloni, one of the founders of pedagogy, a great representative of modern literature.

As a product of the art of speech, proverbs are considered to be works of art. There are dozens of semantic aspects of a word, artistic means of expression, all examples of poetic movements.

In conclusion, these bilingual articles cover a wide range of aspects of people's lives and reflect the linguocultural features of the two languages. It can be concluded that the English proverbs were able to fully express their meaning in the Uzbek language as well.

While proverbs have always been important in human upbringing, they warn of the tragic situations that can be expected, as the conclusion drawn from this people's many years of experience is that generations today, in their way of life, are taught to live in advance. It is also the wisdom that shows the way. Therefore, the study of the linguocultural and pragmatic features of the articles provides an opportunity to study the national identity of these languages. The fact that they are used in their own sense and in a figurative sense, and that the words used are used in an artistic, journalistic or colloquial manner, also reveals the specific linguistic features of the language. It brings people closer to life. The pros, cons, and positives of each event are easily absorbed through the proverbs and are the mainstay of the extensive study of the proverbs.

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ASSESSMENT OF THE EFFECT OF GROUNDWATER TEMPERATURE ON CEREAL CROPS

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ABSTRACT

When autumn crops were cared for by using underground water sources for irrigation with a low level of mineralization in the Bukhara valley and using water-saving irrigation, positive changes were observed in the development of grain growth during seasonal irrigation by adding 50 kilograms of gravel crystals to the soil.

KEY WORDS: *irrigation sources; underground water; temperature; water consumption regime.*

GROUNDWATER is a liquid, solid (ice), vaporized water located in the porous cavities of the rock layers in the upper part of the earth's crust. Groundwater is part of the total water resources and is of great importance to the national economy as a source of water supply and irrigation. The reclamation condition of irrigated lands is determined by the condition of groundwater. Groundwater is studied by hydrogeology. Water can be in a gravitational or free state that is bound by molecular forces and moves under the influence of gravity or pressure difference. Layers of rock that are saturated with unconnected water are called aquifers, and they form aqueous complexes. Groundwater is divided into porous (soft rocks), the gorge (vein) - hard rocks and karst (cave) (cave-karst-lightly soluble carbonate and gypsum rocks) water, depending on the nature of accumulation in water-retaining rocks. Depending on the location, groundwater collects on top of groundwater (see soil water regime), seasonal water (surface water; precipitation or absorption of irrigation water on aeration zone aquifers),

groundwater (first waterproof layer closest to the surface), and interlayer (aqueous layers between non-pressurized, pressurized, artesian, waterproof layers).

According to its origin, groundwater is an infiltration formed as a result of the absorption of atmospheric precipitation, river and irrigation water; condensation formed by the condensation of water vapor in rock layers; sedimentary rocks are divided into sedimentary and magmatic cooling waters formed as a result of the immersion of seawater in the process of formation, or wash water released from the earth's mantle. The natural outflow of groundwater to the surface is called a spring, and is divided into flowing and boiling (hot spring).

Groundwater is a natural solution that contains almost all known chemical elements. In terms of mineralization (total amount of solutes in water, g / l), groundwater is fresh (up to 1.0), saline (1.0-10.0), saline (10.0-50.0) and saline (from 50). many) types. In terms of temperature, it is cold (up to 4 °C), cold (4-20 °C), warm (20-37 °C), hot (37-42



°C), hot (42-100 °C) and extremely hot (Above 100 °C) is divided into groundwater.

Infiltrative water is common in nature, the rest being very rare in its pure form. Groundwater is used in water supply of the population, industry and pastures, irrigation of lands, medicine (mineral waters), heat supply (hot water), extraction of various salts and chemical elements (iodine, boron, bromine, etc.). Groundwater causes swamps and salinization of soils. To combat this, open and closed horizontal drains and boreholes are drilled. Groundwater is widely used in deserts. The Karakum, Kyzylkum and Ustyurt pastures are mainly supplied with groundwater.

More than 150 large groundwater deposits have been identified in Central Asia. Their annual renewable operational reserves are more than 1,500 m/s, the share of fresh water is about 1,000 m/s, and the rest is mineralized at various levels (2-3 to 15 g/l). There are more than 40,000 used boreholes in Central Asia, of which about 5,000 are artesian wells; most of them are used to irrigate crops (see Artesian waters) [1,2,3,].

After the independence of the Republic of Uzbekistan, our country has undergone rapid changes in all areas and achieved a number of achievements.

Also, the rapid development of the agricultural sector, in turn, will lead to an increase in the consumption of water resources. Radical innovations have been introduced in the implementation of a unified policy in the field of water resources management, as well as in the field of rational use and protection of water resources, prevention and elimination of harmful effects of water. Consistent and sustainable development of agriculture is to ensure the food security of the country. Development of the concept of water development in 2020-2030 Water saving through the implementation of promising projects in the field of water management, foreign investment, active assistance to agricultural producers in the introduction of water-saving irrigation technologies, expansion of production capacity of modern irrigation systems through private investment to increase the share of irrigated lands using technologies to at least 10 % of the total area of irrigated lands [4,5,].

RELEVANCE OF SCIENTIFIC RESEARCH

If we take the total volume of water on Earth as 100 percent, it is 97.5 percent saline, while freshwater is 2.5 percent. Groundwater sources are one of the most inexpensive and convenient sources when close to an irrigation area. That is why it is widely used in foreign countries. In particular, 40 % of irrigated land in the United States is irrigated from groundwater, 33 % in the People's Republic of China and 5-6 % in Uzbekistan. To date, the available and limited water resources in the region have been fully

distributed and developed between countries. Under the current circumstances, the growing demand for water in the region can be met mainly through the rational use of available water resources and the discovery of internal water resources. Therefore, the development of water-saving technologies is also receiving great attention by scientists.

In addition to groundwater resources, surface water is also used to irrigate and water pastures. Currently, 7% of the total groundwater resources are used. It is mainly used in Crimea, Moldova, Ukraine, the Volga region, Kazakhstan, Kyrgyzstan, Turkmenistan, Armenia, Georgia, Azerbaijan, USA, India, Algeria, Italy and other countries. When groundwater is used, its dynamic reserve is used, otherwise it is lost.

The advantages of using groundwater are:

- 1) Proximity to the irrigation area and shortness of the salt part of the main canal.
- 2) Decrease in groundwater level in the irrigated area.
- 3) High UWC of canals due to low water wastage, canal length.
- 4) No mud settling in the canals as the water is not turbid.
- 5) Low risk of salinization and swamping.

Disadvantages:

- 1) Deep waters and lack of reserves in some places.
- 2) Mineralization may be high.
- 3) The temperature is low.
- 4) Conditions for frequent mechanical lifting of water.
- 5) Lack of useful gel and other particles in water.
- 6) The need for multiple wells.
- 7) High operating costs.

Groundwater is used for irrigation as follows: through springs, through mine wells, through a water collection gallery [8,9,10].

Capture springs are used for self-irrigation.

Wells can be shallow, tubular. Pipe diameters range from 30-100 sm. Depth is up to 100 m, up to 50-100 l/s using water pumps. One well can irrigate up to 200 hectares. When groundwater is used, aquifers are often used. They increase the size of the irrigation area, helping to heat the water.

If the water intake costs exceed the recovery of groundwater resources, they are artificially replenished with water, i.e. they act as groundwater reservoirs. For this purpose, natural groundwater flows (floods and mejeves), local watercourses, wastewater (from irrigation, production, sewage) can be used. It is done by spontaneous infiltration or by infiltration under pressure. The first is done in the following ways:

- 1) Flooding of the area, which takes up a lot of space, gives good results on low-slope, quiet terrain.
- 2) By constructing a special pool with a dense



network of permeable bubble and egat, small channel (in difficult terrain conditions).

3) Permanent and temporary watercourses, wells, mines, quarries, natural quarries are used.

Pressure infiltration is the delivery of water under pressure through wells built into a water intake. This method is often used against intrusion, i.e., against the addition of saline seawater to groundwater on the seashore.

One of the factors negatively affecting the current increase in grain yield is the shortage of water during the growing season, and the second is that most farms do not take into account local soil and hydrogeological conditions, real water requirements during the transition phases of their growth and development. Some of the toxic chemicals applied to the soil, weeds and insects applied to the soil during the irrigation of grain are washed into groundwater, leading to the deterioration of their ecological and reclamation status. The above reasons include the efficient use of water resources allocated to irrigated lands, a system of agro-technological measures that do not adversely affect the environmental situation, irrigation methods using hydrogel artificial polymer crystals to create opportunities for rational use of groundwater in the cultivation of cereals [12,13,14].

THE PURPOSE OF THE STUDY

Water sources for irrigation are assessed by the following indicators: water quality, the amount of water flow during the annual and growing seasons, the variation of water flow over the years, water flow regime, level and pressure regime, location relative to the irrigated area.

It is characterized by the quality of water, its temperature, the amount of mechanical leaks, mineralization and chemical composition, bacteriological composition.

Study of the source of irrigation in the case of high yields from grain fields in relation to its temperature on the basis of experiments on the efficient use of groundwater.

LEVEL OF STUDY OF RESEARCH RESULTS

Wheat is an annual plant. Its root system is a poplar root, the main part of which develops in the drive layer of the soil, some roots are 100 sm. pit up to 40-130 sm in height. reaches The transpiration coefficient of wheat is 231-557 (average 400-500), the coefficient of water demand for grain is 60-190 m³ / ts. is formed. These indicators vary depending on climatic conditions, type and variety of wheat, water supply, the amount of nutrients in the soil. Depending on the natural conditions of the cultivated areas, its autumn or spring varieties are planted on irrigated lands. Autumn wheat is more resistant to cold and drought than spring wheat, it germinates

when the soil temperature is 4-5 °C. During the growing season, an effective temperature of 2100 °C is required for winter wheat and at least 1300 °C for spring wheat.

The effect of the temperature of irrigation sources on autumn cereal crops is in fact little studied scientifically.

THE TASK OF THE RESEARCH

Based on the experiments conducted, the study of the source of irrigation depends on its temperature in the efficient use of groundwater to create clear guidelines. Water-saving technologies go through certain periods (phases) during the growth and development of cereals, that is, from seed germination to formation. During the developmental stages, morphological changes occur in plants and new organs are formed. Wheat goes through the following phases: germination, accumulation, germination, germination, flowering and ripening, as well as observations and study of the effectiveness of its yield [18,19,20].

OBJECT OF RESEARCH

The farm "Oqil Alisher" was chosen as an experimental plot for the rational use of groundwater in the cultivation of grain crops. Oqil Alisher farm is located in Pakhtaabad district of Gijduvan district of Bukhara region.

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MATHEMATICAL APPARATUS FOR THE CRYOPROCESSING OF PLANT MATERIALS

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ABSTRACT

The article provides mathematical formulas for controlling the processes of cryo-treatment of plant objects. Methods for calculating quality indicators and factors affecting the technological processes of cryoprocessing, namely, cryoseparation and cryo-grinding of plant products, are discussed.

KEY WORDS. *Mathematical apparatus, cryoprocessing, plant materials, cryoseparation, quality indicators. Key words: mathematical apparatus, cryoprocessing, plant materials, cryoseparation, quality indicators.*

INTRODUCTION

Cryoprocessing of plant raw materials and products is accompanied by mathematical processing of the experimental results obtained, which is important in determining the technological parameters of the process and drawing up its regulations. The purpose of this work is to consider the mathematical apparatus of the processes of cryoprocessing of plant objects. Thus, the quality of cryoseparation is determined by the following formula [1]:

$$Q=(m_1-m_2)/M \cdot 100\%$$

M- total mass of the fraction obtained Γ

m_1 - mass of target fraction, Γ

m_2 - mass of non-target fraction Γ

Organoleptic indicators are determined by a tasting-examination based on a comparison of assessments (points) of the analyzed products in accordance with the requirements of state standards. The average score (score) is determined from the formula:

$A=E/K$, где – E sum of all points, K- number of experts.

The heat (kJ) removed from the product during cooling depends on the size of the heat capacity C and the temperature difference between the product at the beginning and at the end of the cooling process $\Delta t \cdot C$.

$Q=M \cdot C \cdot \Delta t$, M- mass of the cooled product.

Specific heat is a value equal to the amount of heat that must be removed from the product to cool the body weight by 1 K;

$$C = \frac{dQ}{m \Delta t} = \frac{Q}{m \Delta t}$$

Q- quantity of heat, Дж;

m- body mass, кг, Δt - temperature difference, °K.

It is believed that the mass and volumetric specific heat are equal to each other.

The heat capacity of ice formation processes (J/kg, K) for products with a low fat content, taking the heat capacity of water equal to 4.19, for dry substances 0.71-1.36, vegetable substances 1.38-1.68, is found from the formula :

$$C_0=C_c W+C_b(1-W)$$

C_b ; C_c - specific heat capacity of water and dry matter, W, (1-W), mass fraction of water and dry matter.

Transforming this equation, we obtain the following equation for plant raw materials



$$C_0 = 4,19W + 0,9(1-W)$$

RESULTS

The heat capacity after ice formation, or the calculated specific heat capacity of the product to be calculated, since at negative temperatures, part of the water in the raw material does not turn into ice, the heat capacity of which C_L is calculated from the equation:

$$C_{\Pi} = C_w \cdot W(1-W) + C_{\Pi} \cdot W_w + C_x(1-W)$$

W- mass fraction of water in products,,

W- relative amount of frozen water:

$$W = 1 - \frac{t_{kp}}{t_3}$$

t_{kp} critical temperature; t_3 - product temperature, °C

Transforming the last equation and taking into account the previous equation, we obtain: $C_w = C_0 - (C_w - C_x)W_w$

Thermal conductivity (W/m s) can be calculated as heat capacity, taking the thermal conductivity coefficient of water and dry substances as 0.6 and 0.26.

$$\lambda = 0.6W + 0.26(1 - W)$$

The cooling rate, which mainly depends on temperature, product thickness and cooling method, is found from the formula:

$$\frac{dx}{d\tau} = \frac{(t_{kp} - t_0)}{gf \left[\frac{x}{\lambda} + \frac{1}{\alpha} \right]}$$

t_{kp} и t_0 cryoscopic product and ambient temperature, respectively

q- specific heat removed from raw materials during cooling, кДж\кГ

γ - product density, кг\м³

X- product size, м;

λ - product thermal conductivity coefficient, Вт \кГ\К°

α - heat transfer coefficient.

The cooling rate is understood as the amount of frozen water in the product for a certain period of time, % min.

The amount of frozen water W is found from the ratio of moisture converted to ice to its total amount

$$W = \frac{G_{\Pi}}{(G_x + G_0)}$$

G_{Π} и G_0 – the amount of ice and water at a given temperature, unit fractions.

Otherwise, the amount of frozen moisture can be depicted as the ratio of the mass of ice G at a given temperature to the total mass of ice and moisture equal to the initial mass of water G_b ;

$$D = \frac{G_{\Pi}}{G_b} = 1 - \frac{G_b - G_{\Pi}}{G_b}$$

Cooling of food raw materials and products is a complex physical and chemical process. In refrigeration practice, the most important parameter is the duration of cooling, which is understood as the total duration of freezing and cooling of an object to a given temperature. To determine this, the most widespread was the Planck formula, which is applicable for bodies of simple shape with the constancy of the physicochemical properties of the product. [2]: This formula has a simple form for application and understanding of heat and mass transfer processes during cooling and for fixing the initial and final temperature of the object. The heat of ice formation is represented as the sum of heat removed from a unit of product during cooling from the initial temperature t_n to the temperature of the onset of freezing of water t_{cr} of the heat of ice formation and heat when the temperature of the frozen product decreases from t_{nz} to the final t_k



$$Q = c(t_c - t_{kp}) + \alpha W \omega + C_H(t_H - t_k)$$

C_M - the heat capacity of the frozen product.

The cold consumption for freezing an object is found by the formula:

$$Q_{kp} = G_{np} C(t_H - t_k)$$

G_{np} - product weight, C - heat capacity of an object, t_H и t_k the initial and final temperature of the object.

Moreover, when freezing plant objects, the warmth of breath should be additionally taken into account

$$Q = q_g \cdot G_{np}$$

q_g - warmth of breath BT/Kr , is from the reference book depending on the product and temperature.

The amount of heat removed from the object during cooling is found by the formula

$$Q_{ox} = G[C_0(t_0 - t_{kp}) + r \cdot \omega \cdot W + C_k(t_{kp} - t_c)]$$

Q_{ox} - cold consumption for object cooling, KJ

G - product weight, Kr

C_0 - specific heat capacity of an object at temperatures above its cryoscopic temperature $KJ/Kr \cdot C$

T_H - initial process temperature

T_{kp} - cryoscopic temperature, C

W - mass fraction of water in the object, in fractions of a unit

ω - the proportion of frozen water at the average, final cooling temperature, in fractions of a unit

γ - specific heat of ice formation, KJ/Kr

C_k - specific heat capacity of a frozen object at temperature

Average between cryoscopic and final, KJ/Kr .

T_{ck} - average end temperature of the object, C

The efficiency of using the method of cryo-separation of food raw materials can be assessed by the technological indicator [3]:

$$P = \frac{\gamma_0(\beta - \alpha)}{\alpha(100 - \alpha)}$$

γ_0 - split component output, %

α - content of the component to be separated in the original product, %.

β - content of the component to be separated in the recovered product, %

The efficiency of the cryo-grinding process is determined by the following equation:

$$G = \frac{F[\alpha_1(F - G_0) - (F\alpha_1 - G_2)]}{\gamma(F_0 - G_0) - (F\alpha_1 - G_0)}; \quad \gamma = \exp\left[\frac{gV_\tau(1 - \alpha)}{F\alpha}\right]$$

F - the mass of raw materials in the cryo-grinder, Kr ; G , G_0 – the mass of the selected component of the structure of the object located in the grinder at the moment of time τ and before the start of grinding, respectively, kg .

α - content of minor components in the feedstock, units share. g -

specific, true productivity of the grinder for the selected component of raw materials, $Kr/M^3 \cdot \text{чac}$.

V - cryo-grinder space volume, M^3

True specific productivity of the cryo-grinder for the selected component $G_o = \frac{J\psi}{S_o}$ or $G_o = \frac{J}{S_{o,x}}$

J - true specific productivity of the cryo-grinder at $F=0$, $1/M \cdot \text{чac}$,

S_o, S_x - the specific surface area of accretion and the released component, respectively,

Ψ - coefficient of intercomponent cryo-grinding, determined by the nature of accretion and connection between the components of the cooled object. [4]:

The main factors that determine the quality of refrigerated fruits, berries, vegetables and other plant objects are the nature of the cell structure, which depends on the speed and temperature of cooling, storage temperature, which should not exceed the freezing temperature in order to prevent the growth of ice crystals, the speed and conditions of defrosting. Freezing can cause damage to cell membranes and this can cause an imbalance in redox processes towards oxidative reactions during storage of a frozen object. The quality of a frozen object is determined by the completeness of inactivation of enzymes that accelerate these processes - oxidoreductases, polyphenol oxidases, and others. The main substrate for these enzymes is the water of the cell sap. The method of rapid cryopreservation allows you to quickly overcome the cryoscopic temperature in order to prevent the



formation of large ice crystals that damage the cell structure of the object, which causes a loss of cell juice output. As a result of damage to cellular structures at the stage of freezing after defrosting, irreversible structural-mechanical, physicochemical and organoleptic changes occur. [4,5]:

Conclusion. Thus, it can be concluded that it is recommended to use rheological parameters to establish the quality of frozen plant objects.

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SOME ASPECTS OF TEACHING THE SUBJECT OF PROPEDEUTICS OF PEDIATRICS FOR FOREIGN STUDENTS

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ABSTRACT

In recent years, a modular training system that implements higher professional education programs has been relevant in medical educational institutions. The subject "Propedeutics of Pediatrics" occupies one of the leading places in the training of general practitioners. teaching. When teaching the subject of Pediatric Propedeutics, it is necessary to pay attention to the development of practical skills by foreign students. Modular teaching technology creates conditions for the development of thinking, memory, creative inclinations and abilities of students. Students develop a conscious attitude to learning, self-discipline, their working capacity and thinking are activated. The planned modular control of knowledge is a motivating factor and stimulates the educational and cognitive activity of students in the study of this discipline.

Foreign students require special tactics and teaching methods. Often, in a group where foreign students study, not all of them have the same basic training, which is reflected in different levels of proficiency in English, which, like for the teachers of the institute, is not a native language for most students. For the preparation of international students, a group of 6-7 students of different nationalities is ideal. In the learning process, there is no need to simplify the amount of material on the subject "Pediatric Propedeutics" for students, since a qualitatively fundamental approach to teaching has been formed in the domestic education system. The student must be able to express their thoughts. Thus, the process of organizing the training of foreign students at a medical university is a complex task. The main goal of training remains to provide high-quality training of specialists.

KEY WORDS: modular training system, foreign students, practical skills, clinical thinking, training.

The system of higher medical education is designed to train specialists with a high level of theoretical and practical training in the medical specialty, possessing a wide range of clinical thinking and practical skills.

In order to increase the motivation of students and the effectiveness of the conducted classes, it became necessary to use modern information technologies.

Today, the Samarkand State Medical Institute trains specialists for countries such as South Korea, India and Pakistan. Every year the number of foreign applicants wishing to study at a medical institute is increasing, their expectations from the learning process are growing, which requires the organization of an integrated approach to teaching this subject.

The subject "Propedeutics of Pediatrics" occupies one of the leading places in the training of general practitioners. The preparation of foreign students is carried out in accordance with the standard curriculum approved by the Ministry of Education of the Republic of Uzbekistan for the academic discipline for the specialty "General Medicine", which is translated into English by the

staff of the Department of Pediatric Diseases Propedeutics.

When teaching students from different countries, there are many difficulties caused not only by the language barrier and multinationality of the team, but also by a number of other aspects. It should be noted the distinctive features of medical disciplines that affect the organization of the educational process. These features include a large volume of the material being studied, a high saturation with complex terminology, a large number of hours for practical work and self-training, the need to possess communication skills for communicating with patients and colleagues. The solution to the problem is found in the organization of an integrated approach to teaching this subject, affecting both the issues of professional training of teachers and the introduction of modern methods of distance learning.

In the last decade, a modular training system that implements higher professional education programs has been relevant in medical educational institutions.

To introduce a modular training system into the educational process, an integrated approach is



required, which provides for special training of teachers, the development of subject modules, an assessment of the quality of the effectiveness of modular training, both for students and for the teachers themselves.

Modular teaching technology creates conditions for the development of thinking, memory, creative inclinations and abilities of students. In this regard, the requirements for the teacher carrying out the training are increasing. In modular training, the teacher performs, in addition to informing and controlling functions, also the functions of a consultant and coordinator, while maintaining his leading role in the pedagogical process.

The use of a modular training system makes it possible to improve the educational process and improve the quality of professional training of students. This teaching method defines exactly the way, the interrelated activity of the teacher and the student, as well as their role in the educational process.

Students develop a conscious attitude to learning, self-discipline, their working capacity and thinking are activated. The planned modular control of knowledge is a motivating factor and stimulates the educational and cognitive activity of students in the study of this discipline.

The form of communication between the teacher and the student is carried out through modules and personal individual communication, which allows you to simultaneously optimize the educational process, ensure its integrity in the development of the student's cognitive and personal sphere.

This form of training contributes to the development of students' independence, their ability to work, taking into account the individual ways of working out the educational material.

The student works independently for the maximum time, purposefully, which gives him the opportunity to realize himself as a person in activity, teaches self-organization, self-control, self-esteem, allows him to see the level of assimilation of knowledge and see gaps in his knowledge and skills.

When preparing foreign students, the amount of information, teaching methods and requirements for them do not differ significantly in comparison with students of other faculties of a medical university. However, as practice shows, foreign students require special tactics and teaching methods. Often, in a group where foreign students study, not all of them have the same basic training, which is reflected in different levels of proficiency in English, which, like for the teachers of the institute, is not a native language for most students.

For the preparation of international students, a group of 6-7 students of different nationalities is ideal. In the learning process, there is no need to simplify the volume of the material on the subject

"Propedeutics of Pediatrics" for students, since a qualitatively fundamental approach to teaching has been formed in the domestic education system. It is only necessary to adapt the studied material, taking into account the peculiarities of international standards and tactics. To do this, it is necessary to provide modern international pediatric literature, access to international medical portals, training staff and students to effectively work with these systems.

When teaching the subject of Pediatric Propedeutics, it is necessary to pay attention to the development of practical skills by foreign students. The introduction of simulation teaching methods is a way to smooth out the problems of the language barrier among foreign students.

The form of conducting practical classes may be different, however, oral communication with students is mandatory in practice. The student must be able to express their thoughts. In addition, they listen carefully to each other's answers, argue. As for the independent extracurricular work of foreign students, there is a shortage of educational literature in English. Today, there is a shortage of teaching aids in English that fully disclose the subject within the framework of a typical curriculum. To mitigate this problem, the Samarkand State Medical Institute is actively using a modular training system.

One of the main tasks of modular training in teaching foreign students is to provide a multidimensional presentation of educational material, to increase the mobility and competence of each student based on an individual curriculum. Students are given a number of topics for independent study, they prepare creative works, essays, presentations, work with additional literature recommended by the teacher and thereby deepen their knowledge in their area of interest.

The introduction of modular technology affects the innovative development of medical universities. The restructuring of the educational process with the introduction of modular technology contributes to a closer integration of medical universities with research institutes and institutions of practical health care.

Thus, the process of organizing the training of foreign students at a medical university is a complex task. The main goal of training remains to provide high-quality training of specialists.

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VINYL ACETATE PRODUCTION TECHNOLOGY

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ABSTRACT

In this paper, we consider the texture characteristics of the developed highly active catalyst $(ZnO)_x \cdot (CdO)_y \cdot (ZrO_2)_z$ for the catalytic acetylation of acetylene based on the Sol-Tel technology, and also study the influence of some parameters (temperature, volumetric rate, C_2H_2 molar ratio : CH_3COOH , catalyst preparation procedure) for the course of this process.

KEY WORDS: *acetylene, acetic acid, vinyl acetate, catalyst, sol-gel technology, material balance, technological scheme.*

INTRODUCTION

The annual demand of vinyl acetate in the world is about 5 million tons, and the annual demand for the Republic of Uzbekistan is 30 thousand tons. Today, the bulk of vinyl acetate is obtained from ethylene through its oxidative combination with acetic acid on gold-palladium catalysts, but the alternative method for producing vinyl acetate from acetic acid and acetylene also remains important [1-3].

Due to the low cost of ethylene compared to acetylene, the first method is more common. At present, cheaper sources of acetylene production are found as an additional product of new production processes. Therefore, the production process of vinyl acetate from acetylene remains relevant.

The problem of vapor-phase catalytic synthesis of VA has been the subject of a large number of works [1-5]. The process is carried out in the presence of zinc acetate on activated carbon at temperatures of 170-230 ° C, molar ratios of acetylene: acetic acid from 2: 1 to 10: 1 and pressures close to atmospheric. Partial or complete replacement of zinc acetate with cadmium acetate can increase the activity of the catalyst [6-7]. An important factor affecting the VA yield and increasing the catalyst service life is the choice of carrier [8]. On an industrial zinc acetate catalyst supported on activated carbon, under conditions of a 3-4-fold excess of acetylene and the conversion of acetic acid 50-70%, the selectivity for acetylene is 95-99%, for acetic acid 50-70%. By-products of this reaction are mainly acetaldehyde, acetone and crotonic aldehyde. The reaction rate constant at low concentrations of zinc

acetate is proportional to its content, and ceases to depend with an increase and even decreases slightly. The upper boundary of the linear dependence (the critical content of zinc acetate - Scr) increases with an increase in the fraction of carrier micropores and can reach 40 wt. % [9]. Under the conditions of an industrial process, the reaction rate is directly proportional to the concentration of acetylene and either does not depend on the concentration of acetic acid or is slightly inhibited by the latter. Similar patterns are also observed on the cadmium acetate catalyst [10]. In the industrial synthesis of vinyl acetate, both tubular reactors and fluidized-bed reactors are used. The advantage of the latter is the convenience of unloading the catalyst, which is essential since its service life is measured in tens of days. The disadvantage of the process is the relatively rapid deactivation of the catalyst, the average life of the catalyst in the fluidized bed is approximately 60 days [11], and in a motionless one, depending on the process conditions, 80 - 120. To maintain activity at the required level, the temperature is gradually increased from 160 ° C to 240 ° C, after which the catalyst is replaced.

Industrial zinc acetate catalysts for the synthesis of VA are obtained by impregnating activated carbon with salt solutions. The activity and stability of the supported catalysts depends on the mixing conditions during the deposition of zinc acetate on the carrier. A comparison of two modes of deposition of zinc acetate showed that the use of a method involving mixing a solution and a carrier, as compared to simple immersion of a carrier in a solution, leads to an increase in the activity and

stability of the catalyst. An even more noticeable effect in increasing the activity of the catalyst is observed if the deposition process occurs under the influence of ultrasound on the solution – carrier system. Salt catalysts supported on activated carbon are predominantly adsorption. Therefore, it is the adsorption process (in the general case of sorption) that is crucial for the preparation of active and stable catalysts for the synthesis of VA.

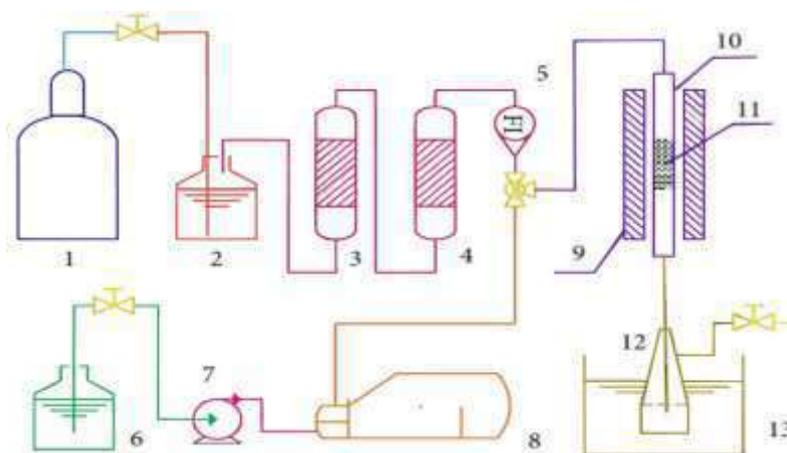
Based on the foregoing, the production of vinyl acetate is one of the main tasks of creating new, economic, waste-free methods in technology, as well as the development of effective catalysts with high selectivity, activity and productivity of modeling technological and operating parameters of the process.

EXPERIMENTAL PART

The catalytic acetylation reaction of acetylene was carried out in a flow reactor under the following optimal conditions: $t = 1800\text{C}$, C_2H_2 : $\text{CH}_3\text{COOH} = 4: 1$, $V_{\text{c}_2\text{n}_2} = 280 \text{ h}^{-1}$.

The reaction products were analyzed by a flame-ionization detector using gas-liquid chromatography under the following optimal conditions: a stationary liquid phase with a particle size of 0.250-0.315 mm in Tsvetochrom -545, 15% nimlestosil, glass column 1000C, the flow rate of the incoming gas - nitrogen 30 ml / min.

Qualitative analysis of "witnesses" and the retention time of parameter values is based on a comparison method; and quantitative analysis is calculated based on the method of internal normalization.



1-acetylene gas; 2-20% NaOH solution; 3-silica gel; 4-activated carbon; 5-gas flow meter; 6-acetic acid; 7-piston metering pump; 8-gasifier; 9-heating device; 10-reaction tube; 11-layer catalyst; 12-collector; 13th ice bath.

Fig. 1. Schematic diagram of the synthesis of vinyl acetate

The texture characteristics of the intermediate materials and finished samples of expanded clay carriers were studied by low-temperature nitrogen adsorption on a FISIONS Carlo Erba complex installation, including the Soptomatic-1900 adsorption device. When determining the specific surface of ABET (m^2 / g), 10–12 experimentally measured equilibrium values of nitrogen adsorption at 77 K in the relative pressure range $P / P_0 = 0.05–0.33$ were used. The total pore volume V_{Σ} (cm^3 / g) was calculated from the adsorbed amount of adsorbate in the saturation region of the adsorption branch of the isotherm ($P / P_s > 0.992$), expressed as the volume of liquid. The micropore volume V_{mic} (cm^3 / g) was calculated from the experimental data from the Dubinin-Radushkevich equation.

The data on the texture characteristics of the samples were obtained on an ASAP 2010M device in a stream of liquid nitrogen at 77.35 K by low-temperature adsorption. Before analysis, the samples were dried

at 1200°C for 4 hours and burned at 5500°C for 6 hours. The comparable surface was determined by the BET method. The total surface volume was calculated based on the amount of nitrogen adsorbed at maximum saturation. Sponge size distributions were determined by the BJH method.

The phase composition was studied on a DRON-3 diffractometer ($\text{CuK}\alpha$ radiation) by X-ray diffraction. The dispersion properties of the catalyst were checked in a scanning electron microscope (JSM - 6510 LV). The catalytic activity of the obtained sample was studied in acetylene acetylation reaction.

One of the important factors affecting the yield of vinyl acetate and increasing the life of the catalyst is the choice of the main indigenous substance (carrier). Therefore, we considered it advisable to use domestic ceramics instead of activated carbon and based on it we created a nanocatalyst with high catalytic activity and



performance using the sol-gel technology. Using the sol-gel technology to prepare the catalyst allows one to obtain nanosized particles that differ from the usual method of absorption of a substance into the core. This method has an advantage in a number of ways, such as the simple equipment used, profitability, environmental safety and technology flexibility.

Nanocatalysts exhibit high catalytic activity, selectivity, stability (stability). It is known that in catalytic processes, mainly mesoporous catalysts have high catalytic activity. The most effective method for producing mesoporous catalysts is the sol-gel method, which allows one to control the particle size, comparative surface, and porous structure of the catalyst at any stage.

EXPERIMENT RESULTS AND DISCUSSION

To obtain vinyl acetate from acetylene and acetic acid, solutions of zinc acetate, cadmium acetate and zirconium oxynitrate in microspherical nanoporous expanded clay, the size of which is 200-300 μm, were introduced.

The catalysts were prepared under the following conditions: solutions of a 5–25% solution of zirconium oxy nitrate by adsorption at 600 ° C were absorbed onto a microspherical nanoporous retention agent (expanded clay). The salt absorption time varied within 60-90 minutes.

The substance is the carrier expanded clay: the solution was taken in the range of ratios 1: 3 - 1: 8.5. After the absorption process, the catalyst was dried at room temperature for 24 hours, then in an oven at 100 - 1300 ° C (with a temperature increase of 100 ° C every 1 hour). The amount of zinc acetate in the catalyst was 11-30%.

The catalyst, the volume of which was 9 cm³, was lowered into a flow reactor and the system was washed in a stream of nitrogen at a speed of 10 l / h for 15 minutes. The synthesis of vinyl acetate from acetylene was carried out at normal atmospheric pressure at 180°C. Under the above conditions, the life of the catalyst was 2000 hours.

The synthesis of vinyl acetate in the vapor phase has been published in many works, the absorption process is carried out on activated carbon in the presence of zinc acetate at 170-2300C, the process was carried out at atmospheric pressure in the range of the molar ratio of acetylene: acetic acid from 2: 1 to 10: 1. Partial or complete replacement of zinc acetate with cadmium acetate leads to an increase in catalyst activity. K₂Cr₂O₇ (2% compared with the weight of the catalyst) is used as a promoter additive. For the first time in the catalytic acetylation reaction in the vapor phase of acetylene, we studied the catalytic activity of catalysts made from salts of d - elements obtained by the sol-gel method (Table 1).

Table 1. The effect of primary substances on the activity of the catalyst in the catalytic acetylation of acetylene. (T = 453K, C₂H₂: CH₃COOH = 4: 1, V c₂n₂ = 280 hr⁻¹, promoter: 1.8% K₂Cr₂O₇)

№	Catalyst Structure	Conversion CH ₃ COOH, %		Selectivity S %
		General	According to vinyl acetate	
1	ZnO/keramzite	60.0	43.0	71.1
2	ZnO:CdO/keramzite	80.6	73.5	91.2
3	ZnO:ZrO ₂ /keramzite	51.4	38.2	74.3
4	ZnO:CdO:ZrO ₂ /keramzite	85.4	79.8	93.4
5	ZnO:Cr ₂ O ₃ /keramzite	46.2	30.6	66.2
6	Cr ₂ O ₃ :CdO:ZrO ₂ /keramzite	67.8	49.2	72.5
7	ZnO:Cr ₂ O ₃ :ZrO ₂ /keramzite	72.1	51.9	72.0
8	ZnO:Fe ₂ O ₃ :Cr ₂ O ₃ /keramzite	70.9	48.0	67.7

As can be seen from table 1, the catalyst (No. 4) containing oxides of zinc, cadmium, zirconium has a high yield and selectivity. The table shows that the total conversion of acetic acid is 95.4%, with respect to the conversion of vinyl acetate is 79.8%.

The results of the study of the influence of the composition of the catalyst on the productivity and selectivity of the process with respect to vinyl acetate are presented in table 2.



Table 2. The effect of the composition of the catalyst on the performance and selectivity in relation to vinyl acetate

№	Amount (ZnO) _x ·(CdO) _y ·(ZrO ₂) _z , % mass	Productivity on vinyl acetate, kg (m ³ ·h ⁻¹)			Selectivity S %,	Resistance for abrasion, %
		170°C	200°C	220°C		
1	10.3:2.6:0.4	41	180	315	>98	97
2	9.6:2.2:0.5	35	183	314	>98	97
3	12.0:2.6:0.3	55	177	295	>98	98
4	11.3:2.1:0.6	38	163	313	>98	97
5	11.8:2.5:0.2	50	130	240	>98	97
6	9.2:2.0:0.1	37	160	315	>98	98
7	9.0:2.5:0.5	47	170	305	>98	97
8	8.5:1.5:0.2	31	150	300	>98	97
9	10.8:3.0:0.4	57	166	305	>98	98
10	8.8:2.2:0.25	55	141	300	>98	97
11	9.5:1.5:0.3	57	200	327	>98	97
12	10.2:1.86:0.4	44	168	300	>98	98
13	11.5:2.4:0.6	52	182	323	>98	98
14	16.7:2.1:0.3	30	174	290	>98	97

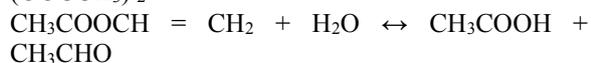
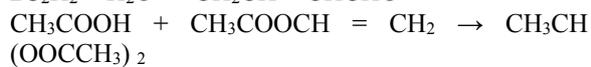
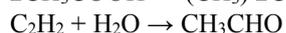
There are some problems in the processes of catalytic conversion of acetylene; these problems have not yet been solved. Under the conditions of vinyl acetate production, acetylation of acetylene by catalytic, forming a croton - aldehyde resin reduces the activity of the catalyst. The degree of frequency of the extracted vinyl acetate adversely affects its polymerization rate and the quality of the forming polymer. For example, if vinyl acetate contains 0.005% crotonaldehyde, its polymerization is reduced to 15%, if 0.2%, then 40%. The polymerization is 100% terminated in the presence of 1.3 * 10⁻² mol of crotonic aldehyde in 100 g of vinyl acetate. Therefore, the creation of catalysts with high catalytic activity, as well as the improvement of existing technologies are relevant.

The deactivation of the catalyst is explained by the decomposition of zinc acetate from the core according to the following reaction:

During the formation of zinc oxide, the main reaction is inactive. After a while, with an excess of acetic acid, the activity increases with the formation of lead acetate.



In the synthesis of vinyl acetate proceed according to this reaction



To prevent such reactions, the process is carried out in excess of acetylene.

CONCLUSIONS

1. Based on the sol-gel technology for the catalytic acetylene acetylation reaction, a catalyst was created — a nanocatalyst with high catalytic activity (ZnO)_x·(CdO)_y·(ZrO₂)_z / expanded clay.
2. The influence of various factors (temperature, space velocity, molar ratios C₂H₂: CH₃COOH, catalyst preparation method, etc.) on the yield of the target product in the acetylene acetylation reaction was studied.

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THE SCIENTIFIC VIEWS OF THE GREAT SCIENTIST ABU RAYHAN BERUNI IN THE FIELD OF MATHEMATICS

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ABSTRACT

In this article, there is given the life of the great scientist of the encyclopedia Abu Rayhon Beruni and his view point of mathematics.

KEYWORDS: *theology, Beruni century, genealogy, theorem, trigonometry.*

INTRODUCTION

The encyclopedic scholar Abu Rayhan Muhammad ibn Ahmad was born in 973 in the ancient capital of Khorezm, Kot (Kat). Beruni is a great Uzbek thinker, one of the great geniuses of the Middle Ages. He thoroughly mastered all the sciences of his time, first of all astronomy (physics), physics, mathematics (mathematics), theology, mineralogy. With his contribution to the development of these sciences, his name became one of the great figures of world science.

The book of the first President of Uzbekistan IA Karimov "High spirituality is an invincible force" contains the following thoughts about Beruni:

Another brilliant star of our national history, Abu Rayhan Beruni, gave a fair assessment of his work, while the American historian of science Sarton CHI described the century as the "Beruni century". Such a high and justified assessment is explained, first of all, by the invaluable contribution of our great compatriot, the owner of encyclopedic thinking, to the development of science. It should be noted that Beruni thought with great objectivity and truthfulness in scientific matters, as well as in the assessment of historical events and contemporaries. That is why he has suffered so much in life, even at the end of his life, but in spite of all the hardships, he has not renounced his faith, which shows how faithful he is to his spiritual ideals. ”¹

METHODS

In his genealogy, the word "berun" means an outer city, and "Beruni" means "one who lives in an outside city." Beruni's interest in science was strong from a young age. The famous scholar Abu Nasr ibn Iraq was educated by Mansur. Ibn Iraq introduced Beruni to Euclidean geometry and Ptolemy's astronomical teachings. Ibn Iraq wrote several works on astronomy and mathematics, 12 of which are dedicated to Beruni. Beruni also always mentions his teacher's name with great respect. At a time when scientific works are kept in the hands of some individuals in very few copies and in manuscript form, the fact that a young scientist has mastered so many different fields of science shows that he is extremely talented. Beruni has created effectively in all fields of science, his scientific heritage is very wide and colorful. Beruni's scientific legacy consists of 152 books and pamphlets. 20 of his works are related to mathematics. His contribution to the science of mathematics is significant. In Beruni's works, the concepts of geometry, arithmetic, algebra, number theory and trigonometry are described in a certain order. The great achievement of the scientist in arithmetic and algebra is that irrational numbers have become equal subjects of arithmetic and algebra. Beruni made great strides, especially in the field of trigonometry.

Beruni worked on finding the general laws of trigonometric functions. Beruni's Mas'ud Qanuni (Al-Qanun al-Mas'udi) was written in 1030. Al-Qanun al-Mas'udi explains in detail the basic rules of mathematical astronomy, the coordinates of the lights, the ways to calculate their order of motion, as well as the plane and spheric trigonometry. He developed the linear and quadratic interpolational rule of trigonometric functions,

proposed a method of averaging, gave the appropriate tables, and accurately calculated the amount of p for several decimal numbers.³

Abu Rayhan Beruni's "Monuments of Ancient Peoples" deals with chess. If the chessboard chambers are placed one after the other: first 1, then 2, then its square, cube level, geometric progression is formed.²

If these points are expressed by a formula, the following is formed.

$$1+2^1+2^2+2^3+2^4+\dots+2^{63}$$

These joins form a geometric progression. Here:

$$b_1 = 1, q = 2, n = 64.$$

According to the formula for finding the sum of the first n terms of a geometric progression:

$$S_n = \frac{b_1(1 - q^n)}{1 - q} = \frac{1(1 - 2^{64})}{1 - 2} = 2^{64} - 1 = 16^{16} - 1$$

From this we get the following result:

$$S_n = 18\,446\,744\,073\,709\,551\,615$$

Abu Rayhan Beruni's famous work "Qanuni Masudi" is a proof of the sine theorem.

Beruni states the sine theorem: "I say that the ratio of the side AB to the side BC is the same as the ratio of the angle sine of the ACB to the sine of the angle BAC."

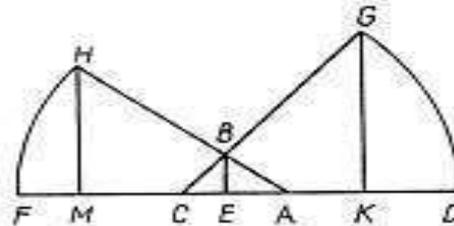
Let an ABC triangle be.

We continue the sides of the triangle ABC in their direction. Assuming that the end A of the triangle is the center and radius AH = 1, we draw the arc HF of the unit circle.

Now we draw the arc GD with the same radius as the center C of the triangle.

We pass the HM perpendicular for the AF section, the GK perpendicular for the CD section, and the BE perpendicular for the AC section. Then Δ from AHM: sinBAC = HM and Δ from CGK: sinACB = GK.

Δ ABE ~ Δ AHM, because HM || BE, hence



$$\frac{AB}{BE} = \frac{AH}{HM} = \frac{1}{\sin BAC} \quad (1)$$

Δ CBE ~ Δ CGK, because BE || GK, from

$$\frac{BC}{BE} = \frac{CG}{GK} = \frac{1}{\sin ACB} \quad (2)$$

(1) As for equation (2),

$$\frac{AB}{BC} = \frac{\sin ACB}{\sin BAC} \text{ equality is formed. The theorem is proved.}$$

Beruni also made a great contribution to the development of mathematical geography. He pioneered the development of ways to determine the geographical distance and latitude of places: by making extensive use of trigonometry and geometry, he achieved much more accurate results than his predecessors, the astronomers. He developed a new method of measuring the length of the earth's circumference. The Beruni method was based on mathematical calculations without the need for difficult and complex measurements for large distances. He found that one level of the arc of the earth's meridian was 110,275 m. This is very close to modern data.⁴

Beruni was the first to make a globe. This invention is still enjoyed by all geographers, every intellectual today. Beruni's indelible contribution to the history of the natural sciences is that he relied on the scientific research method, experiments, and observations he developed in his research work. He raised the method of observation and experimentation to an unprecedented level, which is his great achievement in the field of experimental knowledge. He also has his own ideas about the theory of knowledge. According to him, the basis of knowledge is the knowledge acquired through the members of the senses, which are the source of our knowledge of the world. Speaking of scientific knowledge in general, he says that it is an achievement of



intelligence. Beruni emphasizes the importance of experience in this area. Beruni, an encyclopedic scholar, died in 1048 in the Treasury. Beruni left wise thoughts on the acquisition of science. The following points can be exemplified from them.

Your knowledge is that it stays with you even when you are naked, and you can't lose water when you enter the bathroom.

Knowledge is the fruit of repetition and repetition.

Man has the right to think about this or that branch of science only on the basis of scientific practice and concrete research.

Whoever knows that the advantage of his research is in finding the laws, he will always go the way of proving his views in practice.³

CONCLUSION

In short, it is the sacred duty of every teacher and mentor to study Beruni's scientific heritage in depth and to pass it on to today's youth and to educate them in the future as scientifically, spiritually and economically educated, intelligent and well-rounded people.

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UTILIZING SYNONYMS IN ESSAY WRITING SKILLS

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ABSTRACT

The article reveals with the ways, strategies of effective writing academic essays and how to achieve high scores in process of it. It is suggested that one way is to choose proper word or phrase to avoid repetition in essays, however, can be tough job for a writer. A meaning of the word relates to a variety of the linguistic processes such as polisemy, synonymy, homonymy, styles of the speech. This research aims to discuss substituting proper the kinds of synonyms and the difference between polisemy and homonymy for a writer to success in academic essays.

KEY WORDS: *academic writing, synonymy, near synonymy, polisemy*

INTRODUCTION

Writing is a contradictory process. It doesn't matter what kind of writing, the writer expresses his inner senses and opinions on the white sheet. It's hard, or as writer W. Somerset Maugham said, "To write simply is a difficult as to be good." Writing is also an empowering process, as essayist and literary critic William Hazlitt noted, "The more a man writes, the more he can write."

The writing process is also exciting and enlightening, thrilling and discouraging, humbling and exalting, just like life. We would want to live our lives and see what happens along the way as Ray Bradbury, the author of more than 500 published works, pointed out, "Creativity is continual surprise."

However, academic writing is also on great demand for students and learners. Academic writing in English is linear, which means it has one central point or theme with every part contributing to the main line of argument, without digressions or repetitions. Its objective is to inform rather than entertain. As well as this it is in the standard written form of the language. There are ten main features of academic writing that are often discussed. Academic writing is to some extent: complex, formal, objective, explicit, hedged, and responsible. It uses language

precisely and accurately. It is also well organized and planned. Written language is relatively more complex than spoken language. Written language has longer words, it is lexically more sense and it has a more varied vocabulary. It uses more noun-based phrases than verb-based phrases. Written texts are shorter and the language has more grammatical complexity, including more subordinate clauses and more passives. Academic writing is relatively formal. In general this means that in an essay you should avoid colloquial words and expressions. Written language is in general objective rather than personal. It therefore has fewer words that refer to the writer or the reader. This means that the main emphasis should be on the information that you want to give and the arguments you want to make, rather than you. For that reason, academic writing tends to use nouns (and adjectives), rather than verbs (and adverbs). Academic writing is explicit about the relationships in the text. Furthermore, it is the responsibility of the writer in English to make it clear to the reader how the various parts of the text are related. These connections can be made explicit by the use of different signalling words.

One of the best techniques is to enhance writing skill and get best score is to avoid word



repetition in academic essays. When someone engaged with academic writing, his first objective is to think carefully about the choice of words. This is the creative phase where your main focus is on producing content that satisfies the objectives of your assignment brief or research proposal. Writing is a developmental process, and as you become more accomplished as an author, your range and understanding of the meaning and suitability of synonyms will increase and be reflected in your writing. ***In order to keep the reader connected with your writing is it vital to use synonyms, synonymous expressions and greater lexical variety. Replacing a word with an equivalent one perhaps, even a more specific one***, can improve how you are communicating your ideas. The use of synonyms also helps to make your writing more vivid and to create a more intriguing image in the mind of a reader. Language richness somehow depends on the varieties words and meanings used in the language. Why is it important to use synonyms in your speech or writing? It is important because synonyms can improve both your oral skills and your writing skills, as noted in the following section. Some of the benefits of using synonyms are that they can: Make text much more captivating. However, it is crucial to avoid plagiarism, as it is a serious issue for writers and editors and is considered copyright infringement. It is particularly serious for academic researchers because plagiarizing someone else's work in a research document can diminish or even destroy their professional credibility. Any works that you refer to in your writings that are not your original thoughts or ideas should be correctly cited and referenced. Must you always use direct quotations? Not necessarily, but any part of the original text that you include in your paraphrased text should be in quotation marks. Paraphrasing allows us to reduce a very lengthy quotation by using fewer words to convey the same message, and it can help avoid the temptation to use too many quotations. This is where synonyms come in handy, but you must be mindful of what words to use. When paraphrasing, be sure that the words you choose to replace the original idea are true synonyms. For example, the original phrase, "It was a dark day," could mean more than one thing. It could mean that the weather was gloomy or that the person's mood was somber and depressed. Be sure that you grasp the original idea and use words that will convey the same meaning.

Having variety meanings of a word is really vital in linguistics. Everyone can agree that the English language richness is more than comparing with other European languages. Learning to use synonyms effectively can provide the reader with colorfulness both written and oral speech. Hence, choosing a right word for each situation might be utterly confusing when you avoid making expression more arid and repetitious. As we know,

the word synonym in the linguistics can have exactly meaning or nearly the same as another word or phrase in one language. Synonyms may be any part of the speech, on condition that both words must belong to the same part of speech:

Noun: chance and opportunity

Verb: attend and go

Adjective: gorgeous and magnificent

Adverb: very and highly

Phrasal verbs: pass away and kick the bucket

Prepositions: by and next to

Negative prefix: un- and im-, unhappy and impolite

In linguistics the term synonymy has ambiguity of the words. Words that have the same meaning are said to be *synonymous* which they can be in one particular function. Synonyms with exactly the same meaning belong a seme or denotational seme while these with incisively similar meanings share a broader denotational or connotational seme and thus overlap within.

As Cruise established the scale of the synonymy: absolute synonymy, cognitive synonymy and near-synonymy. The last one is more common in writing. *Near-synonyms* are lexemes whose meaning is relatively close or more or less similar. The senses of near-synonyms overlap to a great degree, but not completely. [Murphy, 2003, 155] Moreover, unlike cognitive synonyms, near-synonyms can contrast in certain contexts:

He was killed, but I can assure you he was NOT murdered, madam. [Cruse 2000;159]

Near-synonymy is regularly found in dictionaries of synonyms or *thesauri* where most of the terms listed under a single dictionary entry are not considered to be cognitive synonyms (e.g. *govern-direct, control, determine, require*). [Maja 2009:19]

It is generally accepted that writing in English is a difficult process for English as a foreign language learners, it is not surprising that errors in writing are found as an unavoidable part of foreign language learners writing. Inferences are frequent in discourse of the English learners. They are eager to replace every word of the task by choosing synonymy. It would be better for learners to analysis more words and meanings relating to collocations, near synonyms in thesaurus meanwhile practicing the writing.

When we try to use the synonyms the surface meaning seem to be similar exactly but we should draw attention there is a slight difference on account of *tone*. The tone of communication shows you what you are going to say and provide with variety meanings of the word. In discourse communication using synonyms is vital like "*blood for human body*". They can color the speech in different way to provide with essential meaning to emphasize the word meaning in certain tone.

The most common examples are *pretty* and *handsome* as two different forms which have the



same sense. However, *pretty* collocates with female and *handsome* collocates with male. Different words that are similar in meaning usually differ for a reason: *woman* can be used for person rather than *female*; and *extended* are only synonyms in one usage and not in others (for example, a *long arm* is not the same as an *extended arm*).

Synonyms are defined with respect to certain senses of words such as: *hilarious comical* and *priceless* can be synonymous in the meaning of *funny*, however, they mean funny in a slightly different way:

- *Hilarious* [adjective] – very funny (laugh out); *Hilarious cartoon that the whole family can enjoy.*
Comical [adjective] – means funny in a silly way (cause laughter especially by unusual or unexpected): *Little girl looked comical in her mother's dress.*
Priceless [adjective] – can mean extremely funny: *I could not help laughing whenever I saw that priceless film.*

Additional examples are analyzed for investigating **near-synonyms** with the help of *Merriam Webster Dictionary*.

- *sleep* [noun] and *nap* [noun] are synonymous but *nap* is a type of short sleeping especially during the day: *She is taking a nap now;*
strange [adjective] and *bizarre* [adjective] both mean odd but *bizarre* means strikingly out of the ordinary, very unusual: *The new film is full of bizarre situations;* *strange* may also apply for unfamiliarity and nonnative or unnatural: *She does not know anybody, she is strange here;*
- *shop* [noun] and *store* [noun]; store cannot be placed instead of shop in some cases, store is a large building or room things are sold and kept; *I'm going to store to buy groceries,* *Jane's aunt keeps flower shop;*
- *close* [adjective] and *near* [adverb] are synonymous, however, *near* cannot be synonym of *close friend* because *near* is close to someone or in distance: *My close friend is Sally;* *Sally lives near collage;*
- *expensive* [adjective], *dear* [adjective] and *pricey* [adjective] they all mean that something cost a lot of money but *pricey(pricy)* is more informal so it is difficult to see that in written form, *dear* is more modern, for instance:
I have bought a new expensive mobile phone it is a bit pricey but not as dear as previous one.
- *kill* [verb], *slay* [verb] and *murder* [verb] here *kill* states the fact of death caused by an agency in any manner: *the frost killed the plants;* *murder* specifically implies stealth and motive and premeditation and therefore full moral responsibility: *he was arrested and accused of murdering his wife;* *slay* is a chiefly literary term implying deliberateness and violence but

not necessarily motive: *the knight slew the dragon;*

- *Alike and same*; both words mean similarity but there is a great difference in grammar structure alike [adjective] – similar in appearance, exhibiting close resemblance without being identical; alike is predicative adjective so that it comes after noun or auxiliary verb:
These covers of the books are alike. *Your new suit seems alike;*
same shows similarity of size, color and age. After *same* follows a noun
 “the same + noun + noun”, moreover, *same* is used with definite article “the”.
 For instance: *Both girls have the same color dresses.*

A thesaurus lists similar or related words; these are often, but not always, synonyms. Thesaurus are used to avoid word repetition and also to enrich vocabulary in a language. Dictionary for synonyms are first appeared in 1852 by Peter Mark Roget. Roget's Thesaurus is two volume set which are available both published and electronic version. It was initial work of synonyms which listed and put in alphabetical order. Thesauruses are often used by writers or students to find out a proper word to express an idea. Many of the dictionaries don't have definition but include a list of synonyms of the word. However, while searching a synonym in thesaurus draw attention to semantic and denotative meaning of the word. I think there are a lot of near synonyms (almost the same meaning) in thesaurus, choosing a synonym is profound effort anyway. Let's see the words *consume* and *use*, both are they synonyms in the context *consume petrol* and *use petrol* are synonymous, but *use* cannot be practiced in the phrase *consume meat*. Here we can see synonyms are different according to their meaning and collocation, therefore, it is highly recommended that the writer should be careful when looking up to choose the right word from thesauri dictionary, as not every word can be suitable synonym for replacing owing to near synonyms.

One of the remarkable challenges is polysemy for writers. Polysemy is the capacity for a word or phrase to have different meanings, usually related by contiguity of meaning within a semantic field. Polysemantic words always serve to enrich the language, but at the same time these words create some confusions in the language. There is context to avoid such confusion. It is the context that clearly defines the meaning of polysemantic words in language. The true exact meaning of a word is determined within context. Other meanings come to the fore only when the word is used in certain contexts. This is true of all polysemantic words. For example the adjective *yellow*, when used in isolation is understood to denote a certain colour, whereas other meanings of this word, e.g. “envious”, “suspicious”, “sensational”, “corrupt” are perceived



only in certain contexts, “a yellow look”, “a yellow press”.

Furthermore, in linguistics the term homonymy can be always confused with the term polysemy. Homonymy is another factor that hinders the learners' writing skills. Synchronically the differentiation between homonymy and polysemy is as a rule based on the semantic criterion. It is usually held that if a connection between the various meanings is apprehended by the speaker, these are to be considered as making up the semantic structure of a polysemantic word, otherwise it is a case of homonymy, not polysemy. For example, in English

Fire:
1. Destructive burning,
2. Burning material in a stove, fire place (a camp fire)
3. Strong feeling, passion, enthusiasm (a speech lacking fire).

CONCLUSION

Synonymy affects the aspects of vocabulary when learners can substitute a synonym for a word in a text, the learners could be expected to score higher on writing tasks, measuring knowledge of syntagmatic association, paradigmatic association, and grammatical functions for target words with known synonyms than target words without them. It is obvious that writing skills are based on the using techniques of the right and proper words. Using synonyms, polysemantic words should be accurately used in writing process. Using synonyms and paraphrasing to avoid plagiarism can be used in writing skills.

Plagiarism is a significant problem for authors as editors, and it is considered a violation of copyright. Plagiarism in a research paper is especially dangerous for academic researchers because it can damage or even ruin their professional reputation. Any works that you mention in your writings but aren't your own. Learning to properly use synonyms will help you express your ideas more effectively. Using a number of synonyms in a clear and succinct text will provide your readers with more enjoyable reading that will keep their attention. After all, the ultimate aim of scholarly writing is to clearly introduce new subjects and studies to everyone who is interested.

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THE POSSIBILITY AND IMPORTANCE OF GROWING FISH IN RICE FIELDS

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ABSTRACT

This article provides information on the importance and possibilities of increasing the efficiency of fish farming in rice fields in the soil and climatic conditions of Uzbekistan in order to introduce advanced technologies in this area and develop fish and rice farming.

KEY WORDS: *Fish, fish farming, cage, fingerling, small fry, carp, silver carp, white Cupid, rice, rice farming, rice fields, Spirogyra, cladophora, fillet, Capron.*

I. INTRODUCTION

Fisheries are one of the strategic areas of ensuring food security. Thanks to the measures taken, the share of fisheries in the economy of our country is steadily growing in the coming years. However, there are still many shortcomings and problems in fish farms. Their effective solution involves increasing the activity of the industry, attracting investment, introducing advanced fish farming technologies, increasing export potential, and creating new jobs.

In order to create conditions for further development of the fish industry, improve the system of training and retraining of personnel, improve the quality of scientific and innovative research and development, as well as ensure widespread implementation of their results in practice, the decree of the President of the Republic of Uzbekistan "on additional measures for accelerated development of the fishing industry" No. PP-3657 of April 6, 2018 was adopted. Based on this decree, quite positive

work is being carried out in our country to develop fish farming.

To date, more than 3,000 fish farms have been established in the Republic, and in 2020, 166.4 billion sums were allocated for 437 projects for growing fish in these farms. The volume of exported fish products is 446.1 tons, which were estimated at 1.4 million US dollars. Farmers widely use intensive fish farming methods such as closed water circulation systems, intensive small ponds, cages (cages) and fish grown using "rice+fish" methods that are beneficial for human health.

At the same time, special attention is paid to growing agricultural products, increasing exports, introducing modern technologies to the industry and rational use of water resources. However, today the growing water shortage, population growth and other factors related to human influence make it necessary to introduce water-saving technologies for growing high-cost crops.

In accordance with the decree of the President of the Republic of Uzbekistan No. PP-4973



dated February 2, 2021 “on measures for further development of rice cultivation”, a number of positive measures have been implemented in the Republic to improve the uninterrupted and efficient system of rice cultivation, storage, processing, sustainable provision of the domestic consumer market with rice products and increase export potential, strengthen research work in this direction and widespread use of water-saving technologies in rice cultivation.

Recently, serious attention has been paid in our country to the practice of growing fish simultaneously with rice farming in order to make integrated use of rice fields. Fish farming in rice fields is widespread in Southeast Asia and was first put into practice. This practice of fish farming was later used in other countries. Especially in countries such as Italy, France, China, Korea, and Indonesia, where rice farms have been established and still operate.

II. METHODS

The first experiments on growing fish in rice fields in Uzbekistan began in 1932. In the 1940s – 1960s, academician A. M. Mukhammadiev extensively studied and applied in practice in the Ferghana valley. According to A. M. Mukhammadiev, with this method, soil fertility increases, the soil is cleared of weeds and at the same time protected from erosion. In the experiment, carp fingerlings were released into a rice field. Carp feed mainly on insect larvae, improving air access to water, destroying the film (curtain) formed on the surface of the water by soft algae, such as Spirogyra, cladophora, filamentous (a type of algae) that prevents the normal growth of rice. Further, the carp in search of food digs the ground to a depth of 10-15 cm and as a result leads to loosening of the land.

When growing fish in rice fields, we have the opportunity to get both rice and fish products for the farm. In such cases, the fish productivity of rice poly reaches from 50 to 100 kg per hectare, and sometimes it can be higher. India, Indonesia, Japan, China, Vietnam and some countries of South and Central America are particularly successful in growing rice and fish products. Because in these countries, rice and fish are the main food items. If you grow fry in rice fields, it will be possible to prepare in advance for the next year the material for the main one fish farming in natural lakes.

Currently, there are two ways to grow fish in a rice field all over the world: 1. Growing fish in combination with rice; 2. Releasing fish after watering rice poly and growing rice. To do this, the rice field must be prepared technologically in advance in accordance with the rule of growing fish. Water must flow through special nylon nets so that foreign fish do not enter the rice field, and feeding fish do not come out. Water from the rice poly should go out into the ditch. Along the edges of

the rice poly, ditches are dug, the length of which is equal to the length of the field, the width is 1.0 and the depth is 0.5 m. These ditches they are connected to each other in such a way that the water is directed towards the exit. Fish are collected in these ditches after removing water from the rice poly.

When growing fish in a rice field, special attention is paid to the oxygen and temperature conditions of the water. The shallowness of rice poly, water exchange and weed growth negatively affect the amount of oxygen in the water. Oxidation and putrefaction of organic substances in water leads to the absorption of a large amount of free oxygen, which leads to a decrease in its content in water. In the daytime, as a result of photosynthesis, water is saturated with oxygen (normal saturation is 6.5-8.5 mg / l or 92.8-121.4%), and the water temperature also changes dramatically: during the day it warms up as much as possible, and at night it cools down.

In Uzbekistan, carp are mainly grown in the rice field. It should not be forgotten that in this case, the main determining factor should be considered the technology of rice cultivation. Because the main product is rice, and fish is a by-product. The purpose of its cultivation is to obtain high yields of rice. Because paddy fields are necessarily dried from time to time or before the rice harvest. Therefore, the cultivation of fish in the rice field will continue until certain dates, and basically the calculation is made for receiving 1 centner (100 kg) of fish products from each hectare of rice poly. This method is very convenient when growing a large number of fry for fish farming or for fish farming in natural lakes. In this case, fingerlings are removed from the rice paddy in October and transferred to a wintering pond or released into natural lakes.

In practice, it is known that some farms using this method have brought the yield of fish to 10-15 centners per hectare. In particular, from each hectare of rice poly it was possible to get up to 3-5 centners of carp, up to 3-5 centners of grass carp, up to 3-5 centners of white carp. It is worth paying special attention to the fact that grass carp are not bred as commercial fish in rice fields. Because it has the ability to feed on rice plants as food.

V. A. Meyen conducted experiments on growing carp in rice farms of the Cherkasy region. After fattening up one-year-olds, we managed to grow an additional 46-90 kg of fish products from each hectare of rice fields. In some farms, the fish yield reached up to 176-207 kg per hectare. However, the average weight of two-year-old carp was significantly lower-190-320 g (Meyen, 1940).

In Uzbekistan, in experiments led by academician A. M. Mukhammadiev in a rice field in the Ferghana region, up to 43-81.5 kg of fish products per hectare were obtained from fingerlings. The average weight of fattened fish was 203-500 g. Fish productivity of rice poly is relatively very low (35-70kg/ ha).



Experiments were conducted on the cultivation of carp mainly by breeding fingerlings in a rice field in Tajikistan (Olegova and Yarov, 1955), and the same results were noted as in the Ferghana rice fields. Here, too, the fish productivity did not exceed 35-70 kg / ha.

The main reason for the low productivity of carp grown in the rice fields of Uzbekistan and Tajikistan, as well as the relative unsatisfactory growth of carp in rice fields, is as follows: 50-90% of the fry released in rice fields die - they will become food for frogs, water snakes, dragonfly larvae, water flies. For example, a frog eats an average of 15-20 pieces per day, a dragonfly larva-8-10 pieces, water bugs will eat 5-10 pieces of fry, a Water snake also eats 5-7 pieces with a weight of 8-15 g of fish fry during the day.

It will be advisable to produce small carps, weighing up to 25-30 g. 1-2 thousand pieces per hectare, instead of fry in rice fields. The growing season of a rice plant lasts up to 110-130 days. By October-November, fingerlings reach a weight of 70-94 g, which means an increase of 0.45-0.64 g per day. This gives a good result if fingerlings are used as a material for fish farming in natural lakes or in ponds intended for growing fish.

III. CONCLUSION

Today, most farms in our Republic are working on the basis of this technology, but today the domestic ichthyology is in urgent need of young specialists working on the basis of this technology, who are able to bring it to a qualitatively new level that meets today's requirements. Rice is a favorite food of the Uzbek people. In this regard, its area is significantly increased in the following years. This means that by farming using the rice-fish method, there will be opportunities to grow additional fish products.

In our opinion, this direction, that is, the simultaneous cultivation of plant and animal (fish) products, can be considered as an ideal way to effectively use the land.

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ANALYSIS OF CURRENT SITUATION ON IMPLEMENTING COGNITIVE APPROACH IN ENGLISH CLASSES

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ABSTRACT

In order to learn the amount of attitude towards using cognitive approach to learning in local context we analyzed State Educational Standard, the syllabus of the subject “English language” and course books used in this subject. A Curriculum, in our case State Educational Standard provides useful information for the organization of teaching, learning and evaluation activities. It is through a curriculum that education programmes (syllabus) become operational in the classroom.

KEYWORDS: *sociolinguistic competence, career-oriented, syllabus, requirements, communicative.*

As our aim is the usage of cognitive approach for developing B2 level learners’ language skills, we take the students of higher educational establishments. The reason for this is that according to the “Requirements for the level of preparation of graduates of all stages of education in foreign languages” adopted on May 8, 2013 by the Cabinet of Ministers of the Republic of Uzbekistan, [1] the foreign language level of graduates in non-foreign language faculties of higher education institutions should be B2. According to this document the aim of teaching foreign languages in all levels of education in the Republic of Uzbekistan is the formation of communicative competence in a foreign language in learners’ everyday life, as well as in scientific and professional fields in a multicultural world. This document focuses on three types of competencies: linguistic, sociolinguistic and pragmatic.

Linguistic competence refers to the acquisition of knowledge of language material (phonetics, vocabulary, grammar) and skills (reading, listening, speaking and writing) in the types of speech activities.

Sociolinguistic competence allows the speaker to choose the desired linguistic form, method of expression, based on a particular speech situation, communicative purpose and desire. It incorporates socio-cultural competence into the national characteristics of authentic speech; knowledge of the

customs, values, rituals and other national and cultural features of his own country and the ability to compare them with the country whose language he is learning.

Pragmatic competence refers to the ability to get out of difficult situations by repeating, apologizing when misunderstandings arise in a communicative situation in the foreign language being studied. In this standard, discourse competence is included in the pursuit of pragmatic competence. This competence implies the expression of ideas in oral or written speech by appropriate linguistic means. Discourse competence refers to the skills of understanding and interpreting linguistic cues in ensuring consistency in oral or written speech.

In order to develop the above mentioned competences there should be used different approaches in foreign language process, one of which is cognitive approach. We suggest using this approach because as we know cognitive approach involves memory, thinking, reflection, abstraction, motivation, and meta-cognition, which are very essential in developing their knowledge of language material (phonetics, vocabulary, grammar) and skills (reading, listening, speaking and writing), in comparing customs, values, rituals and other national and cultural features of his own and foreign countries, getting out of difficult situations by



repeating, apologizing when misunderstandings arise in a communicative situation.

The syllabus analysis is a kind of a map. It is a plan with regard to the objectives, content, learning materials, assessment as well as the methods employed as a guidelines in conducting learning activities in order to achieve the goal of a certain education as a learning outcome. The syllabus analysis provides a detailed list of principles underlying language learning and teaching, the choice of material and content, and classroom assessment that incorporate constructivist, motivational, and brain-based learning theories.

So, the second document we analyzed is the syllabus of the subject “The English language”, designed by G.Bakieva, B.Samatov, M.Tursunov, et al. and adopted by the Ministry of Higher and secondary special education on 14 June, 2018[2]. The syllabus depicts the value of the subject in higher education and points out that aim of the subject is to the content of the subject aimed at developing (academic) language skills, language competencies to be used in future professional activities. Self study learning is directed to the formation of motivation to acquire skills and abilities to use the language. While learning the subject students have opportunities to develop general, academic and career-oriented language skills and competencies appropriate to B2 level.

The aim of the subject is to prepare specialists who can use the foreign languages in their everyday lives, professional and scientific (academic) field. One of the aims is to develop learners’ logical thinking skills while dealing with the issues on concerning to their professional field and everyday life.

The syllabus provides a detailed description of required competencies (linguistic, sociolinguistic, pragmatic) the graduates of B2 level should acquire in the subject “Foreign language” according to state educational standards. They are the followings:

Linguistic competence, where students should be able to listen and understand the essence of comprehensive speech or a statement of a series of complex ideas, lectures, detailed instructions, scientific and professional presentations, inquiries and opinions; complex authentic speech in familiar and unfamiliar contexts; to be able to take part in lively discussion and debate without prior preparation, clearly express their views and opinions in a formal discussion; substantiate their opinions in discussions, interpret and change correction; draw a clear generalized conclusion from an article, report, or discussion; distinguish relevant information from articles and reports in their professional fields; To write well-organized essays and reports in the right form and content;

Sociolinguistic competence, which includes deeper understanding of intercultural communication

including communication features like greetings, forms of address, courtesy comparing English and Uzbek cultures.

Pragmatic competences where students should be able to use language accordingly in different social, educational and professional circles; to be able to divide speech in the process of communication, to add clarity, to interpret differently, use correction, completion, and other strategies, and to apply in practice.

In order to develop the above mentioned competencies the role of cognition is significant. As cognition deals with the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses it is important to pay attention in the development of these competencies. Dealing with the tasks like clearly expressing views and opinions in a formal discussion; substantiating opinions in discussions, interpreting and changing, distinguishing relevant information from articles and reports in their professional fields scientific and professional presentations, inquiries and opinions; deeper understanding of intercultural communication, using language accordingly in different social, educational and professional circles students need cognition i.e. thinking, understanding, evaluating and changing skills. So in this plan we appreciate the requirements of the syllabus of the subject “Foreign languages”. In language teaching, Input refers to the linguistic content of a course. It seems logical to assume that before we can teach a language, we need to decide what linguistic content to teach. Once content has been selected, it then, needs to be organized into teachable and learnable units as well as arranged in a rational sequence. The result is a syllabus, which essentially covers the content of teaching and learning.

So, the next document we analysed was the educational programme (it is called in our local place “Ischi dastur, Rabochaya programma”) which was designed by the Nukus State Pedagogical Institute English language teachers. The action syllabus we analysed was designed by Seytova Gulxan and Borasheva Aybolgan for the second year students of all bachelor degrees of the Nukus State Pedagogical Institute. The aim and objectives and requirements on learners’ achievement and outcomes are the same as in the syllabus of the subject “The English language”, designed by G.Bakieva, B.Samatov, M.Tursunov, et al.[3] There are 34 practical lessons and 18 self study tasks are planned in the action syllabus. 17 topics are devoted to general themes like food, health, shopping, daily activities, appearance and etc, 3 topics are devoted to professional field. But in their third year of study students have 3 and 4 professional topics. According to syllabus students learn vocabulary, grammar concerning to topics, develop their reading, listening, speaking and writing



skills. We like these points in the syllabus as they give opportunity to develop their cognition.

We'd like to mention several activities which we appreciate as appropriate activities for developing cognition. So, in the topic "Career responsibility" students read the text "Career responsibility is one of the leading stages of promotion, they discuss causes and consequences of career responsibilities, learn to write a letter of application. This kind of activities let learners think, evaluate and foresee the situation, develop ability to plan their life and career development, solve the problem, avoid the problematic situations and be polite. In the topic "Environment" students should interview people about environmental issues and write opinion essay about environmental problems. It is also one of the beneficial tasks, as it is not an easy thing to interview others. In order to fulfill this task students have to design questionnaires where they should take into account the logicity of questions, their influence on respondents, difficulty of questions, outcome of the question and many other factors. And this requires some thinking, planning, rethinking, evaluating, which is essential in cognition as well as creates understanding, friendship and cooperation among people. In the topic "My first experiment" (Professional topic) Students speak about their first chemical experiment, which develop their reflective skills. But we'd like this kind of tasks to be more, as they relevant to our learners' life, interests and abilities, learners have opportunities to acquire skills and experiences to solve real life problems.

And these tasks give us opportunity to reach the cognitive aims, the behavioural aims and the emotional aims of each unit. In this plan we liked the content and objectives of the syllabus.

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PROFESSIONAL COMPETENCE AS AN INDICATOR OF THE QUALITY OF EDUCATION

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ABSTRACT

This article examines the essence of the concept of "professional competence of a specialist", its constituent components, a pedagogical environment in which a specialist can apply his professional knowledge and skills to achieve the tasks set by him, the implementation of which contributes to the achievement of the learning goal.

KEYWORDS: *professional competence, cognitive readiness, communicative readiness, creative readiness.*

DISCUSSION

In the last decade, in the system of higher education, there has been a sharp reorientation of the assessment of the result of education from the concepts of "preparedness", "education" to the concepts of "competence", "competency" of students, which was facilitated by the urgent problems of society: maintaining a democratic and open society; the presence of many languages and cultures; economic difficulties, implying the obligation to improve their qualifications. All these changes in the socio-political sphere require analytical inclinations, and especially the ability and desire to learn throughout life. Thus, there is an objective need for new standards for assessing the quality of education. In the early 70s of XX century American researchers put forward a proposal "to test competence / competency, not intelligence", which laid the foundation for the study of competence from a pedagogical point of view. Orientation to "handy" practical tasks (on-the-job-training) improves the quality of personnel, bringing theoretical education closer to practice, focusing on that part of the spectrum of individual psychological qualities, which includes independence, discipline and communication, the need for self-development, and the ability to quickly and conflict-free adapt to specific working conditions. However, quite often the emphasis is placed on obtaining professionally important knowledge, and much less attention is paid to the formation of skills, abilities and value orientations.

The moral foundations of a modern person's activity in making responsible decisions are becoming equal or even superior to technological, economic and environmental justifications. That is why it seems necessary to supplement training as a characteristic of the content of an educational service with its no less important component - upbringing and the result of education - development, improvement of an intrinsically valuable and socialized personality, the formation of an intelligent personality.

The goal of education is, therefore, a three-component nature: in the professional field - professional competence, in public life - successful socialization of the individual, in the personal sphere - awareness of one's own self-worth, the manifestation of reflection and activity in goal-setting and in activities in general, self-identification.

The customer and direct consumer of education is a person, while society forms the main socially significant requirements for the quality of education in the form of federal and regional components of curricula, acting as a corporate customer and a potential consumer who receives a professionally competent socialized member of society. A higher educational institution - a provider of educational services - conducts the educational process in accordance with curricula, implementing educational programs developed by its specialists, the implementation of which ensures the satisfaction of consumers' requirements.

The indicators of subjective professional competence can be based on the characteristics of the current and potential activities of a specialist. At the



same time, the educational process should simulate the corresponding aspects of future professional activity (sometimes it is because of the mismatch of the demanded personality traits in the educational process and in professional activity that the former excellent student lags behind in professional and career growth from the student mediocre).

Of a number of aspects of professional competence mentioned in many works, the following can be distinguished.

1. Actual qualifications (knowledge, skills and abilities from the professional field, the ability to productively possess modern computer information technologies, necessary and sufficient for the implementation of professional activities).

2. Cognitive readiness (the ability at the activity level to master new knowledge, new tools, new information and computer technologies, identify information deficiency, the ability to successfully search and master, use the necessary and sufficient scientific information, the ability to learn and teach others).

3. Communicative readiness: knowledge of native and foreign languages, including the ability to apply the conceptual apparatus and vocabulary of basic and related sciences and industries, knowledge of communicative techniques and technology, knowledge of the basics of patent science, copyright, legal sphere of labor relations, business ethics of professional communication and team management, the ability to apply them with an optimal combination of democracy and authoritarianism, to conduct a discussion, motivate and defend their decisions based on the skill of articulation - verbal, figurative or other expression of essential content in a form that is adequately perceived in a professional environment by a reference group.

4. Possession of methods of technical and economic, environmentally oriented analysis of production with the aim of rationalizing and humanizing it.

5. Creative readiness, i.e. the ability to search for fundamentally new approaches to solving known problems or the formulation and solution of fundamentally new problems both in the professional field and in related fields.

6. Understanding of the trends and main directions of development of the professional field and the technosphere as a whole in combination with spiritual, political, social and economic processes.

7. Conscious positive attitude towards engineering activity as a kind of occupation, in particular, within the framework of a specific engineering specialty, need, aspiration and readiness for professional improvement, corporate self-identification and positioning.

8. Stable and developing professionally significant personal qualities, such as responsibility, dedication, determination, tolerance, exactingness

and self-criticism with a sufficiently high self-esteem.

The demand for a particular quality of professional competence is determined by the place of the specialist in the job hierarchy, which, in turn, is associated with the length of service in the specialty and the general length of service, the correspondence of the industry and type of work activity to the direction of study and the specialty and qualifications obtained.

The elite (opposite to the egalitarian) nature of the education received gives priority to a number of aspects of professional competence, i.e. from desirable they become obligatory and paramount:

- Possession of pre-activity potential creativity, actualized in the mastered professional activity in the form of socially significant creative activity as a necessary subjective condition for creativity;

- Possession at a sufficient level of creative procedures for generating fundamentally new knowledge, informal design skills (including design) of new devices and systems, where the share of non-logical (intuitive) knowledge and skills can exceed logical ones;

- Possession of the ability to make responsible decisions - both technical in design and engineering, and organizational and administrative; the ability to correct and determine (formulate, set) a goal and acceptable ways (method, technology) to achieve it, taking into account moral criteria;

- Self-identification and high self-esteem of personal professional competence, perceived as preparedness and subjective potential readiness (pretentiousness) for intraprofessional progressive (formal and informal) and interprofessional mobility;

- The ability for critical and innovative reflection in relation to their own activities: emotional, moral aesthetic assessment and self-assessment, forecasting the technical and social results of activities and relationships in society, regulation and correction of their own behavior, awareness of the need for self-improvement.

Let us note the unity and integrity of the necessarily complementary ideas about professional competence proper and professionally significant personality traits, which is also reflected in the term "subject professional competence".

Especially clearly noted duality can be traced in the characteristics of the elite component of subject professional competence, since the selectivity of elite training necessarily requires the mandatory use of pedagogical technologies developed according to the methodology of the subject-activity approach, including with an orientation towards a specific personality and an individual curriculum and programs.

Let us emphasize the interdependence of the indicators of acquired professional competence and specific professionally oriented aspects of



educational work, contributing to the achievement of the necessary personality traits of a young specialist:

- the formation of a stable motivation to increase education as a necessary prerequisite for taking a worthy position in a democratic society and a way of self-realization, disclosing one's own creative potential and, through this, self-identification, awareness of one's own self-worth as a person;

- promoting patriotism, awareness of one's own belonging to the homeland and its socio-cultural integrity, to its peoples and culture (sociocultural positioning), to the scientific and engineering school (corporate identity, i.e. self-identification as an active part of the corporation);

- promoting the formation of the values of freedom and democracy; fostering tolerance as a norm of social coexistence; a humanistic understanding of the global nature of engineering activities in the personification of private engineering solutions;

- the formation of basic ideas about the ethics and aesthetics of engineering, respect for authorship and intellectual property rights, fostering a sense of responsibility for the methods and results of engineering activities, the proper balance of personal, corporate, state and global interests and values, contribution and responsibility.

The actual subject content (subject orientation) of educational activities aimed at the student - the object and subject of education, as a rule, is not decisive and acts as clarifying, concretizing conditions. The pedagogical duality of teaching and upbringing as equivalent spheres of education determines their role in the educational processes of a particular scientific and pedagogical school.

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LOCAL - TERRITORIAL CHARACTERISTICS OF VIEWS RELATED TO THE SHRINES AND VISITATIONS OF KASHKADARYA OASIS

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ANNOTATION

The article helps to study the history of spirituality in our country, the rich national and spiritual heritage on the basis of sacred shrines, a comprehensive study of the sacred shrines of Kashkadarya and a deeper understanding of the rich aspects of the history of our spirituality.

KEYWORDS- Oasis, sacred shrines, zoroastrianism, Sacred animals, tombs, mosques and mausoleums.

INTRODUCTION

In its centuries-old history, the Kashkadarya oasis created not only a system of different ceremonies associated with the sacred shrines, but also became its executor. Although some of the ceremonies at the sacred shrines are gradually disappearing under the influence of social, economic, political and cultural changes in the society, and some has faced changes, all of them have great historical and scientific significance for they are used in the lifestyle of the nation, in economic activities, in the past and present, no matter what ideological direction they are in. Therefore, we found it necessary to study the rituals at the shrines of the oasis more widely, to collect data about them and study them on a scientific basis. By describing the ceremonies held at the shrines it is possible to evaluate correctly that the role of customs, rituals in the spirituality, culture and traditions of the Uzbek people is connected with the shrines.

MATERIALS AND METHODS

In the nations of Central Asia, the views about the shrines began to develop in ancient times. Especially, if we look directly at the views on the shrines related to fire in the Kashkadarya oasis, it shows that the views, customs and skills of the population related to fire are formed and they believe in that fire is sacred. Particularly, one of the rituals performed among the local population is related to fire, which indicates that in the first millennium BC zoroastrianism (fire-worship) was widespread among the peoples of Central Asia.

It is possible to observe that such traditions still continue in the present days among the population by going to the shrines and lighting candles or lanterns¹.

Sacred animals and beasts. The worship symbols of the Navtakians were made of ore and stones, for example, a symbol of golden hedgehogs, as well as a small dwarf idol statue and a frog (actually made of carnelian) were found in the altar shelf made of stone-cuts. In the doctrines of fire-worship, hedgehogs were considered to be sacred beings. Therefore, the presence of symbols of the frog and the snake, which were considered to belong to the evil world in the "Avesto", together with the golden hedgehog among the Navtak artefacts, reflects the peculiarities of the worldview and religious beliefs of the Navtak people. The fact that the Navtaka temple buildings were built in pairs can also be connected with the influence of Greek traditions. The Greeks are known to have built the temples of Athens and Hercules in pairs. From an architectural point of view, it is difficult to say for sure whether the temple at Navtaka was the continuation of that style or whether there was a need for a larger fireplace as a result of the expansion of the city. In any case, there was a tradition of building temples in pairs in Sogd (as in Navtak and Panjikent)². Thus, this style of construction of ancient temples and the existing

¹ Field notes. Kashkadarya region. Yakkabog district, 2017.

² Ravshanov P. History of Kashkadarya ... - P.154-155.



fireplaces in it show the antiquity of the beliefs and worship of the people of the oasis.

Furthermore, according to Valerie Hansen (Valerie Hansen), one of the nations who made a great contribution to the culture of the Great Silk Road was the Sogdians. They lived in and around the present Samarkand city in Uzbekistan. Trade relations between China and Sogdiana rose the peak point between 800-500 BC. Information about the Sogdians and their beliefs is more preserved in China than in theirs³.

Among the relics of the Jangaltepa artifact, animal-shaped (e.g. sheep) lamps (fire-related vessels) are not found at all. However, sheep-shaped lanterns were also found in the ancient monuments of Navtak and its surroundings. In Jangaltepa there are vessels (water and milk containers) shaped like animals. The representation of the shape of the domestic animals on pottery has been proven to belong to the Qang culture, who transformed from a nomadic life to a sedentary way of life⁴.

Merit of Snake. According to reporters, snakes are sacred creatures⁵. The people of the oasis believed that snakes attacked at people who went to the holy tombs with evil intentions. However, the white snake belonged to the saint and was believed to bring the wealth to its destination⁶. Killing it was a sin. According to the elders of Kamashi village of Kasbi district, their ancestor Hayitboy bobo talked to a crowned snake. This snake was living in the cave of Old Fazli.

VIEWS RELATED TO THE SACRED OBJECTS IN SHRINES

According to the observations and information provided by the informants, every object in the shrine is considered to have sacred power. Among the sacred objects in the shrines are:

1. White cloth;
2. Animal horn;
3. Doors and chains of tombs, mosques and mausoleums;
4. Ancestral tree, books and other documents;

³ Valerie Hansen. The silk road a new history. Published in the United States of America by Oxford University Press 198 Madison Avenue, New York, NY 10016. 2012. – P.17.

⁴ Ravshanov P. History of Kashkadarya. T. Fan Publishing House. 1995 y. B.154-155 .; Kabanov S.K. Culture of rural settlements ... p.115 .; Litvinskiy B.A. Kangyuyskogo sarmatskiy fari. Dushanbe. 1968.p.23. .

⁵ Field records. Kashkadarya region, Yakkabag district. 2018.

⁶ Field records. Kashkadarya region. Kasbi district. 2018.

5. There may also be flags, trees, symbols and pictures preserved from historical periods.

The white cloth is gray or white cotton cloth, and one of the peculiarities of the Kashkadarya oasis shrines is that a white cloth is tied to a pole near the graves of saints and martyrs in the way of Islam. In particular, in the shrines of Nazar-bobo in Nishan district, Koshchalish ota in Kasbi district, there are poles installed wrapped with white cloth. Among the population, it was believed that unintentional littering or overnight stays here would lead to disease. According to local shepherds and informants, the sick man was healed by coming here to recite the Qur'an, repent, and slaughtering an animal⁷.

Animal horns. We have observed the situation of hanging sacred horns in the shrines. Local people explained that it had no connection with Islam. Indeed, the hanging of sacred horns on tombs is associated with totemistic views. Accordingly, the animal horn was believed to be as a tool of protecting humans. Even if such horns are not hung right now, they can still be found.

Doors and chains of tombs, mosques and mausoleums. In the legends about shrines and visitations among the population of the Kashkadarya oasis there is information about the gates and chains of sacred places. For example, the story of Zanjirsaray can be seen in such legends as the visit of Hazrat Ali to the Old Fazli⁸.

The story of Zanjirsaray emphasizes that Amir Temur grew up there until he was 10 years old, and the chains in the palace. According to another narration, Hazrat Ali came to the ancient city of Fazli and tried to convert the local population to Islam. When he faced to the resistance he threw the door of Old Fazli, the door fell on the road to Samarkand. It is known that Hazrat Ali did not come to Central Asia, but our research revealed that Ali Bazdavi was born in the city of Old Fazli (i.e. Bazda). Even today, the old doors of some mosques and mausoleums are considered sacred and kept in a special place with respect.

As a result of the observations, it became clear that the doors and chains of the shrines such as Old Fazli, Ishaq Bobo, were one of the objects of shrines and the pilgrims wiped them against their eyelids out of respect. Among the population, it was believed that cleaning the doors of the shrine by young girls and their contribution to the cleanliness of the shrine would help to open their fortune and

⁷ Field records. Kashkadarya region, Nishan district. 2020.

⁸ Field records. Kashkadarya region, Nishan district. 2020.



happiness⁹. The doors of some shrines were built low. This is due to the fact that in order to maintain the respect of the population for the shrine, its entrance is built low¹⁰.

Ancestral tree, books and other documents. It was obligatory for the locals to know the names of their 7 ancestors. This situation was also reflected in the shrines. In the room of Mulla Ruziboy Akhun in the village of Kamashi, Kasbi district, a collection of books and a family tree are kept from generation to generation. According to our informants, 63 saints were buried in Langar ota cemetery in Kamashi district. The custom of burying people of the same generation in the same place is still preserved in the oasis¹¹. We have witnessed that some genealogies had been made over the centuries being passed down from hand to hand. The locals are proud of their ancestors.

Some of the books in the shrines were given only to those who aspired to science and belonged to this generation. It was believed that falling these books into the hands of other people would break the connection between ancestors and generations.

Flags, trees, symbols and pictures preserved from historical periods were even sometimes believed, and even worshiped by the locals according to their own views. As if these things helped them to get rid of their pain, suffering and affliction¹².

Of course, visiting sacred places has had a profound effect on people's mood. Sacred shrines have also served as the norms of the etiquette of visiting them, in keeping the moral culture of the people at a high level. Consequently, the ancient proverb, "If you are hungry, go to the market, if you are full, go to the grave," has encouraged people to react to the hardships of life. In addition, sacred shrines have played an important role in develop people's sense of nobility. Visiting the sacred places challenged people for avoiding doing wrong things, being honest, and doing good deeds such as leaving only good after themselves. Sacred shrines also play a positive role in the formation of feelings of devotion and loyalty in people. For example, when the people of the Fergana Valley visited the graves of Toshkelin, Bibi Ubayda, Qiz mozor, Childukhtaron, they heard the qualities of saintly women's devotion to their husbands and loved ones, and tried to follow their behavior¹³.

It should be noted that every pilgrim does not ask for help from a saint or other person lying in the grave and asks him to provide their needs. The fulfillment of any need is directly requested only from the Lord Itself. Therefore, if possible, it was necessary to go to the qibla side of the graveyard, turn the back to the qibla and recite and pray face to face with the people of the graveyard. The Salafis, acted directly in the name of religion, and put forward the ideas such as purifying the religion, returning it to its original state as in the time of the Prophet, and uniting all Arabs and the people of the world under a good green flag. They strongly opposed secular culture, believing that engaging in music, theater, and the arts was an unforgivable sin. The Salafis resolutely fought against such cases and used religion as a weapon to resolve them¹⁴.

Although it is not allowed visiting local elders in the shrines, performing tawafs, slaughtering animals, performing rituals like mushkulkushod, tying ropes to trees, drinking water stirring stones, and wiping soil against their eyelids out of respect, it has become a custom among the people. The peculiarities and characteristics of each place are known to the local imams and local people sitting here¹⁵. However, due to the ongoing reforms, a special pilgrimage etiquette is being developed. It is clear from these analyzes that going to shrines, valuing the land, and blessing the deceased are considered good among the people. In particular, the hadiths say, "Visit the graveyards, for it is a reminder of the Hereafter. It is said that remembering the Hereafter draws people away from evil and brings them closer to goodness"¹⁶. This allows people to fear Allah and not do wrong things, and especially does not allow them to become arrogant and conceited. Therefore, among the people it is understood that if one goes to the shrine with sincerity and everyone will achieve their goal, then donating for Allah will prevent any calamity that will come¹⁷. People go to shrines and feel as light as a bird. They get support from the spirit of the saints who lie here, and they are proud of them. It is not righteous to light candles on graves, to kiss tombstones, to sit on them, to walk on them, to pray in front of graves. The locals believed that if they did not follow these rules, they would soon get harm. There is a wonderful saying among the people of the oasis that "saints are not gods, they are not

⁹ Field notes. Kasbi district. Old Fazli, Taken from the conversation with the pilgrims at the shrines of Iskhaq Baba. 2018.

¹⁰ Field notes. Kasbi district. 2016.

¹¹ Field notes. Kamashi district, Langar village. 2017.

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¹³ Abdulhatov N.U. The role of visitation in the way of life of the population of Ferghana Valley....

¹⁴ Zakurlaev A. The struggle of ideas. -T .: Movarounnahr, 2000. p 63.

¹⁵ Field notes. Kashkadarya region. Yakkabog district, Orta village. 2011.

¹⁶ Islam. Encyclopedia. Under the editorship of Xusniddinov Z. . -Tashkent, 2004. - p.93.

¹⁷ Field notes. Kashkadarya region. Shahrisabz, Yakkabag districts. 2016.



devoid of gods”, which in itself expresses the fact that people have a high level of attitude towards saints since ancient times. Visiting their graves and shrines is believed to save them from various calamities and ease their difficulties. To cite one example, according to legends, before the Arab conquest of the country, the inhabitants of the Lower Kashkadarya oasis survived on the hills near the shrines during the floods¹⁸.

Many myths and legends are considered to be only fabrications, but we have witnessed during the field research in the oasis that there is truth behind some myths. Most of the shrines in the oasis have the tombs of saints. In this regard, the book “History of Hazrat Sultan and Hazrat Bashir Manoqibi” describes the saints as follows: “The blessings of the saints are true: those who pray to Allah day and night, eat halal, drink halal, dress halal, and keep their customs and habits, they help the widow and the poor. They call people for righteousness. When they are engaged in the secular affairs, their hearts and souls are in Allah. Thanks to the blessings of Allah Subhanahu wa Ta’ala, they know the condition of people who are miles away from them and try to help them in their place. They help people with their hard work. They try to keep them from drowning, burning in the fire, premature death. They help by the will of Allah subhanahu wa ta’ala. Such nobles are called awliyullah (saints). On the Day of Resurrection, they will be more honored in the sight of Allah than other people. They also help people by the command of Allah”¹⁹.

In the explanatory dictionary of Uzbek language *visiting* is given a definition as the going to a sacred place and worship, going and seeing the grave of a well-known figure, or a close friend of theirs, remember them, honor them, or officially visiting a person, and *shrine* is described as a sacred place to visit²⁰.

The sacred places have a great contribution to the development of our spiritual culture, which we can see in the activities of Islamic scholars who are in connection with these places in the promotion of religious education, the continuation of folk beliefs and the work of masters, eshans, sheikhs in the field of visitation. According to Islamic teachings, visiting shrines is a very good deed, and everyone who goes there to ask for their intentions should ask Allah alone. Respect for shrines and blessings for the dead are among the good deeds. It is said that if the pilgrimage is sincere, his intentions will come

true. When donated for the sake of Allah, various calamities are prevented or averted.

According to the custom of pilgrimage, pilgrims have always treated the sacred shrines with special humility. During the visit, the locals tried to find answers to the questions that were bothering them, and they felt free and relaxed from the worries of worldly sorrows for a while. The attitude of the local people towards the shrines and visitations was so high that everyone who went pass the shrines, tombs, visitations got out if they were in any transport and visited that shrine and then went on their way. Local people go to the shrines in spring and summer days. In addition, in the southern regions of Uzbekistan, certain days of the week are designated as days of pilgrimage, mainly Wednesdays, Fridays and Sundays. Because these days are considered by the population to be as “lucky days”²¹. The analysis of the many rituals performed at the shrines shows that some of the rituals performed are related to pre-Islamic beliefs and views. Particularly, in going around the mausoleum and the tomb we can see the supernatural connection with the saints here, the desire to communicate, and not only making vows when tying various rags, but also the magical connection between the pilgrim and the object of faith, the combination of Islamic and pre-Islamic beliefs in sacrificing.

At the heart of the word pilgrimage (visiting) in the way of life of Uzbek people lay the concepts of hope, relief, relief from pain, and doing good deeds. The phrase “Let your visit be accepted” expresses the realization of people's dreams and aspirations in life. Every sacred place is considered to have divine power in the imagination of the people, and receiving support from the spirits of the saints and scholars who lie here, they are proud of them.

According to Islam, visiting the graves of great people and remembering them with blessings is a good deed. However, it is strictly forbidden to worship the graves of saints, ask for their help to have children or seek healing. When a need is asked in the grave, one should ask only from Allah Itself²². When Islamic teachings spread to the territory of our country, it underwent a unique process of mixing with the traditions and customs of local peoples. As a result of this process, a unique form of Islamic teaching was developed, intertwined with the culture of indigenous peoples. In this context local scholars paid special attention to the prevention of religious bias in Movarounnahr, in particular in the territory of Uzbekistan, and explained the scientific basis for ideological divisions. As a result, hundreds of

¹⁸ Field notes. Kashkadarya region, Kasbi district, Mirishkor village, 2012.

¹⁹ Choriev A. History of Hazrat Sultan and Manoqib of Hazrat Bashir. –T.: «Sharq», 1996. - p. 247-248.

²⁰ Explanatory dictionary of the Uzbek language. - Moscow, 1981. –1 vol. - p.305.

²¹ Field notes.. Kashkadarya region. Kasbi district, Mirishkor village. 2012.

²² Islam. Encyclopedia: Edited by A-H /Z.Husniddinov. - T, 2003. - B.161-162.



dynasties of great scholars emerged, such as Abu Rayhan Beruni, Abu Ali ibn Sino, Musa Khorezmi, Abu Mansur Moturidi, Imam Bukhari, Imam Termezi, Abu Lays Samarkandi, Mahmud Zamakhshari, Burhaniddin Marghinoni, Abu Mu'in Nasafi, Qaffal Shoshi, Hakim Termezi, Bahovuddin Naqshband, Haysam Kulayb Shoshi.

CONCILIATION

The process of reviving sacred places and shrines in Uzbekistan as an officially national and spiritual value dates back to the 90s of the previous century, the period of national independence. It was studied as a result of field research that restoration, repair and reconstruction works have been organized in almost all shrines of the country since that time. Also, since the first days of independence, a solid legal basis has been created for the relationship between the state and religious organizations on the issue of freedom of conscience. This legal basis is the Constitution of the Republic of Uzbekistan and the Law "On Freedom of Conscience and Religious Organizations."²³ In particular, 17 religious denominations of more than 140 nationalities and ethnic groups living in Uzbekistan were allowed to operate freely. Among them are representatives of different religions, Islam, Christianity and its many directions, Judaism, Buddhism, performing their religious prayers and customs. The traditions of inter-religious tolerance, inter-ethnic harmony and religious tolerance, which have been practiced in the history of Movarounnahr since the years of independence on the basis of a culture of reconciliation, have been revived and is still continuing. In addition, the study of national spiritual development in connection with the shrines clearly shows that each organizational element, historical period, types, features of the shrines develops our national culture. This, in turn, requires that the topic of shrines be studied separately in the system of social sciences and humanities. Because the analysis and study of the national and spiritual development of the Uzbek people on the example of shrines allows us to clarify the harmony of national and religious values in the spirituality of our people. In addition, the shrines are a source of goodness in the minds of the people, serve as a sacred place that calls for compassion of each nation, and they have a unique religious tolerance.

²³ On Freedom of Conscience and Religious Organizations (new edition) // New Laws of Uzbekistan. No. 19. - T.: Adolat, 1998. - p. 224-234..



BUSINESS ANALYTICS AND ITS IMPACT ON ORGANIZATIONAL PERFORMANCE

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ABSTRACT

Business analytics (BA) is process in which business data at all levels and from all the functional units of a businesses is collected, cleaned, processed and stored and then, by using statistical models and iterative methodologies it is transformed into business insights. Organization who are committed to make data driven decisions follow this kind of practice. Researcher has carried out a survey with an intention to know that which all industries have started using business analytics in Pune, awareness of managers towards business analytics practices, extent of data driven decision making approach of organizations, and what is the impact of usage of business analytics on the overall growth of an organization.

Survey was carried out on managers who are at tactic and strategic level in the organization. CIO, CTO, VP, Senior managers were the respondents selected considering that these are the people who are required to take day to day and strategic decisions for their organizations. Questionnaire was prepared and circulated to the said respondents of select large scale organizations. 345 valid responses are considered for further analysis. Researcher has collected responses from Manufacturing, Information technology, Pharmaceutical, Agricultural and Automobile industry. Finding suggest that various factors which are responsible for the overall growth of the organization if they are merged or connected with BA then organizational growth is certain.

KEYWORDS *Business analytics, Knowledge management, operational level, Data driven decisions, organizational growth, competitive advantage, organizational value*

INTRODUCTIONS

Due to technological advancement data is increasing in its exponential way and research has proved that systematic analysis of organizational data can elevate the business value. Strategic level managers use this analysis to take strategic decisions and policy building decisions. Businesses have now realized and have started adopting systematic approach towards designing the strategies for implementing business analytics practices.

Company performances maximizes by analyzing and measuring the organizational operational as well as strategic information and taking skillful decisions. Organization can take timely and efficient decisions based on historical and current data available with the organization.

It is very well known that; sustainable practices and decisions led to the overall growth of an organization.

Growth in turn led to the profitability which is the ultimate goal of any business organization.

Objective

1. To study the awareness and familiarity of Business analytics amongst the managers.
2. To study the relation of Business analytics on business decisions.
3. To study Impact of Business analytics on organizational growth.

LITERATURE REVIEW

Businesses need to go beyond operational data and MIS reports. Lot many things can be done on consolidated reports and output or analysis can be used as an organizational asset. Data warehousing is a concept in which data is collected, cleaned, stored and then analyzed. Organizations need to adapt this kind of technology to understand the biggest asset of their organization. Copeland, Ron(2001).



Organizations should work towards increasing the ROI and for that technology like predictive analytics can defiantly help. IDC research in Europe and America based organization shows almost 145% increase in profit. Predictive analytics have helped organizations in ensuring the improvement in business process enhancement and operational level decision making. Henry D. Morris (2003)

SAS had carried out survey on 215 managers to know what the impact of Business analytics on decision is making. In this survey 75% managers were from North America and 25 % from other part of the world. Managers were chosen from various job Profile 20% IT managers and 80% were non-IT managers.

Non-IT managers include business consultant, CIO, CTO, CSO, CEO, project managers, VP from banking, manufacturing, insurance, healthcare, pharmaceutical, Telecommunication, Research and development industries. SAS had received was very much positive response on their survey and they concluded that BA has benefited in improving and speeding decision-making process. Along with this other benefit include realizing cost efficiencies, resource alignment with organizational strategies, improved competence, synchronization of various departmental strategies and goals. (SAS (2009)) figure 1.1 shows the list of key benefits organizations have received after implementing BA practices.

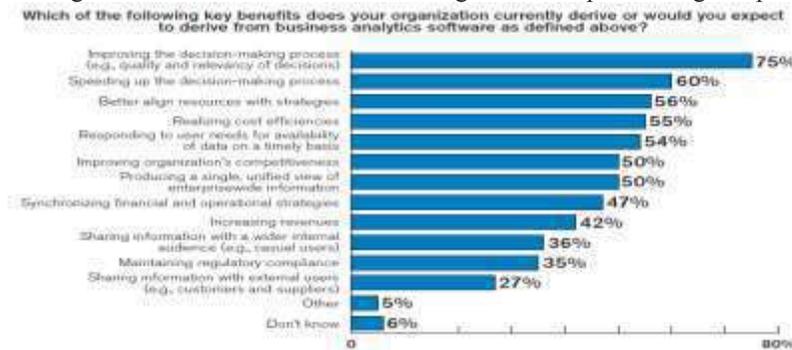


Figure 1.1 Key benefits derived from business analytics software source SAS (2009)

A huge research is going on regarding Business analytics and it is very rarely being discussed that which mechanism is to be followed or used to make decision making process effective with business analytics at organizational level. Cao, Guangming, Duan have identified in their research that business analytics is a step by step approach. In the beginning BA improves and influences information system and then improves decision making overall process. Scao, Guangming1, Duan, Yanqing1 Li, Gendao1(2015)

Study on German companies have been carried out and output showed that non performing companies have not adopted Business analytics

practices for their strategic level decision making vs performing companies adopted BA at strategic level decision making Klatt, Tobias (2011).

Threat to business can be reduced and safe and steady stage in businesses can be expected by using Business analytics at right level and in right way Process Engineering (2016) Majority of companies lacking tools, skilled workforce and infrastructure for implementing analytics in their organizations. Business analytics practices should be the priority of organizations and if they fail to implement at this stage then they will not be able to sustain in this competitive world. Forbes .com (2017)

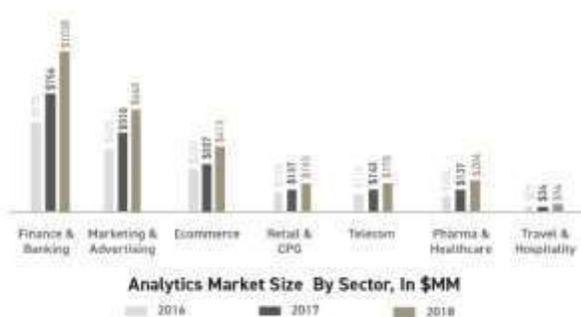


Figure 1.2 Analytics market size sector wise source Analytic India Magazine (2018)



Figure 1.2 shows that almost all the sectors of businesses have started adopting analytics as a game

changing tools and finance and banking is showing the highest percentage of usage of analytics.

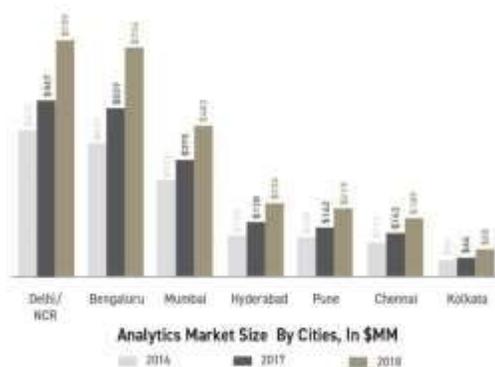


Figure 1.3 Analytics market in various cities of India source Analytic India Magazine (2018)

In India also analytics market is growing, and above graph can show city wise the status of analytics market in India.

Jim Goodnight, CEO of SAS Institute Inc., states that business analytics has a tremendous impact on organizational performance and profitability adding that the “ability to predict future business trends with reasonable accuracy will be one of the crucial competitive advantages of this new decade. And you won’t be able to do that without analytics.” (2015).

Organizational growth is not dependent on one parameter. It is the combination of various factors and

usage of business analytics with these all factors plays a very important role in taking out insights and value out of it. Factors may include extent of usage of technology in the organization, achieving the objectives of organizations, creating opportunities in the organization, using innovative way to solve problems in the organization, aiming at taking comitative advantages over the competitors and at the end everything just leads to increase in business performance. Patrick Mikalefa, Maria Bourab, George Lekakosb, John Krogstiea (2019)

RESEARCH METHODOLOGY

Researcher after doing an extensive research based on secondary data in this area identified a gap that no study is carried out in Pune based organizations. So, researcher has carried out study in Pune city and taken responses from the managers who are either decision makers or direct BA users., questionnaire was prepared, Survey was carried out

and responses were collected from Senior managers, VP, CEO, CTO, CIO of various different industries which included Pharmaceutical Industry, Information technology industry, Agricultural Industry, Automobile and manufacturing industry. 345 valid responses were considered for analysis. Following is the analysis and interpretation of data collected



Familiarity with Business Analytics Familiarity with BA

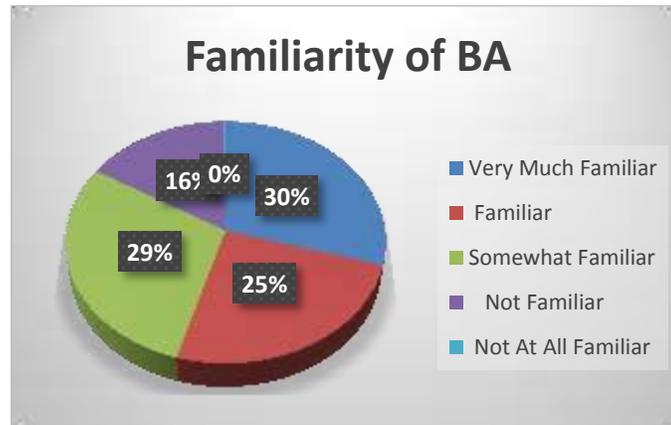


Chart 1.1 Familiarity with BA

Above Chart 1.1 shows that almost 30% of Managers were very much familiar with BA and its practices and 25% and 29% were familiar and somewhat familiar with BA practices. Which shows that organizations in Pune have started taking the benefits

of Business analytics but still almost 30% managers who are not completely sure and not familiar need to understand the importance of BA in terms of organizational performance

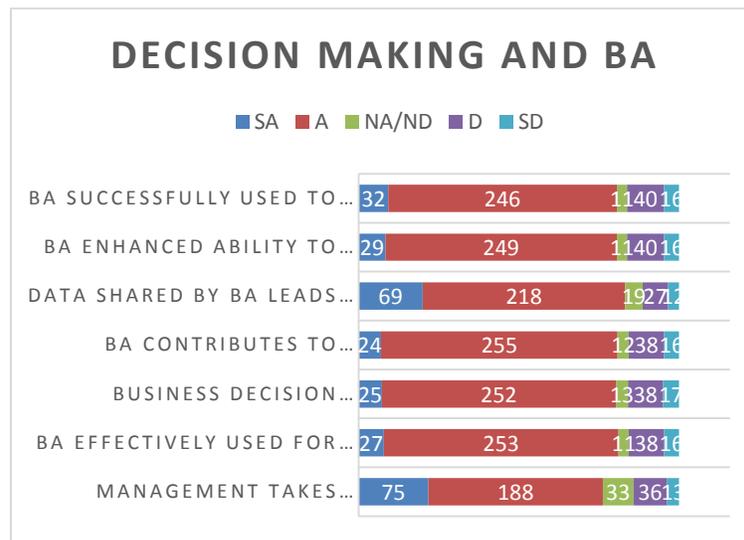
Table 1.1 Decision Making and BA

Statement	Strongly Agree	Agree	Not Agree/ Not Disagree	Disagree	Strongly Disagree
Management takes account of BA while taking business related decision	75	188	33	36	13
BA effectively used for solving specific issue or problem	27	253	11	38	16
Business Decision reliance on BA	25	252	13	38	17
BA contributes to develop new product/s or service/s in various business operations	24	255	12	38	16
Data shared by BA leads to effective innovation practices	69	218	19	27	12
BA enhanced ability to render data into business value	29	249	11	40	16
BA successfully used to develop future business strategies	32	246	11	40	16

RELATIONSHIP OF BUSINESS ANALYTICS ON BUSINESS DECISION

Below given is the data collected for understanding the

relationship of Business analytics and decision-making process.



Decision Making and BA

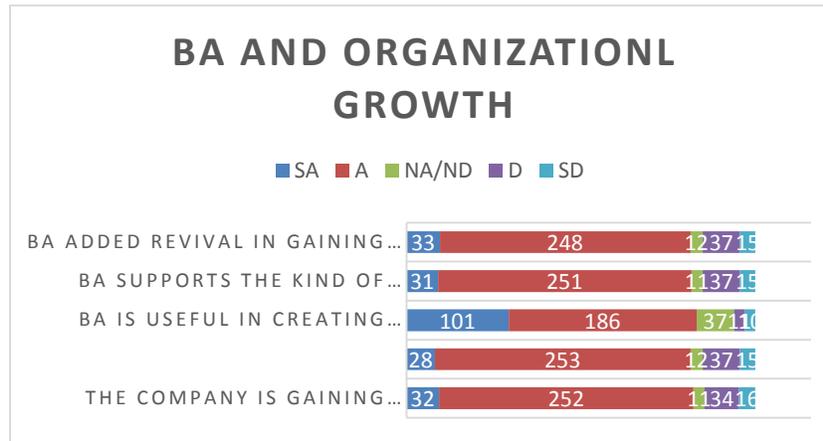
Interpretation: In the case of Decision Making and BA, Management takes account of BA while taking business related decision this notion is strongly agreed by 75 (22%) respondents and agreed by 188 (54%) respondents. 27 (8%) respondents and 253 (73%) respondents respectively strongly agreed and agreed that, BA effectively used for solving specific issue or problem. The next aspect, BA contributes to develop new product/s or service/s in

various business operations strongly agreed by 24 (7%) respondents and agreed by 255 (74%) respondents. BA successfully used to develop future business strategies is strongly agreed by 32 (9%) respondents and agreed by 246 (71%) respondents. Thus, it is observed that, Data shared by BA leads to effective innovation practices is one of the chosen options in the case of Decision Making and Business Analytics.

BA and organizational Growth

Statement	Strongly Agree	Agree	Not Agree/ Not Disagree	Disagree	Strongly Disagree
The company is gaining more value as it is getting familiar with BA	32	252	11	34	16
BA effectively contributes in achieving organizational objectives	28	253	12	37	15
BA is useful in creating new Business opportunities	101	186	37	11	10
BA supports the kind of innovations that leads to strategic advantage and growth of organization	31	251	11	37	15
BA added revival in gaining competitive advantage for the organization	33	248	12	37	15

Table 1.2 BA and organizational growth



Growth of Organization and BA

Interpretation: The company is gaining more value as it getting familiar with BA is strongly agreed by 32 (9%) of the respondents and 252 (73%) respondents agreed with it. 28 (8%) respondents strongly agreed and 253 (73%) of respondent agreed on fact that BA effectively contributes in achieving organizational objectives. BA is useful in creating new business opportunities is strongly agreed by 101 (29%) respondents and 186 (54%) agreed with it. As per the data 31 (9%) strongly agreed respondents and 251 (73%) agreed respondents, BA supports the kind of innovations that leads to strategic advantage and growth of organization. BA added revival in gaining competitive advantage for the organization is strongly agreed by 33 (10%) respondents followed by 248 (72%) agreed respondents. Thus it is observed that various different factors along with proper usage of Business analytics can enhance organizational performance.

CONCLUSION

Familiarity and awareness of business analytics tool is increasing. Top management slowly taking the hold on the complete process. Top management have also started adopting systematic strategy and plan to implement the Business analytics practices. Managers are also taking data driven approach for decision making. Organisations are also convinced that Business analytics practices are combinations of different growth factors, strategies, policies and culture of an organization. After discussion with top management people personally it also has been noted that, many managers are not changing the mindset and because of that they could not take the advantage of analytics to increase the organizational performance. Organizations and managers those who have understood and started taking data driven approach in decision making have shown tremendous

growth in their organization and have taken competitive advantages over the others. Growth of organization is mixture of various parameters and if BA is used properly in combination with each of that factor then no one can stop your organisation from growing.

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Profile

Prof. Pallavi Deshpande. I have 13 years of work experience. I have presented and published research papers at national and international level on Big Data and IEEE. My Business Analytics paper was published in "Indian Journal of Management". I have attended workshops conducted by IIT Pawai on Information Technology. I am an official member of Project Management Institute and IEEE. I have conducted corporate training on HTML, JAVA SCRIPT, VB SCRIPT at IBM and Zensar I have expertise in Database, Software engineering, Software Testing, Information technology, Data Mining and Business Analytics. My academic assets include a B. Pharma, MCA, MCM, My passion for research drove me to my current pursuit of PhD program in the area of Business Analytics. I have already submitted my thesis and Final Viva is Planned in next week .I also heads the IT Forum and I am the Course head for BBA Program at Amity Pune.



EFFECTIVENESS OF SMOCKED THROW PILLOW PRODUCTION AS WORK DETERMINANT AMONG THE TRAINER: INPUT TO COMMUNITY IMPROVEMENT PLAN FOR RESEARCH AND EXTENSION OF LSPU

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Mrs. Marites D. Carlos

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ABSTRACT

This study shows that there is effectiveness of smocked throw pillow production as work determinant among the trainer: input to community improvement plan for research and extension of LSPU, it sought to answer the following evaluation questionnaire, (1) Work Determinant among the Trainer in terms as a Trainee, Perception on trainers manner in handling trainees and Coordination and Networking, (2) Community Improvement Plan in terms of Beneficiaries are participating in all stages of the production, Local skill, knowledge and practices are mobilized in the production, Programs emphasize gender sensitivity, Systematic process of production, Program planning Implementation monitoring and assessment of effectiveness, Organizational structure and management

And Program emphasize gender sensitivity, (3) Is there significant difference between the Productions as Work among the Trainer to Community Improvement Plan?

The descriptive method was used in this study shows that there is effectiveness of smocked throw pillow production as work determinant among the trainer: input to community improvement plan for research and extension of LSPU. The questionnaire was used in the collection of data. The statistical treatment used was mean and standard deviation.

Based on the gathered data of this study, the findings of this study were the following: (1) Work Determinant among the Trainer in terms as a Trainee. The average mean of 4.26 and standard deviation of 0.64 with verbal interpretation Extremely Acceptable. Work Determinant among the Trainer in terms as Perception on trainers manner in handling trainees. The average mean of 4.24 and standard deviation of 0.65 with verbal interpretation Extremely Acceptable. Work Determinant among the Trainer in terms of Coordination and Networking. The average mean of 4.24 and standard deviation of 0.65 with verbal interpretation with Extremely Acceptable. (2) Community Improvement Plan in terms of Beneficiaries is participating in all stages of the production. The average mean of 4.63 and standard deviation of 0.60 with verbal interpretation Extremely Acceptable. Community Improvement Plan in terms of skill, knowledge and practices are mobilized in the production. The average mean of 4.24 and standard deviation of 0.66 with verbal interpretation Extremely Acceptable. Community Improvement Plan in terms of Programs emphasizes gender sensitivity. The average mean of 4.24 and standard deviation of 0.68 with verbal interpretation Extremely Acceptable. Community Improvement Plan in terms of Systematic process of production. The average mean of 4.25 and standard deviation of 0.66 with verbal interpretation Extremely Acceptable. Community Improvement Plan in terms of Program planning Implementation monitoring and assessment of effectiveness. The average mean of 4.25 and standard deviation of 0.66 with verbal interpretation Extremely Acceptable. Community Improvement Plan in terms of Organizational structure and management. The average mean of 4.24 and standard deviation of 0.63 with verbal interpretation Extremely Acceptable. Community Improvement Plan in terms of

Program emphasizes gender sensitivity. The average mean of 4.24 and standard deviation of 0.65 with verbal interpretation Extremely Acceptable. (3) There is significant effect between the Work determinant among the Trainer and Community Improvement Plan since the computed t-values is 3.27 and it is higher than critical t-value of 1.68 regardless of it sign.

Based on the findings of the study, the following conclusions were made. The respondents' Work Determinant among the Trainer in terms as a Trainee, Perception on trainers manner in handling trainees and Coordination and Networking were Extremely Acceptable. Community Improvement Plan in terms of Beneficiaries are participating in all stages of the production, Local skill, knowledge and practices are mobilized in the production, Programs emphasize gender sensitivity, Systematic process of production, Program planning Implementation monitoring and assessment of effectiveness, Organizational structure and management and Program emphasize gender sensitivity were Extremely Acceptable. There significant effect between the work determinant among the trainer and community improvement plan. The following were recommended: (1) Recommend producing more Smocked Throw Pillow. (2) To instruct the community to make smoked throw pillow for their livelihood. (3) To show creative ways make Smoked Throw Pillow.



Importance of the Problem

1. What is the mean level of Work Determinant among the Trainer?
 - 1.1 as a Trainee
 - 1.2 Perception on trainers manner in handling trainees
 - 1.3 Coordination and Networking
2. What is the mean level of Community Improvement Plan?
 - 2.1 Beneficiaries are participating in all stages of the production
 - 2.2 Local skill, knowledge and practices are mobilized in the production
 - 2.3 Programs emphasize gender sensitivity
 - 2.4 Systematic process of production
 - 2.5 Program planning Implementation monitoring and assessment of effectiveness
 - 2.6 Organizational structure and management
 - 2.7 Program emphasize gender sensitivity
3. Is there significant difference between the Productions as Work among the Trainer to Community Improvement Plan?

LITERATURE

Roldan(2007) suggested that marketing strategy is a process that can allow the organization to concentrate its limited resources on the greatest opportunities to increase sales and achieve a sustainable competitive. Marketing strategy includes all basic and long term activities in the field of marketing that deal with the analysis of the strategic initial situation of a company and the formulation, evaluation and selection of market-oriented strategies and therefore contributes to the goals of the company and its marketing objectives.

Likewise, Shock (2007) said that marketing strategy design to be the vehicle use to achieve your marketing objectives, marketing tactics, are the specific tools use to support strategies.

Subsequently, Fajardo (2008) stated that marketing strategy is a written plan which combines product, promotion, development, distribution and pricing approach identifies the firm marketing goals and explains how the will be achieved within the stated time frame.

On the other hand, Lee et al. (2007) said that marketing strategy has used by many business entity or company to continuously support the flow of the products to the market and to capture a big dominated market. It is also been used to kill the competition around your target market.

Moreover, Pride (2008) mentioned that marketing strategy involves three activities selecting one or more target markets, setting marketing objectives and developing and maintaining a

marketing strategy that will produce mutually satisfying changes with target markets.

Literatures written above are related to the present study in the sense that it explains how the business can achieved their goals through the use of marketing strategy.

Product

Alcantara (2009) stated that the production variable relate directly to satisfying needs and wants of the target market. One must create products or Services with characteristics that fulfill those needs and want of its customer.

Subsequently, De Pena (2007) noted that product is a bundled of attributes and benefits designed to buyers to satisfy their needs, wants and demands, there product may both goods and services. Products that pass the prototype development must be exposed to the ultimate customers in some reasonable realistic market environment. This is the learning and the turning period as the total offering would be tested in the market to ensure that all dimensions are working together and in a way that marketer should assumed they would. (Mayacay 2008)

Similarly, Palacio (2007) directed that product is the unique combination of goods and services that satisfies a want and need of customers.

Moreover, Abella (2009) stated that the product variable directly to satisfying the needs and wants of customers.

The above mentioned studies are related to the present study because products is anything that can be offered to a market for attention, acquisition, use or consumption that might satisfy a want or need.

Young and Pagoso (2010) stated that produced is anything that can be offered in the market for attention acquisition, use, or consumption to satisfy a needs and demands or expectation. It may include physical objects, persons, ideas, and services as well.

On the other hand, Lizardo (2011) emphasizes that product must be considered as a “ value for- money” product, which simply means that the product in exchange for the registration or joining fee must have equivalent , if not higher, peso value. In addition, product must be unique and innovative. If the company offers product that are just used to have a semblance of legality and induce potential distributors are just used to have a semblance of legality and induce potential distributors to join.

According to Kotler (2007) proposed that the product is anything that can be offered to satisfied a wants and need to supposed that van executive feels and need to reduce the stress of the job in a highly competitive industry. The concept of product is not limited to physical object.

Likewise, Lawley (2012) stressed out the first factor for success is building a well thought out, prioritized product roadmap. A highly product roadmap often means the difference between success and failure when delivering and marketing products.



Product must deliver a good customer experience when it becomes widely available.

According to Pollack (2007) if a product fulfills the consumer's expectations, the consumer will be pleased and consider that the product is of acceptable or even with high quality. If his or her expectations are not fulfilled, the consumer will consider that the product is low quality. This means that the quality of a product may be defined as its ability to fulfill the consumers' needs and expectations.

Literatures written above are related to the present study because product help the consumer makes decisions to satisfy their needs or wants.

Product Quality

The product quality is an important manufacturing requirement because consumers are susceptible to any form of contamination that may occur during the manufacturing processing standards.. Evans (2007).

On the other hand, Lunberge and Walker (2008) stated that the product quality is what business patrons consider the most important factors when starting a business.

According to Hitt (2007), product quality exist when the firm's good or services meet or exceed customer's expectations, well-established one's relating to the production of goods and services with zero defects and seeing it as a never ending cycle of continuous improvement.

Moreover, Schewe (2008) defined that product quality is a meeting of customer's needs and expectation. All quality improvements must begin with an understanding of customers' needs and perception. Quality in the broadest sense is anything that can be improved.

The above mentioned literatures analyzed that product quality is an important food manufacturing requirements and it exist when the firm's good services meet or exceed customer's expectations in the product offered.

Promotion

Promotion is the way of communication tools are very important to marketing such the business communications with its market Good communication tools are very important to marketing success and should be built into the marketing plan. It is through promotion that the entrepreneurs inform the potential customers. It is more interesting field of marketing, promotion often with advertising.

Stefanelli (2007) stated that promotion is the overall message you relay to your target market, including advertising, sales promotion, personal selling and public relation efforts.

Similarly, Thesis (2008) said that the promotion involves all communication with the customers. It introduces the customer to, or increase customer awareness of the valuable product.

Furthermore, Weaver and Lawton (2007) mentioned that promotion attempts to increase

demand by conveying a positive image of the product to potential customers through appeals to perceived demands, needs, tastes, values and attitudes of the market or a particular target market segment.

The above literatures are related in the present study because promotion is the business of communicating with customers' atmosphere in the product.

Price

According to Makens (2007) price refers to the amount of money charged for a goods or services. More broadly, it is the sum of the values consumers exchange for the benefits of having or using the product or service.

Correspondingly, Halloran (2008) stated that price is considered the hidden objection that it comes to selling. Many times the buyers are not provided not to buy because of the price of the products or services.

Evans (2010) said that price is the marketing tool that sells value to customers will want to buy, but high enough for the entrepreneur to make a reasonable profit.

Moreover, Azarcon et al. (2007) pointed out that price is prime consideration before a product is effectively said. Price refers to the actual amount of money tendered by customers before acquiring a products or services.

Portillo et al. (2007) stated that price is the amount of money charged for a product or sum of values customers exchange for the benefits of the products or services.

Literatures written above are related to the present study in the sense that price is the marketing tool that sells value to customer. It refers to the amount of money charged for a goods or services.

Customer Evaluation

According to Payne (2008) the ultimate test of a successful planned menu is to determine the degree of satisfaction on the part of the customer. Although highly subjective satisfaction can be measure and evaluated over time using a member of technique including survey comment checklist frequency rating and sale data. Satisfaction

As stated by Joby (2010), organizations are increasingly interested in retaining the existing customers while targeting non-customers; measuring customer's satisfaction provides an indication of how successful the organization is at providing products or services to the market place. Furthermore, Quelch et al. (2010) said that customer satisfaction identifies the gaps between customer's expectation and their perceptions of what a company's delivering. Likewise, Evans (2008) stated that the customer satisfaction maybe influenced by many factors throughout the customer overall purchase, ownership and service experience. Correspondingly, Vessey (2008) pointed out that customer satisfaction is a person feeling of pleasure or disappointment resulting for comparing products or serviced



perceived performance or outcome in relation to his/her expectation.

The above literatures are related to the present study in the sense that it stated that customer's satisfaction is an indication of how successful the organization is at providing goods or services to the market place.

According to Good Housekeeping: The Illustrated Book of Needlecrafts, "Any type of fabric can be smocked if it is supple enough to be gathered." Fabric can be gathered into pleats in a variety of ways. Early smocking, or gauging, was done by hand. Some embroiderers also made their own guides using cardboard and an embroidery marking pencil.[2] By 1880, iron-on transfer dots were available and advertised in magazines such as *Weldon's*. The iron on transfers places evenly spaced dots onto the wrong side of the fabric, which were then pleated using a regular running stitch. Since the early 1950s, pleating machines have been available to home smockers. Using gears and specialty pleater needles, the fabric is forced through the gears and onto the threaded needles. Pleating machines are typically offered in 16-row, 24-row and 32-row widths. Manufacturers include Read and Amanda Jane. Smocking refers to work done before a garment is assembled. It usually involves reducing the dimensions of a piece of fabric to one-third of its original width, although changes are sometimes lesser with thick fabrics. Individual smocking stitches also vary considerably in tightness, so embroiderers usually work a sampler for practice and reference when they begin to learn smocking. Traditional hand smocking begins with marking smocking dots in a grid pattern on the wrong side of the fabric and gathering it with temporary running stitches. These stitches are anchored on each end in a manner that facilitates later removal and are analogous to basting stitches. Then a row of cable stitching stabilizes the top and bottom of the working area.

Smocking is an embroidery technique used to gather fabric so that it can stretch. Before elastic, smocking was commonly used in cuffs, bodices, and necklines in garments where buttons were undesirable. Smocking developed in England and has been practised since the Middle Ages and is unusual among embroidery methods in that it was often worn by laborers. Other major embroidery styles are purely decorative and represented status symbols. Smocking was practical for garments to be both form fitting and flexible, hence its name derives from smock — a farmer's work shirt. Smocking was used most extensively in the eighteenth and nineteenth centuries. Smocking requires lightweight fabric with a stable weave that gathers well. Cotton and silk are typical fiber choices, often in lawn or voile. Smocking is worked on a crewel embroidery needle in cotton or silk thread and normally requires three times the width of initial material as the finished item will have. Standard hand smocking stitches are:

A. Cable stitch: a tight stitch of double rows that joins alternating columns of gathers. B. Stem stitch: a tight stitch with minimum flexibility that joins two columns of gathers at a time in single overlapping rows with a downward slope. C. Outline stitch: similar to the stem stitch but with an upward slope. D. Cable flowerette: a set of gathers worked in three rows of stitches across four columns of gathers. Often organized in diagonally arranged sets of flowerettes for loose smocking. E. Wave stitch: a medium density pattern that alternately employs tight horizontal stitches and loose diagonal stitches. F. Honeycomb stitch: a medium density variant on the cable stitch that double stitches each set of gathers and provides more spacing between them, with an intervening diagonal stitch concealed on the reverse side of the fabric. G. Surface honeycomb stitch: a tight variant on the honeycomb stitch and the wave stitch with the diagonal stitch visible, but spanning only one gather instead of a gather and a space. H. Trellis stitch: a medium density pattern that uses stem stitches and outline stitches to form diamond-shaped patterns. I. Vandyke stitch: a tight variant on the surface honeycomb stitch that wraps diagonal stitches in the opposite direction. J. Bullion stitch: a complex knotted stitch that joins several gathers in a single stitch. Organized similarly to cable flowerettes. Smocker's knot: (not depicted) a simple knotted stitch used to finish work with a thread or for decorative purposes.

Schultz Approach (1975) argues that entrepreneurship is closely connected to situations of disequilibria and that entrepreneurship is the ability to deal with these situations. In disequilibrium, agents are acting sub-optimally and can reallocate their resources to achieve a higher level of satisfaction. It also argues that entrepreneurship exists in all aspect of life. Thus, housewives and students are entrepreneurs when allocating their time for housework or student activities. Furthermore, since entrepreneurship is an ability that can be augmented by investment, Schultz argues that a market for entrepreneurship exists and that it is possible to analyze entrepreneurship within the conventional supply and demand framework (Hebert and Link, 1988).

Disconfirmation Model is based on the comparison of customer's expectations and their perceived performance ratings. Specifically, individual's expectations are confirmed when a product performs as expected. It is negatively confirmed when a product performs more poorly than expected. The disconfirmation is positive when a product performs over the expectations (Churchill & Suprenant 1982) there are four constructs to describe the traditional disconfirmation paradigm mentioned as expectations, performance, disconfirmation and satisfaction.



INTRODUCTION

Comfortable cotton pillow that have been using for a long period of time, has a variety of materials ranging from latex to foam that offer distinctive advantages. Latex pillows are highly beneficial in maintaining a constant temperature throughout the night that keeps comfortable and contributes to a sound sleep.

Pillows offer a range of health benefits to support spine and neck depending on the position during sleeping and where they are placed. Pillows used to offer temperature therapy and of a therapeutic pillow is magnetic pillows. Magnetic fields are known to offer various health benefits such as improving the overall quality of sleeping, alleviating blockage and irritation of sinuses and providing muscle relief by reducing strain.

Special types of pillows are available for health purposes and can be purchased for various uses such to support and aid a pregnant mother. An airplane neck pillow particularly useful as they wrap around the neck and allow to have a comfortable sleep irrespective of the motion of the vehicle. Travel pillows can also be used if work long or late shifts for a quick power nap at work.

Pillows serve a tangible purpose to purchased for its aesthetic value. Primarily to add a sense of décor rather than to be used. Most pillows that are purchased for decorative purposes have innovative designs and are often custom made. The aforementioned facts gave a better insight for the researcher to design another pillows on the shape and consistency otherwise ironically to negatively affect your health.

METHODOLOGY

The descriptive method of research was used in this study to determine the customer satisfaction on the production of Smoked Throw Pillow. Calderon and Sevilla (2003) states that the basic purpose of experimental research is to discover the influence of one or two factors upon a condition, group or situation, purpose of which to discover "what will be". It describes and analyzes variables in carefully controlled condition as a basis for inferring or concluding.

Population and Sampling Technique

In conducting a descriptive research to prepare Smoked Throw Pillow, the researchers choose selected respondents in this study.

Data Gathering Procedures

First the researchers choose what research study will do, then selecting the title of the research study. Then the researcher gathered data from books, internet, and other reading materials that have information about the research study in making the

introduction and background of the study. Further citing the problem of the study and the scope and limitation is also included. It also includes the gathering and preparing the related literatures and studies. Preparing the Research Methodology will be the next procedure to work out, that includes research design, population sampling and technique, data gathering procedures, construction procedures, trials and revision, cost of production, cost of production, research instrument and the statistical treatment.

After the study will be formulated, a letter of request was submitted to the dean's office of Laguna State Polytechnic University to seek permission to conduct the study. A questionnaires checklist is the design to be used by respondents in evaluating the finished products to gather information needed for the pursuance of the study. Immediately after the permission/approval from the Dean the researchers distribute the questionnaires checklists to the respondents. The questionnaires checklist was retrieved and tallied for the interpretation and analysis of gathered data. After the data was collected, the questionnaires checklists were prepared for the statistical treatment using the formula.

Research Instrument

A questionnaires checklist was used to determine the marketing strategy in terms of product, promotion, price It is also used to determine customer satisfaction on the production of Smoked Throw Pillow in terms of product quality. Respondents were composed of selected professors

Statistical Treatment

The statistical treatment was used to analyze and interpret the data given by the respondents. After administering the questionnaires checklists to the respondents, all the data were gathered, analyzed and interpreted.

In order to determine the mean level of marketing strategy in terms of product, promotion and price as perceived by the respondents the researcher used the tabulated mean and standard deviation in analyzing the result.

In order to determine the mean level of customer satisfaction on the production of Smoked Throw Pillow as perceived by the respondents the researcher also used the tabulated mean and standard deviation in analyzing the result.

The regression was used to determine the significant effects between the marketing strategy and the customer evaluation on the production of Smoked Throw Pillow.

RESULT AND DISCUSSION

This data gathered, organized, and statistically treated. The data are analyzed. The data are analyzed and interpreted according to the research questions.



Table 1. The Mean Level of Community Improvement Plan as a Trainee

As a TRAINEES I,	MEAN	SD	INTERPRETATION
1.Learned the techniques and methods for smocked throe pillow production on how to understand my responsibilities and duties so that I can work effectively.	4.25	0.54	Extremely Acceptable
2.Was highly motivated to learn strategies that would heighten my level of persistence, perseverance and tenacity to achieve goals in baking.	4.3	0.60	Extremely Acceptable
3.Knew very well the etiquettes and business practices entrepreneur.	4.33	0.62	Extremely Acceptable
4.Negotiated well with Trainor’s and Head of the extension Services.	4.2	0.69	Extremely Acceptable
5.Adopted well and deal with different situations arises.	4.3	0.61	Extremely Acceptable
6.Acquired the necessary training skills.	4.08	0.55	Very Acceptable
7.Possessed good communication skills while attending to training, demonstrated a high degree of expertise and mastery of baking skills and knowledge.	4.43	0.72	Extremely Acceptable
8.Developed awareness between other group’s performances on baking.	4.1	0.64	Very Acceptable
9.Learned to evaluate and constructively tackled the challenges on bread and pastry skill training could bring to the workplace.	4.3	0.80	Extremely Acceptable
10.Was prepared to appreciate output of other”.	4.2	0.79	Extremely Acceptable
Average Mean	4.26	0.64	Extremely Acceptable

Rating	Range	Description	Interpretation
5	4.20 – 5.00	Strongly Agree	Extremely Acceptable
4	3.40 – 4.19	Agree	Very Acceptable
3	2.60 – 3.39	Moderately Agree	Moderately Acceptable
2	1.80 – 2.59	Disagree	Slightly Acceptable
1	1.00 – 1.79	Strongly Disagree	Not Acceptable

The Mean Level of Community Improvement Plan as a Trainee. Learned the techniques and methods for smocked throe pillow production on how to understand my responsibilities and duties so that I can work effectively with the mean of 4.25 and standard deviation of 0.54 with the verbal interpretation of Extremely Acceptable. Was highly motivated to learn strategies that would heighten my level of persistence, perseverance and tenacity to achieve goals in baking with the mean of 4.3 and standard deviation of 0.60 with the verbal interpretation of Extremely Acceptable. Knew very well the etiquettes and business practices entrepreneur with the mean of 4.33 and standard deviation of 0.62 with the verbal interpretation of Extremely Acceptable. Negotiated well with Trainor’s and Head of the extension Services with the mean of 4.2 and standard deviation of 0.69 with the verbal interpretation of Extremely Acceptable. Adopted well and deal with different situations arises with the mean of 4.3 and standard deviation of 0.61

with the verbal interpretation of Extremely Acceptable. Acquired the necessary training skills arise with the mean of 4.08 and standard deviation of 0.55 with the verbal interpretation of Very Acceptable. Possessed good communication skills while attending to training, demonstrated a high degree of expertise and mastery of baking skills and knowledge with the mean of 4.43 and standard deviation of 0.72 with the verbal interpretation of Extremely Acceptable. Developed awareness between other group’s performances on baking with the mean of 4.1 and standard deviation of 0.64 with the verbal interpretation of Very Acceptable. Learned to evaluate and constructively tackled the challenges on bread and pastry skill training could bring to the workplace with the mean of 4.3 and standard deviation of 0.80 with the verbal interpretation of Extremely Acceptable. Was prepared to appreciate output of other with the mean of 4.2 and standard deviation of 0.79 with the verbal interpretation of Extremely Acceptable. Community Improvement



Plan as a Trainee average mean of 4.26 and standard deviation 0.64 with the verbal interpretation of Extremely Acceptable.

Table 2. The Mean Level of Community Improvement Plan as a Perception on Trainor’s manners in handling Trainees on smocked throw pillows in terms of Personal Expertise

Perception on Trainor’s manners in handling Trainees on smocked throw pillows in terms of Personal Expertise	MEAN	SD	INTERPRETATION
1.Used intervention techniques that increased the knowledge and the skills on the construction of smocked throw pillow.	4.25	0.65	Extremely Acceptable
2. Follow a definite procedures and guide to increase the ability in the perform project well	4.24	0.65	Extremely Acceptable
3. Had high observation skills to detect SKILLS trainee’s needs and interests	4.26	0.64	Extremely Acceptable
4. safety practices are consistently adhered	4.2	0.65	Extremely Acceptable
5.Always displayed a positive attitude	4.23	0.66	Extremely Acceptable
Average Mean	4.24	0.65	Extremely Acceptable

Rating	Range	Description	Interpretation
5	4.20 – 5.00	Strongly Agree	Extremely Acceptable
4	3.40 – 4.19	Agree	Very Acceptable
3	2.60 – 3.39	Moderately Agree	Moderately Acceptable
2	1.80 – 2.59	Disagree	Slightly Acceptable
1	1.00 – 1.79	Strongly Disagree	Not Acceptable

The Mean Level of Community Improvement Plan as a Perception on Trainor’s manners in handling Trainees on smocked throw pillows in terms of Personal Expertise. Used intervention techniques that increased the knowledge and the skills on the construction of smocked throw pillow with the mean of 4.25 and standard deviation of 0.65 with the verbal interpretation of *Extremely Acceptable*. Follow a definite procedures and guide to increase the ability in the perform project well with the mean of 4.24 and standard deviation of 0.65 with the verbal interpretation of *Extremely Acceptable*. Had high observation skills to detect SKILLS trainee’s needs and interests with the mean

of 4.26 and standard deviation of 0.64 with the verbal interpretation of *Extremely Acceptable*. Safety practices are consistently adhered with the mean of 4.2 and standard deviation of 0.65 with the verbal interpretation of *Extremely Acceptable*. Always displayed a positive attitude with the mean of 4.23 and standard deviation of 0.66 with the verbal interpretation of *Extremely Acceptable*. Community Improvement Plan as a Perception on Trainor’s manners in handling Trainees on smocked throw pillows in terms of Personal Expertise average mean of 4.24 and standard deviation of 0.65 with the verbal interpretation *Extremely Acceptable*.

Table 3. The Mean Level of Community Improvement Plan as Work Determinants in Skills Training on Smocked Throw Pillow in terms of Coordination and Net Working.

Coordination and net working	MEAN	SD	INTERPRETATION
1. Active coordination with major stakeholders	4.22	0.66	Extremely Acceptable
2. Affiliated to other organizations with similar objectives	4.24	0.65	Extremely Acceptable
3. Uses guided practice and monitoring activities for trainees’ development.	4.24	0.66	Extremely Acceptable
4. Consists of different interactive activities to enhance smocking skills of the trainees	4.2	0.65	Extremely Acceptable
5. Comprises deeper understanding of the trainees on Smocked Throw Pillow Production.	4.24	0.66	Extremely Acceptable
Average Mean	4.24	0.65	Extremely Acceptable



Rating	Range	Description	Interpretation
5	4.20 – 5.00	Strongly Agree	Extremely Acceptable
4	3.40 – 4.19	Agree	Very Acceptable
3	2.60 – 3.39	Moderately Agree	Moderately Acceptable
2	1.80 – 2.59	Disagree	Slightly Acceptable
1	1.00 – 1.79	Strongly Disagree	Not Acceptable

The Mean Level of Community Improvement Plan as Work Determinants in Skills Training on Smocked Throw Pillow in terms of Coordination and Net Working. Active coordination with major stakeholders with the mean of 4.22 and standard deviation of 0.66 with the verbal interpretation of Extremely Acceptable. Affiliated to other organizations with similar objectives with the mean of 4.24 and standard deviation of 0.65 with the verbal interpretation of Extremely Acceptable.

Uses guided practice and monitoring activities for trainees' development with the mean of 4.24 and standard deviation of 0.66 with the verbal interpretation of Extremely Acceptable. Consists of different interactive activities to enhance smocking skills of the trainees with the mean of 4.2 and

standard deviation of 0.65 with the verbal interpretation of Extremely Acceptable. Consists of different interactive activities to enhance smocking skills of the trainees with the mean of 4.2 and standard deviation of 0.65 with the verbal interpretation of Extremely Acceptable. Comprises deeper understanding of the trainees on Smocked Throw Pillow Production. with the mean of 4.24 and standard deviation of 0.66 with the verbal interpretation of Extremely Acceptable. Community Improvement Plan as Work Determinants in Skills Training on Smocked Throw Pillow in terms of Coordination and Net Working with the average mean of 4.24 and standard deviation of 0.65 with the verbal interpretation of Extremely Acceptable.

Table 4. The Mean Level of Community Improvement Plan as Beneficiaries are participating in all stages of the production

Beneficiaries are participating in all stages of the production	MEAN	SD	INTERPRETATION
1. Enough time is spent with the community to allow them to understand the programme.	4.63	0.27	Extremely Acceptable
2. Baseline information is obtained through participatory techniques such as PRA	4.19	0.76	Very Acceptable
3. A community needs assessment is done prior to planning.	4.24	0.66	Extremely Acceptable
4. Adopts and adapts new methods of planning and implementation	4.24	0.66	Extremely Acceptable
5. Plans are in compliance with its existing budget ,local agencies are involved in the planning process.	4.31	0.72	Extremely Acceptable
Average Mean	4.63	0.60	Extremely Acceptable

Rating	Range	Description	Interpretation
5	4.20 – 5.00	Strongly Agree	Extremely Acceptable
4	3.40 – 4.19	Agree	Very Acceptable
3	2.60 – 3.39	Moderately Agree	Moderately Acceptable
2	1.80 – 2.59	Disagree	Slightly Acceptable
1	1.00 – 1.79	Strongly Disagree	Not Acceptable

The Mean Level of Community Improvement Plan as Beneficiaries are participating in all stages of the production. Enough time is spent with the community to allow them to understand the programme with the mean of 4.63 and standard deviation of 0.27 with the verbal interpretation of Extremely Acceptable. Baseline information is obtained through participatory techniques such as PRA with the mean of 4.19 and standard deviation of 0.76 with the verbal interpretation of Very Acceptable . A community needs assessment is done

prior to planning with the mean of 4.24 and standard deviation of 0.66 with the verbal interpretation of Extremely Acceptable. Adopts and adapts new methods of planning and implementation with the mean of 4.24 and standard deviation of 0.72 with the verbal interpretation of Extremely Acceptable. Plans are in compliance with its existing budget ,local agencies are involved in the planning process with the mean of 4.31 and standard deviation of 0.72 with the verbal interpretation of Extremely Acceptable. Community Improvement Plan as Beneficiaries are



participating in all stages of the production with the average mean of 4.63 and standard deviation of 0.60 with the verbal interpretation of Extremely Acceptable.

Table 5. The Mean Level of Community Improvement Plan as Local skill, knowledge and practices are mobilized in the production

Local skill, knowledge and practices are mobilized in the production	MEAN	SD	INTERPRETATION
1. Contains skills suited to the trainees background.	4.24	0.56	Extremely Acceptable
2. Offers activities that can be accomplished by trainees.	4.24	0.66	Extremely Acceptable
3. Uses manual that can easily be understood by the trainees.	4.16	0.72	Very Acceptable
4. Emphasis is placed on using the innovative approaches for implementation	4.22	0.66	Extremely Acceptable
5. Community significantly contribute labor and resources (cash/kind)	4.16	0.62	Very Acceptable
6. Local human resources are develop and utilize in the production.	4.24	0.65	Extremely Acceptable
Average Mean	4.24	0.66	Extremely Acceptable

Rating	Range	Description	Interpretation
5	4.20 – 5.00	Strongly Agree	Extremely Acceptable
4	3.40 – 4.19	Agree	Very Acceptable
3	2.60 – 3.39	Moderately Agree	Moderately Acceptable
2	1.80 – 2.59	Disagree	Slightly Acceptable
1	1.00 – 1.79	Strongly Disagree	Not Acceptable

The Mean Level of Community Improvement Plan as Local skill, knowledge and practices are mobilized in the production. Contains skills suited to the trainees background. with the mean of 4.24 and standard deviation of 0.56 with the verbal interpretation of Extremely Acceptable. Offers activities that can be accomplished by trainees with the mean of 4.24 and standard deviation of 0.66 with the verbal interpretation of Extremely Acceptable. Uses manual that can easily be understood by the trainees with the mean of 4.16 and standard deviation of 0.72 with the verbal interpretation of Extremely Acceptable. Emphasis is placed on using the innovative approaches for implementation with the

mean of 4.22 and standard deviation of 0.66 with the verbal interpretation of Extremely Acceptable. Community significantly contribute labor and resources (cash/kind) with the mean of 4.16 and standard deviation of 0.62 with the verbal interpretation of Extremely Acceptable. Local human resources are develop and utilize in the production with the mean of 4.24 and standard deviation of 0.65 with the verbal interpretation of Extremely Acceptable. Community Improvement Plan as Local skill, knowledge and practices are mobilized in the production with the mean of 4.24 and standard deviation of 0.66 with the verbal interpretation of Extremely Acceptable.

Table 6. The Mean Level of Community Improvement Plan as Programs emphasize gender sensitivity

Programs emphasize gender sensitivity	MEAN	SD	INTERPRETATION
1. Women are actively involved in the community need assessment	4.25	0.65	Extremely Acceptable
2. Pan activities addresses to women's needs	4.3	0.72	Extremely Acceptable
3. Discuss gender sensitive issues to community meetings	4.2	0.61	Extremely Acceptable
4. At community level mix groups of women and men are formed. As well as women-only and men-only groups.	4.35	0.62	Extremely Acceptable
Average Mean	4.4	0.68	Extremely Acceptable



Rating	Range	Description	Interpretation
5	4.20 – 5.00	Strongly Agree	Extremely Acceptable
4	3.40 – 4.19	Agree	Very Acceptable
3	2.60 – 3.39	Moderately Agree	Moderately Acceptable
2	1.80 – 2.59	Disagree	Slightly Acceptable
1	1.00 – 1.79	Strongly Disagree	Not Acceptable

The Mean Level of Community Improvement Plan as Programs emphasize gender sensitivity. Women are actively involved in the community need assessment with the mean of 4.25 and standard deviation of 0.66 with the verbal interpretation of Extremely Acceptable. Pan activities addresses to women’s needs with the mean of 4.3 and standard deviation of 0.72 with the verbal interpretation of Extremely Acceptable. Discuss gender sensitive issues to community meetings with the mean of 4.2 and standard deviation of 0.61 with

the verbal interpretation of Extremely Acceptable. At community level mix groups of women and men are formed. As well as women-only and men-only groups with the mean of 4.35 and standard deviation of 0.61 with the verbal interpretation of Extremely Acceptable. Community Improvement Plan as Programs emphasize gender sensitivity with the average mean of 4.4 and standard deviation of 0.68 with the verbal interpretation of Extremely Acceptable.

Table 7. The Mean Level of Community Improvement Plan as Systematic process of production

Systematic process of production	MEAN	SD	INTERPRETATION
1. Is versatile that can be used across the curriculum	4.3	0.66	Extremely Acceptable
2. Contains varied challenging tasks that can be done by the trainees in different aptitude level	4.25	0.65	Extremely Acceptable
3. Can be easily managed by all trainees.	4.24	0.61	Extremely Acceptable
4. Provides activities which are adopted to various learning style of the trainees	4.4	0.63	Extremely Acceptable
5. Designs are flexible in terms of parts which can easily be added, modified or omitted if necessary	4.22	0.61	Extremely Acceptable
6. Information from monitoring is used to improve production	4.66	0.62	Extremely Acceptable
Average Mean	4.25	0.66	Extremely Acceptable

Rating	Range	Description	Interpretation
5	4.20 – 5.00	Strongly Agree	Extremely Acceptable
4	3.40 – 4.19	Agree	Very Acceptable
3	2.60 – 3.39	Moderately Agree	Moderately Acceptable
2	1.80 – 2.59	Disagree	Slightly Acceptable
1	1.00 – 1.79	Strongly Disagree	Not Acceptable

The Mean Level of Community Improvement Plan as Systematic process of production. Is versatile that can be used across the curriculum with the mean of 4.3 and standard deviation of 0.66 with the verbal interpretation of Extremely Acceptable. Contains varied challenging tasks that can be done by the trainees in different aptitude level with the mean of 4.25 and standard deviation of 0.65 with the verbal interpretation of Extremely Acceptable. Can be easily managed by all trainees with the mean of 4.24 and standard deviation of 0.66 with the verbal interpretation of Extremely

Acceptable. Provides activities which are adopted to various learning style of the trainees with the mean of 4.44 and standard deviation of 0.63 with the verbal interpretation of Extremely Acceptable. Designs are flexible in terms of parts which can easily be added, modified or omitted if necessary with the mean of 4.22 and standard deviation of 0.61 with the verbal interpretation of Extremely Acceptable. Information from monitoring is used to improve production with the mean of 4.66 and standard deviation of 0.62 with the verbal interpretation of Extremely Acceptable. Community Improvement Plan as Systematic process



of production with the average mean of 4.25 and interpretation of Extremely Acceptable standard deviation of 0.65 with the verbal

Table 8. The Mean Level of Community Improvement Plan as Program Planning Implementation Monitoring and Assessment of Effectiveness

Program Planning Implementation Monitoring and Assessment of Effectiveness	MEAN	SD	INTERPRETATION
1. Beneficiaries are participating in all stages of the production.	4.24	0.66	Extremely Acceptable
2. Local skills, knowledge and practices are mobilized in the production of smocked throw pillows	4.24	0.66	Extremely Acceptable
3. Program emphasizes gender sensitivity.	4.63	0.72	Extremely Acceptable
4. Systematic process of Implementation exists and skills learned are incorporated in the production of smocked throw pillows.	4.16	0.63	Very Acceptable
5. Contains discussion that are needed for better understanding of the trainees on the effectiveness of Smocked Throw Pillow Production as work Determinant among the Trainer	4.63	0.65	Extremely Acceptable
Average Mean	4.25	0.66	Extremely Acceptable

Rating	Range	Description	Interpretation
5	4.20 – 5.00	Strongly Agree	Extremely Acceptable
4	3.40 – 4.19	Agree	Very Acceptable
3	2.60 – 3.39	Moderately Agree	Moderately Acceptable
2	1.80 – 2.59	Disagree	Slightly Acceptable
1	1.00 – 1.79	Strongly Disagree	Not Acceptable

The Mean Level of Community Improvement Plan as Program Planning Implementation Monitoring and Assessment of Effectiveness. Beneficiaries are participating in all stages of the production with the mean of 4.24 and standard deviation of 0.66 with the verbal interpretation of Extremely Acceptable. Local skills, knowledge and practices are mobilized in the production of smocked throw pillows with the mean of 4.24 and standard deviation of 0.66 with the verbal interpretation of Extremely Acceptable. Program emphasizes gender sensitivity with the mean of 4.63 and standard deviation of 0.72 with the verbal interpretation of Extremely Acceptable. Systematic process of Implementation exists and skills learned

are incorporated in the production of smocked throw pillows with the mean of 4.16 and standard deviation of 0.63 with the verbal interpretation of Very Acceptable. Contains discussion that are needed for better understanding of the trainees on the effectiveness of Smocked Throw Pillow Production as work Determinant among the Trainer with the mean of 4.63 and standard deviation of 0.65 with the verbal interpretation of Extremely Acceptable. Community Improvement Plan as Program Planning Implementation Monitoring and Assessment of Effectiveness with the mean of 4.25 and standard deviation of 0.65 with the verbal interpretation of Extremely Acceptable.



Table 9. The Mean Level of Community Improvement Plan as Organizational Structure and management

Organizational Structure and management	MEAN	SD	INTERPRETATION
1. Contains goals that are attainable for the needs of the trainees on the Smocked Throw Pillow Production.	4.24	0.66	Extremely Acceptable
2. Provides goals that are easily understood by the trainees	4.16	0.65	Very Acceptable
3. Motivates the trainees to listen attentively on clarity and consensus exists on organization's vision and goals, which are operationalized.	4.17	0.66	Very Acceptable
4. Decisions are made in a participatory way	4.24	0.65	Extremely Acceptable
5. Delegation of authority occurs	4.16	0.66	Very Acceptable
6. Personnel policies and procedures exist, practiced and are gender sensitive.	4.24	0.65	Extremely Acceptable
7. Organization is operated under a code of ethics	4.24	0.28	Extremely Acceptable
8. A program supportive administration (Procurement, Inventory and Admin.) exists.	4.22	0.64	Extremely Acceptable
9. Communications are open and spontaneous	4.3	0.80	Extremely Acceptable
10. Recording and filing system exists.	4.24	0.79	Extremely Acceptable
Average Mean	4.24	0.16	Extremely Acceptable

Rating	Range	Description	Interpretation
5	4.20 – 5.00	Strongly Agree	Extremely Acceptable
4	3.40 – 4.19	Agree	Very Acceptable
3	2.60 – 3.39	Moderately Agree	Moderately Acceptable
2	1.80 – 2.59	Disagree	Slightly Acceptable
1	1.00 – 1.79	Strongly Disagree	Not Acceptable

The Mean Level of Community Improvement Plan as Organizational Structure and management. Contains goals that are attainable for the needs of the trainees on the Smocked Throw Pillow Production with the mean of 4.24 and standard deviation of 0.66 with the verbal interpretation of Extremely Acceptable. Provides goals that are easily understood by the trainees with the mean of 4.16 and standard deviation of 0.65 with the verbal interpretation of Very Acceptable. Motivates the trainees to listen attentively on clarity and consensus exists on organization's vision and goals, which are operationalized with the mean of 4.16 and standard deviation of 0.65 with the verbal interpretation of Very Acceptable. Decisions are made in a participatory way with the mean of 4.24 and standard deviation of 0.65 with the verbal interpretation of Extremely Acceptable. Personnel policies and procedures exist, practiced and are gender sensitive with the mean of 4.24 and standard

deviation of 0.65 with the verbal interpretation of Extremely Acceptable. Organization is operated under a code of ethics with the mean of 4.24 and standard deviation of 0.28 with the verbal interpretation of Extremely Acceptable. A program supportive administration (Procurement, Inventory and Admin.) exists with the mean of 4.22 and standard deviation of 0.64 with the verbal interpretation of Extremely Acceptable. Communications are open and spontaneous with the mean of 4.3 and standard deviation of 0.80 with the verbal interpretation of Extremely Acceptable. Recording and filing system exists with the mean of 4.24 and standard deviation of 0.79 with the verbal interpretation of Extremely Acceptable. Community Improvement Plan as Organizational Structure and management exists with the average mean of 4.24 and standard deviation of 0.65 with the verbal interpretation of Extremely Acceptable.



Table 10. The Mean Level of Community Improvement Plan as Programs emphasizes gender sensitivity.

Programs emphasize gender sensitivity	MEAN	SD	INTERPRETATION
1. Women are actively involved in the community need assessment	4.24	0.66	Extremely Acceptable
2. Pan activities addresses to women's needs	4.16	0.66	Very Acceptable
3. Discuss gender sensitive issues to community meetings	4.24	0.76	Extremely Acceptable
Average Mean	4.24	0.65	Extremely Acceptable

Rating	Range	Description	Interpretation
5	4.20 – 5.00	Strongly Agree	Extremely Acceptable
4	3.40 – 4.19	Agree	Very Acceptable
3	2.60 – 3.39	Moderately Agree	Moderately Acceptable
2	1.80 – 2.59	Disagree	Slightly Acceptable
1	1.00 – 1.79	Strongly Disagree	Not Acceptable

The Mean Level of Community Improvement Plan as Programs emphasize gender sensitivity. Women are actively involved in the community need assessment with the mean of 4.24 and standard deviation of 0.66 with the verbal interpretation of Extremely Acceptable. Pan activities addresses to women's needs with the mean of 4.16 and standard deviation of 0.66 with the verbal

interpretation of Very Acceptable. Discuss gender sensitive issues to community meetings with the mean of 4.24 and standard deviation of 0.76 with the verbal interpretation of Extremely Acceptable. Community Improvement Plan as Programs emphasize gender sensitivity with the average mean of 4.24 and standard deviation of 0.65 with the verbal interpretation of Extremely Acceptable.

Table 11. There is significant difference between the Work determinant among the Trainer to Community Improvement Plan

Work determinant among the Trainer to Community Improvement Plan	Computed t-value	Critical t-value	Interpretation
	3.274737505	1.684875122	Significant

The study shows that there is significant difference between the Work determinant among the Trainer to Community Improvement Plan since the computed t-values is 3.27 and it is higher than critical t-value of 1.68 regardless of it sign.

CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, the following conclusions were made.

Based on the findings of the study, the following conclusions were made. The respondents' Work Determinant among the Trainer in terms as a Trainee, Perception on trainers manner in handling trainees and Coordination and Networking were Extremely Acceptable. Community Improvement Plan in terms of Beneficiaries are participating in all stages of the production, Local skill, knowledge and practices are mobilized in the production, Programs emphasize gender sensitivity, Systematic process of production, Program planning Implementation monitoring and assessment of effectiveness, Organizational structure and management and

Program emphasize gender sensitivity were Extremely Acceptable. There significant effect between the work determinant among the trainer and community improvement plan.

Recommendations

Based on the conclusions drawn from the study, the following were recommended:

1. Recommend to produce more Smoked Throw Pillow
2. To instruct the community to make smoked throw pillow for their livelihood.
3. To show creative ways make Smoked Throw Pillow.

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BAIRE SPACES VIA BIPOLAR SINGLE VALUED NEUTROSOPHIC SET

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ABSTRACT

In this paper, we introduce bipolar single valued neutrosophic Baire and bipolar single valued neutrosophic pre Baire spaces in bipolar single valued neutrosophic topological spaces. We also examine some of their properties and characterizations.

KEYWORDS: *Bipolar single valued neutrosophic Baire space and Bipolar single valued neutrosophic pre Baire space.*

1. INTRODUCTION

Fuzzy topology was introduced by C.L.Chang [3] in 1967 after the introduction of fuzzy sets by L.A.Zadeh [16] in 1965. In 1994, W.R.Zhang [17] who introduced the notion of a bipolar fuzzy set. The concept of intuitionistic fuzzy sets was introduced by Atanassov [1] in 1986 as a generalization of fuzzy sets. Smarandache [12] introduced the neutrosophic set which is the base for the new mathematical theories. Neutrosophic topological spaces were presented by Salama et al. [11]. Single-valued neutrosophic sets were proposed by Wang et al.[15] by simplifying the Neutrosophic set. Single-valued neutrosophic topological space was given by YL Liu and HL Yang [9] and discussed the relationships between single valued neutrosophic approximation spaces and single valued neutrosophic topological spaces. Bipolar single-valued neutrosophic set was introduced by Mohana et al. [10] and also they give bipolar single-valued neutrosophic topological spaces. The concept of Baire space in fuzzy settings was introduced and studied by G.Thangaraj and S.Anjalmoose[13]. Fuzzy Pre-Baire spaces was also investigated by G.Thangaraj and S.Anjalmoose[14]. In Intuitionistic fuzzy, Dhavaseelan[7] was gave the concept of Intuitionistic fuzzy Baire spaces. Caldas et al [2] gave the Neutrosophic resolvable and Neutrosophic irresolvable space. Dhavaseelan et. al[8] introduced the concept of Neutrosophic Baire spaces. Here in this paper, we introduce the



concept of bipolar single valued neutrosophic Baire space and bipolar single valued neutrosophic pre Baire space in bipolar single valued neutrosophic topological spaces.

2. PRELIMINARIES

2.1 Definition [12]: Let a universe U of discourse. Then $K = \{ \langle x, T_K(x), I_K(x), F_K(x) \rangle : x \in X \}$ defined as a neutrosophic set where truth-membership function T_K , an indeterminacy-membership function I_K and a falsity-membership function F_K . T_K, I_K, F_K are real or non-standard elements of $] 0^-, 1^+ [$. No restriction on the sum of $T_K(x), I_K(x)$ and $F_K(x)$, so $0 \leq \sup T_K(x) \leq \sup I_K(x) \leq \sup F_K(x) \leq 3^+$.

2.2 Definition [11]: A Neutrosophic topology [NT for short] is a non-empty set X is a family of Neutrosophic subsets in X satisfying the following axioms:

$$(NT_1) 0_N, 1_N \in \tau,$$

$$(NT_2) G_1 \cap G_2 \in \tau, \text{ for any } G_1, G_2 \in \tau,$$

$$(NT_3) \cup G_i \in \tau, \text{ for every } \{G_i : i \in J\} \subseteq \tau.$$

The pair (X, τ) is called a Neutrosophic topological space (NTS for short). The elements of τ are called Neutrosophic open sets [NOS for short]. A complement $C(A)$ of a NOS A in NTS (X, τ) is called a Neutrosophic closed set [NCS for short] in X .

2.3 Definition [15]: Let a universe X of discourse. Then $A_{NS} = \{ \langle x, T_A(x), I_A(x), F_A(x) \rangle : x \in X \}$ defined as a single-valued neutrosophic set (SVNS in short) where truth-membership function $T_A: X \rightarrow [0,1]$, an indeterminacy-membership function $I_A: X \rightarrow [0,1]$ and a falsity-membership function $F_A: X \rightarrow [0,1]$. No restriction on the sum of $T_A(x), I_A(x)$ and $F_A(x)$, so $0 \leq \sup T_A(x) \leq \sup I_A(x) \leq \sup F_A(x) \leq 3$. $\tilde{A} = \langle T, I, F \rangle$ is denoted as a single-valued neutrosophic number.

2.4 Definition [9]: A Single-valued neutrosophic topology on a non-empty set U is a family τ of SVNSs in U that satisfies the following conditions:

$$(T_1) \quad \tilde{\phi}, \tilde{U} \in \tau,$$

$$(T_2) \quad \tilde{A} \cap \tilde{B} \in \tau \text{ for any } \tilde{A}, \tilde{B} \in \tau,$$

$$(T_3) \quad \cup_{i \in I} \tilde{A}_i \in \tau \text{ for any } \tilde{A}_i \in \tau, i \in I, \text{ where } I \text{ is an index set. The pair } (U, \tau) \text{ is called Single valued}$$

neutrosophic topological space and each SVNS \tilde{A} in τ is referred to as a single valued neutrosophic open set in (U, τ) . The complement of a single valued neutrosophic open set in (U, τ) is called a single valued neutrosophic closed set in (U, τ) .

2.5 Definition [6]: In X , a bipolar neutrosophic set B is defined in the form $B = \langle x, (T^+(x), I^+(x), F^+(x), T^-(x), I^-(x), F^-(x)) : x \in X \rangle$ where $T^+, I^+, F^+ : X \rightarrow [1, 0]$ and $T^-, I^-, F^- : X \rightarrow [-1, 0]$. The positive membership degree denotes the truth membership $T^+(x)$, indeterminate membership $I^+(x)$ and false membership $F^+(x)$ of an element $x \in X$ corresponding to the set A and the negative membership degree denotes the truth membership $T^-(x)$, indeterminate membership



$\Gamma(x)$ and false membership $F(x)$ of an element $x \in X$ to some implicit counter-property corresponding to a bipolar neutrosophic set .

2.6 Definition [8]: Let (X, T) be a neutrosophic topological space. A neutrosophic set A in (X, T) is called

neutrosophic first category if $A = \bigcup_{i=1}^{\infty} B_i$, where B_i 's are neutrosophic nowhere dense sets in (X, T) . Any other

neutrosophic set in (X, T) is said to be of Neutrosophic second category.

2.7 Definition [8]: A neutrosophic topological space (X, T) is called neutrosophic first category space if the

neutrosophic set 1_N is a neutrosophic first category set in (X, T) . That is, $1_N = \bigcup_{i=1}^{\infty} A_i$ where A_i 's are neutrosophic

nowhere dense sets in (X, T) . Otherwise (X, T) will be called a neutrosophic second category space.

2.8 Definition [8]: Let A be a neutrosophic first category set in (X, T) . Then \bar{A} is called a neutrosophic residual set in (X, T) .

2.9 Definition [8]: Let (X, T) be a neutrosophic topological space. Then (X, T) is said to neutrosophic Baire space if

$N \text{ int}(\bigcup_{i=1}^{\infty} A_i) = 0_N$, where A_i 's are neutrosophic nowhere dense sets in (X, T) .

2.10 Definition [14]: Let (X, T) be. A fuzzy set λ in a fuzzy topological space (X, T) is called fuzzy pre- dense if there exists no fuzzy pre-closed set μ in (X, T) such that $\lambda < \mu < 1$. That is $\text{pcl}(\lambda) = 1$.

2.11 Definition [14]: Let (X, T) be a fuzzy topological space. A fuzzy set λ in (X, T) is called a fuzzy pre- nowhere dense if there exists no fuzzy pre-open set μ in (X, T) such that $\mu \subset \text{pcl}(\lambda)$. That is $\text{pint}(\text{pcl}(\lambda)) = 0$.

2.12 Definition [14]: Let (X, T) be a fuzzy topological space. Then (X, T) is called a fuzzy pre-first category if

$\lambda = \bigcup_{i=1}^{\infty} \lambda_i$, where λ_i 's are fuzzy pre-nowhere dense sets in (X, T) . Any other fuzzy set in (X, T) is said to be of fuzzy

pre-second category.

2.13 Definition [14]: Let λ be a fuzzy pre- first category set in fuzzy topological space (X, T) . Then $1-\lambda$ is called a fuzzy pre-residual set in (X, T) .

2.14 Definition [14]: A fuzzy topological space (X, T) is called a fuzzy pre- first category space if the fuzzy set 1_X

is a fuzzy pre- first category set in (X, T) . That is, $1_X = \bigcup_{i=1}^{\infty} \lambda_i$ where λ_i 's are fuzzy pre-nowhere dense sets in (X, T) .

Otherwise (X, T) will be called a fuzzy pre-second category space.

2.15 Definition [14]: Let (X, T) be a fuzzy topological space. Then (X, T) is called a fuzzy Baire space if

$\text{int}(\bigcup_{i=1}^{\infty} \lambda_i) = 0$, where λ_i 's are fuzzy nowhere dense sets in (X, T) .

2.16 Definition [14]: Let (X, T) be a fuzzy topological space. Then (X, T) is called a fuzzy pre- Baire space if



$\text{int}(\bigcup_{i=1}^{\infty} \lambda_i) = 0$, where λ_i 's are fuzzy pre-nowhere dense sets in (X, T) .

2.17 Definition [10]: A Bipolar Single-Valued Neutrosophic set (BSVNs) S in X is defined in the form of

$$\text{BSVN}(S) = \langle x, (T_{\text{BSVN}}^+, I_{\text{BSVN}}^+, F_{\text{BSVN}}^+, T_{\text{BSVN}}^-, I_{\text{BSVN}}^-, F_{\text{BSVN}}^-) : x \in X \rangle \rightarrow (I)$$

where $(T_{\text{BSVN}}^+, I_{\text{BSVN}}^+, F_{\text{BSVN}}^+) : X \rightarrow [0, 1]$ and $(T_{\text{BSVN}}^-, I_{\text{BSVN}}^-, F_{\text{BSVN}}^-) : X \rightarrow [-1, 0]$. In this Definition, there T_{BSVN}^+ and T_{BSVN}^- are acceptable and unacceptable in past. Similarly I_{BSVN}^+ and I_{BSVN}^- are acceptable and unacceptable in future. F_{BSVN}^+ and F_{BSVN}^- are acceptable and unacceptable in present respectively.

2.18 Definition [10]: Let two bipolar single-valued neutrosophic sets $\text{BSVN}_1(S)$ and $\text{BSVN}_2(S)$ in X defined as

$$\text{BSVN}_1(S) = \langle x, (T_{\text{BSVN}}^+(1), I_{\text{BSVN}}^+(1), F_{\text{BSVN}}^+(1), T_{\text{BSVN}}^-(1), I_{\text{BSVN}}^-(1), F_{\text{BSVN}}^-(1)) : x \in X \rangle \text{ and}$$

$\text{BSVN}_2(S) = \langle x, (T_{\text{BSVN}}^+(2), I_{\text{BSVN}}^+(2), F_{\text{BSVN}}^+(2), T_{\text{BSVN}}^-(2), I_{\text{BSVN}}^-(2), F_{\text{BSVN}}^-(2)) : x \in X \rangle$. Then the operators are defined as follows:

(i) **Complement**

$$\text{BSVN}^c(S) = \{ \langle x, (1 - T_{\text{BSVN}}^+), (1 - I_{\text{BSVN}}^+), (1 - F_{\text{BSVN}}^+), (-1 - T_{\text{BSVN}}^-), (-1 - F_{\text{BSVN}}^-) : x \in X \rangle \}$$

(ii) **Union of two BSVN**

$$\text{BSVN}_1(S) \cup \text{BSVN}_2(S) =$$

$$\left\langle \begin{array}{l} \max(T_{\text{BSVN}}^+(1), T_{\text{BSVN}}^+(2)), \min(I_{\text{BSVN}}^+(1), I_{\text{BSVN}}^+(2)), \min(F_{\text{BSVN}}^+(1), F_{\text{BSVN}}^+(2)) \\ \max(T_{\text{BSVN}}^-(1), T_{\text{BSVN}}^-(2)), \min(I_{\text{BSVN}}^-(1), I_{\text{BSVN}}^-(2)), \min(F_{\text{BSVN}}^-(1), F_{\text{BSVN}}^-(2)) \end{array} \right\rangle$$

(iii) **Intersection of two BSVN**

$$\text{BSVN}_1(S) \cap \text{BSVN}_2(S) =$$

$$\left\langle \begin{array}{l} \min(T_{\text{BSVN}}^+(1), T_{\text{BSVN}}^+(2)), \max(I_{\text{BSVN}}^+(1), I_{\text{BSVN}}^+(2)), \max(F_{\text{BSVN}}^+(1), F_{\text{BSVN}}^+(2)) \\ \min(T_{\text{BSVN}}^-(1), T_{\text{BSVN}}^-(2)), \max(I_{\text{BSVN}}^-(1), I_{\text{BSVN}}^-(2)), \max(F_{\text{BSVN}}^-(1), F_{\text{BSVN}}^-(2)) \end{array} \right\rangle$$

2.19 Definition [10]: Let two bipolar single-valued neutrosophic sets be BSVN_1 and BSVN_2 in X defined as

Then $S_1 \subseteq S_2$ if and only if

$$T_{\text{BSVN}}^+(1) \leq T_{\text{BSVN}}^+(2), I_{\text{BSVN}}^+(1) \geq I_{\text{BSVN}}^+(2), F_{\text{BSVN}}^+(1) \geq F_{\text{BSVN}}^+(2),$$

$$T_{\text{BSVN}}^-(1) \leq T_{\text{BSVN}}^-(2), I_{\text{BSVN}}^-(1) \geq I_{\text{BSVN}}^-(2), F_{\text{BSVN}}^-(1) \geq F_{\text{BSVN}}^-(2) \text{ for all } x \in X.$$

2.20 Definition [10]: A bipolar single-valued neutrosophic topology (BSVNT) on a non-empty set X is a τ of BSVN sets satisfying the axioms

(i) $0_{\text{BSVN}}, 1_{\text{BSVN}} \in \tau$

(ii) $S_1 \cap S_2 \in \tau$ for any $S_1, S_2 \in \tau$

(iii) $\bigcup S_i \in \tau$ for any arbitrary family $\{S_i : i \in j\} \in \tau$. The pair (X, τ) is called BSVN topological



space (BSVNTS). Any BSVN set in τ is called as BSVN open set(BSVNOs) in X . The complement S^c of BSVN set in BSVN topological space (X, τ) is called a BSVN closed set(BSVNCs).

2.21 Definition [4]: Let 0_{BSVN} and 1_{BSVN} be BSVNS in X defined as

$0_{BSVN} = \{ \langle x, 0, 1, 1, -1, 0, 0 : x \in X \rangle \}$ is said to be Null or Empty bipolar single valued neutrosophic set.

$1_{BSVN} = \{ \langle x, 1, 0, 0, 0, -1, -1 : x \in X \rangle \}$ is said to be Absolute or Unit bipolar single valued neutrosophic set.

2.22 Definition [4]: Let (X, τ) be a BSVN topological space (BSVNTS) and BSVN (S) be a BSVN set in X . Then the closure and interior of S is defined as $BSVN \text{ int} (S) = \bigcup \{F: F \text{ is a BSVN open set (BSVNOs) in } X \text{ and } F \subseteq S\}$ and $BSVN \text{ cl} (S) = \bigcap \{F: F \text{ is a BSVN closed set (BSVNCs) in } X \text{ and } S \subseteq F\}$.

2.23 Proposition [4]: Let S be any BSVNS in X . Then

(1) $BSVN \text{ int} (S^c) = (BSVN \text{ cl} (S))^c$ and

(2) $BSVN \text{ cl} (S^c) = (BSVN \text{ int} (S))^c$.

2.24 Definition [5]: An bipolar single valued neutrosophic set (BSVNs) S in bipolar single valued neutrosophic topological space (BSVNT) (X, τ) is called bipolar single valued neutrosophic dense (BSVN dense) if there exists no bipolar single valued neutrosophic closed set T in (X, τ) such that $S \subseteq T \subseteq 1_{BSVN}$. (i.e.) $BSVN \text{ cl}(S) = 1_{BSVN}$.

2.25 Definition [5]: Let (X, τ) be a bipolar single valued neutrosophic topological space. (X, τ) is called bipolar single valued neutrosophic resolvable (BSVN resolvable) if there exists a bipolar single valued neutrosophic dense set S in (X, τ) such that $BSVN \text{ cl} (S^c) = 0_{BSVN}$. Otherwise, (X, τ) is called bipolar single valued neutrosophic irresolvable (BSVN irresolvable).

2.26 Definition [5]: A BSVNTS (X, τ) is called bipolar single valued neutrosophic submaximal (BSVN submaximal) space if each BSVNs S in (X, τ) such that $BSVN \text{ cl}(S) = 1_{BSVN}$, then $S \in \tau$.

2.27 Definition [5]: A BSVNs S in BSVNTS (X, τ) is called bipolar single valued neutrosophic nowhere dense(BSVN nowhere dense) set if there exist no BSVN open set U in (X, τ) such that $U \subseteq BSVN \text{ cl}(S)$. That is $BSVN \text{ int} (BSVN \text{ cl}(S)) = 0_{BSVN}$.

2.28 Definition [5]: A bipolar single valued neutrosophic Topological space (X, τ) is called a bipolar single

valued neutrosophic almost resolvable (BSVN almost resolvable) space if $\bigcup_{i=1}^{\infty} S_i = 1_{BSVN}$, where S_i 's are

BSVNs's in (X, τ) are such that $BSVN \text{ int} (S_i) = 0_{BSVN}$. Otherwise (X, τ) is called bipolar single valued neutrosophic almost irresolvable (BSVN almost irresolvable) space.

2.29 Definition [5]: An BSVNTS (X, τ) is called a bipolar single valued neutrosophic hyper connected (BSVN hyper connected) space if every BSVNOs is BSVN dense in (X, τ) . That is $BSVN \text{ cl} (S_i) = 1_{BSVN}$, for all $S_i \in \tau$.

2.30 Definition [5]: A BSVNs S in a BSVNTS (X, τ) is called BSVN- G_δ if $S = \bigcap_{i=1}^{\infty} S_i$, where each $S_i \in \tau$.

2.31 Definition [5]: A BSVNs S in a BSVNTS (X, τ) is called BSVN- F_σ if $S = \bigcup_{i=1}^{\infty} S_i$, where each $S_i \in \tau$.



2.32 Definition [5]: A BSVNTS (X, τ) is called BSVN P-space; if countable intersection of BSVNOs's in (X, τ) is bipolar single valued neutrosophic open. That is, every non-zero BSVN- G_δ set in (X, τ) is bipolar single valued neutrosophic open in (X, τ) .

3. BIPOLAR SINGLE VALUED NEUTROSOPHIC BAIRE SPACE

Definition 3.1 Let (X, τ) be a bipolar single valued neutrosophic topological space. A bipolar single valued neutrosophic set S in (X, τ) is called bipolar single valued neutrosophic first category if $S = \bigcup_{i=1}^{\infty} T_i$, where T_i 's are bipolar single valued neutrosophic nowhere dense sets in (X, τ) . Any other bipolar single valued neutrosophic set in (X, τ) is said to be bipolar single valued neutrosophic second category.

Definition 3.2 The Complement of bipolar single valued neutrosophic First category sets in (X, τ) is a bipolar single valued neutrosophic residual set in (X, τ) .

Definition 3.3 A bipolar single valued neutrosophic topological space (X, τ) is called bipolar single valued neutrosophic first category space if the bipolar single valued neutrosophic set 1_{BSVN} is a bipolar single valued neutrosophic first category set in (X, τ) . That is, $1_{BSVN} = \bigcup_{i=1}^{\infty} S_i$, where S_i 's are bipolar single valued neutrosophic nowhere dense sets in (X, τ) . Otherwise (X, τ) will be called an bipolar single valued neutrosophic second category space.

Proposition 3.4 If S be a bipolar single valued neutrosophic first category set in (X, τ) , then $S^c = \bigcap_{i=1}^{\infty} T_i$, where $BSVN \text{ cl}(T_i) = 1_{BSVN}$.

Definition 3.5 Let (X, τ) be a bipolar single valued neutrosophic topological space. Then (X, τ) is said to bipolar single valued neutrosophic Baire space if $BSVN \text{ int} \left(\bigcup_{i=1}^{\infty} S_i \right) = 0_{BSVN}$, where S_i 's are bipolar single valued neutrosophic nowhere dense sets in (X, τ) .

Example 3.6 Let $X = \{p, q\}$. Define the bipolar single valued neutrosophic sets S, T and P as follows

$$S = \left\{ \begin{array}{l} \langle p, (0.1, 0.3, 0.5, -0.7, -0.8, -0.1) \rangle \\ \langle q, (0.2, 0.4, 0.6, -0.8, -0.2, -0.4) \rangle \end{array} \right\} . \text{Then } \tau = \{0_{BSVN}, 1_{BSVN}, S\} \text{ is a BSVNT.}$$

$$T = \left\{ \begin{array}{l} \langle p, (0.8, 0.7, 0.8, -0.7, -0.2, -0.3) \rangle \\ \langle q, (0.1, 0.7, 0.9, -0.2, -0.7, -0.2) \rangle \end{array} \right\} \quad P = \left\{ \begin{array}{l} \langle p, (0.2, 0.1, 0.5, -0.3, -0.9, -0.1) \rangle \\ \langle q, (0.8, 0.3, 0.1, -0.3, -0.5, -0.6) \rangle \end{array} \right\}$$



Now S^c, T, P^c are bipolar single valued neutrosophic nowhere dense sets in (X, τ) . Also $BSVN \text{ int} (S^c \cup T \cup P^c) = 0_{BSVN}$. Hence (X, τ) is a bipolar single valued neutrosophic Baire space.

Proposition 3.7 If $BSVN \text{ int} (\bigcup_{i=1}^{\infty} S_i) = 0_{BSVN}$, where $BSVN \text{ int} (S_i) = 0_{BSVN}$ and $S_i \in \tau$, then (X, τ) is an bipolar single valued neutrosophic Baire space.

Proposition 3.8 If $BSVN \text{ cl} (\bigcap_{i=1}^{\infty} S_i) = 1_{BSVN}$, where S_i 's are bipolar single valued neutrosophic dense and bipolar single valued neutrosophic open sets in (X, τ) , then (X, τ) is an bipolar single valued neutrosophic Baire Space.

Proposition 3.9 Let (X, τ) be a bipolar single valued neutrosophic topological space. Then the following are equivalent

- (i) (X, τ) is a bipolar single valued neutrosophic Baire space.
- (ii) $BSVN \text{ int} (S) = 0_{BSVN}$, for every bipolar single valued neutrosophic first category set S in (X, τ) .
- (iii) $BSVN \text{ cl} (T) = 1_{BSVN}$, for every bipolar single valued neutrosophic residual set T in (X, τ) .

Proposition 3.10 A bipolar single valued neutrosophic topological space (X, τ) is a bipolar single valued neutrosophic Baire space if and only if $(\bigcup_{i=1}^{\infty} S_i) = 1_{BSVN}$, where S_i 's is a bipolar single valued neutrosophic closed

set in (X, τ) with $BSVN \text{ int} (S_i) = 0_{BSVN}$, implies that $BSVN \text{ int} (\bigcup_{i=1}^{\infty} S_i) = 0_{BSVN}$.

Proposition 3.11 If the bipolar single valued neutrosophic topological space (X, τ) is a bipolar single valued neutrosophic first category, then (X, τ) is a bipolar single valued neutrosophic almost resolvable space.

Proposition 3.12 If $BSVN \text{ cl} (BSVN \text{ int}(S)) = 1_{BSVN}$, for each bipolar single valued neutrosophic dense set S in a bipolar single valued neutrosophic almost resolvable space (X, τ) , then (X, τ) is a bipolar single valued neutrosophic first category space.

Proposition 3.13 If $BSVN \text{ cl} (BSVN \text{ int}(S)) = 1_{BSVN}$, for each bipolar single valued neutrosophic dense set S in a bipolar single valued neutrosophic almost resolvable space (X, τ) , then (X, τ) is not a bipolar single valued neutrosophic Baire space.

Proposition 3.14 If (X, τ) is a bipolar single valued neutrosophic second category space, then (X, τ) is a bipolar single valued neutrosophic almost resolvable space.



Proposition 3.15 If the bipolar single valued neutrosophic almost resolvable space (X, τ) is a bipolar single valued neutrosophic submaximal space, then (X, τ) is a bipolar single valued neutrosophic first category space.

Proposition 3.16 If the bipolar single valued neutrosophic almost irresolvable space (X, τ) is a bipolar single valued neutrosophic submaximal space, then (X, τ) is a bipolar single valued neutrosophic second category space.

Proposition 3.17 If the bipolar single valued neutrosophic almost irresolvable space (X, τ) is a bipolar single valued neutrosophic submaximal space, then (X, τ) is not a bipolar single valued neutrosophic Baire space.

Theorem 3.18 If the BSVNTS (X, τ) is a bipolar single valued neutrosophic Baire space, then (X, τ) is an bipolar single valued neutrosophic almost irresolvable space.

Proposition 3.19 If $(\bigcap_{i=1}^{\infty} S_i) = 0_{BSVN}$, where S_i 's are bipolar single valued neutrosophic residual sets in a bipolar single valued neutrosophic Baire space (X, τ) , then (X, τ) is a bipolar single valued neutrosophic almost resolvable space.

Proposition 3.20 If $(\bigcup_{i=1}^{\infty} S_i) = 1_{BSVN}$, where S_i 's are non-zero bipolar single valued neutrosophic open sets in a bipolar single valued neutrosophic topological space (X, τ) , then (X, τ) is a bipolar single valued neutrosophic almost irresolvable space.

Proposition 3.21 If each BSVN G_δ set is bipolar single valued neutrosophic open and bipolar single valued neutrosophic dense set in a bipolar single valued neutrosophic topological space (X, τ) , then (X, τ) is a bipolar single valued neutrosophic almost irresolvable space.

4. BIPOLAR SINGLE VALUED NEUTROSOPHIC PRE-DENSE AND PRE NOWHERE DENSE

Definition 4.1 An bipolar single valued neutrosophic set (BSVNs) S in bipolar single valued neutrosophic topological space (BSVNT) (X, τ) is called bipolar single valued neutrosophic pre-dense (BSVN dense) if there exists no bipolar single valued neutrosophic pre- closed set T in (X, τ) such that $S \subseteq T \subseteq 1_{BSVN}$. (i.e.)

$$BSVN \text{ pcl}(S) = 1_{BSVN}.$$

Example 4.2 Let $X = \{p, q\}$. Define the bipolar single valued neutrosophic sets S and T as follows

$$S = \left\{ \begin{array}{l} \langle p, (0.3, 0.4, 0.5, -0.6, -0.7, -0.8) \rangle \\ \langle q, (0.9, 0.1, 0.2, -0.3, -0.4, -0.5) \rangle \end{array} \right\}. \text{ Then } \tau = \{0_{BSVN}, 1_{BSVN}, S\} \text{ is a BSVNT.}$$



$$T = \left\{ \begin{array}{l} \langle p, (0.1, 0.3, 0.2, -0.4, -0.5, -0.7) \rangle \\ \langle q, (0.6, 0.8, 0.2, -0.1, -0.4, -0.1) \rangle \end{array} \right\}$$

Here 1_{BSVN} , S , T , T^c are non-zero bipolar single valued neutrosophic pre-open sets in (X, τ) . Then 1_{BSVN} , S are bipolar single valued neutrosophic pre-dense sets in (X, τ) .

Definition 4.3 A BSVNs S in BSVNTS (X, τ) is called bipolar single valued neutrosophic pre-nowhere dense set if there exist no BSVN pre-open set U in (X, τ) such that $U \subseteq BSVN \text{ pcl}(S)$. That is

$$BSVN \text{ pint}(BSVN \text{ pcl}(S)) = 0_{BSVN}.$$

Example 4.4 Let $X = \{p, q\}$. Define the bipolar single valued neutrosophic sets S and T as follows

$$S = \left\{ \begin{array}{l} \langle p, (0.5, 0.4, 0.1, -0.6, -0.5, -0.4) \rangle \\ \langle q, (0.5, 0.1, 0.1, -0.3, -0.1, -0.2) \rangle \end{array} \right\} \quad T = \left\{ \begin{array}{l} \langle p, (0.4, 0.5, 0.3, -0.6, -0.3, -0.1) \rangle \\ \langle q, (0.2, 0.3, 0.6, -0.4, -0.2, -0.1) \rangle \end{array} \right\}$$

Then $\tau = \{0_{BSVN}, 1_{BSVN}, S, T\}$ is a BSVNT.

$$R = \left\{ \begin{array}{l} \langle p, (0.1, 0.5, 0.5, -0.7, -0.3, -0.4) \rangle \\ \langle q, (0.5, 0.9, 0.2, -0.3, -0.2, -0.1) \rangle \end{array} \right\}$$

Here 1_{BSVN} , S^c , T^c , R , R^c are non-zero bipolar single valued neutrosophic pre-closed sets in (X, τ) . Then S^c , T^c are bipolar single valued neutrosophic pre-nowhere dense sets in (X, τ) .

Theorem 4.5 Let S is a bipolar single valued neutrosophic pre-nowhere dense set in (X, τ) , then

$$BSVN \text{ pint}(S) = 0_{BSVN}.$$

Proof. If S is a bipolar single valued neutrosophic pre-nowhere dense set in (X, τ) . Then

$$BSVN \text{ pint}(S) \subseteq BSVN \text{ pint}(\text{pcl}(S)) = 0_{BSVN}. \text{ Hence } BSVN \text{ pint}(S) = 0_{BSVN}.$$

Theorem 4.6 Let S be a bipolar single valued neutrosophic set. If S is a bipolar single valued neutrosophic pre-closed set in (X, τ) with $BSVN \text{ pint}(S) = 0_{BSVN}$, then S is a bipolar single valued neutrosophic pre-nowhere dense set in (X, τ) .

Theorem 4.7 If S is a bipolar single valued neutrosophic pre-dense and bipolar single valued neutrosophic pre-open set in a BSVNTS (X, τ) and if $T \subseteq S^c$, then T is a bipolar single valued neutrosophic pre-nowhere dense set in (X, τ) .

Theorem 4.8 If S is a bipolar single valued neutrosophic pre-nowhere dense set in a bipolar single valued neutrosophic topological space (X, τ) , then S^c is a bipolar single valued neutrosophic pre-dense set in (X, τ) .



Theorem 4.9 If bipolar single valued neutrosophic pre-nowhere dense set S in a bipolar single valued neutrosophic topological space (X, τ) is a Bipolar single valued neutrosophic closed set, then S is a bipolar single valued neutrosophic nowhere dense set.

Theorem 4.10 If bipolar single valued neutrosophic nowhere dense set S in a bipolar single valued neutrosophic topological space (X, τ) is a Bipolar single valued neutrosophic pre-closed set, then S is a bipolar single valued neutrosophic pre-nowhere dense set.

Definition 4.11 Let (X, τ) be a bipolar single valued neutrosophic topological space. A bipolar single valued neutrosophic set S in (X, τ) is called bipolar single valued neutrosophic pre-first category if $S = \bigcup_{i=1}^{\infty} T_i$, where T_i 's are bipolar single valued neutrosophic pre-nowhere dense sets in (X, τ) . Any other bipolar single valued neutrosophic set in (X, τ) is said to be bipolar single valued neutrosophic pre-second category.

Example 4.12 Let $X = \{p, q\}$. Define the bipolar single valued neutrosophic sets S and T as follows

$$S = \left\{ \begin{array}{l} \langle p, (0.5, 0.4, 0.1, -0.6, -0.5, -0.4) \rangle \\ \langle q, (0.5, 0.1, 0.1, -0.3, -0.1, -0.2) \rangle \end{array} \right\} \quad T = \left\{ \begin{array}{l} \langle p, (0.4, 0.5, 0.3, -0.6, -0.3, -0.1) \rangle \\ \langle q, (0.2, 0.3, 0.6, -0.4, -0.2, -0.1) \rangle \end{array} \right\}$$

Then $\tau = \{0_{BSVN}, 1_{BSVN}, S, T\}$ is a BSVNT.

$R = \left\{ \begin{array}{l} \langle p, (0.1, 0.5, 0.5, -0.7, -0.3, -0.4) \rangle \\ \langle q, (0.5, 0.9, 0.2, -0.3, -0.2, -0.1) \rangle \end{array} \right\}$. Here $1_{BSVN}, S^c, T^c, R, R^c$ are non-zero bipolar single valued neutrosophic pre-closed sets in (X, τ) . Then S^c, T^c are bipolar single valued neutrosophic pre-nowhere dense sets in (X, τ) . Then $(S^c \cup T^c) = T^c$. therefore T^c is a bipolar single valued neutrosophic pre-first category.

Proposition 4.13 If S be a BSVN pre-first category set in BSVNTS (X, τ) , then $S^c = \bigcap_{i=1}^{\infty} T_i$ where

$$BSVN \text{ pcl}(T_i) = 1_{BSVN}.$$

Definition 4.14 The Complement of bipolar single valued neutrosophic pre-first category sets in (X, τ) is a bipolar single valued neutrosophic pre-residual set in (X, τ) .

Definition 4.15 Let (X, τ) be a bipolar single valued neutrosophic topological space. Then (X, τ) is said to bipolar single valued neutrosophic pre-Baire space if $BSVN \text{ pint} \left(\bigcup_{i=1}^{\infty} S_i \right) = 0_{BSVN}$, where S_i 's are bipolar single valued neutrosophic pre-nowhere dense sets in (X, τ) .



Example 4.16 Let $X = \{p, q\}$. Define the bipolar single valued neutrosophic sets S and T as follows

$$S = \left\{ \begin{array}{l} \langle p, (0.5, 0.4, 0.1, -0.6, -0.5, -0.4) \rangle \\ \langle q, (0.5, 0.1, 0.1, -0.3, -0.1, -0.2) \rangle \end{array} \right\} \quad T = \left\{ \begin{array}{l} \langle p, (0.4, 0.5, 0.3, -0.6, -0.3, -0.1) \rangle \\ \langle q, (0.2, 0.3, 0.6, -0.4, -0.2, -0.1) \rangle \end{array} \right\}$$

Then $\tau = \{0_{BSVN}, 1_{BSVN}, S, T\}$ is a BSVNT.

$$R = \left\{ \begin{array}{l} \langle p, (0.1, 0.5, 0.5, -0.7, -0.3, -0.4) \rangle \\ \langle q, (0.5, 0.9, 0.2, -0.3, -0.2, -0.1) \rangle \end{array} \right\}. \text{ Here } 1_{BSVN}, S^c, T^c, R, R^c \text{ are non-zero bipolar single valued}$$

neutrosophic pre-closed sets in (X, τ) . Then S^c, T^c are bipolar single valued neutrosophic pre-nowhere dense sets in (X, τ) . Then $BSVN \text{ pint}(T^c) = 0_{BSVN}$. Therefore it is a bipolar single valued neutrosophic pre-Baire space.

Proposition 4.17 If $BSVN \text{ pint}(\bigcup_{i=1}^{\infty} S_i) = 0_{BSVN}$, where $BSVN \text{ pint}(S_i) = 0_{BSVN}$ and S_i 's are BSVN pre-closed sets

in (X, τ) , then (X, τ) is a bipolar single valued neutrosophic pre-Baire space.

Proposition 4.18 If $BSVN \text{ pcl}(\bigcap_{i=1}^{\infty} S_i) = 1_{BSVN}$, where S_i 's are bipolar single valued neutrosophic pre-dense and

bipolar single valued neutrosophic pre-open sets in (X, τ) , then (X, τ) is a bipolar single valued neutrosophic pre-Baire Space.

Proposition 4.19 Let (X, τ) be a bipolar single valued neutrosophic topological space. Then the following are equivalent

- (i) (X, τ) is a bipolar single valued neutrosophic pre-Baire space.
- (ii) $BSVN \text{ pint}(S) = 0_{BSVN}$, for every bipolar single valued neutrosophic pre-first category set S in (X, τ) .
- (iii) $BSVN \text{ pcl}(T) = 1_{BSVN}$, for every bipolar single valued neutrosophic pre-residual set T in (X, τ) .

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INFLUENCE OF MULTICOMPONENT WATER EMULSIONS ON THE STRUCTURE OF COTTON FIBER

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ABSTRACT

The possibility of regulating the properties of cotton fibre from an early stage of its processing, that is, at the stage of separating the fibre from cotton, is always of great interest, but unfortunately, it is not carried out in the conditions of cotton ginning plants. The most important thing is to bring the moisture content to optimal values after drying it before ginning, that is, before separating the fibre from the seed. At the initial stage of research, a composition consisting only of surfactants was proposed to increase the moisture content of the fibre before boiling it. Initially, it was widespread to treat cotton fibre with various aqueous and non-aqueous compositions, both at the spinning stage and in the weaving or spinning stages. The purpose of this study was not only to increase the moisture content of the fibre, but also to improve its other characteristics by treating it with compositions consisting of a water-soluble polymer, polyhydric alcohol, and a surfactant dissolved in water.

KEYWORDS: cotton fibre processing, humidity value, water-soluble polymer, surfactants, multicomponent water emulsions.

INTRODUCTION

The actual issue of processing cotton fibre in the conditions of ginneries is bringing the moisture content of the fibre to the value required by the standard. Typically, for good ginning, the fibre is overdried and does not have time to reach the desired moisture value before boiling [1]. Several studies have been carried out that have revealed a positive effect on the properties of cotton fibre by treatment with a composition consisting of a water-soluble polymer, polyhydric alcohol and a surfactant (surfactant) dissolved in water [2-4]. In addition to increased moisture, they also increase other characteristics of the cotton fibre. Most often, a composition is proposed consisting of polyethylene glycol (PEG-115) as a water-soluble polymer, glycerol as polyhydric alcohol and sulpanol (sodium salt of alkyl aryl sulfonic acids) as a surfactant. To elucidate the mechanism for improving the technological properties of cotton fibre, it was interesting to elucidate the effect of individual components of the polymer solution on its structure. Therefore, at first, we studied the change in

mechanical properties, as well as the structure of the fibre during its processing with individual components and their mixtures (Table 1).

From the data in Table 1, it can be seen that the application of solutions of sulfanol, glycerol, or PEG-115 to the fibre separately does not contribute to a change in the tensile strength and elongation, as well as the coefficients of variation. The application of mixtures of the two components to the fibre also practically does not affect the mechanical and fatigue properties of the fibre. A slight improvement in these indicators can be observed only when the fibre is treated with a mixture of polymer and surfactants. In addition to studying the coefficients of variation for various mechanical properties, research has also been carried out to study the structure of processed fibres. At the same time, similar phenomena were observed. The presence on the fibre surface of solutions of individual components and their binary mixtures practically does not affect the heat of fibre wettability with water, sorption characteristics and porosity,



specific surface area, volume and average radius of pores (Table 2).

Therefore, in subsequent experiments, fibres of various grades treated with a three-component solution were tested. This solution consisted of PEG-1.5%, glycerol - 5.0% and sulfanol - 0.5% dissolved in 93% water. From the data in Table 3, it can be

seen that the application of these solutions to the fibre in all cases contributes to an increase in their tensile strength and this indicator is greater in cases where the fibre has a low grade. For example, for grade I fibre it is 0.4 cH (from 4.4 cH to 4.8 cH), grade II 0.5 cH (from 3.9 cH to 4.4 cH) and grades III 0.8 cH (from 3, 4 cH to 4.2 cH).

Table 1. Influence of the components of the solution on the mechanical properties of the second-grade fibre (the amount of solution in the fibre is 2.0-2.5%)

Composition of the solution	Breaking load, cH/vol.	Breaking elongation, %	Coefficient of variation, %		Stability, cycles	
			Breaking load	Breaking elongation	Multiple stretching	Multiple bending
The original	3.9	13.0	29.0	20.1	9840	9350
0.5% Sulfanol	3.8	13.0	29.5	20.8	9760	9400
5.0% glycerin	3.8	14.0	29.0	20.9	9600	9400
1.5% PEG-115	3.9	13.0	29.1	20.8	9850	9500
0.5% sulfanol 1.5% PEG-115	4.1	15.0	26.5	19.0	10300	10000
5.0% glycerin 1.5% PEG-115	3.9	14.0	28.0	20.3	10500	10100
5.0% glycerin 0.5% sulfanol	3.9	14.0	29.0	20.2	10800	9900

Table 2. Influence of the components of the solution on the structure of the fibre of the 2nd grade (the amount of solution in the fibre is 2.0-2.5%)

Solution composition	The heat of fibre wetting, cal/g	Sorptions of water vapour, at humidity		Specific surface, m ² /g	Total pore volume, cm ³ /g	Average pore radius, A
		65%	100%			
Original fiber	12.3	6.9	30.5	100.74	0.31	58
0.5% sulfanol	11.9	6.8	30.5	104.81	0.32	58
5.0% glycerin	12.4	6.9	30.7	104.9	0.31	58
1.5% PEG - 115	12.4	6.7	30.6	104.8	0.30	58
0.5% sulfanol and 1.5% PEG-115	12.0	6.8	29.5	100.7	0.28	49
5.0% glycerin and 1.5% PEG - 115	12.8	6.9	30.1	103.5	0.30	56
5.0% glycerin and 0.5% sulfanol	12.7	6.7	30.2	103.8	0.31	59

As has been shown, in previous works [2-5], polymer solutions applied to the fibre contribute to the partial

elimination of defects and defects on its surface and thereby improve the strength properties.



Table 3. Influence of emulsification (emulsion composition: 1.5% peg-115, 5.0% glycerin and 0.5% sulfanol) on the mechanical properties of various fiber types.

Variety	Characteristic	Breaking load, cH/vol.	Breaking elongation, %	The coefficient of variation, %		Cycle stability	
				Breaking load	Breaking elongation	Multiple stretching	Multiple bending
I	The original	4.4	10.0	26.5	20.5	10500	11400
	emulsifier	4.8	12.0	24.6	19.1	28900	14600
II	The original	3.9	13.0	29.0	20.1	9840	9350
	emulsifier	4.4	16.0	24.2	18.3	24700	12650
III	The original	3.4	6.2	27.7	22.3	8710	7800
	emulsifier	4.2	8.8	25.0	19.8	15840	11680

Table 4. Influence of emulsification (emulsion composition: 1.5% PEG-115, 5.0% glycerin and 0.5% sulfanol) on the structure of various fibers (the amount of solution is 2.0-2.5% by weight of the fiber).

Variety	Characteristic	The heat of wetting with water, cal/g	Sorption of water vapour, % at humidity		Specific surface m ² / g	Total pore volume, cm ³ /g	Average pore radius A
			65%	100%			
I	The original	11.8	6.5	28.5	100.5	0.29	55
	emulsifier	11.6	6.6	20.6	94.6	0.21	35
II	The original	12.3	6.9	30.5	104.74	0.31	58
	emulsifier	11.5	6.8	21.1	94.94	0.21	36
III	The original	12.5	6.9	30.9	100.70	0.34	61
	emulsifier	11.5	6.8	21.5	96.65	0.23	39

The data in Table 3 also confirm this assumption, since as the grade decreases, the number of defective fibres and defects on their surface increases. The application of the solution also reduces the tensile strength and elongation coefficient of variation of the fibre. Elimination of defects and defects in fibres of all grades will also make it possible to improve their fatigue properties. For example, if the tensile strength of the original fibres is from 8710 to 10500 cycles, then after processing this figure increases to 15800-28000 cycles.

The flexural strength of the fibres increases in a similar way. This trend is also observed when studying the indicators presented in Table 4. To determine the stability of the mechanical properties, cotton fibre treated with a mixture of polymer, glycerin and sulfanol was stored various times and

washed with hot water. Since all the components of the solution are slightly soluble in water, they were washed by extraction in Soxhlet apparatus for 24 hours and after drying at 90 °C -100 °C and storage under conditioned conditions and was tested. The storage of the fibre was carried out at 25-3 °C in a desiccator with an air humidity of 60% -70%.

From table 5 it can be seen that the indicators of the mechanical properties of both the original and the experimental fibre of all three grades are practically preserved. The fatigue (resistance to repeated stretching and bending) properties of all types of fibre remain constant.



Table 5. Stability of mechanical properties of emulsified (emulsion composition 1.5% peg-115, 5.0% glycerin and 1.5% sulfanol) fibres (average amount of emulsion 2.0-2.5% by weight of fibre).

Variety	Characteristic	Breaking load, cH/vol.	Breaking elongation, %	The coefficient of variation, %		Cycle stability	
				Breaking load	Breaking elongation	Multiple stretching	Multiple bending
I	The original	4.4	10.0	26.5	20.5	10500	11400
	Initial after washing	4.2	10.6	27.6	21.5	10000	10800
	Emulsified	4.8	12.0	24.6	19.1	28900	17650
	Emulsified after washing	4.7	12.6	24.8	19.3	28500	17400
II	The original	3.9	13.0	29.0	20.1	9840	9350
	Initial after washing	3.8	13.5	28.8	20.4	9900	9400
	Emulsified	4.4	16.0	24.2	18.3	24700	12650
	Emulsified after washing	4.3	15.8	24.6	19.1	21800	11450
III	The original	3.4	6.2	27.7	22.3	8710	7800
	Initial after washing	3.4	6.7	27.5	22.4	8800	7650
	Emulsified	4.2	8.8	25.0	19.8	15840	11680
	Emulsified after washing	4.1	8.5	25.4	19.9	15100	10600

After extraction with water, the structure of all types of fibres also does not change, as evidenced by the data in Table 6.

Table 6. Stability of the structure of emulsified (emulsion composition 1.5% peg-115, 5.0% glycerin and 0.5% sulfanol) fibres to water treatment (the amount of emulsion is 2.0-2.5% by weight of the fibre)

Variety	Characteristic	Heat wetted with water, cal/g	Sorptions of water vapour, % at humidity		Specific surface m ² /g	Total pore volume, cm ³ /g	Average pore radius A
			65%	100%			
I	The original	11.8	6.5	28.5	100.5	0.29	55
	Initial after washing	11.6	6.6	28.9	101.6	0.30	54
	Emulsified	11.6	6.6	20.6	94.6	0.21	35
	Emulsified after washing	11.8	6.8	20.9	95.1	0.22	38
II	The original	12.3	6.9	30.5	104.74	0.31	58
	Initial after washing	12.8	7.0	30.1	103.81	0.30	55



	Emulsified	11.5	6.8	21.1	94.94	0.21	36
	Emulsified after washing	11.6	6.7	20.8	95.04	0.22	38
III	The original	12.5	6.9	30.9	100.70	0.34	61
	Initial after washing	12.6	6.7	30.1	101.61	-	-
	Emulsified	11.5	6.8	21.5	96.65	0.29	39
	Emulsified after washing	11.9	7.0	20.9	94.74	0.30	41

Table 7. Stability of the indicators of the mechanical properties of the fibre during storage (25-30°C and 60-70% humidity).

Variety	Shelf life	Breaking load, cH/vol.	Breaking elongation, %	Coef. variations, %		Cycle stability	
				Differential load	Breaking elongation	Multiple stretching	Multiple bending
I	Original fiber	4.4	10.0	26.5	20.5	10500	11400
	6 months	4.3	10.1	26.0	20.4	10100	11000
	12 months	4.4	10.3	27.0	19.5	9800	11100
	24 months	4.4	9.8	26.6	20.0	10500	11200
	Emulsified fiber	4.8	12.0	24.6	19.1	28900	17650
	6 months	4.7	11.6	24.8	19.0	29100	17500
	12 months	4.9	11.5	25.1	19.8	28500	17600
	24 months	4.8	11.8	24.8	20.1	28600	17800
II	Original fiber	3.9	13.0	29.0	20.1	9840	9350
	6 months	3.8	12.5	28.5	20.5	10000	9500
	12 months	4.0	13.0	28.4	19.6	9900	9400
	24 months	3.9	12.8	28.0	19.9	10000	9200
	Emulsified fiber	4.4	16.0	24.2	18.3	24700	12650
	6 months	4.6	15.5	24.0	18.0	24000	12500
	12 months	4.5	15.0	25.0	19.0	23900	12000
	24 months	4.4	16.0	24.5	18.5	24500	12400
III	Original fiber	3.4	6,2	27.7	22.3	8710	7800
	6 months	3.4	6,2	27.7	22.3	8710	7800
	12 months	3,3	6,1	27.7	22.3	8620	7700
	24 months	3,3	6,1	27.7	22.3	8610	7670
	Emulsified fiber	4.2	8.8	25.0	19.8	15840	11680
	6 months	4.1	8.5	24.9	19.9	15700	11000
	12 months	4.0	9.0	25.5	19.5	15000	11400
	24 months	4.1	9.2	25.6	20.1	15500	11500

The sorption capacity, specific surface area, total pore volume and average pore radius of fibres treated with a solution of polymer, glycerol and sulfonol do not change after water treatment. The mechanical

properties of the original and processed fibres are also stable when stored for up to 12 months (Table 7).



CONCLUSION

Thus, a study of the mechanical properties and structure of fibres treated with individual components with their mixture showed that an improvement in property indicators is observed only in those cases when the fibre contains a mixture of polymer, glycerin and sulfanol solutions and such an improvement in properties is stable during storage and processing with hot water, i.e. ... after removing the applied solution of the components from the fibre composition. This fact once again confirms the assumption that a solution of polymers, glycerol and sulfanol contributes to an irreversible change in the structure of the fibre, mainly due to the elimination of defective areas and other damage on its surface.

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THE EFFECTS OF OUTCOME FROM HEALTH CARE EXPENDITURE IN INDIA: A TIME-SERIES ANALYSIS

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ABSTRACT

The effects of outcome from Health Care Expenditure in India: A Time-Series Analysis is the objective of this article with reveals that the level of health expenditure on various schemes and indicates is a little bit low. It can be suggested that some relevant measures need to be taken towards the improvement of the role of government for providing proper schemes related to the health sector and increments budgetary allocation at both national and states governments' level. Moreover in India, many more problems arise in government hospital scheduled at poor physical or health care facilities in medical supplies, ineffective leadership and faculty with staff problems. Regarding health care facilities in a private hospital, it is not there rather many modern facilities with proper staff working regularly are available. In view of the above, the present article analyses the trend and pattern of health care expenditure in India. This article carries some statistical methodologies for the analysis like regression and some statistical tests.

KEY WORDS: Health care Sector, Public & Private Healthcare Expenditure, Regression, Budgetary allocation.

INTRODUCTION

Health expenditure refers to the amount defrayed towards health care by the Central, State and Union Territory governments. It excludes expenditure by local bodies, public sector enterprises and autonomous and semi-autonomous institution. The different components of Despite the gradual stepping up of Union Budget allocation for Health & Family Welfare since 2005-06, Centre's expenditure on health still accounts for a very small magnitude as compared to the overall level of public spending on health recognized as necessary for the country. State Government In the government sector, the provision of health care is the responsibility of the State government. The states account for over 90 per cent of the aggregate health expenditure of central and state governments. Their share taken together spending has increased in the past years.

Involvement of the central government in states budget is confined mainly to family planning and

certainly centrally sponsored disease control programmes. National programme on control of leprosy, immunization scheme for children and ICDS are some of the examples of centrally sponsored schemes. But such uniformity is absent in the case of state's expenditure on their areas of responsibility such as medical relief, public health, medical education, water supply and sanitation and states own schemes in nutrition. The ability of the states to make a sufficient level of allocation of money to a different component of health depends on some factors. Thus, health is affected by a host of factors Infant Mortality Rate (IMR), Life Expectancy at Birth (LEB), Crude Death Rate (CDR), Crude Birth Rate (CBR), No. of Hospital Serving per '000 of population, No. of Hospital beds Serving per '000 of population Doctors serving per '000 of population, Literacy Rate and Sex Ratio. This chapter attempts to study the relations between major indicators of health status with Public health expenditure current prices. To analysis, the



relationship, simple regression has been applied by taking various health status indicators as a function of public health expenditure current prices (PHECP).

Hypothesis to be tested

Based on the problem statements, the objective of the study, the following Null hypotheses have been framed for empirical verification.

Hypothesis-1: Null hypothesis: - H_0 : Flow of health expenditure in India shows a positive trend over the period from 1992-2020.

Alternative hypothesis: - H_1 : Health expenditure in India is not increasing over the period from 1992-2020.

Hypothesis-2: Null hypothesis: - H_0 : There is no significant long-run relationship between health care expenditure at the current price and IMR.

Alternative hypothesis: - H_1 : There is a significant long-run relationship between health care expenditure at the current price and IMR.

If the p-value is more than 5% we cannot reject the null rather accept null and p-value less than 5 % only we can reject null and accept the alternative hypotheses in our model.

Health Care Expenditure in India (Served per '000 of the population)

Year-wise public health expenditure at the current price with health status in India has been shown in the following table.

Table-1 Health Care Expenditure in India (Served per '000 of the population)

Year	PHECP	Crude Death Rate	Crude Birth Rate	Life Expectancy at Birth	Literacy Rate	Infant Mortality Rate	Sex Ratio	Hospitals	Hospital beds	Doctors
1992	17.65	10.10	29.20	58.85	72.35	84.30	2.02	0.11	0.79	0.22
1993	17.88	9.30	28.70	59.35	72.85	82.20	1.97	0.12	1.00	0.48
1994	18.28	9.30	28.70	59.84	73.47	80.10	1.94	0.15	1.02	0.41
1995	18.68	9.00	28.30	60.32	73.85	78.00	1.92	0.17	1.04	0.46
1996	18.99	9.00	27.50	60.78	74.35	75.80	1.90	0.19	1.08	0.47
1997	20.25	8.90	27.20	61.23	74.95	73.60	1.87	0.25	1.10	0.49
1998	17.98	9.00	26.50	61.67	75.87	71.30	1.84	0.12	1.12	0.50
1999	20.98	8.70	26.10	62.09	75.96	69.00	1.81	0.11	1.14	0.51
2000	20.68	8.50	25.80	62.51	76.12	66.70	1.77	0.12	1.17	0.52
2001	18.87	8.40	25.40	62.91	76.43	64.40	1.73	0.15	1.18	0.53
2002	18.16	8.10	25.00	63.30	77.56	62.20	1.69	0.17	1.12	0.54
2003	18.71	8.00	24.80	63.70	78.58	60.00	1.65	0.12	0.90	0.56
2004	17.98	7.50	24.10	64.10	78.97	57.80	1.62	0.20	1.16	0.56
2005	20.12	7.60	23.80	64.50	80.68	55.70	1.58	0.23	1.29	0.57
2006	20.51	7.50	22.50	64.92	81.13	53.70	1.55	0.24	0.78	0.57
2007	20.89	7.40	22.10	65.35	81.98	51.60	1.51	0.27	0.79	0.59
2008	22.63	7.40	21.80	65.79	83.71	49.40	1.46	0.28	0.81	0.60
2009	25.61	7.30	21.60	66.24	84.25	47.30	1.41	0.23	0.86	0.61
2010	26.21	7.20	21.40	66.69	85.56	45.10	1.35	0.25	0.87	0.62
2011	28.87	7.10	21.00	67.13	86.14	43.00	1.29	0.11	0.99	0.66
2012	27.98	7.00	20.80	67.55	87.27	40.90	1.23	0.21	1.11	0.74
2013	23.07	7.00	20.40	67.93	87.69	38.80	1.18	0.11	1.22	0.70
2014	23.66	6.70	19.25	68.29	88.37	36.90	1.15	0.11	1.17	0.72
2015	25.64	6.50	18.94	68.61	88.45	34.90	1.12	0.30	1.05	0.72
2016	26.84	6.40	18.64	68.90	89.86	33.10	1.09	0.29	1.15	0.74
2017	27.13	6.44	18.33	69.17	90.46	31.40	1.06	0.30	0.53	0.76
2018	27.78	6.48	18.02	69.42	91.66	29.70	1.04	0.29	0.55	0.78
2019	28.52	6.58	17.81	69.12	91.89	28.30	1.02	0.35	0.82	0.86
2020	27.13	6.77	17.79	68.54	91.94	27.38	1.00	0.37	1.18	0.98
Mean	22.33	7.76	23.15	64.79	81.81	54.23	1.51	0.20	1.00	0.60
SD	3.92	1.05	3.71	3.35	6.57	17.91	0.34	0.08	0.19	0.15
CV	17.55	13.55	16.04	5.18	8.03	33.03	22.21	39.27	19.46	24.96

Source: World Bank Database



Table-1 the above table indicates the health care expenditure and status. It is visible the PHECP is increasing in trend from 1992 to 1997 after this it has been decreased for one year again increasing up to 2000. From 2002 to 2004 decreasing trend then after it is in the increasing trend up to 2012. After 2012 suddenly decreasing is there for one year. After 2013 the increasing trend is there up to 2020.

To identify and isolate the factors which were responsible for variations in health status and public health expenditure at current prices. The regression analysis has been applied to determine the relative contribution of different explanatory variables on the dependent variable. The results of regression between indicators at dependent variable and public health expenditure at current prices (PHECP) as the independent variable for the year 1992 to 2020 as for the following regression equations.

Methodology

Following techniques were applied to analyze the data for achieving the desired objective. These techniques are discussed below: it is a statistical measure of the dispersion of data points in a data series around mean. It is calculated as under $CV = SD / \text{Expected returns (Mean)}$. It represented the ratio of the standard deviation to mean and it is a useful statistic for comparing the degree of Variation from one data series to another, even if the means drastically different from each other. In this analysis CV was calculated for measuring was found out. To identify and isolate the factors which were responsible for annual variations in health status and public health expenditure at current prices. The simple regression analysis has been applied to determine the relative contribution of different explanatory variables on the dependent variable and public health expenditure at current prices (PHECP) as the independent variable for the year 1992 to 2020 are given in the following regression equations.

Data and definition of variables

In the present chapter, an annual time series dataset covering the period 1992 to 2020 have been used. The choice of this period is based on data availability. The study sourced data from the World Bank database and regarding health status indicators and public health expenditure in India.

The features or characteristics of the best regression Model

- High R square value
- No serial Correlation in the residual
- No Heteroskedasticity in the residual

- Residuals are normally distributed

During the time of applying the model, all null hypotheses should be rejected to be a better model.

Model Specification and Data Analysis

Sex ratio is defined as the number of females per 1000 males in the population and is an important social indicator to measure the extent of prevailing equity between males and females in a society at a given point in time. Sex Ratio defined as the number of females per 1000 males in the 0-6 age group is a very vital indicator to check the abnormalities which are leading to an imbalanced sex ratio. If the sex ratio is improved only at birth then it would surely lead to an increase in the overall sex ratio. Sex ratio in the country has shown a declining trend since Census 1991. Sex ratio at country level was 945 in 1991, 927 in 2001 and has now declined to 919 in Census 2011.

Sex Ratio

Sex ratio, defined, as the number of females per thousand males, is an important health status indicator to measure the extent of prevailing equality between males and females in a society at a given point in time. The sex ratio in the country had always remained unfavourable to females. It was 940 in 2011. In 2020, the sex ratio of the total population in India is 108.18 males per 100 females. There are 717.10 million males and 662.90 million females in India. The percentage of the female population is 48.04 per cent compared to 51.96 per cent male population. India has the highest numbers of exceeding the males' population of 54.20 million. India is at 189th position out of 201 countries/territories in terms of female to male ratio. In India, the male to female ratio has increased from 104.40 in 1950 to a peak value of 108.47 in 2008. This ratio is projected to decline at 103.36 in 2092. As per Census 2011, the Gender ratio of India is 943 females per 1000 males. India's Sex Ratio had improved by number 10 from 933 in 2001 to 943 in 2011. The Sex ratio has improved by numbers 3 and 29, respectively. In 1901, India had the highest sex ratio of 972.

A simple regression model of health status (i.e., sex ratio) is presented as follows:

$$SR = \alpha + \beta \text{ PHECP} + \epsilon \quad (1.1)$$

Whereas Sex ratio (SR) is the dependent variable of health status, Public health expenditure at the current price (PHECP) is a vector of independent variables influencing health status, α is intercept and β is a vector coefficient of the independent variables. ϵ is the error term that is assumed to be normally distributed with zero mean and constant variance. The operational Regression model is specified Estimation Equation below:



$$SR = \alpha (3.21) + \beta (-0.08) * PHECP + \epsilon \quad (1.2)$$

The ordinary least squares regression was used to examine the effect of public health expenditure at the current price on sex ratio while controlling other health correlates. The overall model was good since the p-value for the F-statistic was 0.00. This implies that at least one of the regression coefficients was not equal to Zero.

Infant Mortality Rate

The infant mortality rate is the number of deaths of children under one year of age per 1,000 live births. This rate is an important health status indicator for a country's health and standard of living; a low infant mortality rate indicates a high standard of healthcare. Causes of infant mortality include premature birth, sepsis or meningitis, sudden infant death syndrome, and pneumonia. Globally, the infant mortality rate has shrunk from 63 infant deaths per 1,000 live births to 27 since 1990 and is forecast to drop to 8 infant deaths per 1,000 live births by the year 2100. In 2019, the infant mortality rate in India was at about 28.3 deaths per 1,000 live births, a significant decrease from previous years.

A simple regression model of health status (i.e., Infant Mortality Rate) is presented as follows:

$$IMR = \alpha + \beta PHECP + \epsilon \quad (2.1)$$

The regression model is specified Estimation Equation with Substituted Coefficients below:

$$IMR = \alpha (143.5) + \beta (-4.00) * PHECP \quad (2.2)$$

Life Expectancy at Birth

The statistic shows the life expectancy at birth in India from 1992 to 2020. The average life expectancy at birth in India in 2020 was 69.27 years. Additionally, the total population of India has been steadily increasing. Regarding life expectancy, India is neither among the countries with the highest nor among those with the lowest life expectancy at birth. The majority of the Indian population is aged between 15 and 64 years, with only about 5 per cent being older than 64. Life expectancy in India was 69.27 in the year 2020, and over the next 220 years, it has increased to almost 70. Between 1992 and 2020, life expectancy in India remained in the mid to low twenties, with the largest declines coming in the 1990s and 2020s; both of which were responsible for the deaths of up to six and seventeen million Indians respectively; From 1920 onwards, India's life expectancy has consistently increased, but it is still below the global average.

A simple regression model of health status (i.e., Life Expectancy at Birth) is presented as follows:

$$LEB = \alpha + \beta PHECP + \epsilon \quad (3.1)$$

The regression model is specified Estimation Equation with Substituted Coefficients below:

Life Expectancy at Birth =

$$\alpha (48.08) + \beta (0.75) * PHECP + \epsilon \quad (3.2)$$

Crude Death Rate

The statistic shows the death rate in India from 1992 to 2020. In 2020, there were about 7.3 deaths per 1,000 inhabitants in India. In 2020, the crude death rate for India was 7.3 deaths per thousand populations. Over the last 50 years, the crude death rate of India was declining at a moderate rate to shrink from 16.73 deaths per thousand populations in 1971 to 7.19 deaths per thousand populations in 2020. The crude death rate (per 1,000 people) in India was reported at 7.23 % in 2018, according to the World Bank collection of development database indicators.

A simple regression model of health status (i.e., Crude Death Rate) is presented as follows:

$$CDR = \alpha + \beta PHECP + \epsilon \quad (4.1)$$

The regression model is specified Estimation Equation with Substituted Coefficients below:

$$Crude Death Rate = \alpha (12.70) + \beta (-0.22) * PHECP + \epsilon \quad (4.2)$$

Crude Birth Rate

The birth rate for India in 2020 was 17.59 births per 1000 people, a 1.2 % decline from 2019. The birth rate for India in 2019 was 17.81 births per 1000 people, a 1.19% decline from 2018. The current birth rate for India in 2021 is 17.38 births per 1000 people, a 1.22 % decline from 2020. The birth rate for India in 2020 was 17.59 births per 1000 people, a 1.2 % decline from 2019. The birth rate for India in 2019 was 17.81 births per 1000 people, a 1.19 % decline from 2018. The birth rate for India in 2018 was 18.02 births per 1000 people, a 1.68 % decline from 2017. In 2020, the crude birth rate for India was 17.44 births per thousand populations. The crude birth rate of India fell gradually from 38.82 births per thousand populations in 1971 to 17.44 births per thousand populations in 2020.

A simple regression model of health status (i.e., Crude Birth Rate) is presented as follows:

$$CBR = \alpha + \beta PHECP + \epsilon \quad (5.1)$$

The regression model is specified Estimation Equation with Substituted Coefficients below:

$$Crude Birth Rate = \alpha (41.60) + \beta (-0.83) * PHECP + \epsilon \quad (5.2)$$

Hospitals Served Per '000 population

A major problem with planning for the provision of medical facilities is the paucity of specific data, especially on private hospitals. Available data on government hospitals have been used here but it is clear even from basic research that it does not provide a true picture of the quality or quantity of health care in the country," the survey report said. In India, there were an estimated 69 thousand public and private sector



hospitals in 2019, with the northern state of Uttar Pradesh possessing much more hospitals. By a large margin, private hospitals exceed the number public hospitals.

A simple regression model of health status (i.e., Hospital Served Per '000 people) is presented as follows:

$$\text{HOSP} = \alpha + \beta \text{PHECP} + \epsilon \quad (6.1)$$

The regression model is specified Estimation Equation with Substituted Coefficients below:

$$\text{Hospital Served Per '000 people} = \alpha (-0.06) + \beta (0.01) * \text{PHECP} + \epsilon \quad (6.2)$$

Hospital Beds Served Per '000 population

Government supplementary hospitals have a larger bed capacity (over 500), while bed capacity in all private facilities surveyed is between 200 and 500. It was also found that the bed occupancy rate in government hospitals is very high (over 85%). Depending on the season, occupancy varies, but during the winter, it stays on the lower side. During the summer monsoon season, however, and especially during outbreaks of malaria, dengue fever, and other diseases, the occupancy rate in general and medicine wards will exceed 200 per cent. The average occupancy rate in private hospitals ranges between 50-100 per cent. Government hospitals cater to a large section of lower-income group people. Many of them are covered under medical plans for the centre and state government workers. They also support critical patients from a range of socioeconomic backgrounds and nations. Private hospitals, on the other hand, charge a premium on their facilities. This brings a lot of pressure on government referral hospitals. The following table provides bed availability and bed occupancy rates of various referral hospitals sampled.

A simple regression model of health status (i.e., Hospital Beds Served Per '000 Peoples) is presented as follows:

$$\text{BEDS} = \alpha + \beta \text{PHECP} + \epsilon \quad (7.1)$$

The regression model is specified Estimation Equation with Substituted Coefficients below:

$$\text{Hospital Beds Served Per '000 Peoples} = \alpha (1.33) + \beta (-0.01) * \text{PHECP} + \epsilon \quad (7.2)$$

Doctors Served Per '000 Population

An important indicator of health status is Doctors serving per '000 of population. To find out the increase in the number of doctors per '000 of the population served, the simple average growth rates have been worked out for all the three respective periods of the study. An increase in its growth rate signifies a better position of health services.

A simple regression model of health status (i.e., Doctors Served Per '000 people) is presented as follows:

$$\text{DRS} = \alpha + \beta \text{PHECP} + \epsilon \quad (8.1)$$

The regression model is specified Estimation Equation with Substituted Coefficients below:

$$\text{Doctors Served Per '000 people} = \alpha (-0.10) + \beta (0.03) * \text{PHECP} + \epsilon \quad (8.2)$$

Literacy Rate

Literacy is identified as anyone who can read and write in any language with understanding at the age of seven, according to census 2011. Literacy is defined as the ability to read but not write. Before 1991, children as young as five were automatically classified as illiterates in censuses. According to the results of the 2011 census, the country's literacy rate has increased. The country's literacy rate is 74.04 per cent, with males achieving 82.14 and females ranking 65.46. The literacy rate is defined as the percentage of people aged 15 and up who can read and write a brief, clear statement about their regular lifestyle. The literacy rate in India in 2018 was 74.37 per cent, rising 5.07 per cent from 2011. The literacy rate in India in 2011 was 69.30 per cent, rising 6.55 per cent from 2006. In 2006, India's literacy rate was 62.75 per cent, rising 1.74 per cent from 2001. The literacy rate in India in 2001 was 61.01 per cent, rising 12.79 per cent from 1991.

A simple regression model of health status (i.e., Literacy Rate) is presented as follows:

$$\text{LIT} = \alpha + \beta \text{PHECP} + \epsilon \quad (9.1)$$

The regression model is specified Estimation Equation with Substituted Coefficients below:

$$\text{Literacy Rate} = \alpha (47.92) + \beta (1.52) * \text{PHECP} + \epsilon \quad (9.2)$$



The effect of Public Health Expenditure on Health status annual basis in India

Table-2 Regression Model Results (1992 to 2020)

Independent Variables ↓	Constant	Regression Coefficient	R-squared (Goodness of Fit)	F- statistic	Prob. (F-statistic)	t- statistic
Sex ratio	1.57 1.02	38.07 -10.43	0.79	104.62	0.00	24.18 -10.23
IMR	1.16 0.02	32.73 -0.19	0.77	87.70	0.00	28.24 -9.43
LEB	7.08 0.11	-43.88 1.02	87.70	0.76	0.00	-6.20 9.37
CDR	3.19 0.41	46.14 -3.07	0.68	56.61	0.00	14.45 -7.52
CBR	2.33 0.10	43.65 -0.92	0.76	85.76	0.00	18.73 -9.26
Hospitals	1.69 7.73	16.64 27.89	0.33	13.01	0.00	9.83 3.61
Hospital Beds	3.77 3.71	28.28 -5.94	0.09	2.57	0.12	7.50 -1.60
Doctors	4.00 0.05	9.37 21.52	0.68	57.77	0.00	5.33 7.60
Literacy	4.00 0.05	-21.84 0.54	0.82	122.49	0.00	-5.46 11.07

Source: Computed by Author Using E-views Software

The above table-2 shows the effect of the dependent variable PHECP on all remain variables. It is visible that the dependent variable which is affected on all variables except one that is hospital beds per 1000 people. Because of hospital beds per 1000 people, remain all variables are having significant values that are less than 5%. These are the parameters in my model where regressions do not have intercepted. Residual

standard error is 1.57 on 29 observation of freedom R-squared is 0.794858, F-statistic is 104.62 and t-statistic is 24.17 to -10.22 due to p-value is 0.0% in sex ratio.

These are the coefficients of my parameters. The average value for dependent when independent equal to zero. This interpretation changes for categorical variables and some variable transformations.

Group Estimation of the Regression Model

Table-3 Estimates of the Least Squares Impact of Health Status on Dependent Variable: Public Health Expenditure (1992-2020)

Independent Variable ↓	Coefficient	Std. Error	t-Statistic	Prob.
Constant (C)	-446.22	168.04	-2.66	0.02
Sex Ratio	12.39	17.82	0.70	0.50
Infant Mortality Rate	0.48	0.45	1.08	0.29
Life Expectancy at Birth	3.81	1.93	1.97	0.06
Crude Death Rate	3.13	2.34	1.34	0.20
Crude Birth Rate	1.19	1.34	0.89	0.38
Hospitals Served per '000 People	5.01	7.08	0.71	0.49
Hospital Beds Served per '000 people	-0.79	2.19	-0.36	0.72
Doctors Served per '000 people	9.23	7.91	1.17	0.26
Literacy Rate	1.46	0.81	1.80	0.09
R-squared	0.88	Mean dependent variable		22.33
Adjusted R-squared	0.82	S.D. dependent variable		3.92
S.E. of regression	1.64	Akaike info criterion		4.10
Sum squared resid	51.27	Schwarz criterion		4.57
Log likelihood	-49.41	Hannan-Quinn criterion		4.24
F-statistic	15.61	Durbin-Watson statistic	1.65	
Prob (F-statistic)	0.00	Included observations: 29		

Source: Computed by Author Using E-views Software



In this model, public health expenditure in the current price is the dependent variable and health care status is the independent variable. Here the components of health status are Sex Ratio, Infant Mortality Rate, Life Expectancy at Birth, Crude Death Rate, Crude Birth Rate, Hospitals Served per '000 People, Hospital Beds Served per '000 people, Doctors Served per '000 people, and Literacy Rate. If the sex ratio increase by 1 unit then the public health expenditure in the current price increases by 12.39 % units keeping other factors remain constant. If IMR decreases by 1 unit then the public health expenditure in the current price is 0.48 % units keeping other factors remain constant. Every model having the chances of error with their coefficient (prob. value) is 0.01 %. Before the interpreted criteria will be high and low. The level of call is the significance with the mostly 5% is considered. If the p-value is greater than 5% or 0.05 it means chances are high and we will not consider the regression result for a

particular variable. And if a chance of error or prob. value is less than 5% or 0.05 it means regression results are considerable and the variable is significant.

So, if t-Statistic is calculated with t tabulated, where, if t-calculated is greater than t-tabulated it means reject H_0 and variable is significant. F-Statistic shows the combined effect on all independent variable on a dependent variable on the dependent variable. If probabilistic Statistics is greater than 5% or 0.05 it means the combined effect is significant or considerable. The Prob. (F-statistic) is 0.000001 is less than 5% there is a significant variable of the dependent variable and independent variable. R-squared and Adjusted R-squared are forecasting this is the exploratory forecasting power of the model so both are near to 1% the value is near zero to 1 it means 0.88 and 0.82%. Independent variables will forecast the 88.08 per cent true value of a dependent variable.

Table-4 Residual Check-in Regression Model

Year	Actual	Fitted	Residual
1992	17.65	17.40	0.25
1993	17.88	17.59	0.29
1994	18.28	18.47	-0.19
1995	18.68	18.72	-0.04
1996	18.99	19.11	-0.12
1997	20.25	20.06	0.19
1998	17.98	20.51	-2.53
1999	20.98	19.37	1.61
2000	20.68	18.74	1.94
2001	18.87	18.55	0.32
2002	18.16	18.96	-0.80
2003	18.71	19.97	-1.26
2004	17.98	18.43	-0.45
2005	20.12	21.04	-0.92
2006	20.51	20.55	-0.04
2007	20.89	21.46	-0.57
2008	22.63	23.76	-1.13
2009	25.61	23.88	1.73
2010	26.21	25.34	0.87
2011	28.87	24.89	3.98
2012	27.98	26.98	1.00
2013	23.07	25.97	-2.90
2014	23.66	24.95	-1.29
2015	25.64	25.02	0.62
2016	26.84	26.33	0.51
2017	27.13	27.52	-0.39
2018	27.78	29.04	-1.26
2019	28.52	28.20	0.32
2020	27.13	26.87	0.26

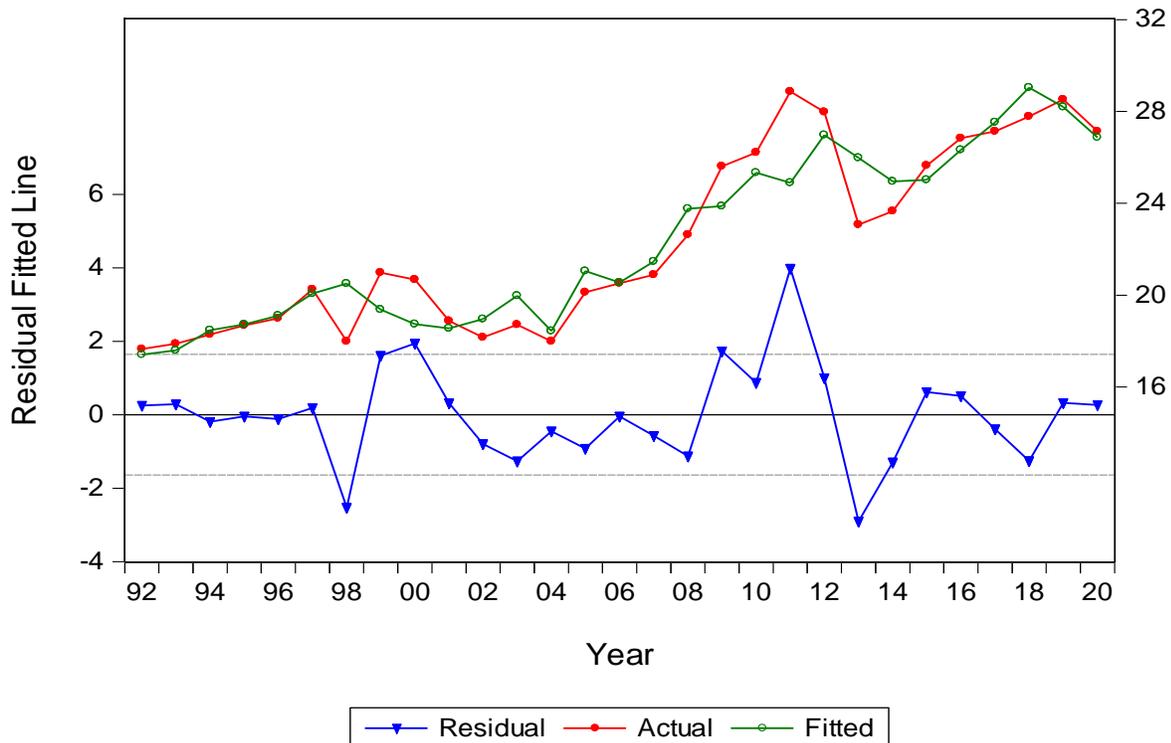
Source: Computed by Author Using E-views Software



The above table shows that Table-4 Residual Check-in Regression Model. Here the year from 1992-2020 has been shown regarding residuals. Moreover, the

residuals are deviating to both the side, like towards positive and negative also. In total, they become zero if we add them.

Figure-1 Residual Check-in Regression Model Trend Line



Source: Computed by Author Using E-views Software

Figure-1 shows the trend line of checking the residuals in the regression model. Where the blue line shows the residuals and the red line shows the actual values of the coefficient and the black line shows the fitted value of the coefficient. Here the deviation is not huge but a little bit of deviation is there in this model. The residual line of PHECP. Here also the deviation is a little bit less. But still in between fluctuation is there.

Residual serial correlated or not

However, the diagnostic test for the Least-squares estimates revealed some shortfalls. Thus, there were the presences of serial correlation as shows by the LM test while no Heteroskedasticity was found. While the Breusch-Pagan-Geoffrey (BPG) test could not reject the null hypothesis of no Heteroskedasticity (F-statistic = 2.01, p-value = 0.16, Obs*R-squared = 5.55 and p-value Chi-Square = 0.06).

Table-5 Breusch-Godfrey Serial Correlation LM Test due to Dependent Variable: Residual Least Squares (1992-2020)

F-statistic	2.01	Prob. F(2,17)	0.16
Obs*R-squared	5.55	Prob. Chi-Square(2)	0.06
Pre sample missing value lagged residuals set to zero.			
Independent Variable ↓	Coefficient	Std. Error	t-Statistic
Constant (C)	10.43	173.82	0.06
Sex Ratio	0.80	17.02	0.05
Infant Mortality Rate	-0.04	0.43	-0.10
			0.92



Life Expectancy at Birth	-0.22	2.01	-0.11	0.92
Crude Death Rate	-0.20	2.37	-0.08	0.93
Crude Birth Rate	0.08	1.49	0.05	0.96
Hospitals Served Per '000 population	-7.64	7.74	-0.99	0.34
Hospital Beds Served Per '000 population	-0.95	2.17	-0.44	0.67
Doctors Served Per average population	1.36	7.75	0.18	0.86
Literacy Rate	0.07	0.77	0.09	0.93
RESID (-1)	0.26	0.27	0.99	0.34
RESID (-2)	-0.51	0.29	-1.75	0.10
R-squared	0.19	Mean dependent variable		1.96
Adjusted R-squared	-0.33	S.D. dependent variable		1.35
S.E. of regression	1.56	Akaike info criterion		4.02
Sum squared residual	41.45	Schwarz criterion		4.59
Log likelihood	-46.33	Hannan-Quinn criterion		4.20
F-statistic	0.37	Durbin-Watson statistic		2.35
Probability (F-statistic)	0.95	Included observations: 29		

Source: Computed by Author Using E-views Software

The LM test rejected the null hypothesis of no serial correlation ($F=0.37$, p -value= 0.95, Prob. (F-statistic) thus, the serial correlation was present in the residuals whereas Heteroskedasticity was absent. P -value is 0.06 it is more than 5% so meaning that is not reject the null hypothesis rather we accept the null hypothesis. The null hypo is residual is serial not correlated this model is not serial correlated this not correlated.

Residual is Heteroskedasticity or not

The normality test also suggests that the variables were distributed normally since the null hypothesis of normal distributed could not be rejected (Jacque-Bera = 3.74; $p = 0.15$). As already indicated, the presence of serial correlation necessitated the use of Heteroskedasticity Test: Breusch-Pagan-Godfrey estimator to remedy the serial correlation problem (below table-6)

Table-6 Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.73	Prob. F(9,19)	0.03
Obs*R-squared	16.34	Prob. Chi-Square(9)	0.06
Scaled explained SS	12.22	Prob. Chi-Square(9)	0.20
Method: Least Squares of Dependent Variable: RESID^2			
Independent Variable ↓	Coefficient	Std. Error	t-Statistic
Constant (C)	-433.12	275.55	-1.57
Sex Ratio	55.68	29.22	1.91
Infant Mortality Rate	-0.25	0.73	-0.34
Life Expectancy at Birth	2.37	3.17	0.75
Crude Death Rate	2.38	3.83	0.62
Crude Birth Rate	0.98	2.19	0.44
Hospitals Served Per '000 population	-38.02	11.61	-3.27
Hospital Beds Served '000 population	1.22	3.59	0.34
Doctors Served Per average people	7.40	12.97	0.57
Literacy Rate	2.10	1.33	1.58
R-squared	0.56	Mean dependent variable	1.77
Adjusted R-squared	0.36	S.D. dependent variable	3.36
S.E. of regression	2.69	Akaike info criterion	5.09
Sum squared residual	137.84	Schwarz criterion	5.56
Log likelihood	-63.75	Hannan-Quinn criterion	5.23
F-statistic	2.73	Durbin-Watson statistic	3.02
Probability (F-statistic)	0.03	Included observations: 29	

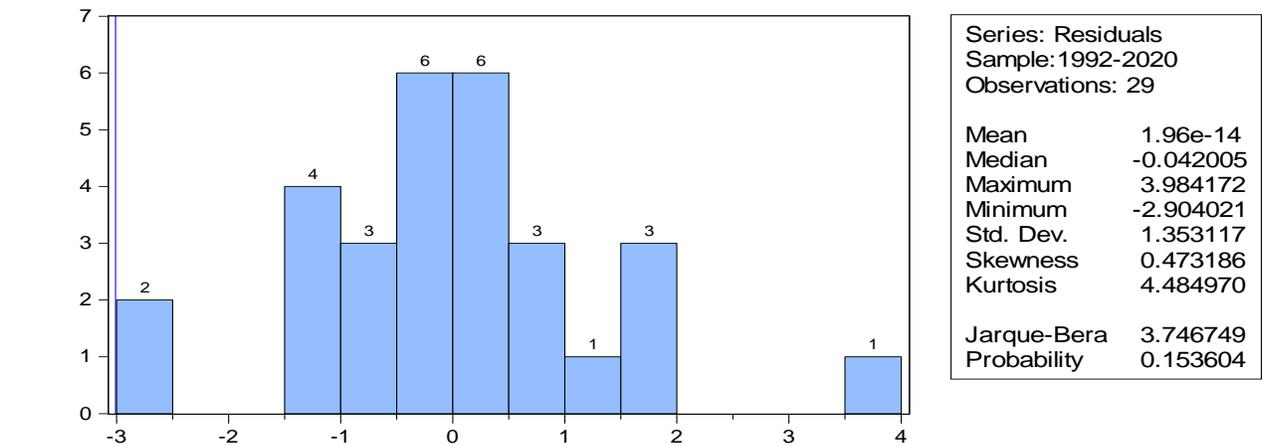
Source: Computed by Author Using E-views Software



Further, the diagnostics revealed some degree of multicollinearity among the variables as shown by the correlation matrix of the estimated coefficients. Heteroskedasticity Test: Breusch-Pagan-Godfrey is obs. R-square and corresponding p-value is 0.06 % which is more than 5% meaning that cannot reject the

null hypothesis rather than accept the null hypothesis. The null hypothesis is residual is not Heteroskedasticity meaning that is homo sadistic. Because this model residual not rather we are happy about the model. Because we could not reject the null hypothesis residual is not Heteroskedasticity.

Figure-2 Normality Test of Residual should normally distribute good regression model



Source: Computed by Author Using E-views Software

Here, the value of Jarque-Bera is 3.74% and the p-value is 0.15% which is more than 5%. Hence we cannot reject H_0 rather we accept the null hypothesis. Means residual is normally distributed. So overall the model is a good fit.

$$PHECP = C(1) + C(2)*SR + C(3)*CBR + C(4)*CDR + C(5)*Doctors Served Per Average people + C(6)*Hospital Beds Served Per '000 people + C(7)*Hospitals Served Per Average population + C(8)*IMR + C(9)*LEB + C(10)*LR \dots\dots (10.1)$$

The regression model has specified Substituted Coefficients:

$$PHECP = -446.22 + 12.39*SR + 1.19*CBR + 3.13*CDR + 9.23* Doctors Served per Average people - 0.79* Hospital Beds Served Per '000 people + 5.01* Hospitals Served per Average population + 0.48*IMR + 3.81*LEB + 1.46*LR \dots\dots (10.2)$$

Table-7 Public Health Expenditure at Current Prices in India

Dependent Variable: PHECP				
Method: Least Squares				
Sample: 1992-2020				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-446.22	168.04	-2.66	0.02
Sex Ratio	12.39	17.82	0.70	0.50
Crude Birth Rate	1.19	1.34	0.89	0.38
Crude Death Rate	3.13	2.34	1.34	0.20
Doctors Served Per Average people	9.23	7.91	1.17	0.26
Hospital Beds Served Per '000 people	-0.79	2.19	-0.36	0.72
Hospitals Served Per Average people	5.01	7.08	0.71	0.49
Infant Mortality Rate	0.48	0.45	1.08	0.29
Life Expectancy at Birth	3.81	1.93	1.97	0.06



Literacy Rate	1.46	0.81	1.80	0.09
R-squared	0.88	Mean dependent var		22.33
Adjusted R-squared	0.82	S.D. dependent var		3.92
S.E. of regression	1.64	Akaike info criterion		4.10
Sum squared residual	51.27	Schwarz criterion		4.57
Log-likelihood	-49.41	Hannan-Quinn criter.		4.24
F-statistic	15.61	Durbin-Watson stat		1.65
Probability (F-statistic)	0.00	Included observations: 29		

Source: Computed by Author Using E-views Software

Table-8 Summary Regression Statistic's of the Effect of Public Health Expenditure with Current Price on Health Status

Variables	Coefficient	Standard Error	t-value	Probability
Residual is Serial Correlated and Heteroskedasticity or not				
Constant (C)	10.43	173.82	0.06	0.95
	-433.12	275.55	-1.57	0.13
Sex Ratio	0.80	17.02	0.05	0.96
	55.68	29.22	1.91	0.07
Infant Mortality Rate	-0.04	0.43	-0.10	0.92
	-0.25	0.73	-0.34	0.74
Life Expectancy at Birth	-0.22	2.01	-0.11	0.92
	2.37	3.17	0.75	0.46
Crude Death Rate	-0.20	2.37	-0.08	0.93
	2.38	3.83	0.62	0.54
Crude Birth Rate	0.08	1.49	0.05	0.96
	0.98	2.19	0.44	0.66
Hospitals Served Per '000 people	-7.64	7.74	-0.99	0.34
	-38.02	11.61	-3.27	0.00
Hospital Beds Served Per '000 people	-0.95	2.17	-0.44	0.67
	1.22	3.59	0.34	0.74
Doctors Served Per '000 people	1.36	7.75	0.18	0.86
	7.40	12.97	0.57	0.58
Literacy Rate	0.07	0.77	0.09	0.93
	2.10	1.33	1.58	0.13

Source: Author own Estimation. (Note: *represent 10% level of significance, while **stands for 5% level of significance)

Residual shall be checking Jarque-Bera and probability how much p value is 0.15% is the more than 5% so we cannot null hypothesis. The null hypothesis is residual are normality distributed here p-value is more than 5% so we cannot the reject null hypothesis rather than accept the null hypothesis. Residual are normal distribution the serial are normal distribution.

Empirical Result

The number of the equation was first estimated with the ordinary least squares (OLS) techniques. However, because of the possibility of reverse causality or joint determination of health status and public health expenditure, it was re-estimated using the two-stage least squares (2SLS) method. The result of the OLS is presented and discussed first and this is compared with that of the 2SLS.

Ordinary Least Squares (OLS) Regression: Factors affecting Health care Status

Table-9 below contains the estimates for the OLS model of calculation of the number of equations. The first column under each of the Sex ratios is the result of the simple version of equation-10.1 (3.21), which does contain the Health status variable, is significant. The result of the simple version for IMR indicates that there is a negative relationship between PHECP, which is in line with theoretical expectation, the coefficient of health status is however significant. Although the coefficient of health expenditure is significant, it carries the right sign. The two variable included in the model explains (3.21%) and (0.79%) of the variation in infant mortality rate.



Table-9 Ordinary Least Squares Regression Results

Dependent Variables →	Public Health Expenditure with Current Price on Health Status								
Independent Variables Significant Variables ↓	Eq.1.1.1	Eq.2.1.1	Eq.3.1.1	Eq.4.1.1	Eq.5.1.1	Eq.6.1.1	Eq.7.1.1	Eq.8.1.1	Eq.9.1.1
Sex Ratio	3.21 (0.00)								
Infant Mortality Rate		-4.00 (0.00)							
Life Expectancy at Birth			0.75 (0.00)						
Crude Death Rate				-0.22 (0.00)					
Crude Birth Rate					-0.83 (0.00)				
Hospitals Served Per '000 people						0.30 (0.45)			
Hospital Beds Served Per '000 people							-0.01 (0.12)		
Doctors Served Per '000 people								0.03 (0.28)	
Literacy Rate									1.52 (0.00)
Constant (C)	3.21	143.58	48.08	12.70	41.60	-0.06	1.33	-0.10	47.92
Adjusted R-squared	0.79	0.76	0.76	0.68	0.75	0.30	0.05	0.67	0.82

Source: Authors' Computation

Above the table, we bring in the issue of efficacious public health expenditure at current prices. To do this, we interacted with PHECP and also include the regressors to capture the direct effect of health status. This result is presented in the five, six and seven-column as mentioned earlier. For the hospital, Beds and Doctors have the expected sign but its coefficient is insignificant. Health expenditure in this version is significant and in the right direction contrary to what obtains under the simple version. The coefficient of health expenditure indicates that a negative per cent increase in PHECP is associated with a negative reduction in CDR, CBR, IMR but the coefficient is significant. The OLS results presented above is based on the assumption that health expenditure is exogenous.

It has been noted by the earlier researcher that both public health expenditure and health status could jointly be determined. There is also the possibility of reverse causation.

Limitation of the study

Any Econometric study will have many limitations, even when the models are rigorously specified. Our study also may suffer from such limitations which are mentioned below.

1. There may be some important independent variables that are not included in the model, which may deprive the model of its practical significance.
2. The models are selected in this study based on the statistical criterion of explanatory power. Some models



having higher explanatory power may not have sound theoretical underpinning.

3. The conclusion derived only for the Indian context for the particular reference period 1992 to 2020. Therefore generalizations based on the conclusions derived here may not be valid for the other countries or the other period.

Findings

Concerning the Dependent Variable of public Health expenditure at Current Prices (PHECP) incurred on independent variables of health care Status in India, the analysis reveals the following important findings: Estimates of the Least Squares Regression Result of the Effect of Public Health Expenditure on Sex Ratio (1992-2020). The public health expenditure at current prices in the country, irrespective of Sex ratio has decreased gradually over the period from 1992 to 2020 with a PHECP of 17.55 per cent Coefficient of Variation and with Sex ratio growth rate of 1.51 per cent. Estimates of the Least Squares impact of Public Health Expenditure on Infant Mortality Rate (1992-2020) Under IMR and Public Health expenditure at current prices, public Health expenditure has seen an increase from Rs. 17.65 crore in 1992 to that of Rs. 27.13 crore in the year 2020. Under Family welfare, the public health expenditure has increased from Rs.22.33 crore in 2000-01 to that of Rs. 8859.55 crore in the year 2010-11.

The percentage of public expenditure incurred on health to the total public expenditure incurred in the country has more or less remained stagnant during the period 2000-01 to 2010-11. On average, it remained at 0.39 per cent. The per capita public expenditure on the health sector in India increased from Rs.24.26 in 2000-01 to Rs.157.18 during the year 2010-11. On average, the per capita expenditure on the health sector in India remained at Rs.72.35. There was a slight increase in the percentage share of health expenditure to the total expenditure on social services. It increased from 13.65 per cent in 2000-01 to that of 14.46 per cent during the year 2010-11. The percentage share of health expenditure constituted around 0.13 per cent of the GDP of the country in 2000-01. It saw a mere increase of 0.13 per cent during the year 2010-11. Besides this revealing trend, The Government of India has set the target of increasing the government health spending to 2-3 per cent of the country's GDP over the next five years, but it seems to be an uphill task to be achieved.

Suggestions

Based on the above findings, the following suggestions need attention. If 2-3 per cent of India's GDP should constitute health expenditure in the country, then the allocations in the

budget for the health sector needs to be increased sufficiently. Apart from that, the Government should take precautionary measures concerning capital expenditure incurred on the health sector in India, because it has witnessed a negative growth rate under capital account on health sector during the year 1992 to 2020. As per the National Health Accounts, public health expenditure accounts for 26.7 per cent of the total health expenditure in India. Apart from that the public health expenditure to the total public expenditure in the country is dwindling from 0.30 to 0.40 per cent. Therefore high priority to the health sector should be provided in the Union Budget to increase the share of public expenditure on health.

Policy Recommendation

Indian Government should adopt policies that will increase public health expenditure in the health sector. This implies that increasing public health expenditure would be greatly helpful in moving Indian toward the SDGs target for health, although this is only a necessary condition in achieving those goals. This is suggesting that government should endeavour to improve income equality among citizens through its redistribution role to afford an increasing portion of the population access to larger income that will finance health care, though its effect is not very significant.

CONCLUSION

This study has examined the way of trend through which the health care expenditure is being occurred in India and what is the pattern of this health care expenditure. For many developing nations, there must be proper health care expenditure for being better health status of the nation so that the nation can grow properly. The nation where the health status is well the people will be getting the proper health facilities along with proper other facilities regarding financial matter then definitely the nation will grow consistently.

More Focus is required on Expanding Public Sector Healthcare in the Economic Survey 2019-20 reports that around 74 per cent of outpatient care and 65 per cent of hospitalisation care is provided through the private sector in urban India which highlights the need for expanding and strengthening public healthcare system in the country. The Economic Survey also calls for continued emphasis on the National Health Mission (NHM), citing its important role in minimizing inequity in healthcare access in the country. Under NHM, allocation increased by 20.45 per cent from 2020-21.

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한국어 명사파생어 파생법

DERIVATION OF KOREAN NOUNS

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ANNOTATION

Derivatives play an important part in expanding the Korean vocabulary of Uzbekistan learners. Therefore, Korean language curriculums that are taught in Uzbekistan should systematically teach derivatives, an consequently, the development of teaching methods are urgent.

KEYWORDS: noun, derivation, noun derivative, prefix, suffix

한국어 명사파생어는 명사접두파생어와 명사접미파생어로 나뉜다. 명사어기와 결합하는 접두사와 그 파생어의 예를 제시하면 다음과 같다.

다음의 접두사들은 사람의 자질을 지니는 명사 어근과 결합한다.

- 가) 넷-: 넷손자, 넷할머니, 넷할아버지
- 나) 만-: 만아들, 만며느리 / 만물
- 다) 핫-: 핫아비, 핫어미
- 라) 불-: 불각쟁이, 불망나니
- 마) 여-: 여비서, 여의사, 여학생
- 바) 남-: 남학생, 남편, 남직원
- 사) 외-: 외삼촌, 외숙모, 외할머니
- 아) 친-: 친남매, 친부모, 친아들

가)의 '넷-'은 '아버지의 외숙이나 외숙모의 자기와의 관계'를 나타내는 접두사로 다른 친족관계 어휘들과의 결합이 자유롭지 못하다. 반면에 '만-'은 '서열상 첫째'라는 의미로 서열과 관계된 친족관계 어휘와의 결합이 자유롭다. 또한 사람의 자질이 아닌 '간, 물, 내'의 어근과 결합하는데 이때에도 '첫째'의 의미로



사용된다. '햇-'은 '짜을 갖추고 있음'을, '여-'는 한자어로 '여자'의 뜻을 가지는 접두사이다. 마찬가지로 '남-'도 한자어로 '남자, 남성'의 뜻을 지니는 접두사이다. '외-'는 '모계의 혈족 관계'를 나타내는 접두사인데 이는 친족 관계어와 결합하는 경우가 대부분이다. '친-'은 '혈연관계로 맺어짐'을 표시하고 이와 결합하는 명사들은 '외-'의 경우와 같이 가족관계 명사이다.

다음의 접두사들은 자연 생물에 속하는 명사어기와 결합하는 것들과 무생물 및 일부의 동물과 식물, 인간에 속하는 명사어근과의 결합하는 것들이다.

- 가) 군-: 군소리 / 군일, 군식구
- 나) 막-: 막국수 / 막소리 / 막차
- 다) 메(멤)-: 메밀, 멤쌀
- 라) 참-: 참깨, 참새 / 참뜻
- 마) 암-: 암꽃, 암닭, 암컷
- 바) 수(숫)-: 수나무, 수탉 / 숫염소
- 사) 둘-: 둘염소, 둘암닭
- 아) 알-: 알밤 / 알부자 / 알뚝배기
- 자) 외-: 외곶, 외상, 외출
- 차) 홀-: 홀곶데기, 홀눈, 홀치마

위의 예시들은 동물, 식물 등 이름을 명명하는 예시이다. 한국은 농경사회 풍습을 지니고 있기 때문에 농사와 관련된 접두사가 많다. '군-'은 두 가지의 의미를 갖는 접두사로 각각 '정도가 지나친, 쓸데없는', '가외로 더한' 또는 '덧붙은' 뜻을 지니며, 결합하는 어기에 특별한 제약이 없는 아주 생산적인 접두사이다. '막-'은 '거친 또는 품질이 낮은', '닥치는 대로', '마지막'을 의미이고, '메-'는 '끈기가 없고 찰기도 없이'의 의미이다. '참-'은 '제대로 된' 또는 '충실한', '품질이 썩 우수한'의 의미이다. '암-', '수(숫)-'는 여성, 남성의 특징을 제시한다. '둘-'은 '새끼나 알을 낳지 못하는' 뜻의 의미이고, '알-'은 '겉을 덮어 찢 것이나 딸린 것을 다 제거한', '작은', '진짜 또는 알짜'라는 의미한다. '외-'와 '홀-'은 '혼자인, 하나인' 또는 '한쪽에



치우친'의 뜻을 더하는 접두사로 이러한 의미를 지니는 사람, 사물, 동물 등과 결합이 가능하다.

명사 접미파생어는 어근이 명사인 경우와 어근이 명사가 아닌 경우 두 가지로 나눌 수 있다. 어근이 명사가 아닌 경우는 동사어근, 부사어근, 불완전어근 등이 있으며 어근별로 그의 예를 제시하면 다음과 같다.

명사어근 → 명사파생어

가)-꾸러기: 걱정꾸러기, 욕심꾸러기, 장난꾸러기

나)-꾼: 낚시꾼, 사냥꾼, 이야기꾼

다)-둥이(둥이): 막내둥이, 바람둥이

라)-매: 몸매, 입매

마)-새: 걸음새, 머리새, 모양새, 짜임새

바)-쟁이: 멋쟁이, 겹쟁이, 고집쟁이

사)-질: 가위질, 걸레질, 바느질

아)-찌(지): 팔찌, 발찌, 가락지

위의 접미사들은 어근의 의미를 제한할 뿐인데 어근의 통사범주를 바꾸지 않는다. '-꾸러기'는 '그것이 심하거나 많은 사람'의 뜻으로 쓰이는 접미사이다. '-꾼'은 '어떠한 일을 잘하는 사람'의 뜻을 더하는 접미사이다. '둥이(둥이)'는 '그런 성질이 있거나 그와 긴밀한 관련이 있는 사람'의 뜻을 더하는 접미사이고, '-매'는 '생김새' 또는 '맵시'의 뜻을 의미하는 접미사인데 생산성이 낮은 편이라고 본다. '-새'는 '됨됨이, 상태, 모양, 정도, 행동'을 나타내는 접미사로 일반명사와의 결합은 생산적인 접미사로 여겨진다. '-쟁이'는 명사 어근 아래 쓰여 '그 속성을 많이 지니거나 그 명사 어근의 그 명사 어근의 행위를 잘하거나 하는 사람을 낮추어 부르는 접미사'로 역시 생산적인 접미사이다. '-질'은 주로 명사어근과 결합하여 행위명사를 파생시키는 접미사이다. 주로 '도구를 가지고 하는 일/신체 부위를 이용한 어떠한 행위/그런 일, 그런 행위와 그것과 관련된 일' 이렇게 네 가지로 나누었다. '-찌(지)'는 일부의 신체명사와 결합하여 '끼는 장식품'을 의미한다.



아래의 접미사들은 주로 한자어 파생접미사로 구성된 접미사들이다.

- 가)-가: 문학가, 예술가, 정치가
- 나)-기: 기름기, 화장기 / 녹음기, 소화기
- 다)-단: 기자단, 선수단, 축구단
- 라)-별: 나이별, 수준별, 학교별
- 마)-사: 변호사, 요리사, 미용사
- 바)-원: 공무원, 연구원 / 대학원
- 사)-자: 유전자 / 과학자, 노동자
- 아)-증: 가려움증, 궁금증

'-가'는 '그 일에 전문적으로 종사하는 사람이나 그 분야에 뛰어나게 잘 하는 사람'을 일으킨다. 접미사 '-사, -원, -자'는 한자어로서 어떠한 직업에 전문적으로 종사하는 사람을 뜻한다.

동사어근 → 명사파생어

아래의 접미사들은 동사어근을 취해서 명사파생어의 형성을 보여 준다.

- 가)-개(계): 날개, 지우개, 덮개
- 나)-거리: 먹거리
- 다)-기: 달리기, 듣기, 말하기, 보기, 살리기
- 라)-(으)口: 가르침, 느낌, 이름, 볶음, 웃음
- 마)-막: 오르막, 내리막
- 바)-뱅이: 앉은뱅이
- 사)-이: 걸이, 놀이, 설거지, 풀이

위의 접사들은 동사어근을 취하여 명사파생어를 형성하는 예시인데 이때의 접미사들은 어근의 통사범주를 바꾸기도 한다. 동사어근에서 명사파생어를 생성하는 접사 가운데 '-깡이, -막, -때, -뱅이, -어지, -에기, -저지' 등은 생산성이 낮은 접사에 속한다. '-뱅이'의 의한 파생어 '앉은뱅이'는 동사어근 '앉-'에



관형사어미 '-은'을 붙인 형태로 엄격히 말하면 동사어근의 활용형으로 보아야 한다. 이는 한국어 파생어 중에 극소수이고 '용언의 관형사 + 접미사'로 정리된다.

'-개(계)'와 '-기'는 동사어근과 결합하여 명사파생어를 만들어 내며 파생의 분포가 아주 넓으므로 생성적인 접미사로 인정된다. 접미사 '-(으)ㄴ'은 동사어근과 결합하여 행위명사, 사물명사, 목적명사로 각각 만들어지며 생산성이 높다. 마찬가지로 접미사 '-이'도 동사어근에 붙어 명사를 만들어내는 생산적인 접미사라고 할 수 있다.

형용사어근 → 명사파생어

- 가)-기: 굳기, 세기, 크기
- 나)-다리: 늪다리, 작다리
- 다)-동이 (둥이): 검둥이, 흰둥이
- 라)-(으)ㄴ: 기쁨, 아픔, 슬픔
- 마)-이: 길이, 넓이, 높이
- 바)-정 (장/영/ㅇ): 검정, 노랑¹, 파랑²
- 사)-챙이: 잔챙이

위와 같이 접미사들은 형용사 어근을 취해서 명사파생어를 만들어 낸다. 이 접사들은 형용사 어근의 통사범주를 바꾼다. '형용사+ 접미사' 형태의 명사 파생어를 만들어 내는 예시는 많지 않지만 이 가운데는 '-지, -뱅이, -막, -보, -정이, -챙이' 등 파생접미사의 예시가 자극히 적기 때문에 생산성을 잃은 접미사로 여긴다. '-기, -(으)ㄴ, -이' 접미사들은 형용사어근과의 결합은 비교적 생산적인 접미사로 할 수 있다.

부사어근 → 명사파생어

- 가)-이: 개구리³, 똥똥이, 얼룩이

¹ 노황-+양

² 파랑-+양



- 나)-쇠:덜렁쇠
- 다)-부리: 딱부리
- 라)-질: 딸꾹질, 해작질

위의 접미사들은 부사어근을 취하여 명사파생어를 만들어 내는 예들이다. 이는 주로 의성어, 의태어를 어근으로 취함을 알 수 있고 자립성을 띠는 부사가 되므로 부사어근으로 분류하게 된다.

불완전어근 → 명사파생어

앞에 살펴본 네 가지의 명사 접미파생어 이외에 '불완전어근 + 접미사'의 경우도 있다.

- 가)-쟁이: 개구쟁이, 꼼꼼쟁이, 만만쟁이
- 나)-질: 다툼질, 숨바꼭질
- 다)-내기: 수월내기
- 라)-아지: 미꾸라지⁴
- 마)-이: 까불이, 멍청이, 얌전이

위의 접사들은 불완전어근을 취하여 명사파생어를 형성한다. 이 중에 많은 어근들은 단독으로 쓰이지 않고 접미사와 결합하여 단어를 만들어 내는 기능으로 불완전어근으로 해당한다.

결론

본 연구는 한국어를 배우고자 하는 우즈베크 학습자들의 어휘 확장 및 의사소통 능력 신장을 돕기 위하여 어휘 교육에 활용할 수 있는 파생어와 파생접사, 즉 명사파생어를 분석하였다. 한국어 명사파생어는 우즈베크어 명사파생어와 같이 다른 품사들에 비하면 넓게 쓰인다. 명사 접두사 중에서 '막-, 알-, 날-, 암-, 수 (숫)-, 한-' 등이 높은 생산력을 가지고 명사파생접미사 중 '-꾼, -질, -쟁이, -개(계), -이,

³ 개굴 + -이

⁴ 미꿀 + -아지



-적' 등을 전형적이고 생산성이 높다고 할 수 있다. 또한 한국어의 명사 접두과생어 중 사람의 자질을 의미하는 어근과 결합하는 접사들이 대수이다. 이러한 접사 중에서 '낫-, 만-, 외-, 친-' 등은 친족 관계를 나타내는 명사를 과생한다. 명사 접미과생접사 경우는 명사어근과 명사가 아닌 어근 (동사어근, 부사어근, 불완전어근 등)과 결합하여 새로운 단어를 생산한다. 명사어근과 결합하는 접미사 가운데 '-꼬, -뜨기, -아리, -악서니, -작, -지(찌), -팽이, -포' 등은 생산성이 높아 많은 양의 단어를 만든다. 또한, 명사어근에 붙어 명사를 과생하는 접사 중 한자어 과생접미사가 많이 있는데 그것이 한국어 과생어의 특징 중 하나라고 할 수 있다. 한자어 접미사 가운데 '-사, -인, -자, -원' 등은 어떠한 직업에 전문적으로 종사하는 사람을 뜻하는 접사이고 생산력이 높다.



CONVERSATIONAL ENGLISH FOR TOURIST ESCORTS

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ABSTRACT

This study develops and validate a practical English handbook for tourist escorts. Thirty (30) tourist escorts in the province of Laguna and (10) English Professors of selected HEIs were the respondents of the study. The researcher answers the following questions: (1) What is the mean level of scores given by the local tourist guides in the developed practical English handbook with respect to: usability, consistency, adaptability, appropriateness, aesthetic value? (2) What is the mean level of scores given by the English experts with respect to: usability, consistency, adaptability, appropriateness, aesthetic value? (3) is there a significant difference in the rating among the tour guides and English experts based on the following criteria: usability, consistency, adaptability, appropriateness, aesthetic value?

Weighted the mean and standard deviation were used to determine the assessment of the expert evaluators. As observed in the treatment done in this study, the following were evident: The over-all mean of 4.20 revealed that the Practical English Handbook was extremely acceptable in terms of appropriateness given by local tourist guides. And the over-all means of 3.85, 3.99, 4.05 and 3.98 respectively indicated very acceptable in terms of usability, consistency, adaptability and aesthetic value.

The over-all mean of 4.40, 4.24, 4.30 and 4.40 respectively revealed that the Practical English handbook was extremely acceptable in terms of usability, consistency, adaptability, appropriateness and aesthetic value as rated by the English experts.

The computed t-values of 2.46, 2.16 and 2.26 had p-values of 0.024, 0.042 and 0.035 were all less than the alpha 0.05 level of significance with indicated that there was significant difference on the ratings' given by the local tourist guides English experts on the usability, consistency and aesthetic value respectively. While the t-values of 0.289 and 0.605 which were greater than alpha 0.05 level of significance were verbally interpreted as not significant based on the ratings' given by the local tourist and English experts on the adaptability and appropriateness.

BACKGROUND OF THE STUDY

Republic Act No. 9593, in the Pursuant to the authority vested in the Secretary of the Department of Tourism under Section 107 of the Act, otherwise known as the Tourism Act of 2009, the following implementing Rules and Regulations (IRR) are hereby promulgated under Section 1 which is the Declaration of Policy stating that:

The State declares tourism as an indispensable element of the national economy and an industry of national interest and importance, which must be

harnessed as an engine of socio-economic growth and cultural affirmation to generate investment, foreign exchange and employment, and to continue to mold an enhanced sense of national pride for all Filipinos.

Towards this end, the State shall seek to : (a) Ensure the development of Philippine tourism that is for and by the Filipino people, conserve and promote their heritage, national identity and sense of unity: (b) Recognize sustainable tourism development as integral to the national socio-economic development efforts to improve the quality of life of the Filipino people,



providing the appropriate attention and support for the growth of this industry: (c) Promote a tourism industry that is ecologically sustainable, responsible, participative, culturally sensitive, economically viable and ethically and socially equitable for local communities: (d) Create a favorable image of the Philippines within the international community, thereby strengthening the country’s attraction as a tourism destination and eventually paving the way for other benefits that may result from a positive global view of the country: (e) Develop a country as a prime tourist hub in Asia , as well as center of world congresses and conventions, by promoting sustainable tourism anchored principally on the country’s history, culture and natural endowments, and ensuring the protection, preservation and promotion of these resources: and (f) Encourage private sector participation and Agri-tourism for countryside development and preservation of rural life.

In the middle of 1990s, the LGU poured in additional investment and more attention to the potential of the place and connected it to a municipal enterprise.

Also, the United Nations’ Resolution as adopted by the General Assembly on December 18, 1992, specifically states in Article 1 that:

States shall protect the existence and the national or ethnic, cultural, religious and linguistic identity of minorities within their respective territories and shall encourage conditions for the promotion of that identity.

States shall adopt appropriate legislative and other measures to achieve those ends. As a support to the order, the study attempted to promote the culture and linguistic identity of Laguna since it stated upon the resolution. Furthermore, it supports and reaches the goal of the dignified organization.

OBJECTIVES

The purpose of the study is to develop and validate an English Guide Book for Local Tourist Guides of Laguna.

Specifically, the researchers sought answers to the following questions;

1. What is the mean level of scores given by local tourist guides on the following aspects:

- 1.1 Usability
- 1.2 Consistency
- 1.3 Adaptability
- 1.4 Appropriateness
- 1.5 Aesthetic Value

2. What is the mean level of scores given by English experts in terms of:

- 2.1 Usability
- 2.2 Consistency

- 2.3 Adaptability
- 2.4 Appropriateness
- 2.5 Aesthetic Value

3. Is there a significant in the rating among the tour guides and English experts based on the following criteria: usability, consistency, adaptability, appropriateness and aesthetic value?

RELATED LITERATURE

One of the significant variables in this study is the word handbook. It occupies an immense role in the learning process of individuals. People, particularly who are in the academe, look for references that will help them in acquiring knowledge on particular concepts that will also develop their skills. This serves as a guide and a tool for different purposes, In tourism, one of the goals of developing a handbook is for the tourist guides to learn and to communicate well not only in their locality but also mostly in the global community.

Woodhouse et. al. (2014) has made The ECU Referencing Guide which is regularly updated. Students are responsible for checking that the content of this document matches the latest version online. The guide follows the principles and examples given in the 6th edition of the Publication Manual of the American Psychological Association (2010), as well as the APA Style Guide to Electronic References (2012). These are subsequently referred to in this document as “APA 6th” and “Electronic References,” respectively. The guide has been developed for undergraduate students and contains examples from commonly asked referencing questions.

Fergusson et. al (2012) states that as local governments face impacts from climate change, public health concerns, and public demand for increased accountability and transparency, it is becoming increasingly important to engage with the public on important sustainability topics. With over 75% of Americans now online, and 82% of them interacting with governments that do not participate in “digital engagement” tools. In fact, local government that do not participate in digital engagement risk remaining unaware of online mobilization, until it manifests at public meetings and other face-t-face events. The guidebook provides case studies and a step-by-step guide to support local government digital engagement efforts. Case studies included in the guidebook are very diverse, covering: small and large initiatives; projects intended to inform and empower; and, digital engagement that has been implemented for the many functions of local government, like governance, service provision, and specific initiatives and policies.



Bauer (2007) develops a guidebook which parents can use to learn more about Nevada's Pre-K Standard and to help with guiding children as they develop social-emotional skills. He says that as a parent, one can use the handbook among many tools for getting a child ready for kindergarten and beyond.

Sher (2011) creates another guidebook purpose of which is to provide students, faculty, staff and international community partners with resources designed to provoke ethical reflection on international engagement and services learning projects. The EIESL project both challenge and nurtures the ways that people think, act, speak, and engage as global citizens committed to social and ecological justice.

LaFond (2012) compiled a guide which includes sources and collections to that directly relate to Communication Studies, are multi-disciplinary in nature, or represent particular strengths of the collection. Selected unannotated monographs are included to exemplify broad categories and themes within Communication Studies at the Albany. Reference sources ("tertiary sources") assist researchers in locating primary and secondary resources related to their topics of choice. Print reference sources are typically found in the reference section of the library. Due to limitations of space in the reference area, many classic reference sources and important handbooks are shelved in the general stacks. Unless otherwise noted, sources listed in this guide are located at the University Library (uptown).

The biblical manuscripts found at Qumran, contends reflect a spectrum of text movement from authoritative scriptural traditions to completely new compositions. Treating six major groups of texts shows how differences in the texts result from a particular understanding of the work of the scribe—not only merely to copy but also to interpret, update, and make relevant the Scripture for the contemporary Jewish community of the time. This scribal practice led to texts that were "written" or "reworked" and considered no less important or accurate than the originals. Propounding a new theory of how these texts cohere as a group. Crawford offers an original and provocative work for readers interested in the Second Temple period. (Crawford, 2008)

Coles, Duval and Shaw (2013) write a comprehensive book which intends to take the stress and anxiety out of doing a dissertation in tourism studies and related disciplines. The Process is examined from the germination of an idea to the submission and assessment of the final document. Written primarily for students conducting independent research for the first time, the book offers simple advice and clear framework which students can adopt even in more

advanced studies at masters and doctoral level. The book debunks popular myths, and aims to overcome common pitfalls. It focuses on the aim and objectives as the DNA of every dissertation. Rather than view it as a single, overwhelming project, the dissertation is presented as a series of more modest, manageable yet crucially inter-linked tasks that all students can successfully complete through careful preparation and effective time management.

Whitla (2009) made a comprehensive textbook, providing essential practical and analytical reading and writing skills for literature students at all levels. With advice and information on fundamental methods of literary analysis and research, Whitla equips students with the knowledge and tools essential for advanced literary study. It includes traditional close reading strategies integrated with newer critical theory, ranging from gender and genre to post-structuralism and post-colonialism ; with examples from Beowulf to Atwood, folk ballads to Fugard, and Christopher Marlowe to Conrad's Marlow, draws on a wide range of resources, from print to contemporary electronic media and supplies a companion website with chapter summaries, chart, examples, web links, and suggestions for further study.

Buzzard (2002) states in his book that in 1846 Baedeker introduced his famous 'star' rating (for sights, attractions and lodgings) – an idea based on the Murray guides star system. This edition was also his first 'experimental' red guide. He also decided to call his travel guides 'handbooks' following the example of John Murray III. Baedeker's early guide had tan covers, but from 1856 onwards, Murray's red bindings and gilt lettering became the familiar hallmark of all Baedeker guides as well, and the content became famous for its clarity, detail and accuracy.

Chaney (2000) points out in his book that Grand Tour guidebooks poured off the presses throughout the eighteenth century, those such as Patrick Brydone's A Tour Through Sicily and Malta being read by many who never left England.

El Daly (2004) reveals that in the medieval Arab world, guide books for travelers in search of ancient Near Eastern artifacts, monuments and treasures were written by Arabic treasure hunters and alchemists. This was particularly the case in Arab Egypt, where ancient Egyptian antiquities were highly valued.

Gassan (2005) views that an important transitional figure from the idiosyncratic style of the Grand Tour travelogues to the more informative and impersonal guidebook was Mariana Starke. Her 1824 guide to travel in France and Italy served as an essential companion for British travelers to the Continent in the



early 19th century. She recognized that with the growing numbers of Britons traveling abroad after 1815 the majority of her readers would now be in family groups and on a budget. She, therefore, included for the first time a wealth of advice of language, obtaining passports, the precise cost of food and accommodation in each city and even advice on the care of invalid family members. She also devised a system of !!!exclamation mark ratings, a forerunner of today's "stars". Her books, published by John Murray, served as a template for later guides.

With relevance to the above statements, the teacher -- made handbook will help not only the local tourist guides but as well as the tourists and residents to increase their knowledge through the use of the teacher made guide book.

The above statements explain how essential handbook is in the learning process of individuals, especially in learning lessons from the said references. This helps them to acquire new knowledge and be unfamiliar with the given examples.

A reference, reading text or material is a very important tool n once learning. It gives a lot of information in particular researches. In relation to this, guide book is also an example of such materials.

In all of these situations, Ivey (2010) says that it matters a lot. In this strategy – crazed era in literacy policy and practice, may be missing a more fundamental challenge identifying and making available texts that inspire students to learn new information. Good texts can bridge the gap between what students already know and the academic content they encounter in the classroom.

Even in the absence of published texts that students can relate to teachers can enable students to use literacy to make connections. Numerous studies prove that wide reading improves student's comprehension, background knowledge, vocabulary and fluency (Krashen 2004)

Bloom as cited by Villanueva (2014) states that the quality and quantity of instructional materials such as reading texts are important factors related to teaching and learning.

Capelin (2007) believes that reading is the main reason why people learn the language. In addition, the greatest tool we can give to the students for succeeding, not only in their education but more generally in life, is a large, rich vocabulary and the skills for using those words. Our ability to function in today's complex social and economic world is mightily affected by our language skills and world knowledge.

According to Javier (1999) as cited by Olsen (2005) the recognition of the importance of bringing children and books together has led to the continuing

study of children's interest that can be seen in the changing nature of reading materials for children. The contents of current issued materials used by readers reflect more what research was revealed about children reading interest than the content of reading materials used in the past.

The above-mentioned literature supports the research since it acts as a reference, material or book that will help the users to learn more concepts through the use of guide books. Thus, it suggests that reading the teacher made material can enhance the communication skills of the tourist guides.

Neilsen (2004) define utility as the ability of a system to meet the needs of the user. He does not consider this to be part of usability but a separate attribute of a system. If a product fails to provide utility then it does not offer the features and functions required; the usability of the product becomes superfluous as it will not allow the users to achieve their goals.

Likewise, the International Organization for Standardization (ISO) defines usability as the "Extent to which a product can be used by specified user to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use.

According to Bosser (2001), the product attributes which contribute to usability include the style and properties of the interface, the dialogue structure, the nature of the functionality, and any other relevant properties such as system efficiency and reliability. Measures of attitude and performance provide the criteria which determine whether the design of the attributes is successful in achieving usability in the future, analytical techniques may be able to predict attitude and performance from these attributes.

Usability is the effectiveness, efficiency and satisfaction with which specific users can achieve a specific set of tasks in a particular environment. In essence, a system with good usability is easy to use and effective. It is intuitive, forgiving and with a minimum of mental effort. Tasks which can be performed by the software (such as data retrieval, organization, summary, cross-checking, calculating, etc.) are done in the background, improving accuracy and freeing up the user's cognitive resources or other tasks (Alafairet et. al., 2009).

Federici and Borsci (2010) stated that usability is evaluated by the quality of communication (interaction) between a technological product (system) and a user (the one who uses that technological product). The unit of measurement is the user's behavior (satisfaction, comfort, time spent in performing an action, etc.) in a specific context of use (natural and virtual environment as well as the physical



environment where communication between users and technological product takes places). The usability concept and its measurement are strictly connected to that of accessibility concept and its measurement are strictly connected to that of accessibility (“Web Accessibility”), and the space of the problem, shared by the users, in which the interaction takes places (user technology interaction).

Holzinger (2007) states that the usability of manuals can be improved by the use of the styles’ guide, while optimizing the graphical layout of instructional details. Nevertheless, beside the use of general principle, instructions have to be adapted to specific task properties and to the cognitive process involved. Therefore, usability test has compared instruction modes in order to find optimal way to support different subtask during the work process.

Barnum (2011) says that the best-known definition of usability in one from ISO, the international Organization for Standardization (9242-11): ‘the extent to which a product can be used by specific users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use.

Thus, in the above statements it views usability as a very important variable in a product or output. With this, the usability of the handbook also has to be determined to prove its significance.

According to Alafaireet et. al (2009) external and internal consistency are important to the design of any application. External consistency primarily has to do with how much an application’s structure, interactions and behaviors match a user’s experience with other software applications. The more a user can apply prior experience to a new system, the lower the learning curve, the more effective their usage, and the fewer their errors. An internally consistent application uses concepts, behavior, appearance and layout consistently throughout. 30,46,49 Predictability is another important factor in enabling efficient use and reducing errors.

Van der Geest and Loorbach (2005) report a study that seeks to explore users’ perceptions of internal consistency on Web sites. The internal consistency of an interface reflects the similarity among the features and graphics within an interface. They accomplish this exploration through a novel application of the card sorting technique. Van der Geest and Loorbach’s study indicates that users do notice consistency within and across pages of a site. Users are prepared to and do notice and exploit some types of consistency within a Web system (color, navigation structure).

Bartlett, Jordan, and McAuliffe (2006) discuss the Definition (Consistency). A classification rule is said to be consistent for a certain distribution P of (X, Y) if $EDnR(f_n) \rightarrow R * s n \rightarrow$, and strongly consistent if $R(f_n) \rightarrow R * \text{almost surely}$. Note that the definition of consistency of f_n depends on the distribution P of (X, Y) . In general, a decision rule can be consistent for a certain family of distributions of (X, Y) but may not be consistent for others. since the distribution of (X, Y) is unknown in practice, it is desirable to have a rule that is consistent for a large family of distributions. (Bartlett, Jordan, and McAuliffe, 2006).

Argandoña (2008) stresses that the concept of consistency, applied to organizations, provides the common thread for a model of decision making that considerably enriches the models traditionally used in organization theory by adding a humanistic and ethical dimension. Extending the theory of human motivation to encompass a variety of motives, he states three conditions for long-term organizational wellbeing: effectiveness, efficiency and consistency. These three conditions are not independent of one another, nor can they be reduced to one another. Consistency plays a key role as a driver of trust in organizations and is a means of introducing ethics into management theory and practice.

The first and most straightforward definition of consistency is in epistemic terms. It is said that the beliefs are derived, by conditioning on their information, from consistent beliefs they held in a previous period, when their knowledge was still the same. Being consistent when the knowledge is the same means having the same beliefs. Thus, beliefs are consistent when they are derived from beliefs previously shared by the agents (Lehrer, Ehud and Dov Samet, 2013).

Critto (2000) consistency thus follows integration between what is represented and what represents it, love of being and goodness; contribution to fulfilment by adjusting what is to what ought to be; and satisfaction with this and with its triumph. Consistency links together the boundless number of concepts, dimensions, and relations which define and explain each concrete case.

In media, publishing, and art, content is the information and experience(s) directed towards an end-user or audience (Odden, 2013).

Richardson (2009) states that to use tools effectively, teachers must have an essential understanding of the context and a logical sequence for teaching the topics. The framework becomes aid to learning and a way to activate students to learn, an instructional framework relationship among reading, thinking, and learning. The goal of good context



reading instruction is to aid students in becoming autonomous learners in the well planned reading instruction that can prevent students from skipping important parts of a lesson, thus alleviating incomplete thinking learners.

Rach (2012) comments that a content strategy will often assume responsibility for the activities and derivable associated with each of those. In many cases, there are offline. They focus on an introduction to content strategy, so they made it as a job to size this information and frame it up in ways that content development and maintenance people have with specific needs an challenges that deserve to be acknowledged.

Fourie (2006) says that context literacy is not necessarily limited to specific communication media, because it focuses on those message elements that can be found in settings that involve interpersonal communication, small group communication, as well as mass communication and the internet. These content elements refer to topics, themes, values, ideologies, setting, objects, characters, narratives, and genres found in different texts. The content is manifestly accessible and can be broken down into smaller manageable units or codes, which for the purpose of both quantitative texts analyzed, use categories such as paragraphs, sentences and verbal phrases or categories and as technical sequence, scenes and individual camera shorts.

Pulakos, et. al. (2000) clarifies that adaptability means being flexible when things change. An adaptable person is one who open to new ideas and concepts, to working independently or as part of a team, and carrying out multiple tasks or projects. Someone is regarded as adaptable if he/she is able to manage multiple assignments and tasks, set priorities, and adapt to changing conditions and/or work assignments.

Adaptability has been defined in numerous ways in the sociological and economical literature. However, at the most basic level adaptability could be defined as an effective change in response to an altered situation. This definition presumes that to behave in an adaptable fashion, an individual must recognize the need to change based on some current or future perceived alteration in the environment and change his or her behavior as appropriate (Catsis et. al., 2015).

Teal and Street (2009) views that adaptability in health care means being skilled at integrating a patient's cultural values or beliefs into any encounter with the awareness and ability to adapt behaviors to maximize the patient's comfort, reconcile misunderstandings, and be responsive to the patient's needs.

Adaptability means there will be sufficient cooperation and communication to minimize risk of harm to the patient (Weller et. al, 2011).

As to Patten, Whitwrth et. Al (2015), adaptability has different IT-related definitions. Some include the change in the system to accommodate change in its environment, the ease of system/component modification, the modification of behavior in response to environment changes; and the adjustment to changing requirements. Adaptability is also a non-functional (software) requirement (NFR).

The adaptability of the multimedia instructional material is focused on evaluation and flexibility of the content, and can be managed by the teachers. It is working with the people from diverse background and interests (Burke and Pierce, 2006).

Adaptability is based on the training literature. Thus, literature argues adaptation is reflected on how well individuals generalize and transfer knowledge in performance transitional situations. (Baldwin and Ford, 2008).

According to Gronau (2005) the concept of adaptability has been widely recognized as research field in recent years. Adaptability as a technical research field has been established in the last decade. Mainly within the focus of factory planning, adaptability is considered as a goal to develop modular, adaptable factories. Among other factors that enable adaptive behavior, the explanation of adaptability of enterprise architecture is a complex task. The method presented applies a procedure which combines a criteria and scenario based process.

Drucker (2006) explicates that in management, effectiveness relates to getting the right things done. Peter Drucker reminds everyone that "effectiveness can and must be learned."

Fraser (2004) defines effectiveness as a measure of the match between stated goals and their achievement. It is always possible to achievement 'easy' low-standard goals. In other words, quality in higher education cannot only be a question of achievement 'outputs' but must also involve judgements about the goals (part of 'inputs')

West (2009) argues that: 'In relation to training, as opposed to education, one way of looking at the issue of effectiveness is in terms of whether there are 'identifiable economic outcomes. A broader definition still focuses on the extent to which training 'meets its objectives'. This is a useful definition since it is undoubtedly the funding body that ultimately decides whether or not training will be made available. Whilst the is a heuristic, there are two points to bear in mind. First, it is not always the case that the funders' precise objectives are transparent, although their general aims



may be. Second, whilst the funders may have objectives, it is only by relating the extent to which these are perceived to have met- by various stakeholders (e.g. individuals, enterprises) – that one can really understand the extent to which the training has been effective. These may also be unintended consequences of training that aid an individual's employability – for example, improving 'soft skills' such as an individual's self-esteem, motivation or ability to work in a team.

Green and Glasglow (2006) define effectiveness as the impact in the outcomes and quality of life and Consistency of effects across subgroups. Effectiveness refers to the intervention's ability to do better than harm for the target population in a real-world setting. (Schilling, 2010).

Buettow et. al. (2007) considers appropriateness in health care and has been defined as 'the outcome of a process of decision-making that maximizes net individual health gain within society's available resources. This definition also implies that the patient's attitude is as important in deciding appropriateness as the reasoning that underpins it.

According to Fretzer (2007) appropriate conditions need to be examined in a frame of reference which goes beyond an individual speech act, communicative contribution or turn. For this reason, appropriateness has been assigned conditions concerns as low such a linguistic artefact is created, and its analysis clarifies a specific relationship between illusory act and context.

Bruner and Kruger (2000), on the concept of appropriateness could offer a variable short-term strategy for considering publicly held aesthetic and biodiversity values. Appropriateness refers to the judged suitability or compatibility of an introduce change, relative to one or more management goals.

Brady (2003) states that the aesthetic value proper covers the wide range of judgements people make, from finding something stunningly beautiful to finding something sublime, to finding something ugly with a lot variety in between.

We use the word aesthetic a great deal. That if adopted the aesthetic attitude, one would be in the same position to make correct aesthetic evaluation. The place aesthetic properties in the line with their most popular linguistic use: as offering a defense or a justification for a particular broad evaluative claim about a work or natural object/event. This also ties together aesthetic properties with the meaning of the work (Frenner, 2008).

Evaluation and validation must also be considered in the study of the researchers. This will facilitate that authenticity of the research. It is also

necessary for the approval of the teacher-made handbook from the experts to determine its reliability.

Harmona (2002) cites the criteria for the evaluation of try- out materials developed by the UNICEF Curriculum Development project. They are; The material should cover the required learning competencies and lessons or activities must be provided to carry out the objectives. The objective should clear, attainable and measurable. There should be provision for appropriate evaluation activities with indicators for the degree attaining the learning competency. The attainment is suggested in each lesson which should be long enough for the users to cover the lesson or unit. In the field of texting the following should be considered: workability of activities sufficient content and activities, interest and variety in activities, value orientation of the material and appropriate content and approach.

As a defined by Salandanan 2005 as cited by Garantuza (2014), evaluation is a process of making judgements, that is how good one's performance or behavior is, based on a pre-determined value or standards that would indicate quality.

According to Bustos et. al (2006), evaluation means bringing together from different sources all forms of information on student performance. As mentioned by Burke (2003), evaluation is a step in the recursive process. Evaluation is the process of assessment, a step toward understanding and drawing conclusions. As to the given statement, the handbook will be given conclusions and understanding based on the evaluation which will be made through the help of the respondents in the validation of the teacher made module.

Therefore, the study is related to the given statements since the teacher-made hand book was validated by experts. They also analyzed and examined closely all the aspects of its development and evaluation

METHODOLOGY

The descriptive method of research was used in this study. According to Best and Kahn (2007), "The term descriptive research has often been used incorrectly to describe three types of investigation that are different from each other. Perhaps their superficial similarities have obscured their differences. Each of them employs the process of disciplined inquiry through the gathering and analysis of empirical data, and each attempt to develop knowledge. To be done completely, each requires the expertise of the careful and systematic investigator. A brief explanation may serve to put each one in proper perspective." The descriptive method was used to analyze the



acceptability of the Practical English Handbook for Local Tourist Guide.

The principal aims in employing this method were to describe the nature of a situation as it exists at the time of the study and to explore the causes of particular phenomena. Data were subjected to the thinking process in terms of ordered reasoning.

Hence, this type of research design was used to know how valid the developed guide book on practical English for local tourist guides

RESULTS AND DISCUSSIONS

Mean Level of Scores given by the tourist escorts according to the Usability of the Practical English Handbook.

Taken into consideration, the developed handbook on the level of acceptability in terms of usability as per the first item “can be used by all the

local tourist guide regardless of their gender, age, interest and the like”, the raters gave 3.90 as its and the SD of 0.80 which was interpreted as “Very Acceptable.”

Meanwhile for the next query, which was “can be utilized by the local tourist guide in various types of conversation and settings,” the raters gave a mean of 3.97 and 0.85 as its SD which was also interpreted as “Very Acceptable.”

The third item “local tourist guides may use the handbook in various strategies, techniques, approaches and activities,” it has been given an interpretation “Very Acceptable” with the mean of 3.87 and with the SD of 0.90.

Table 1 on the next page shows the level of scores given by the local tourist guides focusing on the first criterion usability

Table 1. Mean Level of Scores given by the Local Tourist Guide to Usability

Usability	Mean	SD	Remarks
1. The handbook can be used by all the local tourist guide regardless of their gender, age, interest and the like.	3.90	0.60	Very Acceptable
2. It can be utilized by the local tourist guide in various types of conversation and settings.	3.97	0.85	Very Acceptable
3. Local tourist guide may use the handbook in various strategies, techniques, approaches and activities.	3.87	0.90	Very Acceptable
4. The handbook can be easily read by its users	3.63	0.85	Very Acceptable
5. It can be easily used at a certain time, place and condition	3.87	0.78	Very Acceptable
Overall	3.85	0.69	Very Acceptable

Legend

Mean	Verbal Interpretation
4.21-5.00	Extremely Acceptable
3.41-4.20	Very Acceptable
2.61-3.40	Moderately Acceptable
1.61-2.60	Slightly Acceptable
1.00-1.60	Not Acceptable

Also, for the fourth item “can be easily read by its users, “indicates that it is “Very Acceptable” with the mean of 3.63 and SD of 0.85.

The final number “can be easily used at a certain time, place and condition” had a mean of 3.87 and SD and SD=0.78 still described as “Very Acceptable.”

Finally, the over-all remarks for the first criteria, the local tourist guides got an over-all mean of 3.85 with a standard deviation of 0.69 of which meant that the practical English handbook was very usable. It also further indicates that all the items for the usability

with the level of the scores given by the evaluators were very acceptable.

Mean Level of Scores given by the Local Tourist Guides according to the Consistency of the Practical English Handbook

Table 2 on the next page shows the level of scores given by the local tourist guides focusing on the criterion, consistency. Consistency thus follows integration between what is represented and what represents it, love of being and goodness, contribution to fulfillment by adjusting what is to what ought to be;



and satisfaction with this and with its triumph. Consistency links together the boundless number of concepts, dimensions, and relation which define and explain each concrete case, (Critto, 2000).

According to www.mels.gouv.qc.ca. the elements to consider in the consistency of learning and the pedagogical approaches. These are all found in the practical English handbook for local tourist guides and reflected on the next table.

This table further, shows the mean level of the content validation of practical English hand criteria as

consistency. The mean score of 2.13 and SD = 0.86 reveal that the evaluators rated the first item in consistency which states ‘contents of the handbook are well organized’ as “Very Acceptable.”

Items 3 and which say vocabulary words, useful phrases, sentences and other significant terms are succinct and precise” and “bibliography agrees with the content of the teacher-made handbook” respectively were evaluated as “Very Acceptable” both with the same mean score of 3.93 and SD of 0.69 and 0.67 respectively.

Table 2. Mean Level of Scores given by the Local Tourist Guide to Consistency

Consistency	Mean	SD	Remarks
1. The contents of the handbook are well organized.	4.13	0.66	Very Acceptable
2. Its contents are correct, appropriate and relevant with all of its parts.	4.00	0,69	Very Acceptable
3. The vocabulary words useful phrases, sentences and other significant terms are succinet and precise.	3.93	0.69	Very Acceptable
4. The bibliography agrees with contents of the teacher-made handbook.	3.93	0.87	Very Acceptable
5. The pictures of illustrations being shown in the handbook are accurate, clear, and match the given words.	3.97	0.72	Very Acceptable
Overall	3.99	0.60	Very Acceptable

Legend

Mean	Verbal Interpretation
4.21-5.00	Extremely Acceptable
3.41-4.20	Very Acceptable
2.61-3.40	Moderately Acceptable
1.61-2.60	Slightly Acceptable
1.00-1.60	Not Acceptable

The computed mean the score of 4.00 or the second entry which is the item that says “content is correct, appropriate and relevant with all of its parts” and its SD= 0.69 were rated as “Very Acceptable.”

The final number “pictures or illustration being shown in the handbook are accurate, clear, and match the given words” had the mean of 3.97 and SD=0.72 described as Very Acceptable.’

As shown in the table, the local tourist guides gave the over-all mean of 4.69. Very consistent was further interpreted as extremely acceptable in terms of consistency.

Mean Level of Scores given by the tourist escorts according to the Adaptability of the Practical English Handbook

Table 3 shows the level scores given by the local tourist guides focusing on the criterion, adaptability. In the table rating for the adaptability clearly evidences item 1 with a description of local tourist guide may use the handbook as a references or tool in acquiring knowledge aligned with tourism was evaluated as “Very Adaptable” bearing the mean score of 4.10 and SD of 0.60.



Table 3. Mean Level of Scores given by the Local Tourist Guide to Adaptability

Adaptability	Mean	SD	Remarks
1The local tourist guide may use the handbook as a reference or tool in acquiring knowledge signed with tourist	4.10	0.80	Very Acceptable
2. The local tourist guides may use the handbook as a reference or tool in acquiring knowledge aligned with their needs.	4.03	0.85	Very Acceptable
3. It may use in learning different topics with relevance to the nature of work of the users.	4.00	0.95	Very Acceptable
4. The local tourist guides can make new, innovative and competitive strategies through this.	3.93	0.78	Very Acceptable
5. The teacher made handbook can help and motivate the local tourist guides with relevance to the use of English language and facilitate new way of learning in the work environment.	4.17	0.79	Very Acceptable
Overall	4.05	0.67	Very Acceptable

Legend

Mean	Verbal Interpretation
4.21-5.00	Extremely Acceptable
3.41-4.20	Very Acceptable
2.61-3.40	Moderately Acceptable
1.61-2.60	Slightly Acceptable
1.00-1.60	Not Acceptable

In the meantime, the second noting “local tourist guides may use the handbook as a reference or tool in acquiring knowledge aligned with their needs” had the computed mean of 4.03 and 0.85 as its SD as “Very Adaptable.”

The remaining item quoted as, “may be used in learning different topics with relevance to the nature of work of the users” and “local tourist guides can make new, innovative strategies through this” were assessed as “Very Acceptable” obtaining different mean scores of 4.00 and 3.93 and different SDs of 0.95 and 0.78 respectively.

The over-all mean of 4.05 and SD = 0.67 signifying the range scores given by the evaluators was close to each other, hence, indicated that the mean level of score given by the local tourist guides to the handbook, according to its content of adaptability is Very Acceptable.”

As taken from Merriam-Webster (2003) adaptability means being able to change or to be changed in order or be adapted. That is why the researcher had chosen adaptability as its third criterion for he believed that a handbook should possess the

characteristic of being adaptable with the different kinds of users.

The results from the above data only proves that the acceptability of the developed handbook in terms of its adaptability is very adaptable for the raters and for the possible users as well.

Mean Level of Scores given by the Tourist escorts according to the Appropriateness of the Practical English Handbook

Table 4 shows the level of scores given by the local tourist guides focusing on the first criterion, appropriateness. The result of the developed handbook on level of scores given by the local tourist guides in terms of appropriateness as per the first item “support the needs of the local tourist guides with relevance to communication and conversational English”, was 3.90 as its mean and the SD of 0.71 interpreted as “Very Adaptable.”

**Table 4. Mean Level of Scores given by the Local Tourist Guide to Appropriateness**

Appropriateness	Mean	SD	Remarks
1. It supports the needs of the local tourist guides with relevance to communication and conversational English.	3.90	0.71	Very Acceptable
2. The content matches with its objectives in all chapters.	4.00	0.74	Very Acceptable
3. It contributes to the goals and objectives of the tourism.	4.17	0.91	Very Acceptable
4. The handbook is essential and significant to the promotion of tourism in Panguil through its Panguil River Eco Park.	4.43	0.68	Very Acceptable
5. It is helpful to the local tourist guides who work in Panguil River Eco Park.	2.50	0.68	Very Acceptable
Overall	4.20	0.60	Very Acceptable

Legend

Mean	Verbal Interpretation
4.21-5.00	Extremely Acceptable
3.41-4.20	Very Acceptable
2.61-3.40	Moderately Acceptable
1.61-2.60	Slightly Acceptable
1.00-1.60	Not Acceptable

Meanwhile for the next query, which is “content matches with its objectives in all chapters,” the raters gave mean of 4.00 and 0.74 as its SD which was also interested as “Very Adaptable.”

For the third items “contributes to the goals and objectives of the tourism,” it has been given an interpretation “Very Acceptable” with the mean of 4.17 and with a SD of 0.91.

The fourth and last item “handbook is essential and significant to the promotion of tourism in Laguna” and “helpful to the tourist escorts who work in the tourism industry” it had different means of 4.43 and 4.50 but with the same SD=0.68 both described as “Extremely Acceptable.”

Mean Level of Scores given by the tourist escorts according to the Value of the Practical English Handbook.

Table 5 reveals the mean level of validation to its content validity criterion as to aesthetic value. This section gauges the packaging and over-all appearance of the handbook. This covers the colors, textures, text size, illustration, space workability and the like.

As evident with pieces 1 and 2 with the description “contains icons that are visually-pleasing and easy to understand” and “possible users of the handbook will appreciate the output based on its appearance and overall content”. local tourist guides gave “Very Adaptable” with the same mean scores of both 4.03 and different SDs of 0.85 and 0.72 respectively.

Table 5. Mean Level of Scores given by the Local Tourist Guide to Aesthetic Value

Aesthetic Value	Mean	SD	Remarks
1. The teacher – made handbook contains icons that are visually-pleasing and easy to understand	4.03	0.85	Very Acceptable
2. Possible users of the handbook will appreciate the output based on the appearance and over all content.	4.03	0.72	Very Acceptable
3. The handbook makes use of illustrations which are interesting and suited to the lessons.	4.00	0.64	Very Acceptable
4. The handbook uses appropriate text font, size and type.	3.93	0.83	Very Acceptable
5. It contains visuals that fit the level of interests, knowledge and skills of the target learners.	3.90	0.80	Very Acceptable
Overall	3.98	0.63	Very Acceptable



Legend

Mean	Verbal Interpretation
4.21-5.00	Extremely Acceptable
3.41-4.20	Very Acceptable
2.61-3.40	Moderately Acceptable
1.61-2.60	Slightly Acceptable
1.00-1.60	Not Acceptable

Line item 3, “makes use of illustrations which are interesting and suited to the lessons” was assessed as “Very Acceptable” with mean score of 4.00 and SD=0.64. While article 4, which states “uses appropriate font, size and type” obtained 3.93 as its mean score SD= 0.83 with a comment of “Extremely Acceptable”

The final number “contain visual that fit the level of interest, knowledge and skills of the target learners” had the mean of 3.90 and SD=0.80 described as “Very Acceptable”

The over-all mean score of 3.98 and SD which is equivalent to 0.63 proved that the evaluators rated the practical English Handbook as “Very Acceptable” as to its content validity of aesthetic value.

The result was supported by suggestion of Javier (2003) that an instructional material must contain illustration, explanation and drawing to sustain the interest of the students.

Mean Level of Scores given by the English Experts according to the Usability of the Practical English handbook

Table 6 on the next page shows the level of scores given to the English Experts focusing on the first criterion, usability.

Taken into consideration, the developed handbook on level of acceptability in terms of usability as per the first item “can be used by all the local tourist guides regardless of their gender, age, interest and like”, the raters gave 4.10 as the mean and the SD of 0.74 which was interpreted as “Very Acceptable”

Meanwhile for the next query, which is “can be utilized by the local tourist guides in various types of conversation and settings,” the raters gave a mean of 4.40 and 0.52 as its SD which was also interpreted as “Very Acceptable”

For the third, fourth and the last item “local tourist guides may use the handbook in various strategies, techniques, approaches and activities,” “can be easily read by its users,” and “can be easily used at a certain time, place and condition” all had a mean of 4.50 which indicates that it was “Extremely Acceptable” with the same SD of 0.71.

Table 6. Mean Level of Scores given by the English Experts to Usability

Usability	Mean	SD	Remarks
1. The handbook can be used by all the local tourist guides regardless of their gender, age, interest and the like.	4.10	0.74	Very Acceptable
2. It can be utilized by the local tourist guides in various types of conversation and settings.	4.40	0.52	Very Acceptable
3. Local Tourist guides use the handbook in various strategies, techniques, appropriateness and activities.	4.50	0.71	Very Acceptable
4. The handbook can be easily read by its users.	4.50	0.71	Very Acceptable
5. It can be easily used at a certain time, place and condition.	4.50	0.71	Very Acceptable
Overall	4.40	.59	Very Acceptable

Legend

Mean	Verbal Interpretation
4.21-5.00	Extremely Acceptable
3.41-4.20	Very Acceptable
2.61-3.40	Moderately Acceptable
1.61-2.60	Slightly Acceptable
1.00-1.60	Not Acceptable



Thus, the over-all remarks for the first criteria the English experts got the over-all mean of 4.40 with standards deviation of 0.59 of which meant that the practical English handbook was very usable. It also further indicates that all the items for the usability with the level of the scores given by the English experts were “Extremely Adaptable”.

Mean Level of Scores given by the tourist escorts according to the Consistency of the Practical English Handbook.

Table 7 n the next page shows the level of scores given by the English experts on the criterion, consistency.

Table 7 shows the level of the practical English handbook for local tourist guides in terms of consistency. This table, further, shows the mean level of the content validation of handbook criteria as to consistency.

The mean score of 4.50 and SD = 0.63 reveal that the evaluators rated the first item in consistency which “contents f the handbook are well organized” as “Extremely Acceptable.”

Table 7. Mean Level of Scores given by the English Experts to Consistency

Consistency	Mean	SD	Remarks
1. The contents of the handbook are well organized.	4.50	0.53	Very Acceptable
2. Its content is correct, appropriate and relevant with all of its parts.	4.40	0.52	Very Acceptable
3. The vocabulary words useful phrases, sentences and other significant terms are succinct and precise.	4.20	0.79	Very Acceptable
4. The bibliography agrees with the content of the teacher-made handbook.	4.20	0.79	Very Acceptable
5. The pictures or illustrations being shown in the handbook are accurate, clear, and matching the given words..	4.50	0.53	Very Acceptable
Overall	4.36	0.41	Very Acceptable

Legend

Mean	Verbal Interpretation
4.21-5.00	Extremely Acceptable
3.41-4.20	Very Acceptable
2.61-3.40	Moderately Acceptable
1.61-2.60	Slightly Acceptable
1.00-1.60	Not Acceptable

The computed mean score 4.40 for the second entry which item says “content is correct, appropriate and relevant with all of its parts.” and its SD=0.52 were rated as “**Very Acceptable.**”

Items 3 and 4b which say “vocabulary words, useful phrases, sentences and other significant items are succinct and precise” and bibliography agrees with the content of the teacher-made handbook “respectively were evaluated as “**Extremely Acceptable**” both the same mean score of 4.20 and same SD of 0.79.

The final number “pictures or illustrations being shown in the handbook are accurate, clear, and matching the given words” had the mean of 4.50 and SD=0.53 described as “**Extremely Acceptable.**”

As shown in the table, the English experts gave the over-all mean of 4.36 and SD=D, 3=41. Very

consistent was further interpreted as “**Extremely Acceptable.**” in terms of consistency.

Mean Level Scores given by the English Experts according to the Adaptability of the Practical English Handbook

Table 8 on the next page shows the level of scores given by the English experts focusing on the next criterion, adaptability. This shows the mean level of scores given by the English experts according to its content criterion of adaptability. In the table , ratings for adaptability clearly evidence that the items 1 and 2 stating that “local tourist guides may use the handbook as a reference or tool in acquiring knowledge aligned with tourism” and “local tourist guides may use the handbook as a reference or tool in acquiring knowledge aligned with their needs” were both evaluated as



“Extremely Adaptable” bearing the same mean score of 4.30 and SD of 0.48.

In the meantime, the third noting “maybe used in learning different topics with relevance to the nature of work of users “had the computed mean of 4.00 and 0.69 as its SD taken as “Extremely Acceptable.”

The remaining item quoted as “local tourist guides can make new, innovative and competitive

strategies through this” was assessed as “Extremely Acceptable.”

The remaining item quoted as “local tourist guides can make new, innovative and competitive strategies through this” was assessed as “Extremely Acceptable” obtaining different mean score of 4.40 and SD of 0.52.

Table 8. Mean Level of Scores given by the English Experts to Adaptability

Adaptability	Mean	SD	Remarks
1. The local tourist guides may use the handbook as a reference or tool in acquiring knowledge aligned with tourism.	4.30	0.48	Very Acceptable
2. The local tourist guide may use the handbook as a reference or tool in acquiring knowledge aligned with their needs.	4.30	0.48	Very Acceptable
3. It may be used in learning different topics with relevance to thhe nature of work of the users.	4.00	0.67	Very Acceptable
4. The local tourist guides can make new, innovative and competitive strategies through this.	4.40	0.52	Very Acceptable
5.	4.20	0.42	Very Acceptable
Overall	4.24	0.41	Very Acceptable

Legend

Mean	Verbal Interpretation
4.21-5.00	Extremely Acceptable
3.41-4.20	Very Acceptable
2.61-3.40	Moderately Acceptable
1.61-2.60	Slightly Acceptable
1.00-1.60	Not Acceptable

The last item “can help and motivate the local tourist guides with relevance to the use of the English language and facilitate new way of learning in the work environment was found “Extremely Acceptable” obtaining a mean score of 4.20 and SD 0.20.

The over-all mean of 4.20 and SD of 0.41 signifying the range score given by the English experts

to the handbook, according to its content criterion of adaptability is “Extremely Acceptable.”

Mean Level of Scores given by the English Experts according to the Appropriateness of the Practical English Handbook

Table 9 shows the level of scores given by the English experts focusing on the criterion, appropriateness.

Table 9. Mean Level of Scores given by the English Experts to Appropriateness

Appropriateness	Mean	SD	Remarks
1. It supports the needs of the local tourist guides with relevance to communication and conversational English.	4.40	0.52	Extremely Acceptable
2. The content matches with its objectives in all chapters.	4.20	0.79	Extremely Acceptable
3. It contributes to the goals and objectives of the tourism.	4.20	0.79	Extremely Acceptable
4. The handbook is essential and significant to the promotion of tourism in Panguil through its PREP	4.30	0.48	Extremely Acceptable
5. It is helpful to the local tourist guides who work in Panguil, Laguna and PREP	4.40	0.52	Extremely Acceptable
Overall	4.30	0.49	Extremely Acceptable



Legend

Mean	Verbal Interpretation
4.21-5.00	Extremely Acceptable
3.41-4.20	Very Acceptable
2.61-3.40	Moderately Acceptable
1.81-2.60	Slightly Acceptable
1.00-1.80	Not Acceptable

Table 9 shows results of the developed handbook on level of scores given by the English experts in terms of appropriateness as per the first item “supports the needs of the local tourist guides with relevance to communication and conversational English”, the raters gave 4.40 as its mean and the SD of 0.52 which was interpreted as “Extremely Acceptable.”

Meanwhile for the next queries, which are “content matches with its objectives in all chapter” and “contributes to the goals and objectives of tourism”, the raters gave a mean of 4.20 and 0.79 as its SD were also interpreted as “Extremely Acceptable”.

The fourth item “essential and significant to the promotion of tourism in Panguil through its Panguil River Eco Park” had a mean of 4.03, its SD=0.48 described as “Extremely Acceptable”.

The last item “helpful to the local tourist guides who work in Pangil, Laguna and Panguil River Eco Park” had a mean of 4.40 and SD=0.52 described as “Extremely Acceptable”.

Finally, the over-all remarks for the criteria, the English experts got an over-all mean of 4.30 with standard deviation of 0.49 which the practical English handbook was very appropriate. It also further indicates that the items for the appropriateness with the level of the scores given by the evaluators were “Extremely Acceptable”.

Mean Level of Scores given by the English Experts according to the Aesthetic Value of the Practical English Handbook

Table 10 shows the level of scores given by the English experts focusing on the first criterion, usability.

Table 10 on the next page reveals the mean level of validation to its criterion as to aesthetic value. This section gauges the packaging and over-all appearance of the handbook. This covers the colors, textures, text size, illustration, space workability and the like.

As evident with pieces 1 and 2 with the description “contains icons that are visually pleasing and easy to understand” and “possible users of the handbook will appreciate the output based on its appearance and overall content”, English experts gave “Extremely Acceptable” with the same mean score of both 4.50 and SDs of 0.53. Line item 3 “makes use of illustrations which are interesting and suited to the lessons” and item 4 which states “uses appropriate text font, size and type” both obtained 4.30 as its mean score and SD=0.48 with a comment of “Extremely Acceptable”.

Table 10. Mean Level of Scores given by the English Experts to Aesthetic Value

Aesthetic Value	Mean	SD	Remarks
1. The teacher – made handbook contains icons that are visually-pleasing and easy to understand	4.50	0.53	Extremely Acceptable
2. Possible users of the handbook will appreciate the output based on its appearance and overall content.	4.50	0.53	Extremely Acceptable
3. The handbook makes use of illustrations which are interesting and suited to the lessons.	4.30	0.48	Extremely Acceptable
4. The handbook uses appropriate text font, size and type.	4.30	0.48	Extremely Acceptable
5. It contains visuals that fit the level of interests, knowledge and skills of the target learners.	4.40	0.52	Extremely Acceptable
Overall	4.40	0.46	Extremely Acceptable



Legend

Mean	Verbal Interpretation
4.21-5.00	Extremely Acceptable
3.41-4.20	Very Acceptable
2.61-3.40	Moderately Acceptable
1.61-2.60	Slightly Acceptable
1.00-1.60	Not Acceptable

The final number “contains visuals that fit the level of interests, knowledge and skills of the target learners” had the mean of 4.40 and SD=0.52 described as “Extremely Acceptable”.

The over-all mean score of 4.40 and SD which is equivalent to 0.46 proved that the English experts rated the practical English Handbook as “Extremely Acceptable” as to its content validity of aesthetic value.

Significant Difference between the Ratings among the Local Tourist Guides and English Experts Based on Usability

Table 11 shows the significance difference between the ratings of the local tourist guides and English experts based on usability

Table 11. Significant Difference between the Ratings among the tourist escorts and English Experts Based on Usability

Group	Mean	Diff	T	P	Remarks
English Experts	4.400	0.553	2.46	0.024	Significant
Local Tourist Guides	3.847				

The table above shows the significant difference on the rating among the local tourist guides and English experts based on the usability. Experts with the mean of 4.400 have significantly higher rating than of the local tourist guides with the mean of 3.847 at 0.05 level of significance.

This has similarity with the study of Garantuza (2015). He states and clarifies that when it comes to usability of the developed module, there is significant difference between the ratings of the evaluators. On the other hand, as to the study of Crisostomo (2015), usefulness is found not significant

In the difference in the evaluation of the characteristics of the module among the different groups of evaluators.

Significant Difference between the Ratings among the Local Tourist Guides and English Experts Based on Consistency.

Table 12 shows the significance difference on the rating among the local tourist guides and English experts based on consistency.

The table shows the significant difference between the rating of the local tourist guides and English experts based on the consistency. Experts with the mean of 4.360 have significantly higher rating than local tourist guides with the mean of 3.993 at 0.05 level of significance.

Table 12. Significant Difference between the Ratings between the Local Tourist Guides and English Experts Based on Consistency.

Group	Mean	Diff	T	P	Remarks
English Experts	4.360	0.367	2.16	0.042	Significant
Local Tourist Guides	3.993				

This has relevance to the study of Navia (2015) wherein the items as “to work texts external aspect is dependable on its internal or vice versa” found out that the two expert groups had difference in their

ratings, expert 1 got extremely acceptable and expert 2 had very acceptable.

Significant Difference of the Ratings of the Local Tourist Guides and English Experts Based on Adaptability



Table 13 shows the significant difference of the ratings between the tourist escorts and English experts based on adaptability.

Group	Mean	Diff	T	P	Remarks
English Experts	4.240	0.193	1.08	0.289	Not Significant
Local Tourist Guides	4.047				

There is no significant difference between the ratings of the experts and local tourist guides with regard to adaptability with a mean of 4.240 and 4.047 respectively at 0.05 level of significance.

Significant Difference between the Ratings of the tourist escorts and English Experts Based on Appropriateness.

Table 14 shows the significant difference between the ratings of the local tourist guides and English experts based on the appropriateness.

Table 14. Significant Difference between the Ratings of the Local Tourist Guides and English Experts Based on Appropriateness.

Group	Mean	Diff	T	P	Remarks
English Experts	4.300	0.100	0.53	0.605	Not Significant
Local Tourist Guides	4.200				

There is no significant difference between the ratings of the English experts and the local tourist guides in terms of appropriateness. This is very evident with the mean of 4.300 given by the experts and 4.200 given by the tourist guides at 0.05 level of significance.

Significant Difference between the Ratings of the tourist escorts and English Experts Based on Aesthetic Value.

Table 15 shows the significant difference between the ratings of the local tourist guides and English experts based on aesthetic value. Experts with the mean of 4.400 have significantly higher rating than that of the local tourist guides with the mean of 3.980 at 0.05 level of significance.

Table 15. Significant Difference between the Ratings of the tourist escorts and English Experts Based on Aesthetic Value

Group	Mean	Diff	T	P	Remarks
English Experts	4.400	0.420	2.26	0.035	Significant
Local Tourist Guides	3.980				

The findings were supported by Garantuzza (2015) who also showed that the significant result on his developed module since the teacher-evaluators found the module in teaching listening very usable, significant differences were noted among their ratings. The ratings given by the teacher-evaluators with regard to consistency, adaptability, appropriateness and aesthetic value were extremely acceptable and no significant differences were noted.

In contrast, the study of Badillo (2015) showed significant result as the developed vocabulary enhancer 7 in terms of usability, consistency, adaptability, appropriateness and aesthetic value since all the given data had resulted to no significant difference on the ratings of the evaluators and found to be higher than the value of all Pearson correlation at the level of significance at 0.05 or (all $p < 0.05$)

CONCLUSIONS AND RECOMMENDATIONS

In view of the aforementioned findings, the study has drawn the following conclusions:

1. The level of acceptability of the practical English handbook for tourist escorts in terms of usability, consistency, and aesthetic value is very acceptable while adaptability and appropriateness is extremely acceptable.
2. Although the tourist escorts and English expert found the practical English handbook very usable, consistent and visually-pleasing, significant differences were noted among their ratings. The ratings given by the evaluators with regard to adaptability were very acceptable and no significant difference were noted. And the ratings given by the



Evaluators with regard to appropriateness were very acceptable and also no significant differences were noted.

The hypothesis that there is no significant difference among the evaluators' ratings on the handbook in terms of usability, consistency, adaptability, appropriateness and aesthetic value is partly supported.

In the light of the foregoing findings and conclusions of this study, the following recommendations are offered:

1. The tourist escorts in nearby provinces can use the developed practical English handbook as approved by the Municipalities and recommended by the English experts.
2. English teachers may revise, modify and reconstruct practical English handbook in the future depending on the needs of the local tourist guides.
3. Future researchers can further validate the handbook by using it in tourist escorts provided that the results of evaluation are taken into consideration.
4. English teachers can develop handbooks as supplementary material focusing not only on education but also on the different fields such as tourism, business, and the like.
5. The teacher-made handbook may be used for other related studies such as conducting seminars or training for tourist escorts to develop their English language skills.
6. English teachers may give emphasis to developing handbooks and instructional materials. Therefore, English teachers may attend seminars and training programs regarding this skill.

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AN ANALYTICAL STUDY OF TOTAL FDI INFLOW, OUTFLOW AND NET FDI OF FIVE SOUTH ASIAN COUNTRIES OVER THE PERIOD 1992–2019

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ABSTRACT

This present research aims to analyze the total FDI inflow, outflow and net FDI of five South Asian countries over the period 1992–2019. This study is based on 28 years Time series data taken from the World Bank Development Indicators. In order to compare the FDI inflow, outflow and net FDI inflow of India, Pakistan, Sri Lanka, Bangladesh, Nepal over the period 1992–2019, both descriptive and inferential statistical tools such as correlation test, paired t test, the familiar linear regression model, Granger-Causality test, percentage analysis and tables, are used for analysis, hypothesis testing and interpretation of data. This study used various secondary data. Economic development of the developing countries like India, Pakistan, Sri Lanka, Bangladesh, and Nepal largely rely on FDI. However, the study also reveals that in the last two decades, India received 23 times more FDI than Bangladesh, Pakistan, Sri Lanka and Nepal. For attracting more FDI, these nations require to create more congenial and favorable atmosphere towards the foreign investors. It is also concluded that the after implementing make in India campaign investing countries in total FDI inflow are increased.

KEYWORDS: FDI inflow, FDI outflow, GDP growth.

INTRODUCTION

The rapid expansion in FDI in India paves the way all over the country. Foreign Direct Investment (FDI) has played an important role in the process of globalization during the past two decades. South Asia has done very well historically in attracting foreign direct investment. It was one of the first emerging regions to welcome FDI as part of a strategy of export-led development and, as a result, its shares both of emerging market FDI inflows and of global exports grew quickly in the period of 1992–2019. The rapid expansion in FDI by multinational enterprises since the mid-eighties may be attributed to significant changes in technologies, greater liberalization of trade and investment regimes, and deregulation and privatization of markets in many countries including developing countries like India. Capital formation is an important determinant of economic growth. While domestic investments add to the capital stock in an economy, FDI plays a complementary role in overall capital formation and in filling the gap between domestic savings and investment.

Hypothesis

FDI inflow in India is continuously increasing than other four nations over the period from 1992–2019.

Analysis Procedure

The used data has been presented through tabular and graphical analysis to make a clear view of the five selected countries. In addition, a comparison of the ratios between the five countries for a year and for all the countries over the period of 1992 to 2019 has been made to analyze the comparative FDI inflow ratios, outflows ratios and net FDI ratios. I used a ratio analysis for comparison of the FDI inflows outflows ratios and net FDI ratios.

LITERATURE REVIEW

Jumanne and Keong (2017)¹ examined the direct role played by governments of the SSA low-income countries to attract potential FDI inflows in their accountabilities as advocates of public sector



management and institutions for poverty reduction. The study employs panel data for low-income economies over the period 2005-2015. Panel unit root tests by IPS and Fisher-ADF are applied to test for data stationary thus furthering the conduct of panel Co-integration analysis using Pedroni tests. Both tests confirm for data stationary and long-run relationships.

Gupta (2017)² found that whether human capital plays a vital role in the distribution of foreign direct investments (FDI) across Indian states and attracts FDI to India. The results from the national level study, undertaken for the period 1975-2013 show that the improvement in human capital does not cause growth in FDI inflows, and the growth in FDI inflows does not cause improvement in human capital. The results of panel regression, undertaken for period 2000-2010 show that the differences in the endowment of human capital do not explain the variations in the distribution of FDI across the states; rather, size of the market reflected in the State Gross Domestic Product, availability of cheap labour, and infrastructure for power supply are the crucial factors affecting the FDI distribution across the states.

Bayar & Naib (2016)³, investigated the interaction between corruption and foreign direct investment inflows in 23 emerging market economies during the period 2002-2014 by employing Wasteland-Durbin-Hausman (2008) co integration test. We found that control of corruption and rule of law had no statistically significant impact on attraction of foreign direct investments in overall panel.

Sharma and Dr. Singh (2016)⁴ elaborated FDI in India encompasses a vital role in the economic process and development of India. FDI in Asian country in numerous sectors will achieve intensification in economy through formation of jobs. In this paper the study examines the major features of FDI and also checks the impact of various economic indicators which help to pull the inflow of FDI in Indian economy. The purpose of the study is to find out the status of inflows of FDI in post and pre-Liberalized period. "For Indians FDI is a responsibility, it means to First Develop India, for global investors FDI is an opportunity in the form of Foreign Direct Investment. (Source: "FDI as Drivers of Growth in Economic sectors, 2015")

Dr. Rajeswari & Akilandeswari, (2015)⁵ explained that FDI has given a major boost to global integration process, by linking capital and labour markets and by raising wages and capital productivity in recipient countries. With newly liberalized trade and investment regimes and new technologies lowering transport and communication costs, multinational firms have evolved increasingly global strategies to capture the large savings arising from specialization and dispersion of activities. World network of multiple linkages has developed

intra-firm trade across national and their affiliates in developing as well as developed countries.

Research Questions

1. Which country is attracting highest FDI inflow?
2. How much is India getting regarding FDI inflow?

METHODOLOGY OF THE STUDY

This study mainly based on secondary time series data. The data has been collected from the World Bank Indicators database over the period 1992-2019. The Time series data estimation will capture the dynamic behaviour of the parameters and will provide more efficient estimation and information of the parameters. This study is fully analysis in nature where all tables and charts are computed using EXCEL sheet.

Time Period of the Study

The data used in this study is quantitative in nature and borrowed from the World Bank development indicators data base. The data contains 28 years of data from the year 1992 to 2019.

Statistical Methods to Be Used

This study includes statistical methods like Descriptive statistics, Mean, Standard Deviation, Correlation, Regression, etc. using MS-Excel and SPSS. And summery statistics has been used to comparison of all five nations regarding FDI inflow, outflow and net FDI.

FDI in Developing Countries

The flow of FDI to the LDC is still very thin with the exception of India and Vietnam constituting less than one percent of the global FDI inflows. About 80 percent of FDI is confined within developed countries (Bahar, H. Murtaza, M. G. 2006). This denotes that investments from developed and developing countries are heading mainly for developed countries. In fact, even investments from least developed countries, though small in volume, are also heading for developed countries. This is rather unfortunate; especially in the context that the governments of almost all the LDCs and the developing countries have been trying to attract FDI with policy formulation and other attractions.

Macro-economic Reforms/Performance of South Asian Countries

India: Economic reforms started in the early eighties, but a comprehensive liberalization and privatization process started in July 1991 in the backdrop of the balance of payment crisis and foreign exchange liquidity crisis faced by the economy. Since then, there have been attempts to integrate the Indian economy with the rest of the world in a variety of ways, i.e., the removal of quantitative restrictions, reducing tariffs and exchange rate flexibility. India launched its second-generation reforms in 2002, with a focus on reducing the fiscal deficit, improving infrastructure, reforming labor laws and energizing



the states to participate actively in stepping up the pace of reforms. India raised its FDI limits in many important sectors including telecommunication, banking and insurance and civil aviation.

Pakistan: Though several reform measures were carried out prior to 2001, formally the economic reforms program had its genesis in the year 2001 when Pakistan signed a three years' agreement with IMF under the Poverty Reduction and Growth Facility (PRGF) program. Since its approval, seven program reviews have been completed successfully and discussions for the eighth review have been scheduled for April 2006. The key to restoring growth has been the authorities determined implementation of sound financial policies and structural reforms including tax reform, financial sector reform, investment policies including FDI policy, and enterprise reform. These policies have reduced distortions and increased efficiency, and also lifted uncertainty about the future course of economic policies.

Sri Lanka: In 1977, Sri Lanka became the first among all the South Asian economies to open up its economy to the outside world, and even to this day it remains one of the most outward oriented economies in the region. The economic reforms, from their inception, marked a sharp shift from a relatively closed economy prioritizing import substitution policies to a liberalized market and an export-oriented economy.¹⁰ Some of the major reforms were carried out in the areas of: (i) liberalization of trade policy and exchange rate system; (ii) export promotion and incentives to investment, and (iii) the rationalization of public expenditure.

Bangladesh: Major reforms were implemented as a part of structural adjustment policies under the auspices of the World Bank and the IMF in the 1980s and early 1990s. The efforts

started with World Bank structural and sectoral adjustment loans (SALs and SECLs) in 1980. IMF introduced a three-year structural adjustment facility (SAF) in 1986 under which major reform initiatives were undertaken in areas such as agricultural policy, trade and industrial policy, along with privatization and public enterprise reforms, fiscal policy reform and financial sector reform. Moreover, the implementation of these reforms gained momentum during the 1990s.

Nepal: In line with changes in the development aid strategy of donors, Nepal embarked upon a new economic policy regime in the mid 1980s. It has carried out various components of economic reform policies including fiscal, trade and FDI policies during the last decade. Quantitative restrictions on imports have been fully removed. Customs duties have been rationalized and substantially reduced. Reforms have also been executed on the foreign exchange front. However, political instability has stopped the reform process and the ambitions of the business community.

FDI INFLOWS TO FIVE SOUTH ASIAN NATIONS: A COMPARATIVE ANALYSIS

In 1992-2019 the top five FDI recipient countries of South Asia is India. Since 1992, India has also been figuring among the top five South Asian nations. India has become the first economy from South Asia, to reach the league of top five countries during the period of 1992-2019. However, in terms of share of total Asian FDI inflows, India is still much below that of China, Hong Kong and Singapore. Table 1 depicts the FDI inflows, outflows, and net FDI of India for the period of 1992 to 2019.

FDI SCENARIO IN INDIA

Table-1: FDI in India from 1992 to 2019

INDIA						
Time	FDI, N (Bop, current)	FDI, N (m \$)	FDI, NI (Bop, current)	FDI, NI (m\$)	FDI, NO (Bop, current)	FDI, NO (m\$)
1992	-\$276,512,439	-276.51m	\$276,512,439	276.51m	\$24,000,000	24.00m
1993	-\$550,019,384	-550.02m	\$550,370,025	550.37m	\$350,641	0.35m
1994	-\$890,688,166	-890.69m	\$973,271,469	973.27m	\$82,583,303	82.58m
1995	-\$2,026,439,031	-2026.44m	\$2,143,628,110	2143.63m	\$117,189,079	117.19m
1996	-\$2,186,732,315	-2186.73m	\$2,426,057,022	2426.06m	\$2,393,247,067	2393.25m
1997	-\$3,464,411,052	-3464.41m	\$3,577,330,042	3577.33m	\$112,918,990	112.92m
1998	-\$2,587,058,630	-2587.06m	\$2,634,651,658	2634.65m	\$47,593,027	47.59m
1999	-\$2,089,233,597	-2089.23m	\$2,168,591,054	2168.59m	\$79,357,457	79.36m
2000	-\$3,074,684,332	-3074.68m	\$3,584,217,307	3584.22m	\$5,095,329,745	5095.33m
2001	-\$4,073,961,343	-4073.96m	\$5,128,093,562	5128.09m	\$1,054,132,218	1054.13m
2002	-\$3,947,895,992	-3947.90m	\$5,208,967,106	5208.97m	\$1,261,071,115	1261.07m
2003	-\$2,444,138,426	-2444.14m	\$3,681,984,671	3681.98m	\$1,237,846,245	1237.85m



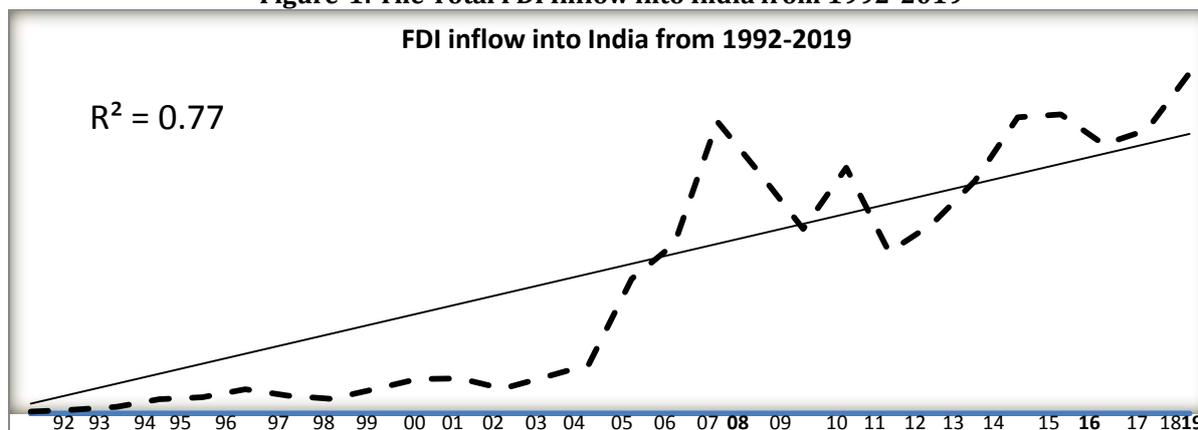
2004	-\$3,592,188,066	-3592.19m	\$5,429,250,990	5429.25m	\$1,837,062,923	1837.06m
2005	-\$4,628,652,265	-4628.65m	\$7,269,407,226	7269.41m	\$2,640,754,960	2640.75m
2006	-\$5,992,285,935	-5992.29m	\$20,029,119,267	20029.12m	\$14,036,833,332	14036.83m
2007	-\$8,201,628,958	-8201.63m	\$25,227,740,887	25227.74m	\$17,026,111,929	17026.11m
2008	-\$24,149,749,830	-24149.75m	\$43,406,277,076	43406.28m	\$19,256,527,246	19256.53m
2009	-\$19,485,789,183	-19485.79m	\$35,581,372,930	35581.37m	\$16,095,583,747	16095.58m
2010	-\$11,428,785,746	-11428.79m	\$27,396,885,034	27396.89m	\$15,968,099,288	15968.10m
2011	-\$23,890,659,988	-23890.66m	\$36,498,654,598	36498.65m	\$12,607,994,610	12607.99m
2012	-\$15,442,447,343	-15442.45m	\$23,995,685,014	23995.69m	\$8,553,237,671	8553.24m
2013	-\$26,388,082,470	-26388.08m	\$28,153,031,270	28153.03m	\$1,764,948,800	1764.95m
2014	-\$22,890,162,761	-22890.16m	\$34,576,643,694	34576.64m	\$11,686,480,933	11686.48m
2015	-\$36,495,216,491	-36495.22m	\$44,009,492,130	44009.49m	\$7,514,275,639	7514.28m
2016	-\$39,411,278,940	-39411.28m	\$44,458,571,546	44458.57m	\$5,047,292,606	5047.29m
2017	-\$28,875,941,053	-28875.94m	\$39,966,091,359	39966.09m	\$11,090,150,305	11090.15m
2018	-\$30,699,661,201	-30699.66m	\$42,117,450,737	42117.45m	\$11,417,789,536	11417.79m
2019	-\$38,504,400,322	-38504.40m	\$50,605,327,354	50605.33m	\$12,100,927,032	12100.93m
Total	-\$367,688,705,261	-367688.71m	\$541,074,675,576	541074.68m	\$180,149,689,445	180149.69m

Source: World Bank Database

In above table, that is table-1, in which the data regarding FDI inflow, outflow, and net FDI of India from 1992-2019, i.e. 28 years data are there, where it is obvious that the total net FDI in India is negative that shows that outflow is not much more than

inflow, that is in number -367688.71m USD. Moreover, the total FDI inflow in 28 years of time period is 541074.68m USD whereas the outflow is 180149.69m USD. This is shown in graphically below with individual graph.

Figure-1: The Total FDI Inflow into India from 1992-2019



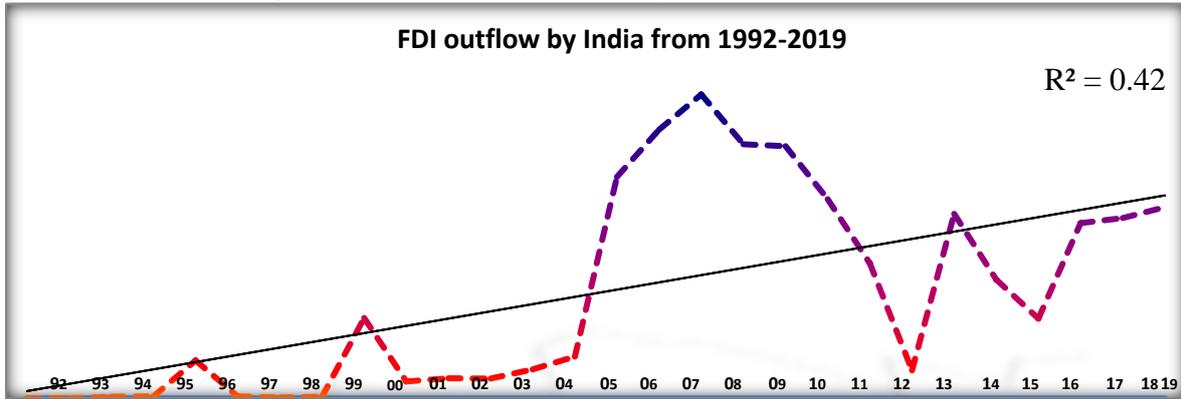
Source: Computed in Excel

The Figure-1, that FDI inflow into India from 1992-2019, i.e. 28 years data have been shown, where one trend line has been computed which shows that the inflow of FDI into India is increasing year by year. From 1992 to 2004, it is little bit fluctuating but

increasing in nature but after 2005 it has been suddenly increased up to 2008 that is from 5429.25 mUSD to 43406.28 m USD. Again it has been decreasing and increasing and so on. And it is highest in 2019 i.e. 50605.33 m USD.



Figure-2: The Total FDI Outflow by India from 1992-2019

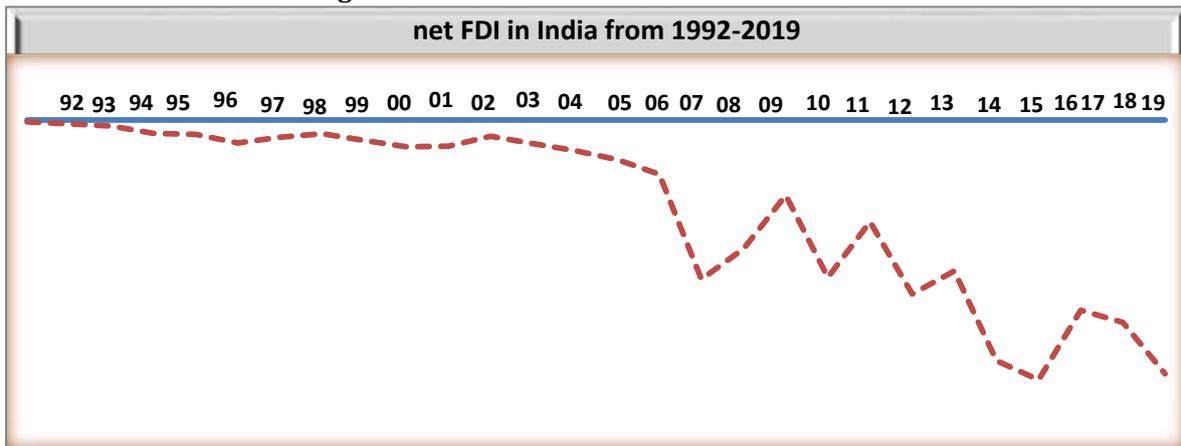


Source: Computed in Excel

The Figure-2, that shows the FDI out flow from India from 1992-2019, where one trend line has been drawn which shows that the out flow of FDI by India is increasing slowly but after 2004 it has been increased rapidly up to 2007 i.e. from 1837.06 m USD to 19256.53 m USD. Again the slope has been

decreased for one year slowly up to 2008, then for one year it is stable till 2009, then after it has been downward rapidly up to 2012. It is then in upward then downward. Finally it is 12100.93 m USD in 2019. However, the FDI out flow is high in 2008, i.e. 19256.53 m USD.

Figure-3: The Net FDI in India from 1992-2019



Source: Computed in Excel

The Figure-3 shows the net FDI in India from 1992-2019, where it is depicted that the net FDI is negative. Gradually it has been downward up to

2019, i.e. -38504.40 m USD. In 2017 it is very low that is -39411.28 m USD.

FDI Scenario in Pakistan

Table-2: FDI in Pakistan from 1992 to 2019

PAKISTAN						
Year	FDI, N (BoP, current)	FDI, N (m \$)	FDI, NI (BoP, current)	FDI, NI (m \$)	FDI, NO (BoP, current)	FDI, NO (m \$)
1992	-348059754	-348.06m	336479857	336.48m	-11579897	-11.58m
1993	-350710419	-350.71m	348556958	348.56m	-2153461	-2.15m
1994	-420058005	-420.06m	421024638	421.02m	966634	0.97m
1995	-722221107	-722.22m	722631561	722.63m	410453	0.41m
1996	-915190761	-915.19m	921976183	921.98m	6785421	6.79m
1997	-740567596	-740.57m	716253125	716.25m	-24314471	-24.31m
1998	-456000000	-456.00m	506000000	506.00m	50000000	50.00m



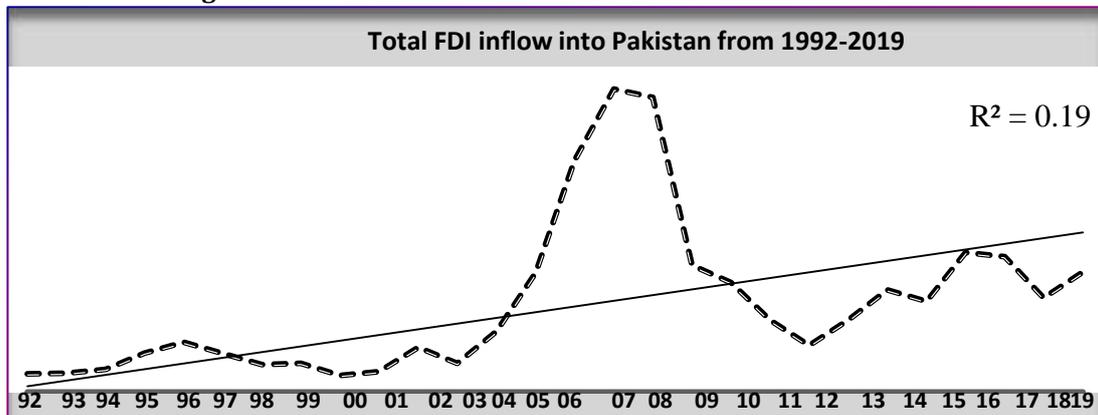
1999	-511000000	-511.00m	532000000	532.00m	21000000	21.00m
2000	-297000000	-297.00m	308000000	308.00m	11000000	11.00m
2001	-352000000	-352.00m	378000000	378.00m	26000000	26.00m
2002	-795000000	-795.00m	826000000	826.00m	31000000	31.00m
2003	-515000000	-515.00m	534000000	534.00m	19000000	19.00m
2004	-1062000000	-1062.00m	1118000000	1118.00m	56000000	56.00m
2005	-2156000000	-2156.00m	2201000000	2201.00m	45000000	45.00m
2006	-4164000000	-4164.00m	4273000000	4273.00m	109000000	109.00m
2007	-5492000000	-5492.00m	5590000000	5590.00m	98000000	98.00m
2008	-5389000000	-5389.00m	5438000000	5438.00m	49000000	49.00m
2009	-2267000000	-2267.00m	2338000000	2338.00m	71000000	71.00m
2010	-1975000000	-1975.00m	2022000000	2022.00m	47000000	47.00m
2011	-1264000000	-1264.00m	1326000000	1326.00m	62000000	62.00m
2012	-782000000	-782.00m	859000000	859.00m	77000000	77.00m
2013	-1121000000	-1121.00m	1333000000	1333.00m	212000000	212.00m
2014	-1765000000	-1765.00m	1887000000	1887.00m	122000000	122.00m
2015	-1648000000	-1648.00m	1673000000	1673.00m	25000000	25.00m
2016	-2524000000	-2524.00m	2576000000	2576.00m	52000000	52.00m
2017	-2444000000	-2444.00m	2496000000	2496.00m	52000000	52.00m
2018	-1758000000	-1758.00m	1737000000	1737.00m	-21000000	-21.00m
2019	-2225000000	-2225.00m	2218000000	2218.00m	-7000000	-7.00m
Total	-44458807642	-44458.81m	45635922322	45635.92m	1177114679	1177.11m

Source: World Bank Database

In above table, that is table-2, in which the data regarding FDI inflow, outflow, and net FDI of Pakistan from 1992-2019, i.e. 28 years data have been shown, where the total net FDI is in negative

that is -44458.81 m USD during this 28 years time period. In the mean time, the FDI inflow in to Pakistan is 45635.92 m USD during this 28 periods and the out flow is 1177.11 m USD.

Figure-4: The Total FDI Inflow into Pakistan from 1992-2019



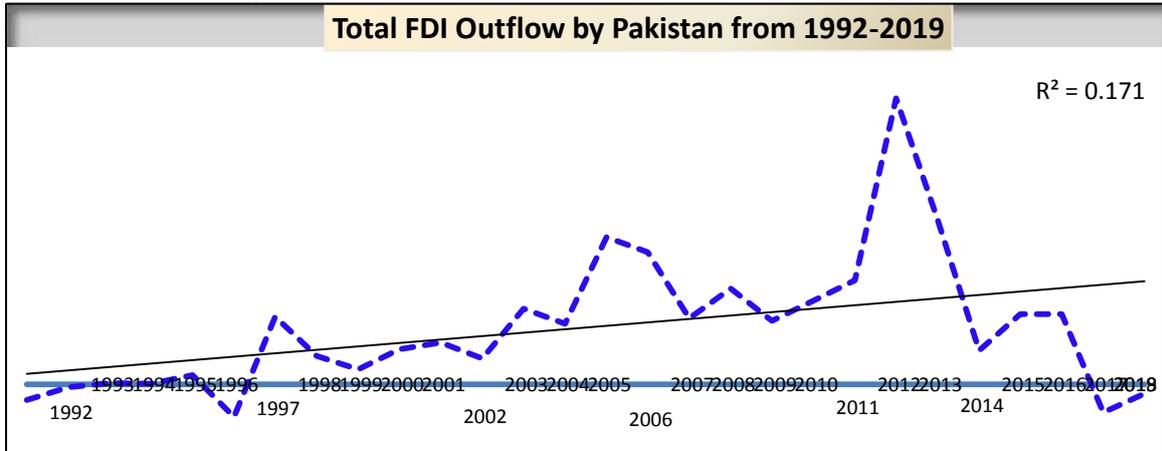
Source: Computed in Excel

FDI inflow in to Pakistan is depicted in Figure-4, where it is shown that FDI is coming slowly from 1992 to 2003 but after this there is a record rise in FDI inflow from 2003 to 2007 that is 534 m USD to 5590 m USD. Again it has been sharply declined to

around 2338 m USD. Then fluctuation is there in trend and in 2019 it is 2496 m USD.



Figure-5: The Total FDI Outflow by Pakistan from 1992-2019

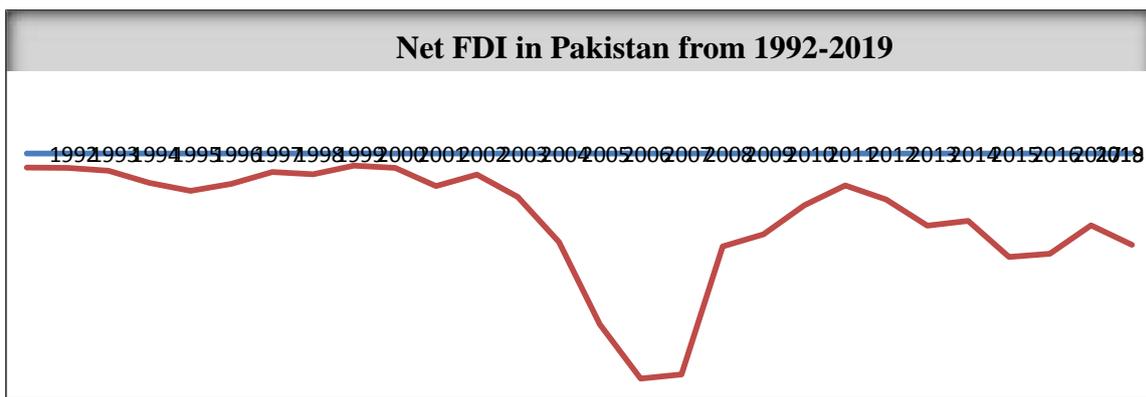


Source: Computed in Excel

In Figure-5, regarding the FDI out flow from Pakistan, initially it is negative that is -11.58 m USD and after the year goes on there is increasing in out flow with little bit fluctuating and after 2011 it has

been sharply inclined in trend to 212 m USD then sharp declining to 25 m USD in 2014. In 2019 it is -7 m USD.

Figure-6: The Net FDI in Pakistan from 1992-2019



Source: Computed in Excel

In Figure-6, regarding the net FDI in Pakistan, that is totally in negative in trend. In 2006 it is -5492 m USD which is very low. Then when year goes on

there is little bit increasing in net FDI from -5492 m USD to -782 m USD in 2012. And in 2019 it is -2225 m USD.

FDI Scenario in Sri Lanka

Table -3: FDI in Sri Lanka from 1992 to 2019

SRI LANKA						
Year	FDI, N (BoP, current)	FDI, N (m \$)	FDI, NI (BoP, current)	FDI, NI (m \$)	FDI, NO (BoP, current)	FDI, NO (m \$)
1992	0	0	0	0	0	0
1993	-121000439	-121.00m	122625843	122.63m	1625405	1.63m
1994	-187581304	-187.58m	194479070	194.48m	6897767	6.90m
1995	-158157932	-158.16m	166412940	166.41m	8255008	8.26m
1996	-55995588	-56.00m	55995588	56.00m	5596667	5.60m



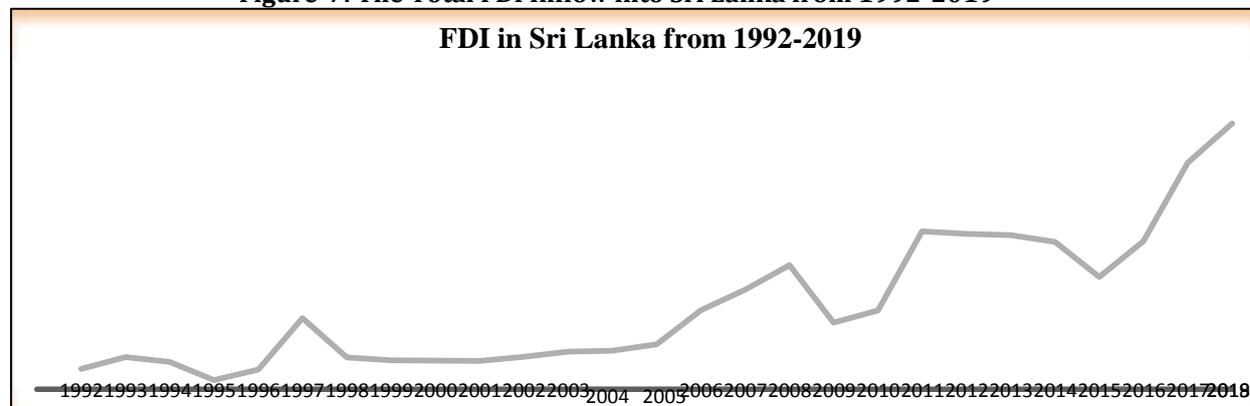
1997	-119874350	-119.87m	119874350	119.87m	6918889	6.92m
1998	-430056152	-430.06m	430056152	430.06m	5000000	5.00m
1999	-193424024	-193.42m	193424023	193.42m	13000000	13.00m
2000	-176410171	-176.41m	176410171	176.41m	24000000	24.00m
2001	-172941410	-172.94m	172941410	172.94m	2000000	2.00m
2002	-171790000	-171.79m	171790000	171.79m	1000	0.00m
2003	-185050000	-185.05m	196500000	196.50m	11450000	11.45m
2004	-201410000	-201.41m	228720000	228.72m	27310000	27.31m
2005	-227010000	-227.01m	232800000	232.80m	5790000	5.79m
2006	-234000000	-234.00m	272400000	272.40m	38400000	38.40m
2007	-450400000	-450.40m	479700000	479.70m	29300000	29.30m
2008	-548000000	-548.00m	603000000	603.00m	55000000	55.00m
2009	-690500000	-690.50m	752200000	752.20m	61700000	61.70m
2010	-384000000	-384.00m	404000000	404.00m	20000000	20.00m
2011	-435059000	-435.06m	477559000	477.56m	42500000	42.50m
2012	-895920000	-895.92m	955920000	955.92m	60000000	60.00m
2013	-877190943	-877.19m	941116591	941.12m	63925648.5	63.93m
2014	-867477988	-867.48m	932551317	932.55m	65073329.77	65.07m
2015	-826805651	-826.81m	893628980	893.63m	66823329.77	66.82m
2016	-626668320	-626.67m	679655644	679.66m	52987324.45	52.99m
2017	-660241239	-660.24m	897049376	897.05m	236808136.8	236.81m
2018	-1300931667	-1300.93m	1372723043	1372.72m	71791375.69	71.79m
2019	-1542687404	-1542.69m	1610543974	1610.54m	67856570.54	67.86m
Total	-12740583582	-12740.58m	13734077472	13734.08m	1050010451	1050.01m

Source: World Bank Database

In above table, that is table-3, in which the data regarding FDI inflow, outflow, and net FDI of Sri Lanka from 1992-2019, i.e. 28 years data have been shown, where the total net FDI is in negative that is -

12740.58m USD during this 28 years time period. In the mean time, the FDI inflow in to Sri Lanka is 13734.08m USD during this 28 periods and the out flow is 1050.01m USD.

Figure-7: The Total FDI Inflow into Sri Lanka from 1992-2019



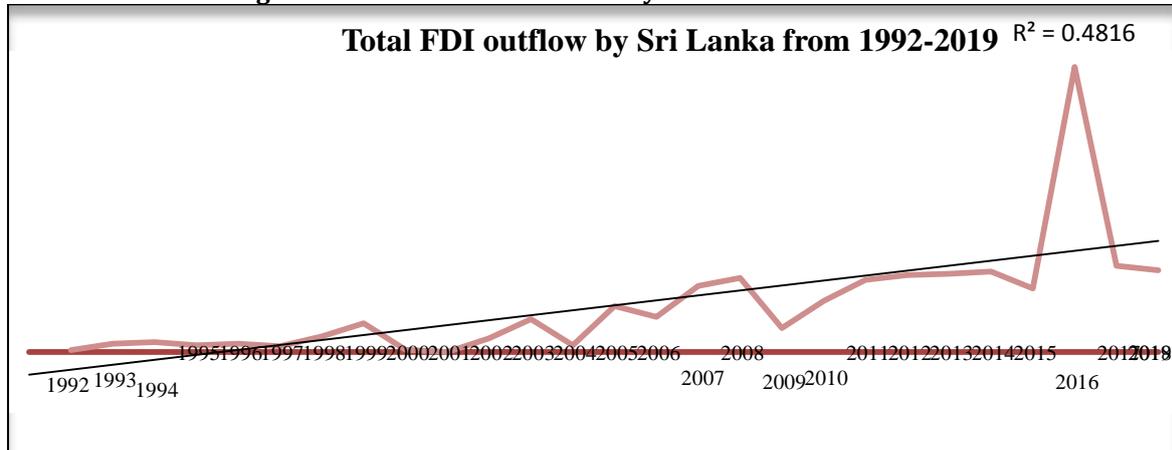
Source: Computed in Excel

The Figure-7, that FDI inflow into Sri Lanka from 1992-2019, i.e. 28 years data have been shown, where one trend line has been computed which shows

that the inflow of FDI into Sri Lanka is increasing year by year. From 1998 to 2005, it is constantly increasing but in slow rate after 2005 it has been

suddenly increased up to 2008 that is from 232.80 mUSD to 752.20 m USD. Again it has been decreasing and increasing and so on. And it is highest in 2019 i.e. 1610.54 m USD.

Figure-8: The Total FDI Outflow by Sri Lanka from 1992-2019

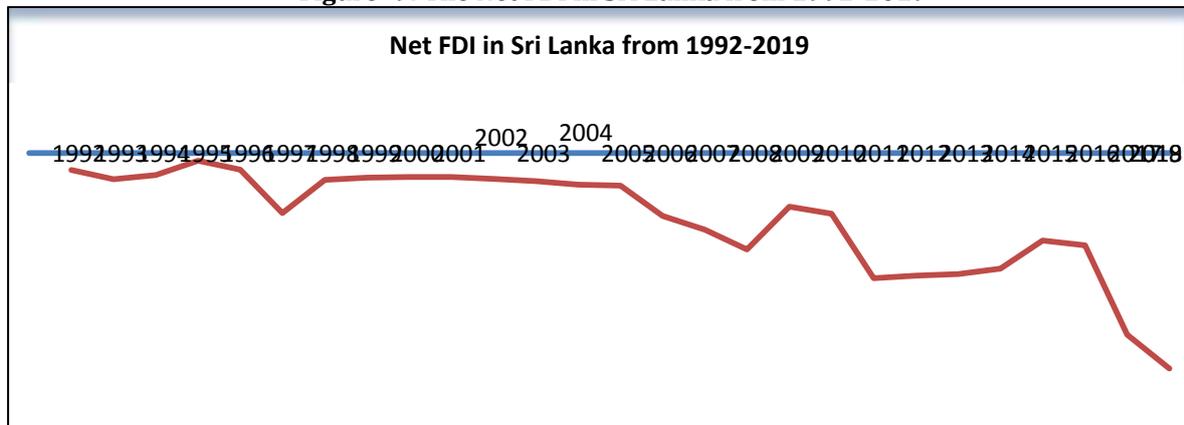


Source: Computed in Excel

The Figure-8, that shows the FDI out flow from Sri Lanka from 1992-2019, where one trend line has been drawn which shows that the out flow of FDI by Sri Lanka is increasing slowly but after 2014 it has

been increased rapidly up to 2017. Again the slope has been decreased for one year slowly up to 2018. Finally it is 67.86 m USD in 2019. However, the FDI out flow is high in 2016, i.e. 236.81 m USD.

Figure- 9: The Net FDI in Sri Lanka from 1992-2019



Source: Computed in Excel

In Figure-9, regarding the net FDI in Sri Lanka, that is totally in negative in trend. In 2019 it is very low that is USD -1542.69 m.

FDI Scenario in Bangladesh

Table 4: FDI in Bangladesh from 1992 to 2019

BANGLADESH						
Year	FDI, N (Bop, current)	FDI, N (m \$)	FDI, NI (Bop, current)	FDI, NI (m \$)	FDI, NO (Bop, current)	FDI, NO (m \$)
1992	-3721853.382	-3.72m	3721853.382	3.72m	100000	0.10m
1993	-14049886.52	-14.05m	14049886.52	14.05m	200000	0.20m
1994	-11147788.33	-11.15m	11147788.33	11.15m	200000	0.20m
1995	-1896372.127	-1.90m	1896372.127	1.90m	1700000	1.70m
1996	-13529831.54	-13.53m	13529831.54	13.53m	12500000	12.50m
1997	-136310534.1	-136.31m	139376153.1	139.38m	3065618.981	3.07m



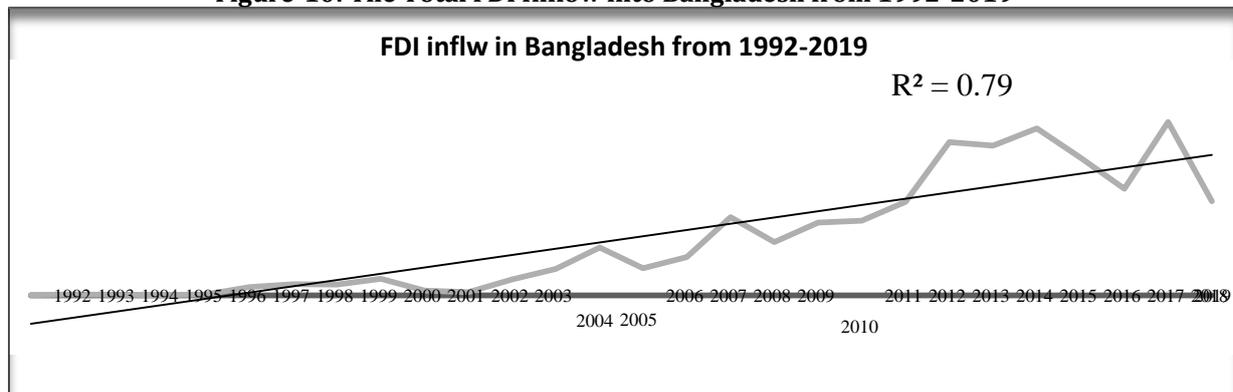
1998	-187057212.5	-187.06m	190059373	190.06m	3002160.476	3.00m
1999	-179603006.3	-179.60m	179603006.3	179.60m	59964	0.06m
2000	-280384629.7	-280.38m	280384629.7	280.38m	2000000	2.00m
2001	-78527040.08	-78.53m	78527040.08	78.53m	20600000	20.60m
2002	-49662443.99	-49.66m	52304931.04	52.30m	2642487.047	2.64m
2003	-265507414.1	-265.51m	268285231.8	268.29m	2777817.74	2.78m
2004	-444836578	-444.84m	448905400.7	448.91m	4068822.751	4.07m
2005	-811382056.1	-811.38m	813321971.9	813.32m	1939915.771	1.94m
2006	-452928348.1	-452.93m	456523167.7	456.52m	3594819.617	3.59m
2007	-516766232.5	-516.77m	651029738.1	651.03m	134263505.5	134.26m
2008	-1137762261	-1137.76m	1328422987	1328.42m	190660725.3	190.66m
2009	-720457353.6	-720.46m	901286583.1	901.29m	180829229.6	180.83m
2010	-1165816161	-1165.82m	1232258247	1232.26m	66442085.51	66.44m
2011	-967290773.5	-967.29m	1264725163	1264.73m	297434389.8	297.43m
2012	-1295344530	-1295.34m	1584403460	1584.40m	289058929.5	289.06m
2013	-2056085293	-2056.09m	2602962095	2602.96m	546876802.6	546.88m
2014	-2497421016	-2497.42m	2539190940	2539.19m	41769923.69	41.77m
2015	-2771250741	-2771.25m	2831152765	2831.15m	59902023.75	59.90m
2016	-2292208318	-2292.21m	2332724781	2332.72m	40516462.34	40.52m
2017	-1683653529	-1683.65m	1810395804	1810.40m	126742274.7	126.74m
2018	-2924997078	-2925.00m	2940222420	2940.22m	15225341.73	15.23m
2019	-1597937389	-1597.94m	1596754107	1596.75m	-1183281.155	-1.18m
Total	-24557535671	-24557.54m	26567165727	26567.17m	2046990019	2046.99m

Source: World Bank Database

In above table, that is table-4, in which the data regarding FDI inflow, outflow, and net FDI of Bangladesh from 1992-2019, i.e. 28 years data have been shown, where the total net FDI is in negative

that is -24557.54m USD during this 28 years time period. Whereas, the FDI inflow in to Bangladesh is 26567.17m USD during this 28 periods and the out flow is 2046.99m USD.

Figure-10: The Total FDI Inflow into Bangladesh from 1992-2019



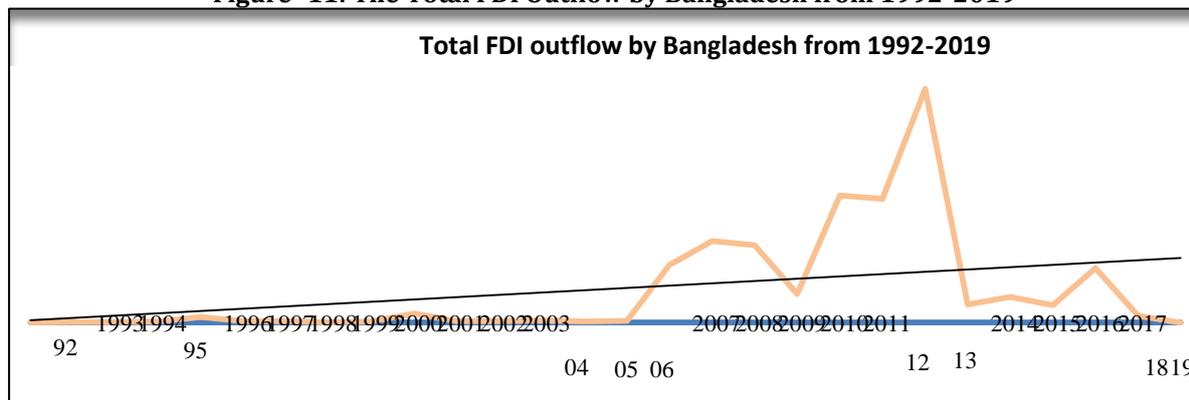
Source: Computed in Excel

The Figure-10, that FDI inflow into Bangladesh from 1992-2019, i.e. 28 years data have been shown, where one trend line has been computed which shows that the inflow of FDI into Bangladesh is increasing year by year but in decreasing rate. From 1992 to 1995, it is constantly increasing but in slow rate after

2003 it has been increased then decreased and so on up to 2014. Again it has been decreasing and increasing and so on. And 2017 onwards it has been decreased from USD 2940 m to 1596 m USD in 2019.



Figure- 11: The Total FDI Outflow by Bangladesh from 1992-2019

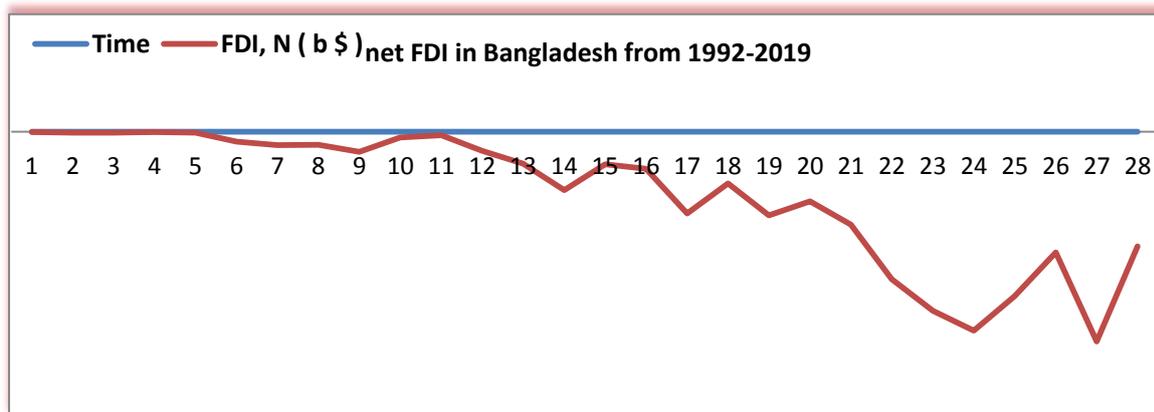


Source: Computed in Excel

The Figure-11, that shows the FDI out flow from Bangladesh from 1992-2019, where one trend line has been drawn which shows that the out flow of FDI by Bangladesh is increasing with slow rate up to

2005. And it is increased till 2012. However; a sharp decline appeared after 2012 that is from 546.88m USD to 41.77 m USD.

Figure-12: The Net FDI in Bangladesh from 1992-2019



Source: Computed in Excel

In Figure-12, regarding the net FDI in Bangladesh, that is totally in negative in trend. In 2017 it is - 2925.00 m USD which is very low.

FDI Scenario in Nepal

Table -5: FDI in Nepal from 1992 to 2019

NEPAL						
Year	FDI, N (Bop, current)	FDI, N (m \$)	FDI, NI (Bop, current)	FDI, NI (m \$)	FDI, NO (Bop, current)	FDI, NO (m \$)
1992	0	0	0	0	0	0
1993	0	0	0	0.00M	0	0
1994	0	0	0	0.00M	0	0
1995	0	0	0	0.00M	0	0
1996	0	0	0	0.00M	0	0
1997	-19160171.09	-19.16M	19160171.09	19.16M	0	0
1998	-23056467.77	-23.06M	23056467.77	23.06M	0	0
1999	-12024659.9	-12.02M	12024659.9	12.02M	0	0
2000	-4351068.682	-4.35M	4351068.682	4.35M	0	0



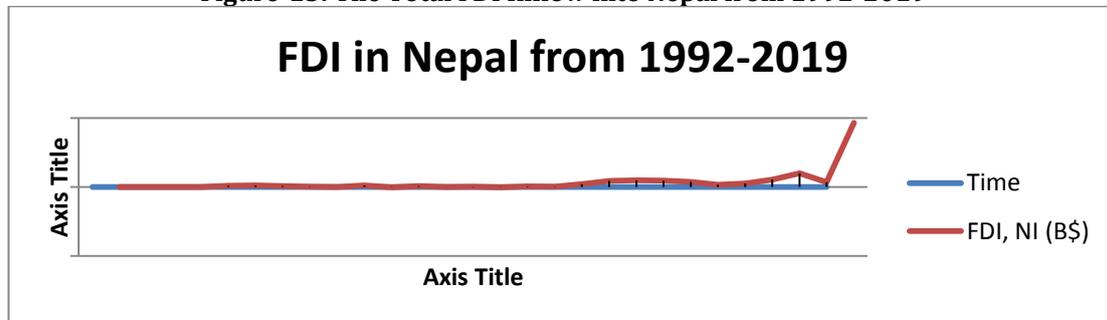
2001	484826.7123	0.48M	-484826.7123	-0.48M	0	0
2002	0	0	20850000	20.85M	0	0
2003	5952541.127	5.95M	-5952541.127	-5.95M	0	0
2004	-14778085.61	-14.78M	14778085.61	14.78M	0	0
2005	417346.3839	0.42M	-417346.3839	-0.42M	0	0
2006	-2451784.707	-2.45M	2451784.707	2.45M	0	0
2007	6647983.904	6.65M	-6647983.904	-6.65M	0	0
2008	-5741706.053	-5.74M	5741706.053	5.74M	0	0
2009	-995123.9307	-1.00M	995123.9307	1.00M	0	0
2010	-38271269.97	-38.27M	38271269.97	38.27M	0	0
2011	-87741711.63	-87.74M	87741711.63	87.74M	0	0
2012	-94022157.12	-94.02M	94022157.12	94.02M	0	0
2013	-91954196.1	-91.95M	91954196.1	91.95M	0	0
2014	-74179632.61	-74.18M	74179632.61	74.18M	0	0
2015	-30402676.78	-30.40M	30402676.78	30.40M	0	0
2016	-51895699.93	-51.90M	51895699.93	51.90M	0	0
2017	-105996375.6	-106.00M	105996375.6	106.00M	0	0
2018	-196265098.6	-196.27M	196265098.6	196.27M	0	0
2019	-68186670.75	-68.19M	68186670.75	68.19M	0	0
Total	-1815943717	20.85M	928821858.7	928.82M	0	0

Source: World Bank Database

In above table, that is table-5, in which the data regarding FDI inflow, outflow, and net FDI of Nepal from 1992-2019, i.e. 28 years data have been shown, where the total net FDI is 20.85 m USD during this 28 years time period. And the FDI inflow into Nepal

is 928.82 m USD during this 28 years and the outflow is nil during 28 years. It means Nepal never investing in any countries due to low capital in the country.

Figure-13: The Total FDI Inflow into Nepal from 1992-2019



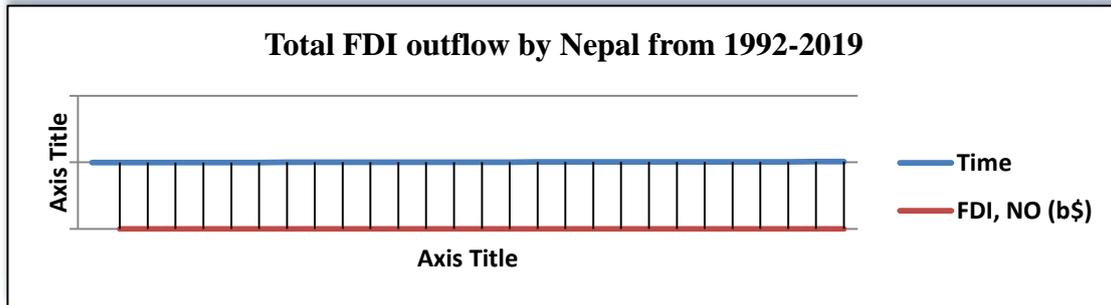
Source: Computed in Excel

The Figure-13, that FDI inflow into Nepal from 1992-2019, i.e. 28 years data have been shown, where one trend line has been computed which shows that the inflow of FDI into Nepal initially is zero up to 1996 but after that from 1997 it has been little bit increased up to 2007 in constant rate. From 1992 to

1995, it is constantly increasing but in slow rate after 2003 it has been increased then decreased and so on up to 2017. 2017 onwards it is increase in trend.



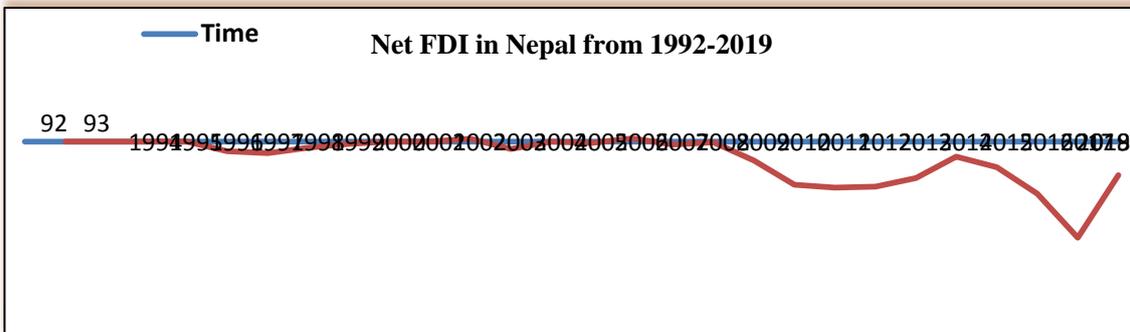
Figure-14: The Total FDI Outflow by Nepal from 1992-2019



Source: Computed in Excel

The Figure-14, which shows the FDI out flow from Nepal, is not there in any time period. Which clearly shows that no FDI going out from Nepal.

Figure-15: The Net FDI in Nepal from 1992-2019



Source: Computed in Excel

In Figure-15, regarding the net FDI in Nepal, that is totally in negative in trend. In 2017 it is -196.27 m

USD which is very low. Then it has been increased to -68.19 m USD in 2019.

FDI Scenario in All Five South Asian Nations

Table-6: FDI Inflow into All Five Nations from 1992 to 2019

Time	INDIA FDI, NI (m \$)	PAKISTAN FDI, NI (m \$)	SRI LANKA FDI, NI (m \$)	BANGLADESH FDI, NI (m \$)	NEPAL FDI, NI (m \$)
1992	276.51	336.48	0.00	3.72	0.00
1993	550.37	348.56	122.63	14.05	0.00
1994	973.27	421.02	194.48	11.15	0.00
1995	2143.63	722.63	166.41	1.90	0.00
1996	2426.06	921.98	56.00	13.53	0.00
1997	3577.33	716.25	119.87	139.38	19.16
1998	2634.65	506.00	430.06	190.06	23.06
1999	2168.59	532.00	193.42	179.60	12.02
2000	3584.22	308.00	176.41	280.38	4.35
2001	5128.09	378.00	172.94	78.53	-0.48
2002	5208.97	826.00	171.79	52.30	20.85
2003	3681.98	534.00	196.50	268.29	-5.95
2004	5429.25	1118.00	228.72	448.91	14.78
2005	7269.41	2201.00	232.80	813.32	-0.42
2006	20029.12	4273.00	272.40	456.52	2.45
2007	25227.74	5590.00	479.70	651.03	-6.65
2008	43406.28	5438.00	603.00	1328.42	5.74



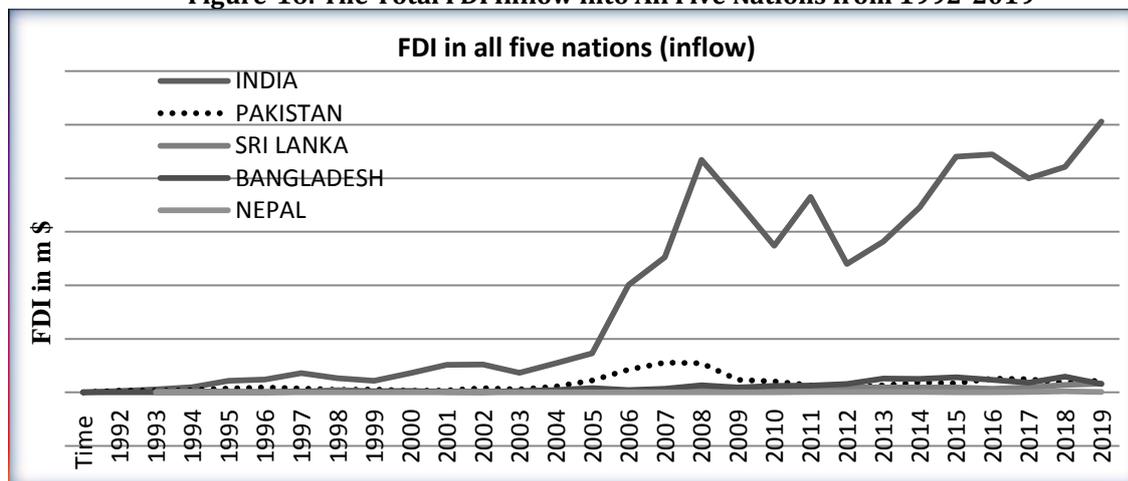
2009	35581.37	2338.00	752.20	901.29	1.00
2010	27396.89	2022.00	404.00	1232.26	38.27
2011	36498.65	1326.00	477.56	1264.73	87.74
2012	23995.69	859.00	955.92	1584.40	94.02
2013	28153.03	1333.00	941.12	2602.96	91.95
2014	34576.64	1887.00	932.55	2539.19	74.18
2015	44009.49	1673.00	893.63	2831.15	30.40
2016	44458.57	2576.00	679.66	2332.72	51.90
2017	39966.09	2496.00	897.05	1810.40	106.00
2018	42117.45	1737.00	1372.72	2940.22	196.27
2019	50605.33	2218.00	1610.54	1596.75	68.19
Total	541074.68	45635.92	13734.08	26567.17	928.82

Source: World Bank Database

In above table, that is table-6, in which the data regarding FDI inflow into all five nations separately from 1992-2019, have been shown, where the total FDI inflow into all five South Asian nations is

541074.68 m USD in India, 45635.92 m USD in Pakistan, 13734.08 m USD in Sri Lanka, 26567.17 m USD in Bangladesh, 928.82 m USD in Nepal during this 28 years time period.

Figure-16: The Total FDI Inflow into All Five Nations from 1992-2019



Source: Computed in Excel

In above figure, that is Figure-16, in which the data regarding FDI inflow into all five nations separately from 1992-2019, have been shown, where the total FDI inflow into all five South Asian nations is

increasing but comparatively India is in better position that the black colour is for India which indicates in increasing in trend line than other four countries.

Table -7: Percentage wise FDI Inflow into All Five Nations from 1992 to 2019

Time	Total FDI of all in year wise	INDIA	PAK	SRL	BAN	NEPAL	Ratio
		% of FDI					
1992	616.71	45	55	0	1	0	22:27:0:0:0
1993	1035.61	53	34	12	1	0	53:34:12:1:0
1994	1599.92	61	26	12	1	0	30:13:6:0:0
1995	3034.57	71	24	5	0	0	71:24:5:0:0
1996	3417.57	71	27	2	0	0	71:27:2:0:0
1997	4552.83	79	16	3	3	0	79:16:3:3:0
1998	3760.77	70	13	11	5	1	70:13:11:5:0
1999	3073.61	71	17	6	6	0	71:17:6:6:0



2000	4349.01	82	7	4	6	0	82:7:4:6:0
2001	5757.56	89	7	3	1	0	89:7:3:1:0
2002	6259.06	83	13	3	1	0	83:13:3:1:0
2003	4680.77	79	11	4	6	0	79:11:4:6:0
2004	7224.88	75	15	3	6	0	25:5:1:2:0
2005	10516.53	69	21	2	8	0	69:21:2:8:0
2006	25031.04	80	17	1	2	0	80:17:1:2:0
2007	31948.47	79	17	2	2	0	79:17:2:2:0
2008	50775.7	85	11	1	3	0	85:11:1:3:0
2009	39572.86	90	6	2	2	0	90:6:2:2:0
2010	31055.15	88	7	1	4	0	88:7:1:4:0
2011	39566.94	92	3	1	3	0	92:3:1:3:0
2012	27395.01	88	3	3	6	0	88:3:3:6:0
2013	33030.11	85	4	3	8	0	85:4:3:8:0
2014	39935.38	87	5	2	6	0	43:2:1:3:0
2015	49407.27	89	3	2	6	0	89:3:2:6:0
2016	50046.95	89	5	1	5	0	89:5:1:5:0
2017	45169.54	88	6	2	4	0	88:6:2:4:0
2018	48167.39	87	4	3	6	0	87:4:3:6:0
2019	56030.62	90	4	3	3	0	90:4:3:3:0
Total	627011.85	86	7	2	4	0	86:7:2:4:0

Source: Computed in Excel

The table-7 shows the percentage wise FDI inflow into all five nations and in ratio also. In 2nd column, it is mentioned that total FDI of all five nations in year wise, that is in 1992, 616.71 m USD received by all five nations, out of it Pakistan got maximum 55% of FDI, where as India got little bit less percentage of FDI that is 45%, Bangladesh got 1% and Nepal and Sri Lanka got very minute percentage that is around

zero. In ratio wise that is **22:27:0:0:0**. But after 1993 India got maximum comparative to all four nations. In 2011, India got maximum percentage of FDI, i.e, 92%. In ratio wise that is **92:3:1:3:0** which is 31 times of Pakistan and Bangladesh and 92 times so Sri Lanka.

Table -8: Descriptive Statistics FDI Inflow into All Five Nations:

	INDIA	PAKISTAN	SRI LANKA	BANGLADESH	NEPAL
Mean	19324095556.29	1629854368.64	490502766.86	948827347.38	33172209.24
SE	3337796185.32	271738268.45	78486361.04	185066762.65	8983234.68
Median	13649263246.38	1222000000.00	3382000000.00	553776452.88	13401372.75
SD	17661957266.74	1437903760.02	415310785.26	979281259.83	47534809.85
Kurtosis	-1.58	2.34	0.64	-0.67	3.81
Skewness	0.36	1.62	1.10	0.82	1.83
Range	50328814914.62	5282000000.00	1610543974.23	2938326047.61	202913082.47
Minimum	276512438.97	308000000.00	0.00	1896372.13	-6647983.90
Max ^m	50605327353.59	5590000000.00	1610543974.23	2940222419.73	196265098.56
Count	28.00	28.00	28.00	28.00	28.00

Source: Computed in Excel



Table-8 shows that the descriptive statistics of all five nations regarding FDI inflow. Indeed, skewness measures the degree of asymmetric in a particular series. So for a normal skewness the value is zero. Here the value of India is 0.36 that is little bit normal distribution which is positively skewed and in series of all nations that it is positive skewed. More ever, in a normal distribution, the kurtosis value must be 3.

So here for India the kurtosis value is -1.58 that indicates the FDI inflow series is fully platikurtic that is the series is having more lower values below the sample means for the particular series because $-1.58 < 3$. So FDI series of India though resembles the normally distributed curve, it is going to be platikurtic. In Nepal it is peaked curve.

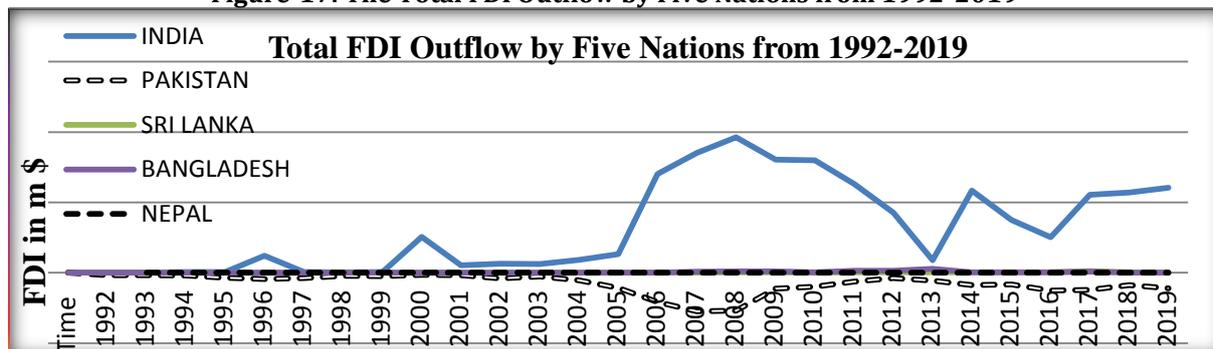
Table -9: FDI Outflow by All Five Nations from 1992 to 2019

Time	INDIA	PAKISTAN	SRI LANKA	BANGLADESH	NEPAL
	FDI O (m \$)				
1992	24.00	-11.58	0.00	0.10	0
1993	0.35	-2.15	1.63	0.20	0
1994	82.58	0.97	6.90	0.20	0
1995	117.19	0.41	8.26	1.70	0
1996	2393.25	6.79	5.60	12.50	0
1997	112.92	-24.31	6.92	3.07	0
1998	47.59	50.00	5.00	3.00	0
1999	79.36	21.00	13.00	0.06	0
2000	5095.33	11.00	24.00	2.00	0
2001	1054.13	26.00	2.00	20.60	0
2002	1261.07	31.00	0.00	2.64	0
2003	1237.85	19.00	11.45	2.78	0
2004	1837.06	56.00	27.31	4.07	0
2005	2640.75	45.00	5.79	1.94	0
2006	14036.83	109.00	38.40	3.59	0
2007	17026.11	98.00	29.30	134.26	0
2008	19256.53	49.00	55.00	190.66	0
2009	16095.58	71.00	61.70	180.83	0
2010	15968.10	47.00	20.00	66.44	0
2011	12607.99	62.00	42.50	297.43	0
2012	8553.24	77.00	60.00	289.06	0
2013	1764.95	212.00	63.93	546.88	0
2014	11686.48	122.00	65.07	41.77	0
2015	7514.28	25.00	66.82	59.90	0
2016	5047.29	52.00	52.99	40.52	0
2017	11090.15	52.00	236.81	126.74	0
2018	11417.79	-21.00	71.79	15.23	0
2019	12100.93	-7.00	67.86	-1.18	0
Total	180149.69	1177.11	1050.01	2046.99	0

Source: World Bank Database

In above table, that is table-9, in which the data regarding FDI out flow by all five nations separately from 1992-2019, have been shown, where the total FDI outflow by all five South Asian nations is

180149.69 m USD in India, 1177.11 m USD in Pakistan, 1050.01 m USD in Sri Lanka, 2046.99 m USD in Bangladesh, nil in Nepal during this 28 years time period.


Figure-17: The Total FDI Outflow by Five Nations from 1992-2019


Source: Computed in Excel

In above figure, that is Figure-17, in which the data regarding FDI outflow by all five nations separately from 1992-2019, have been shown, where the total FDI out flow by India is increasing whereas, the out

flow by remaining countries except Pakistan is increasing with stable rate. Pakistan goes with negative trend regarding FDI outflow.

Table -10: Descriptive Statistics FDI Outflow by All Five Nations:

	INDIA	PAKISTAN	SRI LANKA	BANGLADESH	NEPAL
Mean	6433917480.16	42039809.96	37500373.24	73106786.40	0.00
SE	1213115588.72	9537755.13	8827272.48	24038795.29	0.00
Median	3844023782.91	38000000.00	25655000.00	8284411.38	0.00
SD	6419204318.67	50469056.27	46709535.50	127201348.29	0.00
Kurtosis	-1.20	3.55	12.15	6.50	0.00
Skewness	0.56	1.50	3.00	2.43	0.00
Range	19256176605.54	236314471.00	236808136.80	548060083.77	0.00
Minimum	350640.56	-24314471.00	0.00	-1183281.16	0.00
Maximum	19256527246.10	212000000.00	236808136.80	546876802.62	0.00
Count	28.00	28.00	28.00	28.00	28.00

Source: Computed in Excel

Table-10 shows that the descriptive statistics of all five nations regarding FDI outflow. In India the curve of the series of FDI outflow is little bit normally

distributed because the value of kurtosis is less than 3, whereas peaked curve for other nations except Nepal.

Table-11: Net FDI in All Five Nations from 1992 to 2019

Time	INDIA FDI, N (m \$)	PAK FDI, N (m \$)	SRI LANKA FDI, N (m \$)	BAN FDI, N (m \$)	NEPAL FDI, N (m \$)
1992	-276.51	-348.06	0.00	-3.72	0.00
1993	-550.02	-350.71	-121.00	-14.05	0.00
1994	-890.69	-420.06	-187.58	-11.15	0.00
1995	-2026.44	-722.22	-158.16	-1.90	0.00
1996	-2186.73	-915.19	-56.00	-13.53	0.00
1997	-3464.41	-740.57	-119.87	-136.31	-19.16
1998	-2587.06	-456.00	-430.06	-187.06	-23.06
1999	-2089.23	-511.00	-193.42	-179.60	-12.02
2000	-3074.68	-297.00	-176.41	-280.38	-4.35
2001	-4073.96	-352.00	-172.94	-78.53	0.48
2002	-3947.90	-795.00	-171.79	-49.66	0.00
2003	-2444.14	-515.00	-185.05	-265.51	5.95



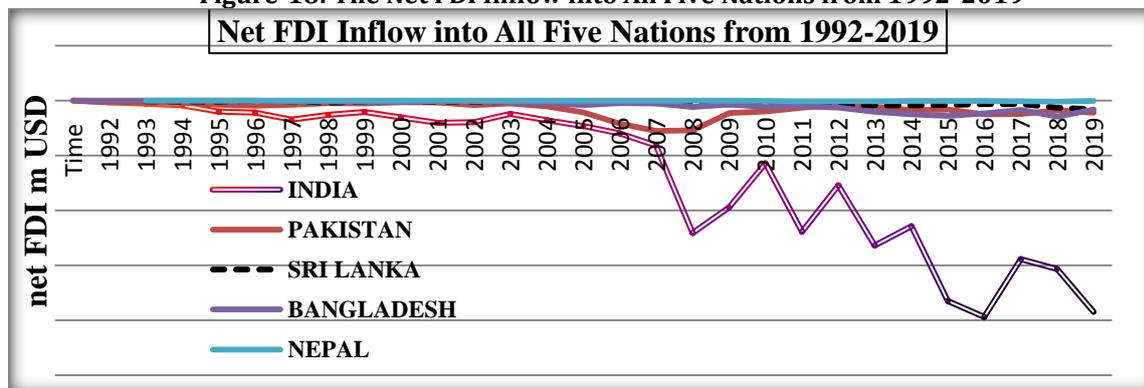
2004	-3592.19	-1062.00	-201.41	-444.84	-14.78
2005	-4628.65	-2156.00	-227.01	-811.38	0.42
2006	-5992.29	-4164.00	-234.00	-452.93	-2.45
2007	-8201.63	-5492.00	-450.40	-516.77	6.65
2008	-24149.75	-5389.00	-548.00	-1137.76	-5.74
2009	-19485.79	-2267.00	-690.50	-720.46	-1.00
2010	-11428.79	-1975.00	-384.00	-1165.82	-38.27
2011	-23890.66	-1264.00	-435.06	-967.29	-87.74
2012	-15442.45	-782.00	-895.92	-1295.34	-94.02
2013	-26388.08	-1121.00	-877.19	-2056.09	-91.95
2014	-22890.16	-1765.00	-867.48	-2497.42	-74.18
2015	-36495.22	-1648.00	-826.81	-2771.25	-30.40
2016	-39411.28	-2524.00	-626.67	-2292.21	-51.90
2017	-28875.94	-2444.00	-660.24	-1683.65	-106.00
2018	-30699.66	-1758.00	-1300.93	-2925.00	-196.27
2019	-38504.40	-2225.00	-1542.69	-1597.94	-68.19
Total	-367688.71	-44458.81	-12740.58	-24557.54	-907.97

Source: World Bank Database

In above table, that is table-11, in which the data regarding net FDI in all five nations separately from 1992-2019, have been shown, where the total net FDI in all five South Asian nations is -367688.71 m USD

in India, -44458.81 m USD in Pakistan, -12740.58 m USD in Sri Lanka, -24557.54 m USD in Bangladesh, -907.97 m in Nepal during this 28 years time period.

Figure-18: The Net FDI Inflow into All Five Nations from 1992-2019



Source: Computed in Excel

In above figure, that is chart-18, in which the data regarding net FDI in all five nations separately from

1992-2019, have been shown, where the total net FDI India is decreasing compare to other nations.

Table-12: Descriptive Statistics Net FDI in All Five Nations:

	INDIA	PAKISTAN	SRI LANKA	BANGLADESH	NEPAL
Mean	-13131739473.61	-1587814558.64	-455020842.22	-877054845.40	-32427566.38
SE	2481922930.69	268137200.10	72875606.39	175038945.98	9051667.01
Median	-5310469100.42	-1091500000.00	-309000000.00	-484847290.31	-8883182.98
SD	13133101695.65	1418848697.40	385621462.29	926219041.64	47896919.72
Kurtosis	-0.86	2.40	1.19	-0.29	3.74
Skewness	-0.79	-1.64	-1.24	-0.96	-1.83
Range	39134766501.28	5195000000.00	1542687403.69	2923100705.87	202913082.47
Minimum	-39411278940.25	-5492000000.00	-1542687403.69	-2924997078.00	-196265098.56
Maximum	-276512438.97	-297000000.00	0.00	-1896372.13	6647983.90
Count	28.00	28.00	28.00	28.00	28.00

Source: Computed in Excel



Table-12 shows that the descriptive statistics of all five nations regarding net FDI. In this series for India the kurtosis value is less than 3 along with all nations except Nepal. That shows the series of all nations getting normal distribution except Nepal.

Significance of the Study

In order to remove constraints and foster growth, the FDI Policy proposes relaxing rules for important sectors. India has moved to a more liberalized FDI regime over the past few years which include allowing FDI to enter through the automatic route in most cases, and raising FDI cap for many sectors. The Government of India has put in place a liberal and transparent policy for investment from overseas Indians. Most of the sectors are open to FDI under the automatic route. FDI policy provides incentive schemes for foreign investors,

RESULTS AND DISCUSSION

In this paper FDI inflows and FDI outflows have been studied. It is suggested that South Asian countries need to improve their domestic investment, exports and infrastructure facilities, along with more foreign investment, to achieve higher growth. This report analysis of FDI flows to south Asian countries reveals that there has been an increasing trend of FDI into South Asian countries. FDI has a positive impact on export growth through its positive spillovers for South Asian countries FDI in South Asia is mostly concentrated in manufacturing and services. Despite some policies reforms, Bangladesh could not attract handsome flow of FDI yet. Furthermore, the lion's share of FDI is being repatriated.

CONCLUSION

The common consensus regarding Foreign Direct Investment (FDI) is it played vital role in ameliorating the economies of developing countries. Hence, policy makers of the developing countries are quite interested to know about the factors that have huge influences on FDI flows. Actually, there are so many factors that have influence on FDI flows directly or indirectly. This study considered a panel of the five South Asian countries: India, Pakistan, and Sri Lanka, Bangladesh and Nepal, for the period from 1992 to 2019. Considering this, policy makers of the South Asian countries should take initiatives to increase the size of their own market to attract more and more FDI as it is considered as an influential tool of economic development and growth.

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DEPRIVATIONS OF THE URBAN POOR IN MULTIDIMENSIONAL CONTEXT IN THE NORTH EASTERN INDIAN STATE OF MIZORAM

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ABSTRACT

It is now widely accepted that poverty everywhere is no longer a question of lack of income or insufficient calorie intake, it has broadened to include several areas of deprivation such as inadequate housing, health & nutrition, assets, etc. So, multidimensional poverty index has been developed and used to examine the levels deprivations of people on basic necessities of life. Multidimensional poverty index has been constructed based on the sample survey data to examine deprivation of the poor people living in urban areas of Mizoram, India. It is observed that a quarter of the urban poor are severely deprived, while substantial proportion of the poor can easily fall back to severe deprivation with a slight change in their access to basic necessities of life.

KEY WORDS: *Multidimensional Poverty Index, Deprivation, Urban Poverty, Assets, Standard of Living, Health & Nutrition, Financial Inclusion.*

INTRODUCTION

According to Amartya Sen (1976), poverty measurement consisted of two fundamental issues – determining who is the poor and construction of an index to measure the extent of poverty. Poverty has traditionally been measured in one dimension, usually income or consumption (Santos and Alkire, 2011). The total monetary value of the minimum requirement for healthy life, like food, fuel, light, clothing, housing, etc. is usually accepted to be poverty line. However, this unidirectional method had showed its distinct limitation due to its immoderate simplicity (Wang and Qian 2015). Unidimensional methods require a single dimensional variable and a single cutoff, but place no a priori restrictions on how the resource variable has been constructed (Alkire and Foster, 2011).

In the mid-1970s that ‘basic needs’ approach posited that development concerns should be focused on providing people their basic needs, as opposed to merely increasing their income (Afonso, et al. 2015). A list of basic needs may be determined,

along with minimum satisfaction, for poverty identification. Contrasting with the income method, the direct method assesses human deprivation in terms of shortfalls from minimum levels of basic needs per se, instead of using income as an intermediary of basic needs. As such, it is now widely accepted that poverty everywhere is no longer a question of lack of income or insufficient calorie intake, it has broadened to include several areas of deprivation such as inadequate and unsafe housing, insecure workplaces, debilitating environments, etc. (Siddiqui, 2014). With the increasing understanding that poverty is of multidimensional and dynamic natures, many studies had responded with new measures and tools that comprehensively measure poverty to the strong demands of governments and international communities (Wang and Wang, 2016).

Inadequate infrastructures, spatial location of slums, and negative stigma towards the urban poor have caused severe constraints in their employment opportunities (Baker, 2008). Today, the issues of urban poverty have emerged as a complex



multidimensional phenomenon that cannot be left neglected any further. Chaudhry et. al. (2006) emphasized that urban poverty and governance are the contemporary issues in the subject of economic development particularly for the developing countries.

MULTIDIMENSIONAL POVERTY INDEX

The Multidimensional Poverty Index (MPI) has been developed by Alkire and Santos (2010) for the 2010 Human Development Report. It replaced the Human Poverty Index (HPI) developed by the United Nations in 1997. It is an index of acute multidimensional poverty and is based on the Alkire and Foster (2011) dual cut-off method for poverty specification (Dotter and Klasen, 2014). Three dimensions identified to be included in the multidimensional poverty index (MPI) are health, education, and the stand of living (Dotter and Klasen, 2014). Santos and Alkire (2011) proposed 10 indicators: two for health (nutrition and child mortality), two for education (years of schooling, school attendance), and six for living standard (cooking fuel, sanitation, water, electricity, floor and assets). Each of these indicators are given proper weightage in the calculation of the aggregate index, called multidimensional poverty index (MPI). The global Multidimensional Poverty Index (MPI) is measured annually to depict the complexities of the collective and individual lives of the poor in different countries, and presented in the Human Development Reports (GMPI, 2020)

The MPI is normally calculated at the country level using globally comparable data and it compares the situation of countries with respect to acute poverty. The Human Development Report 2011 presented the global MPI for 109 countries. At the same time, the MPI is a very versatile methodology and there are multidimensional poverty measures that have been created by adapting the method upon which the MPI is based to better address local realities, needs and the data available (Santos and

Alkire, 2011). Therefore, new methods may be needed to be introduced to identify the complex and multidimensional measure through which poverty may be viewed and understood (Wang and Wang, 2016). Accordingly, attempt is made in this study to study urban poverty in multidimensional context using specifically constructed and adapted MPI to suit the available information obtained from the sample survey and to better address the local conditions of the study area, while internationally adopted indicators are kept in view while selecting sub-indicators.

METHODOLOGY

Data Source: There are 23 notified urban towns, and of these urban centres, the state capital, Aizawl city is the largest and accounted for more than 51% of the all the urban population in the state. It is the only urban centre which have municipality in the State having 20 Wards and 83 localities. Accordingly, Aizawl city is the purposively selected area for this study. The primary data was collected using a scheduled questionnaire from the sample households. Selection of sample households was undertaken in two stages, selection of sample localities and sample respondents. Sample respondents from each selected locality was undertaken using the official BPL as sampling frame. The survey covered 405 poor households from 11 localities.

Analytical Method: The MPI analysis undertaken in this study may not be comparable with other studies because this specifically designed MPI is used to examine the extent and nature of deprivation prevailing among the poor in urban areas of Mizoram, rather than estimating the headcounts of multidimensional poor. Four major indices with 36 sub-indicators are constructed based on the sample information, namely standard of living, assets, health & nutrition, and financial inclusion. Sub-indicators in each of the four indices and their respective weightage are given in Table-1.

Table-1: Selected Indicators of the Multidimensional Poverty

<p>1. Standard of Living {maximum: 11} Structure of dwelling house {0 -thatch, 0.5-semi pucca, 1-pucca} Floor surface per person (minimum of 10 sq.m/person*) {0 - below, 1-above} No. of room (s) in the dwelling house {0-1room, 1-more than 1 rooms} Toilet status {0- open defecation, 0.25- public toilet, 0.5-pit latrine, 1- septic tank} Whether the toilet is attached in the house {0-no, 1-yes} Separate/dedicated electric connection {0- no, 1- yes}</p>	<p>2. Assets {maximum: 16} Ownership status of living house {0- rented, 3-owned} Whether the household possess land other than living house {0- no, 2-yes} Whether any member have mobile phone {0- no, 1-yes} The family have pressure cooker {0- no, 1-yes} Water Filter {0- no, 1-yes} The family have Television {0- no, 1-yes}</p>
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<p>Main source of water {0- other, 0.5- shared connection, 1- pipe water connection}</p> <p>Adequacy of drinking water supply {- no, 1- yes}</p> <p>Disposal of household waste {0-open, 1-through municipality}</p> <p>Whether segregate household waste {0-no, 1-yes}</p> <p>Any family member having upto high school education (completed 9 yrs. of schooling)** {0-no, 1-yes}</p> <p>3. Health & Nutrition {maximum: 8}</p> <p>Visit hospital at least once during last one year for checkup (excluding maternity & medical emergency) {0- no, 1-yes}</p> <p>Visit Private Clinic at least once during last one year for checkup (excluding medical emergency) {0- no, 1-yes}</p> <p>Visit Private Laboratory at least once during last one year for checkup (excluding medical emergency) {0- no, 1-yes}</p> <p>All children are vaccinated {0- no, 1-yes}</p> <p>Enrolled in state government health care scheme {0- no, 1-yes}</p> <p>Enrolled in central government health care scheme {0- no, 1-yes}</p> <p>Have two square meals in a day {0- no, 1-yes}</p> <p>Enrolled under Food Security Act or Poor Scheme for Food Supply (AAY & PHH) {0- no, 1-yes}</p>	<p>The family have LPG Connection {0- no, 1-yes}</p> <p>The family have Refrigerator {0- no, 1-yes}</p> <p>The family have Washing Machine {0- no, 1-yes}</p> <p>The family have Steel Almira {0- no, 1-yes}</p> <p>The Family have Computer set {0- no, 1-yes}</p> <p>The Family have Two Wheeler vehicle {0- no, 1-yes}</p> <p>The Family have other vehicle {0- no, 1-yes}</p> <p>4. Financial Inclusion {maximum: 4}</p> <p>Whether any one of the family members have bank account {0- no, 1-yes}</p> <p>Whether operate the account regularly by making monthly deposit {0- no, 1-yes}</p> <p>Ever taken loan from any bank {0- no, 1-yes}</p> <p>Received credit/cash assistance from the government during last 3 years. {0- no, 1-yes}</p>
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*as given in Mastrucci & Rao (2017) and **Rao & Min (2018)

The four deprivation indices are simply aggregated to find out the overall deprivation index, called the Multidimensional Poverty Index (MPI), for the study area. Given the nature and implication of all indicators considered for each deprivation index, there would be no difficulty for normal households, which have already enjoyed decent standard of living, to attain 100% score. At the same time, indicators like house and land may be difficult to have for many poor families. Taking these factors into consideration, it is assumed that the poor households should attain at least 75% of the total score in all the indicators to ensure attainment of decent living and any score below it would mean deprivation in varying degrees. Thus, the sample households were accordingly classified into three groups of deprivation viz. severe (<50%), moderate (50-75%) and better off (75%&<) according to their score as a percentage of the maximum MPI.

RESULTS & DISCUSSIONS

Synchronizing the index scores with the threshold deprivation level established for the study as above, the status of multidimensional deprivation of the urban poor in Mizoram on the four indices were determined and presented in the Table-2. It is observed that only 7.2% of the poor families in the study area are in the categories of severely deprived from decent standard of living. With regards to the access to assets, as much as 36.8% are severe deprived. At the same time, 55.5% of the households fall between 50-75% in the deprivation index, while only 7.4% of households that could cross 75% in the deprivation index were categorized as relatively better off. The status on health and nutrition shows 43.2% of the households falling severe deprived with 50% in the range of score 50-75%, called moderate. As against this, as little as 5.9% that could cross 75% of the score in the deprivation index to be categorized as relatively better off families. It is thus clear that nearly half of the urban poor experience severe inability to access health and nutrition.



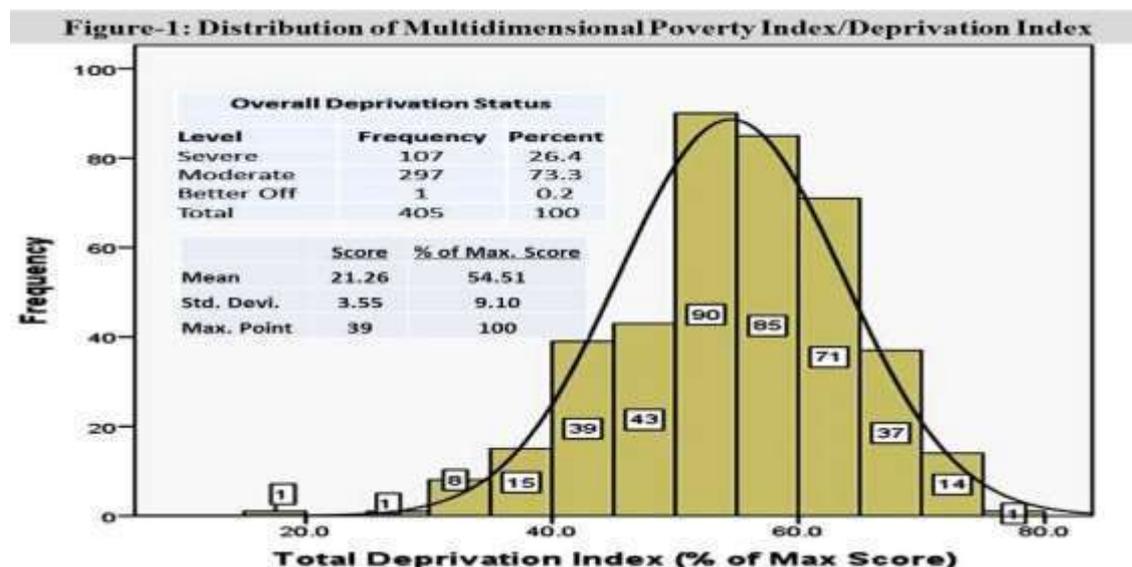
Table-2: Estimate of Deprivation using among urban poor using MPI sub-indices

Deprivation Level	Frequency	Percent	Deprivation Level	Frequency	Percent
1. Standard of Living			2. Assets		
Severe	29	7.2	Severe	149	36.8
Moderate	196	48.4	Moderate	226	55.8
Better Off	180	44.4	Better Off	30	7.4
Total	405	100	Total	405	100
3. Health & Nutrition			4. Inclusion		
Severe	175	43.2	Severe	289	71.4
Moderate	206	50.9	Moderate	107	26.4
Better Off	24	5.9	Better Off	9	2.2
Total	405	100	Total	405	100

Source: Computed from data of Field Survey 2020

The tabulation of the financial inclusion index shows 26.4% of households clustered between 50-75% in the deprivation level, indicating their moderate access to financial inclusion. There was just handful of households i.e. 2.2% that could cross 75% in the deprivation index to qualify for the relatively better off category. On the other hand, a disproportionate 71.4% of households fall below 50% in the deprivation index, which means that the ability to have access to financial services for nearly three quarters of the urban poor is severe or critical.

The aggregate of the above four indices, called multidimensional poverty index (MPI) or total deprivation index, is presented in Figure-1. The average score of the sample households in the MPI turned out to be 21.26, which is 54.51% of the maximum possible score. The standard deviation of 3.55 (i.e. 9.1% of total points) indicate as much as 68% of the urban in the study areas are within the score range of 43.41% to 63.61.



Classification of the households in different levels of deprivation given in Figure-1 shows that 26.4% are severely deprived, and 73.4% moderate deprived, while only 0.2 percent could be considered

as better off. It is noteworthy that while a quarter of the urban poor households or 26.4% are severely deprived, and even those that are moderately deprived are clustered around the border of 50%



scores, which is the cut-off point for severe deprivation. That is, as much as 22.2% could fall to the category of severe deprived if the cut-off point is increased even by 5%.

In order to find the relationships between the various deprivation indices, correlation coefficient between each pair of the index are calculated based on the scores of the households on these indices. In

addition to the correlational test, Chi-square statistic is also calculated using cross tabulation of the pair of indices each were grouped by attributes of severe, moderate and better off. The Chi-square test give us the significance of relationship based on frequency cross tabulation, while correlation gives the direction of the relationship (positive or negative). The result is presented in Table-3.

Table-3: Relationship Between Different Deprivation Indices

Sl. No.	Compared Variables	Chi-Square		Pearson Correlation
		Value	sig. level	
1	Standard of Living and Assets	36.88**	0.000	0.311**
2	Standard of Living and Health & Nutrition	4.95	0.292	-0.031
3	Standard of Living and Financial Inclusion	20.3**	0.000	-0.016
4	Assets and Health & Nutrition	3.36	0.499	0.037
5	Assets and Financial Inclusion	11.65*	0.020	0.114*
6	Health & Nutrition and Financial Inclusion	3.41	0.492	0.032

Source: Computed from data of Field Survey 2020

** significant at 1% level, & * significant at 5% level

It is observed from Table-3 that there is significant and positive correlation between standard of living and possession or access of the assets by the poor households in urban areas. Thus, those who have better command on the assets are the ones who enjoyed better standard of living and vice versa. Notably, there is positively significant correlation between household status on financial inclusion and their possession of assets.

CONCLUSIONS

Urban poverty is a phenomenon which is multidimensional in nature. Therefore the manifestation can vary widely depending upon the region, culture, people, society and their economic conditions. Due to this multifaceted nature there can be no single solution to address the problems of urban poverty. Based on the analysis undertaken in this paper, the following points may be noted. Firstly, of the four sub-deprivation indices, the urban poor families have fairly better performance on the standard of living as only 7.2% are considered severely deprived. The lesser deprivation of urban poor from decent standard of living is mainly due to the good educational attainment, more living rooms, separate toilet (septic tank), proper waste disposals, and availability of adequate and safe drinking water for most families. It may be noted that the state of Mizoram is one of the most literate state and is already declared Open Defecation Free (ODF). So, it

may not be surprising to see relatively better standard of living even for the poor families.

Secondly, grim conditions of deprivations are observed in health & nutrition and financial inclusion. The main factors that pull down the health & nutrition index are the inability of the households to seek regular medical checkup and inability to fulfill 100% vaccination to the children. At the same time, critical factor for financial inclusion index is the holder to maintain regular operation of their account by making deposit and withdrawal, and limited access to institutional credit. The above problems may be addressed by adopting two pronged strategy namely (i) awareness creation on the significance of - regular medical checkup and regular operation of bank account (small savings, etc.); and (ii) public intervention to ramp up vaccination of children, and provision to make the poor have better access to institutional credit.

Thirdly, the significant and positive correlation between financial inclusion and their possession of assets may be interpreted further. The main sub-indicator that increased financial deprivation or compromise financial inclusion is the limited access of the poor to bank loan, while substantial number of families not having land of their own is one of the factors that increase asset deprivation. So, the requirements of security collaterals set by our banking system to the applicants of bank loan have resounding effect on the financial inclusion of the poor people.



Lastly, the overall deprivation of the poor as given by the distribution of MPI revealed vulnerability of the urban poor to severe deprivation in the study areas. While a quarter of the urban poor are severe deprived, another 22.2% could fall into this category even by a slight increase in the cut-off point (i.e. 5%). This may be taken to indicate the vulnerability of the urban poor to severe deprivation. Substantial proportion of the poor can fall back to severe deprivation with a slight change in their access to basic necessities of life.

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CHILDREN'S ETHNOFOLLORE OF THE KARAKALPAKS

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ABSTRACT

Karakalpak lullaby songs refer to children's folklore and display little-studied genre in science. The associations of lullaby songs with national customs and traditions became the actual task in modern folklore. There are lyrics of lullaby with archaic feature and with poetic characteristics. Moreover, the custom folklore features are linked with baby stowing into cradle.

KEY WORDS: *Lullaby songs, rite, nationality, genre, performance, folklore.*

INTRODUCTION

European scholars of folklorists, ethnographers, doctors, and teachers have been studying lullabies since the first half of the 19th century. A. Vetukhov, G.S. Vinogradov, O.I. Kapitsa, A.N. Martynova, G.A. Bartashevich and others. Researcher of children's folklore M.N. Melnikov believes that these scholars noted the improvisation of the genre in lullabies. The poetics of songs is closely connected with folk psychology, with folk life.

DISCUSSIONS

Consequently, it can be noted in the European nationality, as such, the rituals for settling a child did not exist. It is characteristic of the Turkic-speaking people. In the Uzbek people, Muzayana Alavia considered ritual poetry and lullabies with a scientific approach. She considered in lullabies the mother's inner world from a historical and educational point of view. In the Karakalpak folklore studies, the collection of folklore materials is associated with names such as K. Ayymbetov, O. Kozhurov, M. Nurmukhamedov, S. Maulenov, Sh. Khozhaniyazov and others. These scholarly collectors were researchers of folklore genres. In the archival materials of K. Ayymbetov, information was found about the 200-year history of the Karakalpak folklore studies. In the 1740s, Muravin and Gladyshev were

considered the first collectors of Karakalpak folklore. And after them, in the 1750s, Rychkov wrote about the Karakalpak folklore. In 1862, Professor Berezin introduced the Karakalpak folklore into the book "Turkish Reader". In 1875 N. Karazin published the Karakalpak fairy tales. K. Ayymbetov and O. Kozhurov tried to develop a classification of folklore genres. Later N. Davkaraev gives a more correct classification of the Karakalpak folklore. More than 60 years of rich material on folklore is kept in the manuscript collection of the Fundamental Library of the UNCANRUz. In science, more or less considered large genres - folk epics. As well as partially small genres - folk songs, fairy tales, proverbs and sayings, etc. Karakalpak children's folklore as a separate science is considered for the first time. Particular attention is drawn to lullabies and the ritual of settling the baby into the cradle.

In the nationality, the so-called "Balany besikke salu" or "Besik toi", where the ceremony "Besik shabyu" is held. Only women and children gathered for this ceremony. The gathered women were placed in a yurt, sitting in two rows and forming a circle. In the middle there was a place for playing with a cradle.

One of those gathered, with a whip in her hands, sat astride the cradle and, imagining that she was sitting on a horse, began the show and spoke. She



depicted a horse galloping, and then goat-breaking. This rite has a traditional plot and text with which all women are already familiar.

For example:

- Henceforth Allah created what?
 - Created the Sun and the Moon,
 Into the beauty of the sun and moon,
 Created the earth and the green world,
 Into the beauty of the earth and the green world,
 Created the animal world,
 And to ride them,
 Allah created mankind....
 [Interlinear translation by A.K.]

The given example has a complete finished text, consisting of 51 lyrical lines. The above conspiracy and ritual associated with settling a child has an ancient religious semantic nature. The meaning of the ritual held in the Karakalpak people was that before putting a newborn in the cradle, evil spirits must be expelled. After settling the child into the cradle, the woman who sat astride the cradle skillfully performed the lullaby "Hayu":

Bayu, bayu, my white-faced,
 My hat is the dressing girls,
 My one-year-old son,
 On his head is a green hat,
 Beautiful white yurt,
 My son is next to his father.

[Interlinear translation by A.K.]

There are many variants of lullaby songs in Karakalpak folklore. In many versions, the theme of pre-revolutionary lullabies is the lament of the mother, the theme of separation, protest against the despotism of her husband, bai, ishan, tsar. But along with the sad motives in the lullabies, there is also hope for a brighter future. Maternal poetry "hayu" in all its richness of repertoire is rich in rhythm, music, motives.

In the science of folklore, the idea of intense change in the poetics of folklore genres under the influence of socio-economic changes was expressed by Yu.M.Sokolov: "Folklore is an echo of the past, but at the same time it is a loud voice of the present". Researchers of oral folk art believe that the poetics of genres changes over time. New characters, new performers, new heroes, a new structure of lyrical lines appear. With the acquisition of a new ideology, the development of the country's social economy, new traditions and customs are born, but national rituals do not lose their antiquity. Modern science is developing and expanding its fields. Those above-mentioned rituals and lullabies live and exist today. Folklorists, exploring the genres of oral folk art, continuously work with field records. There are conspiracies among the people associated with putting a child in a cradle. Conspiracies of the modern nature of the "Besikshabyu" ritual consists of several couplets:

Cradle of the Run,
 Cradle door on the right,
 the owner of the cradle has come,
 Go away, devil, go away.

.....
 I am a rider on horseback,
 I will ride my horse,
 My legendary winged horse,
 so that he was a falcon horse,
 So that the child in the cradle,
 The tube was made of gold,
 A pot of silver.

[Interlinear translation by A.K.]

This conspiracy consists of eight verses, has a full semantic plot and a performed rite, without losing its historical antiquity, it still exists today. At present, the Besikshabyu ceremony has become very relevant. On the day of "Besik Toy" among the Karakalpaks, women and grandmothers especially prepare for this ceremony. A noble, talented woman with many children is chosen as a rider in the cradle from relatives. And after the performance of the ceremony, she sang the lullaby "Hayu". It should be noted that the Karakalpak people from early times were a people with many children. And the lyrics of lullaby songs did not differ much in content for a boy and for a girl. Many years of experience and analysis of field materials reveal some features of the aesthetics of the world perception. They began to create lullabies for a boy, a girl and twins:

Girl
 Bayu, bayu daughter,
 As a sunbeam is reflected,
 If you sleep well,
 That is the mother's calm soul.

.....
 My guria, paradise daughter,
 My daughter Corals-pearls,
 so that you grow up quickly,
 And she began to walk on her legs.

Boy
 Bai, bai my son,
 Allah gave me a foal,
 Laid in the cradle,
 So that you become strong.

.....
 Well done my hero,
 free-for-all My support is strength,
 To keep life long,
 And it was interesting.

Twins
 Bayu, bayu my twins,
 With you my eyes in pairs,



I'll lull you with a lullaby,
I'll put you to sleep myself.

..... ..
..... ..
I will sing a lullaby in pairs,
I will fulfill it with bliss,
And when you fell asleep in pairs,
I learned the secrets of the cradle.
[Interlinear translation by A.K.]

The lyric lullabies shown consist of six verses. The analysis of poetics and the plot corresponds to the reality of the sphere of its existence. If we reflect on the very process of the people's inclinations, plots, themes, artistic means correspond to the tastes of modern times, gradually it becomes, folk, losing the author's personality. After all, the original was once created by someone. Modern lullabies in the folk repertoire do not take shape at once, but gradually. In modern folklore studies, the question of the changeability of poetics is associated with the problem of national culture, the peculiarities of its role in modern life. Here it is appropriate to note the opinion expressed in the book "On Russian Folklore": the transformation of a ceremony into a game is a transformation of a genre that has lost its functional specificity with the change in the people's worldview.

CONCLUSIONS

In conclusion, we can note that the long history of the people is reflected in small genres of Karakalpak folklore. The ritual folklore reflects the wonderful antiquity of the nation.

Wonderful poetics in the repertoire of adults for children. They are filled with maternal love for the child, and this love turns her into a creator - a creator of poetry. Every folklorist should deal not only with the collection and study of texts, but also see the living processes of folk art. And also study and consider the people who have saved them for us.

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ROLE OF METAPHOR AND METONOMY IN THE FORMATION OF COMPUTER AND INTERNET TERMINOLOGY

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ABSTRACT

The article discusses the features of the secondary nomination processes in terminology of fields. Analyzed the phenomenon of in the field of computer Internet technologies. Metaphor acts as one of the main tools in expressing the meanings of the computer and the Internet, after all, in the studies of the vocabulary of the Internet, this semantic phenomenon is considered as a fundamental cognitive operation that allows figurative schemes to move from one conceptual field to another. In the process of creating metaphors, connotation plays a key role, which gives meaning and is characteristic of the environment of native English speakers. Differences in the linguistic landscape and mentality of the compared languages may be associated with the inconsistency of the English connotation with the Uzbek linguistic culture. Thus, the metaphorization of Internet terms can only refer to one language.

KEY WORDS: nomination, secondary nomination, semantic derivation, metaphors, metonymy, terminology, de-terminology, re-terminology

DISCUSSION

One of the most important sources of terminology formation is metaphor [1]. Since metaphorization plays an important role in fixing new scientific results, today the metaphor is widely used in the creation of professionally labeled units. When the available means of scientific language do not allow the researcher to express the new that he discovered, he resorts to metaphor. The expressiveness of a term is created in different ways. The most obvious way is to use a term that is already based on a metaphor. Such terms are called metaphorical.

In modern science, a metaphor is interpreted on the basis of cognitive or cognitive-semantic approaches and is interpreted as both a mental and a linguistic mechanism, consisting in the interaction or comparison of two entities, phenomena based on similarities, analogies between them, that is, finding their common features. Analogies based on a cognitive metaphor «enable us to see an object or idea as if in the light of another object or idea, which allows us to apply knowledge and experience gained in one area to solve a problem in another area [2]». From these positions, the metaphor is included in the wide process of cognition, comprehension and conceptualization of the surrounding reality [3].

The semantic development of a word depends on the language's need to assimilate reality

through metaphor and to know it through scientific concepts - two functions consisting of the participation of a concept. There are two directions in it: firstly, it is the exchange of lexical denotations underlying the metaphor. Secondly, the content of the signifiers is constantly deepening in connection with its integral connection with the system of semantic meanings [4]. The scientist continues to argue that the term is formed as a result of the development of subsequent meanings based on the meaning of the word itself.

Most linguists argue that metaphor plays a key role in the formation of a term using the semantic method. Because new terms are formed on the basis of a certain property of words in live communication, i.e. lexical (formal) similarity, similarity in color.

As for the metaphorization of terms, Y.N. Karaulov states: "Metaphor is used to denote special concepts of information technology, that is, computers, programming, media [5]."

Russian linguist M. Volodina notes commenting on the terminological nomination: "The role of language in science is even more obvious on the example of metaphor. Terminological nomination is the highest manifestation of the content-coding feature of a metaphor, since in the formation of a term, along with the communicative function of language, the function of cognitive cognition is manifested [6]."



On terminological metaphors it is worth citing the opinion of Y.V. Rozhdestvensky: "Comparative typological and historical study of terminology leads to the idea of the legitimacy of the phenomenon of the figurative basis of terms. The general point of tropes is not to preserve the meanings of everyday words used in everyday life. Consequently, the conditional probability is such that pleonasm (redundant elements) is obvious from the point of view of the historical process; there is an oxymoron phenomenon in the term book songs; if the term classicism is formed by means of metonymy; there is also a metaphor in terms of coefficient and sine. Paths "break" the etymological meaning of words that serve as the basis for the formation of terms that share a polysemantic "chain". This direction in terminology and terminology, that is, imagery and expressiveness, remain unexplored aspects. The emergence of terminology is based on the general figurativeness of language tropes (including various forms of metaphors and metonymy, for example, black hole, black box, conditional probability, historical process). But when creating terms, the function of tropes tends to be somewhat limited [7]."

Italian linguist Michaela Rossi, studying special linguistic metaphors, claims that "... special linguistic metaphors are based on various and complex processes and are constantly undergoing semantic changes [8]." The scientist identifies five functions of terminological metaphors: nominative, heuristic, hermeneutic, didactic.

The metaphor calls for the acceptance of the meaning of linguistic units in discursive activity in its systemic, contextual, intertextual richness and in any associative relationship. Changes in the semantics of terms, the phenomenon of acquiring a transitional meaning often occurs metaphorically. For example, transliteration of literary words and other field terms is a real linguistic reality in which the principle of metaphor plays an important role [9].

Studying the metaphors of the computer language, V.M. Leichik classifies them into three groups:

1. Metaphors based on the similarity of physical signs (mirror, client).
2. Metaphors based on the similarity of the functions of objects or representing similarities in different fields of activity (basket).
3. Conceptual, intelligent metaphors (spy mode, root) [10].

The main types of metaphorization processes observed in English and Uzbek computer and Internet terms are classified as follows:

a) The following terms are good examples of metaphorization based on external similarity or formal similarity: *finger ring* – *бармоқ ҳалқаси*; *flag* – *байроқ*; *gateway page* – *дарвоза (кўп сонли муурожаатлардан ташкил топган веб-*

саҳифа); *green computer* – *яшил компьютер*; *hatch* – *туйнук*; *background* – *тағлик* etc.

b) metaphorization based on the similarity of functions: *Head-Mounted Device (HMD)* – *Қалпоқ қурилмаси*; *address mask* – *манзил ниқоби*; *address modification* – *манзиллар турланиши*; *counter* – *санагич*; *electronic army* – *электрон армия*; *electronic glove* – *электрон қўлқоп*; *electronic purse* – *электрон ҳамён* etc.

c) metaphorization based on similarity of behavior: *Alias* – *адашлар*; *artificial intelligence* – *сунъий тафаккур*; *data fragment* – *маълумотлар бўлаги*; *deadlock* – *боши берк ҳолат*; *default* – *сукут*; *disclosure* – *бузиб очиш*.

If we look at the stages of the formation of computer and Internet terms, we can observe the emergence of new metaphorical terms using the following methods:

Terms associated with the names of various objects: *address* – *манзил*. A metaphorical term is formed by adding a common word mask to the Internet term: address mask. This term refers to the concept of a process used to separate bits when addressing a subnet and an Internet address. Or, from the combination of the words bit and mask, the term metaphorical Internet of bits + mask is created.

Metaphorical terms related to human thinking include artificial intelligence or artificial language - and so on. In this case, intelligence is a process of active perception of objective reality in the imagination, understanding and discussion, the ability to think; The term artificial intelligence is formed on the basis of similarities with human activity.

If we look at the period of the emergence, formation and development of computer and Internet terms, firstly, terminological metaphors serve as a source of people's everyday life, and secondly, metaphors always arise from the experience of experts, who in turn we observe that style, experience associated with the worldview expressed in the language.

Most linguists argue that metaphor plays a key role in the formation of a term using the semantic method. This is due to the fact that new terms are created taking into account a certain feature of words in live communication, that is, similarity in a certain way, for example, similarity in color: *hot swap* – *қайноқ алмаштириш*; *indexing* – *капитли номлаш*; *cookies* – *аввалги уз*; *cyclic ring* – *даврий ҳалқа*; *dummy* – *ёлғон символ*; *Fisher-fisher*, *Интернет қаллоблик* etc.

The use of terms used in practice in a new metaphorical sense makes it possible to express an unfamiliar concept through a familiar concept. This transparency in terms helps you quickly understand them. For example: *main memory* – *тезкор хотира*; *mirror* – *кўзеу*; *network wearing* –



тармоқ чоқи; shopping cart program– электрон аравача; smart network – ақлли тармоқ etc.

Metaphorical terms not only name new phenomena, but also help to cognize new phenomena through a semantic-motivational sign as a method of cognitive activity. In particular, the term “metaphors”, denoting a negative phenomenon in the global network, is one of them. For example, the term intruder means “a person or organization interested in unauthorized access to an information system and its resources.” Or killer packets - The term killer packets means “a method of shutting down a system by sending it Internet packets or IP packets that exploit network software bugs, or by crashing the system.” In particular, the term wiretapping is used to mean “unauthorized interception of information waves.” Disguise - the term disguise means “a method of protecting objects based on performing actions that make an object inaccessible (invisible) to criminals or make it difficult to use.”

Among the terms of the Internet there are also terms that arose as a result of metonymic migration, that is, they consist of a substance formed on the basis of the internal interconnection of created objects. For example, the Uzbek equivalent of the English term “Cambridge Ring” is shaped like the Cambridge Ring, which originally arose as a result of a change in the meaning of the term “Cambridge Ring Network”. Or visit - The term visit refers to a meaning in website usage reports that indicates that a user has visited a website and visited one or more other sites or turned on a browser [11].

D. Kadyrbekova: “... the phenomenon of metaphor and metonymy plays an important role in the lexical and semantic construction of information communication terms. However, the phenomenon of metonymy is less applicable to metaphor. Thus, we see that in accordance with the principle of precision in terminology, metaphor is the main phenomenon. Metaphor and metonymy are non-linguistic phenomena in the construction of a term, which represent migrations within the same group of words and are mainly characterized by the fact that they belong to a noun phrase [12]”. And he gives the following examples: analytical attack; *analytic attack – таҳлилий ҳужум; onion skin – шарпа; artificial brain – сунъий мия; electronic brain – электрон мия; robot brain – робот мияси* etc.

Unlike metaphor, the phenomena of metonymy in the formation of Internet terms in English are based on a real connection, i.e. they are formed as a result of the interaction of denotations. For example, the terminology of the Internet is characterized by the following metonymic transfer models:

1) Model “User category - domain name”.

Pate is a domain name intended for use by individuals; *pame* - **domain name intended for use by individuals**; *firm* - **domain name representing**

business; store - **domain name representing vendors and merchants**.

In conclusion, the terminological metaphor is a comprehensive source that enriches the terminology of the Internet, is based on the cognitive mechanisms of analogy, distinguishes common and similar aspects between various objects and processes, reflects the cultural and historical context of the period, and distinguishes between familiar and new areas of knowledge. provides interaction.

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A STUDY ON - ANALYSIS OF STOCK FUTURE AND OPTION DERIVATIVES TRADING IN INDIA

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ABSTRACT

The study is based proceeding Financial Derivatives with orientation to futures and options. Derivative instruments are used to hedge against value changes in underlying commodities, bonds, currencies, stocks and stock indices. The derivative market is newly started in India and it is not known by every investor, so SEBI has to take steps to create awareness among the investors about the derivative segment. In cash market the profit/loss of the investor depends on the market price of the underlying asset. The investor may incur huge profit or he may incur huge loss. But in derivatives segment the investor enjoys huge profits with limited downside. Derivatives are mostly used for hedging purpose. In order to increase the derivatives market in India, The investor may incur huge profit or he may incur huge loss. But in derivatives segment the investor enjoys huge profits with limited downside. Derivatives are mostly used for hedging purpose. In order to increase the derivatives market in India, SEBI should revise some of their regulations like contract size, participation of FII in the derivatives market. In a nutshell the study throws a light on the derivatives market.

KEY WORDS—strike price, spot price, premium, maturity period.

INTRODUCTION

Derivatives stand risk managing tools, can get their incentive as of an underlying asset. Derivatives are risk management instruments, which derive their value from an underlying asset. The underlying asset can be bullion, index, share, bonds, currency, interest, etc.. Banks, Securities firms, companies and investors to hedge risks, to gain access to cheaper money and to make profit, use derivatives. Derivatives are likely to grow even at a faster rate in future. A derivative instrument is a contract between two parties that specifies conditions (especially the dates, resulting values of the underlying variables, and notional amounts) under which payments are to be made between the parties.

OBJECTIVES OF STUDY

To Analyze the actions of futures and options.
To give findings and suggestions based on the study.

NEED OF STUDY

The usage of derivatives in the market place is to circumvent regulation, which means taking the risk-off and make it legal for pension funds to purchase securities. The increasing investments in derivatives (domestic as well as overseas) have attracted my interest in this area.

SCOPE OF THE STUDY

The study is limited to “Derivatives” with special reference to futures and option in the Indian context and the Inter Connected Stock Exchange has been taken as a representative sample for the study. The study can't be said as totally perfect. Any alteration may come. The study has only made a humble attempt at evaluation derivatives market only in India context. The study is not based on the international perspective of derivatives markets, which exists in NASDAQ, CBOT etc.

RESEARCH METHODOLOGY

The examination contains the classification of the information surveying the right places of futures buyer & seller similarly option holder & option.

The data collected is of both Primary & Secondary data. Primary data: The data gathered from individual discussions with approved agents & individuals from Exchange. Secondary data: The data gathered from the speeches of the administer of the Branch of Market Actions, EDP etc., and the information gathered from Bulletin, Publications of NSE, BSE and various records topics of the work.



LIMITATIONS

Some people believe that financial derivatives make an unnecessary assumption within the market that isn't precisely helpful to small sell investors.

REVIEW OF LITERATURE

Do Futures and Options trading increase stock market volatility? By Dr. Premalata Shenbagaraman, Research Paper (NSE): Numerous studies on the effects of futures and options listing on the underlying cash market volatility have been done in the developed markets. The empirical evidence is mixed and most suggest that the introduction of derivatives do not destabilize the underlying market.

Antonios Antoniou and Phil Holmes Futures trading, information and spot price volatility: evidence for the FTSE-100 stock index futures contract using GARCH This paper examines the impact of trading in the FTSE-100 Stock Index Futures on the volatility of the spot market. It ensures that the relationship between information and volatility of the spot and future with the use of GARCH analysis. The results suggested that futures' trading has a more volatile than spot market.

Derivatives, risk and regulation: chaos or confidence? by R Dixon, R.K. Bhandari said that there has been an extraordinary increase in the use of financial derivatives in the capital markets.

Consequently derivative instruments can have a significant impact on financial Institutions, individual investors and even national economics. This relatively recent change in the status of derivatives has led to calls for regulation. Using derivatives to hedge against risk carries in itself a new risk was brought sharply into focus by the collapse of Barings Bank in 1995. The principle concerns of regulators about how legislation may meet those concerns are the subject of current debate between the finance industry and the regulators. Recommendations have been made and reviewed by some of the key players in the capital markets at national and global level.

Fghjk,,Investment property portfolio management and financial derivatives” by Patrick MCallister, Johan R. Mansfield. His study on Derivatives has been an expanding and controversial feature of the financial markets since the late 1980s. They are used by a wide range of manufactures and investors to manage risk. This paper analyses the role and potential of financial derivatives investment property portfolio management. The limitations and problems of direct investment in commercial property are briefly discussed and the main principles and types of derivatives are analyzed and explained. The potential of financial derivatives to mitigate many of the problems associated with direct property investment is examined.

ANALYSIS AND INTERPRETATION

Respondent’s response towards the Level of risk associated with the Investment option like Financial Derivative Future Option Market.

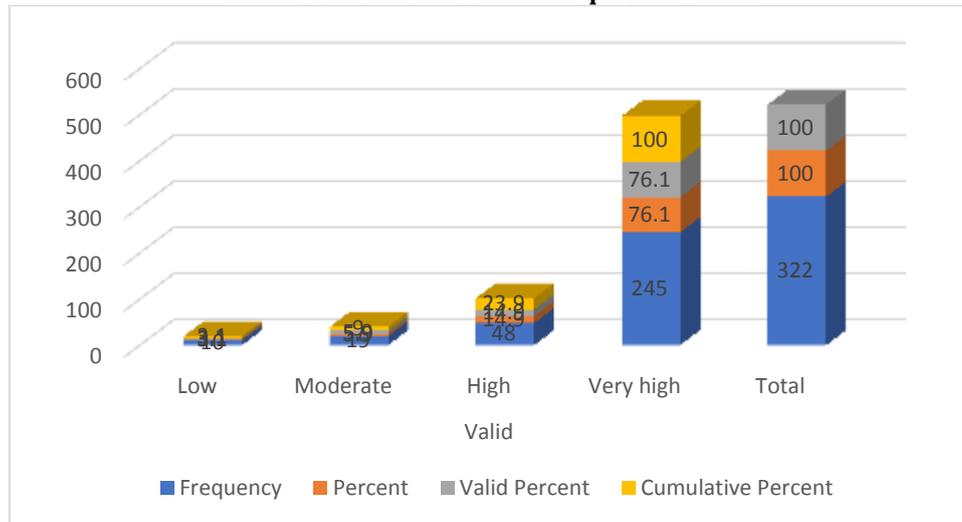
	Response	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	10	3.1	3.1	3.1
	Moderate	19	5.9	5.9	9.0
	High	48	14.9	14.9	23.9
	Very high	245	76.1	76.1	100.0
	Total	322	100.0	100.0	

(Source: Primary data conducted through field survey)

The above table and the graph generated with the help of the primary data conducted through field survey exhibits respondent’s response towards the level of risk associated with the investment option like financial derivative future option market where

majority of the respondents 76.1% expressed that there is a very high risk with the financial derivative future option market is high followed by 14.9% said there is a high risk involved in it and 5.9% said it is moderate.

Chart -4. 11
Respondents response towards the Level of risk associated with the Investment option like Financial Derivative Future Option Market.



(Source: Primary data conducted through field survey)

Respondents response towards the Level of risk associated with the Investment option like Gold.

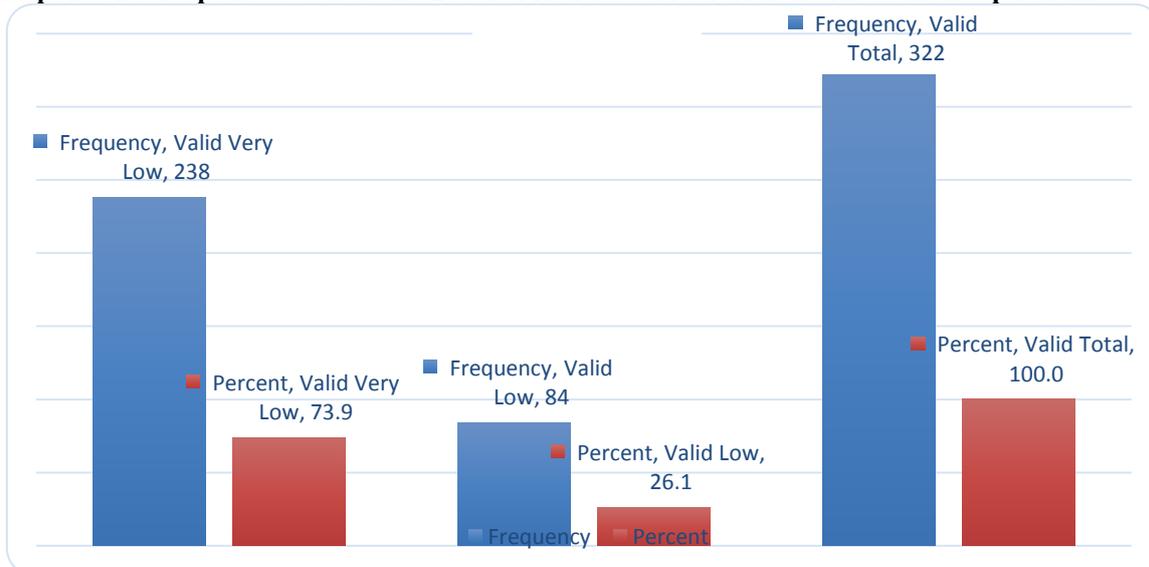
Response	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Very Low	238	73.9	73.9	73.9
Valid Low	84	26.1	26.1	100.0
Total	322	100.0	100.0	

(Source: Primary data conducted through field survey)

The above table and the Chart generated with the help of the primary data conducted through field survey exhibits respondent's response towards the level of risk associated with the investment option

like gold where majority of the respondents 73.9% expressed that the risk with the investment option like gold is very low followed by 26.1% said it is low.

Respondents response towards the Level of risk associated with the Investment option like Gold.



(Source: Primary data conducted through field survey)



Respondents response towards from how long they are Investing in Trading in Equity Derivative Market.

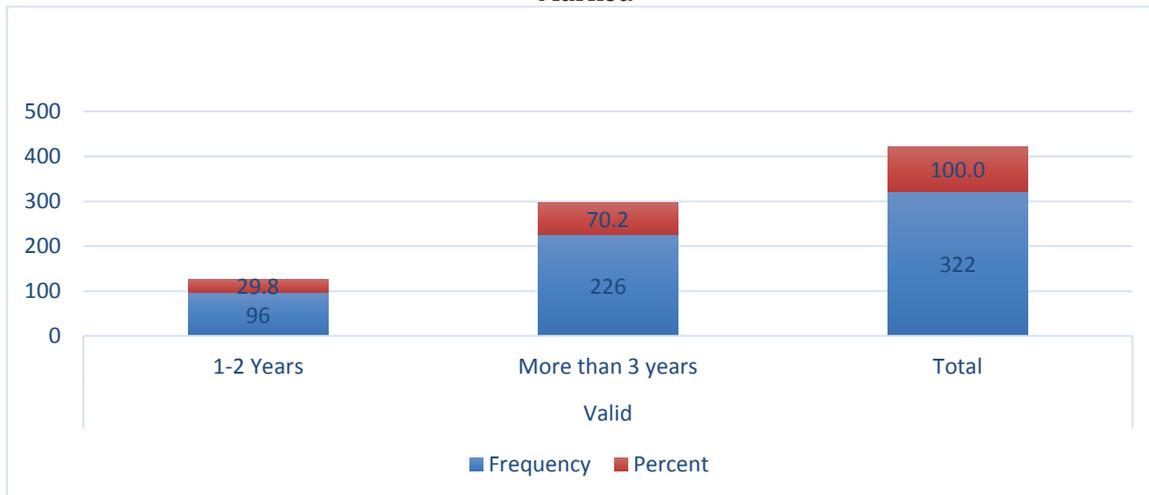
Response		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-2 Years	96	29.8	29.8	29.8
	More than 3 years	226	70.2	70.2	100.0
	Total	322	100.0	100.0	

(Source: Primary data conducted through field survey)

The above table and the Chart generated with the help of the primary data conducted through field survey exhibits respondent’s response towards the from how long they are investing and trading in the derivative market where majority of the respondents

70.2% of them said that they are investing and trading in the Equity derivative market from more than three years followed by 29.8% of them said that they are investing and trading in the Equity derivative market between 1-2 year.

Respondents response towards from how long they are Investing in Trading in Equity Derivative Market.



(Source: Primary data conducted through field survey)

Respondents awareness level towards the Equity Stock Futures.

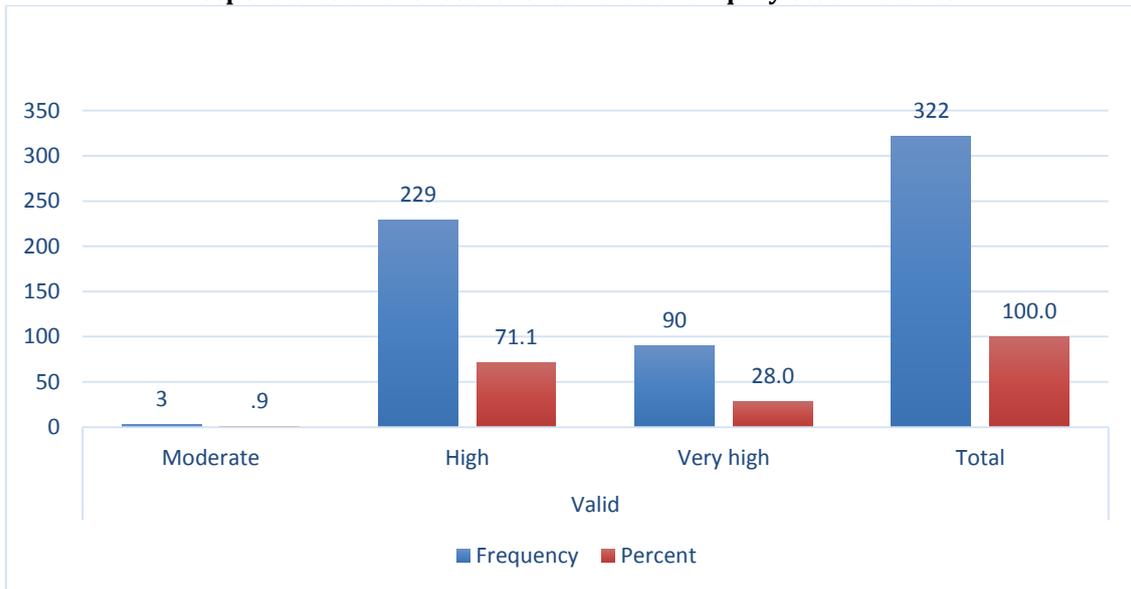
Response		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderate	3	.9	.9	.9
	High	229	71.1	71.1	72.0
	Very high	90	28.0	28.0	100.0
	Total	322	100.0	100.0	

(Source: Primary data conducted through field survey)

The above table and the Chart generated with the help of the primary data conducted through field survey exhibits respondent’s awareness level towards the equity stock futures where majority of the respondents 71.1% of them said that they have got

high awareness followed by 28% of them said that they very high awareness towards the equity stock futures.

Respondents awareness level towards the Equity Stock Futures.



(Source: Primary data conducted through field survey)

Respondents awareness level towards the Equity Stock Options.

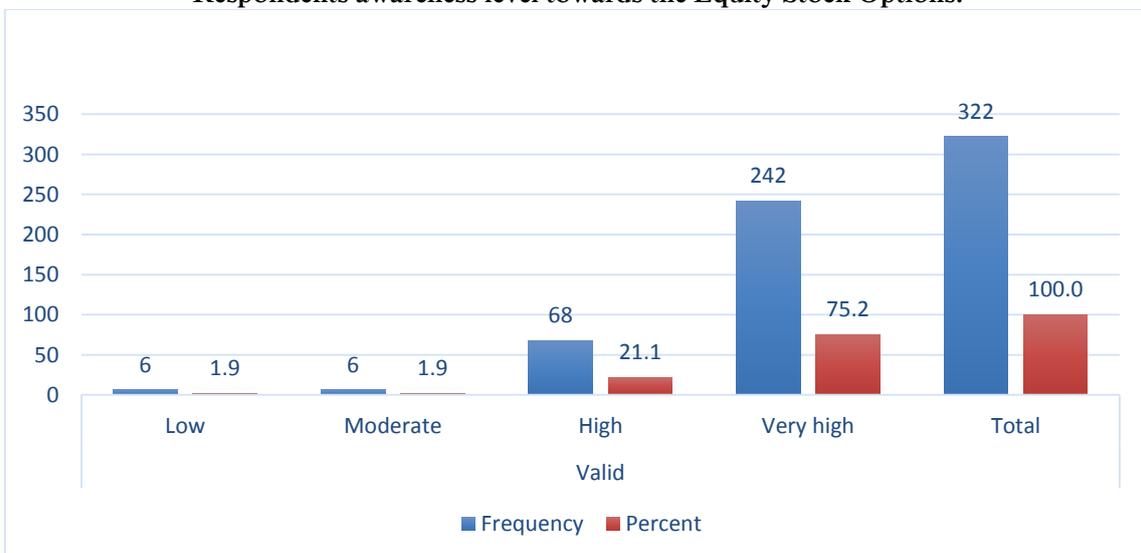
Response		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	6	1.9	1.9	1.9
	Moderate	6	1.9	1.9	3.7
	High	68	21.1	21.1	24.8
	Very high	242	75.2	75.2	100.0
	Total	322	100.0	100.0	

(Source: Primary data conducted through field survey)

The above table and the chart generated with the help of the primary data conducted through field survey exhibits respondent's awareness level towards the equity stock options where majority of the

respondents 75.2% of them said that they have got very high awareness followed by 21.1% of them said that they high awareness towards the equity stock options.

Respondents awareness level towards the Equity Stock Options.



(Source: Primary data conducted through field survey)



Techniques used by the Investors to manage the risk in Equity Derivatives Market.

Reponses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Avoidance	14	4.3	4.3	4.3
	Exit with minimum loss	31	9.6	9.6	14.0
	Diversification	132	41.0	41.0	55.0
	Average Down	37	11.5	11.5	66.5
	Ignore the risk	44	13.7	13.7	80.1
	Hedging	32	9.9	9.9	90.1
	Invest with the trend in the market	32	9.9	9.9	100.0
	Total	322	100.0	100.0	

(Source: Primary data conducted through field survey)

The above table and the chart generated with the help of the primary data conducted through field survey exhibits the techniques used by the investors to manage the risk Derivatives Market, where majority

of the respondents 41% said that go for diversification followed by 13.7% said that ignore the risk involved in it.

Descriptive Statistics						
Factors considered as Advantages in Investing in Futures and Options	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Certainty of Profits	317	1	4	2.38	1.024	3
high liquidity	317	1	4	2.34	.813	2
Low merging deposits	317	1	4	3.19	.986	1
FO Transparency in pricing	317	1	4	2.10	1.275	4
Valid N (list wise)	317					

Ranking of the of the factors considered as advantage in futures and options.

Source: Primary data conducted through field survey'

The above descriptive table shows the factors which are considered as advantage in futures and options where low merging deposits stands at number one position with the mean value of 3.19 followed by high liquidity stands as the second factors which is an advantage in the futures and option market with the mean value of 2.34 followed by certainty of profits as the third factor which is an advantage in the futures and options market with the mean value of 2.38 and transparency in pricing at the fourth rank with the mean value of 2.10.

FINDINGS

The above table and the graph generated with the help of the primary data conducted through field survey exhibits respondent's response towards the level of risk associated with the investment option like financial derivative future option market where majority of the respondents 76.1% expressed that there is a very high risk with the financial derivative future option market is high followed by 14.9% said there is a high risk involved in it and 5.9% said it is moderate.

The above table and the Chart generated with the help of the primary data conducted through field survey exhibits respondent's response towards the level of risk associated with the investment option like gold where majority of the respondents 73.9% expressed that the risk with the investment option like gold is very low followed by 26.1% said it is low.

The above table and the Chart generated with the help of the primary data conducted through field survey exhibits respondent's response towards the from how long they are investing and trading in the derivative market where majority of the respondents 70.2% of them said that they are investing and trading in the Equity derivative market from more than three years followed by 29.8% of them said that they are investing and trading in the Equity derivative market between 1-2 year.

The above table and the Chart generated with the help of the primary data conducted through field survey exhibits respondent's awareness level towards the equity stock futures where majority of the respondents 71.1% of them said that they have got high awareness followed by 28% of them said that



they very high awareness towards the equity stock futures.

The above descriptive table shows the factors which are considered as advantage in futures and options where low merging deposits stands at number one position with the mean value of 3.19 followed by high liquidity stands as the second factors which is an advantage in the futures and option market with the mean value of 2.34 followed by certainty of profits as the third factor which is an advantage in the futures and options market with the mean value of 2.38 and transparency in pricing at the fourth rank with the mean value of 2.10.

SUGGESTIONS

1. SEBI must take measures utilize adequately derivatives fragment as instrument of hedging.
2. The derivatives market is newly started in India and it is not known by every investor, so SEBI has to take steps to create awareness among the investors about the derivative segment.
3. Contract size can be minimized because small investors cannot afford this much of huge premiums.
4. Investors should have the adequate knowledge about technical and fundamental analysis
5. The investors should invest in the public sector securities the risk will be reduced.
6. Updating of market information help the investors to get maximum return.

CONCLUSION

Derivatives market is advancement to money market. In money market P/L of depositor relies upon the market price of underlying asset. Where it is at some level of total cash. Derivatives are generally utilized for hedging purpose. As derivative market offers more return, with the hedging of interest rate risk and exchange rate risk with maximum profits and minimum loss. It has been observed that people have got awareness with respect to derivatives trading amongst the retail investors in India. This is enabled due to relatively increase in number of trading agents in the market. These commission agents make their income from trading done by the investors. But many studies have revealed even though some of the developing economies have realized the importance of derivative market but still there is a requirement for the in-depth studies in this field of derivatives market, otherwise because of the lack of knowledge the retail investors might have to face lot of complexities and problems.

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LIGHTWEIGHT TUMPING MORTAR BASED ON LOCAL RAW MATERIALS FOR CEMENTING OF WELLS IN THE CONDITIONS OF THE USTURT REGION

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ABSTRACT

Geological and physical conditions and peculiarities of the development of deposits of high-viscosity oils are given. To study the causes of flooding production of wells, dependencies have been made on the development period, the utilization factor of reserves and the recovery factor of oil. It is established that the rate of watering the production of wells depends on the activity of the water-pressure system.

KEYWORDS: *deposit, deposits, horizon, reservoir, watering, development, dependence, water system, activity, rate, selection, coefficient, washing, liquid.*

INTRODUCTION

A decrease in the density of the grouting slurry is achieved by replacing a part of the cement with a filler having a lower density than cement and a higher specific surface area and an increase in the water content of the solution. Special lightweight cements produced by factories make it possible to obtain a solution density in the range of 1490-1550 kg / m³. The use of diatomite as a filler makes it possible to reduce the density of the grouting mixture to 1400-1500 kg / m³. Also, lightweight grouting mixtures with a density of 1250-1350 kg / m³ are obtained by adding gas-filled micro cylinders made of polymer resins, but they are expensive and difficult to obtain imported materials. [1]

In the conditions of the Ustyurt oil and gas region, when cementing technical and production strings, according to the regulations, the density of the cement slurry should be in the range of 1400-1500 kg / m³. To ensure such a density of the cement slurry, studies were carried out on the use of readily available and inexpensive lightweight additives

available in our Republic. On the basis of research on obtaining formulations of lightweight grouting slurries, we have proposed brown coal powder as a lightening additive, which is used in drilling enterprises for the preparation of CAR paste. To adjust the period of thickening of cement slurries, NTMP, FHLS, CMC - 500 were used. Due to the replacement of a part of the cement with brown coal powder, the density of the cement slurry decreased to 1400-1500 kg / m³. [2,3] In addition, experimental studies were carried out to identify the effect of brown coal powder on the properties of cement slurries and the cement stone formed on the basis of them. The studies were carried out at temperatures from 20 to 100 0C. The results of the study to determine the optimal composition and the effect of the content of brown coal on the strength characteristics are shown in Table 1.

Table 1.
Influence of brown coal powder on the strength characteristics of lightweight cement slurry (T = 200C)

№ p/p	Composition of cement slurry, wt%					Indicators of grouting slurry			
	Cement	dolomite	brown coal	CMC	V/TS	γ , g/cm ³	d, см	G _{изг.} , МПа	G _{сж.} , МПа
1	100	-	-	-	0,7	1,65	25	1,4	3,8
2	80	-	20	-	0,6	1,57	25	1,4	3,8
3	70	-	30	-	0,6	1,53	25	1,3	3,5
4	60	-	40	-	0,6	1,49	25	1,2	3,6
5	60	-	40	-	0,7	1,40	26	1,2	3,6
6	60	20	20	-	1,0	1,35	23	0,5	1,6
7	60	15	25	-	0,9	1,40	25	0,6	1,9
8	60	10	30	-	0,9	1,45	25	0,7	2,2
9	100	-	-	0,5	0,7	1,65	23	2,0	4,5
10	80	-	20	0,5	0,6	1,57	23	2,0	4,5
11	70	-	30	0,5	0,6	1,53	23	1,8	4,2
12	60	-	40	0,5	0,6	1,49	23	1,6	3,9
13	60	-	40	0,5	0,7	1,40	24	1,6	3,9
14	60	20	20	0,5	1,0	1,35	21	0,7	2,2
15	60	15	25	0,5	0,9	1,40	23	0,9	2,4
16	60	10	30	0,5	0,9	1,45	23	1,1	2,7

As can be seen from the data in Table 1, on the basis, with an increase in the content of brown coal in the composition, the specific gravity of the lightweight cement slurry increases to 1.57 g / cm³. However, the strength of the grouting slurry is slightly reduced in comparison with the strength of the cement stone obtained from pure cement. With the help of CMC, the terms of thickening of grouting slurries are regulated, in addition, CMC contributes to an increase in the strength of the cement stone, as evidenced by the data in Table 1 (p. 9-16). Based on our studies, we obtained the following compositions of a lightweight grouting solution:

- 1) For cementing production strings:
 Backfill cement. % - 60-50

- Brown coal masses. % - 20-50
 Dolomite masses. % - 10-15
 V/C ratio - 0.6-0.7

- 2) for cementing technical columns:
 Backfill cement. % - 60-50%
 Brown coal masses. % - 20-30%
 Dolomite masses. % - 10-20%
 V/C ratio - 0.9-1.0

Tests of the formulation of a lightweight cement slurry based on brown coal were also carried out in the CETS laboratory of the Ustyurt URB at a temperature of 100 ° C and 40 ° C. The test results are shown in Table 2.

Table 2
Composition and properties of lightweight cement slurry based on brown coal

№ p/p	Composition of the cement slurry, % by weight					Indicators of grouting slurry				T°C
	cement	dolomite	brown coal	NTMP	V/TS	G, g/cm ³	d _{нач.} , см	T _{зач.} , hour-minute	d _{кон.} , см	
1	100	-	-	0,1	0,7	1,65	25	6-05	15	100
2	80	20	-	0,1	0,8	1,57	25	5-20	11	100
3	70	-	30	0,08	0,6	1,53	22	5-30	13	100
4	60	-	40	0,08	0,6	1,49	22,5	5-50	12	100
5	60	-	40	0,08	0,7	1,40	22,5	6-10	15	100
6	100	-	-	0,02	0,7	1,65	25	5-30	14	40
7	70	-	30	0,02	0,7	1,52	25	5-30	12	40
8	60	15	25	0,02	0,7	1,45	25	5-30	13	40



From the data in Table 2, it can be seen that as a result of the addition of 25-40% brown coal to cement, it is possible to obtain a lightweight grouting slurry with a density of 1400 to 1530 kg / m³. This composition, in terms of its strength characteristics and density, fully satisfies the requirements for cementing wells in the Ustyurt oil and gas region. The use of brown coal makes it possible to save oil well cement by 30 - 40% and bentonite clay up to 20%. The proposed composition of the lightweight grouting slurry based on brown coal has passed field tests during the cementing of a surface conductor, which was lowered to a depth of 910 m in borehole No. No. 2 North Berdakh. [3].

According to the project, the casing string with a diameter of 299 mm was to be run to a depth of 1600 m, and clean cement slurry was used to cement the well.

Taking into account the drilling conditions, it was decided to lower the surface to a depth of 910 m. The reason for this decision is to accompany the drilling process with partial losses of mud on sandy deposits and shedding of sea sand from the upper interval into the wellbore.

For cementing the casing, a lightweight grouting slurry with a specific gravity $\rho = 1.45 \text{ g / cm}^3$ was used. The grouting slurry contains cement, brown coal, bentonite in a ratio of 3: 1: 1. [4.5]

According to the project, for cementing the column, it was envisaged to use a cement slurry prepared from 89.7 tons of oil well cement at $W / C = 0.7$. To prepare a lightweight grouting solution in the amount of 78.4 m³, the following was consumed:

- Cement - 50 tons.
- Brown coal - 15 tons.
- Bentonite 15 tons.

The use of the formulation of the lightweight grouting slurry during the cementing of the surface casing ensured the rise of the cement slurry behind the casing to the wellhead. The rise of the grouting slurry behind the casing was accompanied without absorption into layers, consisting of porous and fractured rocks, although when cementing with gel cement and mortars based on Portland cement. The losses of the cement slurry were observed; as a result, the cement slurry was not raised to the design height behind the casing.

Tests of the formulation of the lightweight grouting slurry on well No. 2 of the Severny Berdakh area showed that this composition provides high-quality cementing of the surface casing while saving grouting cement and prevents complications associated with the absorption of cement slurry.

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CAR- Carbon alkali reagent

NTMP- Nitrilotrimethylphosphonic acid (white powder)

FHLS- Ferrochromlignosulfonate

CMC - carboxymethyl cellulose

K-4 - polymer reagent

CETS - central engineering and technical service

DOD - drilling operations department

pH - pH, a measure of the acidity of aqueous solutions



MAHMUD KASHGARI AND HIS WORK “DĪWĀN LUGHĀT AL-TURK” IN THE INTERPRETATION OF WORLD KASHGARI SCIENTISTS

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ABSTRACT

In this article, the personality and way of creative activity of Mahmud Kashgari and his encyclopaedic work that named “Dīwān Lughāt Al-Turk”, its written date and place, language and amount of words, fondant and research which were done by scientists of various nations and also the last important attentions which paid nowadays to that work and its author are analysed.

KEYWORDS :Linguistics, dictionary, encyclopaedist, Dīwān, manuscript, lexicology, toponymy, phraseology, word, Turkic languages.

Founder of areal and comparative historical linguistics, famous linguist (phonetician, toponymist, etymologist, lexicologist, lexicographer, phraseologist, grammar), literary critic (folklorist, poet, prose writer), geographer (cartographer) and historian (ethnographer) Mahmud Kashgari and his work “Dīwān Lughāt Al-Turk”, created in the XI century, attracted the attention of world scientists in various fields, led to the emergence of special studies, monographs and international scientific conferences. This is due to the fact that the famous work of the famous encyclopaedist is not only an encyclopaedia of its time [9,132] but also the oldest grammar created for the study of the Turkic language [8]. “Dīwān Lughāt Al-Turk” is the first work in the history of Turkish grammar. This was mentioned in 1530 by Bergamali Kadri in “Muyassirat ul-Ulum”, the first truly grammatical work of the Turkic language written in Turkish [32,10].

The full name of the author of “Dīwān Lughāt Al-Turk” is Mahmud ibn ul-Husayn ibn Muhammad il-Kashgari. His grandfather Muhammad and father Hussein were from the city of Barsgan on the shores of Lake Issyk-Kul, and his father moved from Barsgan to Kashgar and settled there. Mahmud also became a

relative of Kashgar, because he was born in this city “between 1029 and 1038” [28,246]. According to the Turkish scholar Jamal Kurnaz, Mahmud Kashgari was the prince of the Karakhanids [29,145-146]. Nihad Somi Banarli [27,250] also admits that Mahmud's father was a bey named Hussein ibn Muhammad from Barsgan, and another ancient grandfather was “Amir Tighin, who took Turkish land from the sons of Saman.”

Mahmud was one of the “good tribes of the Turkic peoples, an ancient tribe, a master of the spear in battle” [10,44]. In his youth, he studied in Kashgar, and his favourite teacher was Hussein Khalifa (Abu Abdullah ibn Hussein Kashgari), who was a noble and ascetic sheikh of his time and wrote many works, according to “Kitab ul-Ansab” Sayyid Samawi (XII century).

Mahmud Kashgari followed the hadith of our Prophet Muhammad Mustafa (saas) “Learn the Turkish language! This is because they will have a long-lasting kingdom.” As a result, he began his tours of all Turkic countries in order to leave a “perpetual monument” in the Turkic language and to prove that the Turkic language could compete with the Arabic language like



a racing horse. He studied encyclopaedic sciences in Eastern Anatolia, the Caucasus, the Volga region, Dashti Kipchak, Central Asia, and East Turkestan for several years. He then returned to Kashgar and in 1072 began to write an encyclopaedic work entitled “Dīwān Lughāt Al-Turk”. The book began at the beginning of 464 AH, and after being written (copied) and corrected four times, it was completed on the 12th day of the last year of 466 AH [11,453].

“Dīwān” also mentions the year the book was written: “*Nək jili – is one of the twelve years of the Turks. We wrote this book in 469 AH (1076-1077), that was in nək jili*” [11,170]. A. Kononov admits that there is an opinion about the date of creation of “Dīwān Lughāt Al-Turk” in “Dīwān”: “*The year of writing this book was the year of the snake in the month of Muharram 466. After this year, 467 years will come, and the year of the horse will come*” [7,37]. However, when we looked at the shown page [10,337], the presence of this information was not detected. According to Jamol Kurnaz [29,145-146] “Dīwān Lughāt Al-Turk” was written in 1072-1077, Nihad Somi Banarli [27,257] in 1072, Kasimjon Sodikov [20,28] in 1076-1077, Karl Rachel [30, 38] in 1073.

L. Bazin suggested a way to correctly solve the dates of creation and editing of “Dīwān”. According to him, “Dīwān” was created on January 25, 1072, and then it was edited 4 times:

- 1) In 464 AH (1072),
- 2) In 466 AH (1073),
- 3) In 469 AH (1076),
- 4) On October 27, 476 AH (1083) [25,23].

There are also different opinions as to where the “Dīwān Lughāt Al-Turk” was compiled. According to W. W. Barthold [2,83] and N.S. Banarli [27,257], Mahmud Kashgari wrote his work in Baghdad. According to P.K. Juze and H. Hasanov [22], Mahmud Kashgari wrote his “Dīwān” in Kashgar. The idea that “Dīwān” was written in Kashgar is closer to the truth. The fact that “Dīwān” contains no information about Baghdad and that Kashgar was an important political and cultural centre at the time draws attention to the fact that “Dīwān” was written in Kashgar and not in Baghdad.

“Dīwān Lughāt Al-Turk” was presented to Abulkasim Abdullah binni Muhammad al-Muqtada, a descendant of the Hashemites and Abbasids [18,28]. The sources mention that this man was called Khalifa Abul-Kasim Abdullah [29,145-146], as well as the Caliph of the Abbasids al-Muqtadi Billah [27,257].

In the first half of the 20th century, a world-famous event took place in the life of the Turkic peoples. This event took place in 1914 in Diyarbakir, Turkey. The widow, in need of money, showed the old manuscript to the bookstore: “*My late husband said:*”

Sell this book only if you have problems, but at least 30 lire”. But the bookseller did not want to buy such an expensive book and replied: “*Let the book stay in the store, and if the buyer comes out, you will get money.*” Days passed, buyers came, but none of them wanted to buy these “old papers” for 30 lire.

Finally, one day, Mr Ali Amiri, an old book fan from Diyarbakir, walked into the store. Ali Amiri flipped through the ugly manuscript for a couple of pages, but since he did not have the money to buy it, he borrowed it from a friend and bought the book. Taking the manuscript, Ali Amir could not take his eyes off it all day, morning and evening. Ali Amiri said: “*I bought a book, came home and forgot to eat. If this book is truly appreciated, the treasures of the world will not be enough*” [22,3]. This manuscript turned out to be a completely new work – the masterpiece of Mahmud Kashgari “Dīwān Lughāt Al-Turk”.

This manuscript of the “Dīwān Lughāt Al-Turk” was copied from the “original” by Mahmud Kashgari himself. The calligrapher Muhammad bin Abu Bakr ibn Abdul Fatih al-Sawi, who rewrote this book, was also al-Damasci. The calligrapher was born in Sow, Iran and later moved to Damascus, Syria. That is why he got the ratio “Sawi and Damasci”. Sources also claim that the calligrapher’s name was Muhammad ibn Abubakr ibn Abulfat as-Sawi ad-Damasci [20,28] or Muhammad bin Abu Bakr Damasci [19,98].

This copy was completed nearly on 27 Shawwal 664 AH (1 August 1266), almost 200 years after the writing of “Dīwān” [20,28]. It should be noted that this date was August 604 AH (1205–1206) in doctoral dissertation of Usmon Sanakulov which was defended in 2007 [19,98].

The manuscript consisted of a large volume of 319 pages, with pages scattered, torn, beginning and end, and pages unknown. It is now housed in the Ali Amir Foundation of the Fatih Library in Istanbul under number 4189 [20,28].

As mentioned above, only one copy of “Dīwān” is known, the Istanbul version, but this does not mean that it was the only copy of the work of Mahmud Kashgari. There are other copies of “Dīwān”, according to a number of historical sources [22,3].

It is necessary to clarify the opinion that M. Kashgari’s work “*found by chance, it was still unknown.*” Although the manuscript was only discovered in 1914, the Mahmud Kashgari’s Dictionary was mentioned in history in several works prior to the twentieth century. For example, in the chapter “The Story of the Turkic Peoples” in the book “*Iktuljumon fi tarikhi ahli zamon*” (XI century) by the Egyptian historian Badriddin Aini, there is a sentence: “*I saw them in Mahmud-ul-Kashgari’s “Dīwān*”. Ethnographic informations in the book of the Egyptian



Sahobiddin (Shahobiddin [23,19-21]) Ahmad "Tarikh il-badr fi avsaf ahli al-asar" is also taken from the work of Mahmud Kashgari.

Some sentences in the book "Taj ul-saadat and unvan ul-sayadat", written by the Kashgar scholar Ibn Muhammad (second half of the 14th century), and even in the book "Kitab al-idrok" by Abu Khayyam of Andamus were copied from "Dīwān". In particular, in the encyclopaedia "Kashf al-Zunun" the famous orientalist of the seventeenth century Haji Khalifi Kotib Halabi explains: "*Dīwān Lughāt Al-Turk*" by Muhammad bin Husayn ibn Mahmud is one volume. He interpreted his work in Arabic. 18 letters of the Turkish language are explained. He presented his work to Khalifa Abulqasim Abdullah, son of Muqtadi bi Amirullah". On the basis of this "Kashf az-zunun" the existence of such a dictionary was also mentioned in the European press. In 1904, the language department of the Hungarian Academy published a collection containing a list of works written in the Turkic languages between the 11th and 15th centuries. Among them, it is mentioned that one of the oldest works in the Arabic-Turkish language is "Dīwān Lughāt Al-Turk". But nothing is known about the manuscript itself.

Although M. Kashgari's work is actually one of the annotated dictionaries, it provides important information about the entire field of linguistics in a unique way, that is, between the words explained in the dictionary, sometimes through extensive, sometimes short grammatical explanations. The scientist first wrote a work in the field of grammar called "Javohirun nakhvi fi lughotit turk", which the author clearly mentions in "Dīwān" [10,62]. But this work has not reached us. Nevertheless, the "Dīwān Lughāt Al-Turk" contains enough information on lexicology, phonetics, word formation and morphology.

The language issue in "Dīwān Lughāt Al-Turk" has also caused controversy among scholars. In particular, such scientists as K. Brokelman and Besim Atalay, who were the first researchers of this work, considered "Dīwān Lughāt Al-Turk" to be the Uyghur and dialectic heritage of Istanbul [14,9]. According to A.M. Shcherbak [21,20-30] and E. Najip [16,283], the language of the work "Dīwān Lughāt Al-Turk" reflects a group of literary languages, formed on the basis of the Uyghur-Karluk dialect. According to K. Karimov [6, 6-14] and T.A. Borovkov [4,4] work "Dīwān Lughāt Al-Turk" was written in the literary environment of the Karakhanids in "a language understandable to all Turkic peoples from Kashgar to the Caspian Sea", that is, in the Kashgar language. Although a number of points of view were expressed on the question of defining the language and dialectal base of the "Dīwān Lughāt Al-Turk", no unambiguous conclusion was made.

Scientists from around the world have suggested that the word count in "Dīwān" is over 7,500, and the exact number is not given. However, Uzbek scientists E.Begmatov and K.Rakhimova clarified this hypothesis in 2002, that is, based on observations of the "Dīwān Lughāt Al-Turk" in the index dictionary, it contains 7959 words, in comparison with the current Uzbek vocabulary, of which 2760 found in Uzbek [3,40].

At present, the work of Mahmud Kashgari "Dīwān Lughāt Al-Turk" is known not only in Central Asia, but also in the countries of the East and West, and much attention is paid to its study. In particular, interest in the linguistic research of this work has been growing since the 30s-40s of the twentieth century. A lot of scientific research in Turkic studies appeared on this work. For example, S. Brokkelman [26], B. Atalay [24], M. Sh. Ulkutashir [31], S. Akhaly [1,16], T.A. Borovkova [4,15], S.M. Mutallibov [15], Z. M. Musaboeva [13], Kh.G. Nematov [17], H. Hasanov [22].

The work of Mahmud Kashgari "Dīwān Lughāt Al-Turk" attracted the attention of linguists not only in Turkic studies but also in Uzbek linguistics. This work is one of the most important written sources in the study of the early formation of the history of the Turkic languages, including Uzbek. In Uzbek linguistics, there have been several studies on this work. For example, S. Mutallibov's monograph "Dīwān Lughāt Al-Turk" [14], his doctoral dissertation [15] and three-volume Uzbek translation to "Dīwān" [12] and "Index-dictionary" based on "Dīwān Lughāt Al-Turk" [5], the work of H. Nematov "The problem of expression of verb groups in Turkic languages on the basis of the work "Dīwān Lughāt Al-Turk" [17]. Salikh Mutallibov's research on this work deserves special praise. But it cannot be said that the linguistic material of this work and the theoretical information on linguistics in it are still perfectly studied.

In general, the world studies of Kashgari can be divided into three groups: studies of Kashgari abroad, studies of Kashgari in the former Soviet Union and studies of Kashgari in Uzbekistan [22].

From foreign countries, mainly in Turkey and Germany, Kashgari studies is highly developed. The rise of Kashgari research in Turkey is associated with such scientists as Kilisli Rifat, Besim Atalay, Shakir Ulkutashir, Ahmet Zeki Velidi Togan, A. Jaferoglu, O. Pritsak, Taymas Abdulla, M. Fuat Kopruluzade, Ferit Birtek, M.Hartman. In Germany Kashgari studies were developed by such scientists as Brockelmann, Baminger, L. Bazen, Bergstrasser, Miller, Heinz, Hermann.

Even in the former Soviet Union, there were many people interested in "Dīwān" and researchers



who studied it and came to scientific conclusions. Among them are V.V. Bartold, I. Samoilovich, P.K. Juze, S.E. Malov, S.P. Tolstov, A.N. Kononov, A.K. Borovkov, I. Yu. Krachkovsky, N.A. Baskakov, V.I. Belyaev and other Kashgari scientists.

Kashgari studies in Uzbekistan began a long time ago. Confirmation of our opinion is the manuscript kept in the Fund of Manuscripts of the Academy of Sciences of Uzbekistan – inventory number 5046/1 – “Fihrast (index) for words of Dīwānu Lughāt”. This catalogue was compiled around 1924-1925, but the work begun has not been completed, the work has not been published, and its author is unknown. After that, several articles about “Dīwān” in 1926-1930 appeared in the Uzbek press. Among Uzbek scientists, the study of “Dīwān” of M. Kashgari on a scientific basis began mainly in 1937. The initiator of this complex work was S. Mutalibov, as well as H. Nematov, E. Fozilov, G. Abdurakhmanov, H. Hasanov and other scientists.

Thus, a brief map of the study of the life and work of Mahmud Kashgari and his encyclopaedic work “Dīwān Lughāt Al-Turk” can be compiled using the above notes. However, research on this topic is still ongoing, and many are waiting for their researcher.

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PROBLEMS OF COMPARING THE EXPERIMENTAL AND CALCULATED VALUES OF THE ELECTRIC FIELD GRADIENT TENSOR PARAMETERS FOR IMPURITY ATOMS $^{57}\text{Co}(^{57}\text{M}Fe)\text{BCuO}$ AND Cu_2O

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ANNOTATION

The article is devoted to the study of high-temperature conductors and the physical processes occurring in them using Mossbauer spectroscopy.

KEY WORDS: *electric field gradient, high-temperature superconductors, Mossbauer spectra, nuclear charge density operator.*

Impurity Mossbauer spectroscopy is widely used to study high-temperature superconductors. This is primarily due to the peculiarities of the nuclear parameters of isotope 21, which make it possible to measure Mossbauer spectra in a wide temperature range, and in this case, Mossbauer spectroscopy makes it possible to reliably determine the charge state of impurity atoms and the parameters of the EFG tensor (electric field gradient) at the location of the probe nucleus. It is assumed that impurity iron atoms replace copper atoms at the lattice sites of high-temperature superconductors (HTSC), so that the experimentally determined values of the quadrupole splitting of the Mossbauer spectra can be compared with the results of their theoretical calculation within the framework of the point-charge model, and based on this comparison, conclusions about the nature of the local environment of copper centers. Of course, such a comparison requires independent proofs of the finding of impurity iron atoms precisely in the copper lattice sites. Unfortunately, in many cases it is impossible to determine the location of impurity atoms only from Mossbauer experiments; this leads to ambiguity in the interpretation of experimental Mossbauer spectra ^{57}Fe in HTSC lattices.

However, even if an impurity iron atom replaces a copper atom, an equally complex problem arises related to the alivalence of the impurity atom (i.e., the valences of the impurity atom and the replaced lattice atom do not coincide). The alivalence of the impurity atom should lead to the appearance of compensating centers in the lattice, which are localized in the vicinity of the impurity atom, and this significantly changes the parameters of the EFG tensor on the nucleus under study.

That is why it seemed to us expedient to compare the experimental and calculated parameters of the EFG tensor for the case of impurity iron atoms in the lattices of simple copper oxides (CuO , Cu_2O). These oxides are typical representatives of compounds of two and monovalent copper, and it is these valence states that are characteristic of HTSC structures. At least for CuO , it is possible to draw a conclusion about the location of impurity atoms from the Mossbauer spectra: copper oxide is an antiferromagnet with a Neel temperature of $T_N = 230\text{K}$ and therefore it was expected that if the impurity iron atoms enter copper sites, then at $T < 230\text{K}$ the Mossbauer spectra will represent a magnetic sextet (or superposition of several sextets), and at $T > 230\text{K}$ - a quadrupole doublet (or superposition of several quadrupole doublets).

As a rule, cobalt in its compounds exhibits a valency of +2, and we expected that the daughter atoms $^{57}\text{M}Fe$ formed after the decay of $^{57}\text{Co}^{2+}$ would also be stabilized in the $^{57}\text{M}Fe^{2+}$ state. Iron in its compounds exhibits two characteristic valences (+2, +3), and it was expected that under conditions of oxidative



synthesis, iron will stabilize in the $^{57}\text{Fe}^{3+}$ state. Depending on the valence state of copper (+1 at Cu_2O and +2 at CuO), compensation for the excess charge of impurity iron atoms should be accompanied by the appearance of a different number of cationic vacancies (which have an effective charge equal in magnitude to the charge of the copper cation, but opposite in sign).

The Hamiltonian describing the interaction between the nucleus and the surrounding electrostatic field has the form:

$$H = \int P(r_k)U(r_k)dV_k \quad (1.1)$$

$P(r_k)$ is the operator of the charge density of the nucleus, $U(r_k)$ is the electrostatic potential arising from all charges, except for the nucleus under consideration, dV_k is the element of the volume of the nucleus, r_k is the radius vector between the center of gravity of the nucleus and dV_k . In the vicinity of the center of the nucleus ($r_k = 0$), the potential $U(r_k)$ changes little and can be expanded in a series. The first term of such expansion is the electrostatic energy of the point nucleus and by choosing the origin of the energy reference, it can be considered equal to zero. The second term describes the dipole interaction, and since $P(r_k)$ is an even function, this term is also zero. The third term of the expansion can be represented as the sum of two terms:

$$H = E_R + H_Q \quad (1.2)$$

Term E_R describes the interaction of a nuclear charge with an electron cloud and causes the isomeric shift of the Mossbauer spectra. The isomeric shift for most isotopes makes it possible to determine the charge state of the studied atom.

Term H_Q describes the interaction of the electric quadrupole moment of the nucleus with an inhomogeneous electric field (a measure of this inhomogeneity is the electric field gradient tensor, EFG):

$$H_Q = \frac{1}{6} \sum_{ij} Q_{ij}U_{ij} \quad (1.3)$$

where U_{ij} are the components of the EFG tensor, Q_{ij} are the components of the quadrupole moment tensor of the nucleus.

Due to the axial symmetry of the nuclear charge distribution, all off-diagonal components of the nuclear quadrupole moment tensor are equal to zero ($Q_{ij} = 0$ at $i \neq j$). For the diagonal components, the Laplace equation is valid

$$Q_{xx} + Q_{yy} + Q_{zz} = 0 \quad (1.4)$$

and for axial symmetry the tensor can be specified in terms of one component $Q_{xx} = Q_{yy} = -2Q_{zz}$, which is called the quadrupole moment of the nucleus (here x, y, z are the principal axes of the tensor of the quadrupole moment of the nucleus).

The quadrupole moment of the nucleus characterizes the degree of deviation of the nuclear charge distribution from spherical symmetry. The quadrupole moment of the nucleus has the dimension of area and is measured in barns (1 barn = 10^{-28}m^2).

For nuclei with spin $I = 0$ or $I = \frac{1}{2}$, the quadrupole moment of the nucleus is zero. For nuclei with spin $I > \frac{1}{2}$, the quadrupole moment can be nonzero, and for nuclei oblate along the quantization axis $Q > 0$, and for nuclei elongated along the quantization axis $Q < 0$. Here are the Q values for some of the cores that are most often encountered in this work:

$^{17}\text{O} - 0,026$ barn, $^{63}\text{Cu} - 0,211, -0,18, -0,16$ barn (the most reliable value is considered to be $-0,211$ barn), $^{139}\text{La} + 0,21$ barn.



If at the location of the core the EFG is created by external charges with axial symmetry, then the EFG tensor can be reduced to a diagonal form, and the Laplace equation (1.4) is valid for the components of the tensor U_{xx}, U_{yy}, U_{zz} . Therefore, the EFG tensor can be specified by two parameters:

$eq = U_{zz}$ is the main component of the EFG tensor,

$$n = \frac{(U_{xx} - U_{yy})}{U_{zz}} - \text{asymmetry parameter} \quad (1.5)$$

and the choice of the principal axes of the EFG tensor (x, y, z) is based on inequality $|U_{xx}| < |U_{yy}| < |U_{zz}|$.

Replacing components U_{ij} and Q_{ij} in expression (1.3) with parameters q, n, I, Q leads to the expression for the Hamilton operator for the nuclear quadrupole interaction in the axes of the EFG tensor:

$$H_Q = \left[(e^2 Q q) / (4I(2I - 1)) \right] \cdot \left[3I_z^2 - I(I + 1) + n(I_+^2 - I_-^2) \right] \quad (1.6)$$

where $I(+, -) = I_x + iI_y$ is the raising and lowering operators, I is the spin of the nucleus, and $e^2 Q q$ is the constant of the quadrupole interaction.

Thus, as a result of the quadrupole interaction, the nuclear level splits into several components, and the levels that differ only in the sign of the magnetic quantum number remain degenerate.

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STYLISTIC FEATURES OF SOME PHRASEOLOGISMS IN “KUTADGU BILIG”

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ABSTRACT

The article is dedicated to the study of the role and importance of phraseologisms in poetic speech of “Kutadgu bilig” by Yusuf Khass Hajib. In this article you will find the analysis of peculiarity of this linguistic phenomenon in creating figurativeness. The poetic skill of the author is shown the basis of this analysis.

Phraseological expressions are stable compounds, the parts of which are strongly interconnected. However, given that language is a social phenomenon, constantly evolving and changing the lexical layer, it is observed that there will be some changes in the structure of expressions as well. This is because, in general, phraseological expressions, such as the lexical structure of a language, also appear in connection with life events, socio-political, historical events, and some of them may become obsolete and obsolete. It is also no secret that a certain part of them is the product of the creativity of writers.

It must be admitted that phrases have been worked out more seriously in linguistics as a linguistic phenomenon. In any case, the creation of phraseological dictionaries of the Uzbek language can be one of the clearest proofs that Uzbek linguistics has a rich and extensive experience in this field. It should be noted that the phrases in the works of representatives of our classical and modern literature have long been the subject of regular research by our linguists.[1]

However, it should also be noted that the overall weight of research on the role and importance of phraseology in poetic speech is small. Yusuf Khas Hajib's work "Qutadg'u bilig" is not in the center of attention of our literary critics in this regard.

Yusuf Khos Hajib's Qutadg'u Bilig, which has become a rare example of world literature, also uses a large number of beautiful examples of all-Turkic phraseological expressions. The author skillfully used folk metaphors to give a clear expression of life events, to increase the effectiveness of wisdom, to reflect the character, spiritual image, spiritual world

of the heroes of the work, to create imagery, which is one of the cornerstones of the poetic work.

Phrases, as an integral part of the overall lexical structure, are closely related to the socio-political, economic and ethnic history of the people. It should also be noted that as a national phenomenon, it is related to the culture and art created by this people, including folklore and fiction. The way of life of the phrase in the literary text is explained by its portable meaning. For any phrase, portable meaning is a key feature.

The protagonist portrayed in the play as a symbol of intellect is the Son. If the elig (king) governs the state wisely, that is, if he listens to the advice of Ogdulmish, if justice (Kuntugdi) and intellect (Ogdulmish) unite, the country will be prosperous, the country will be prosperous, and the people will live happily, says the author. Elig addresses Ogdulmish with a question on many issues. The son answers these questions in detail. The use of the phraseological expressions used by the author in the effective, attractive, expressive speech of the protagonists of the work served as an important methodological tool. When we studied the language of the work, we focused mainly on the analysis of phraseological expressions. We have witnessed that some of the phraseological expressions in the work are exactly the same as in the Turkic languages, and some have undergone lexical, semantic, structural changes.

In order to limit the subject, we have distinguished phrases that are only related to the word 'mind'. Let's look at some of them:



**Күмүш көрсө йаңлуқ көңүл тутмаса,
Йарағай ани чын фаришта тэсә¹.**

*(Odam kumush ko'rganda ko'ngil bermasa,
Uni haqiqiy farishta desa arziydi.)*

If a person can "hold himself" when he sees silver, that is, wealth, without being "attached" to it, he should be called an angel, not a human being, says the author of Ogdulmish. If we take into account that the play has a special approach to the description of spiritual and moral values, it seems appropriate to note that the use of expressions in the description of the same events should not be considered a coincidence. When it comes to material and spiritual wealth, or more precisely, the attitude to them, the author believes that only a person who is able to ignore material wealth can be the best representatives of society. In the language of the writer, it is appropriate to call such people "angels".

The phrase "to care" in the form of "to care" is still widely used as an emotionally colored lexical unit of the likes, affections, and loves. In the next byte, we can see how the phrase "cheer up" is used with a methodological requirement:

**Күвэзләнмә артуқ көтүрмә көңүл,
Инанч қылғу эрмәз бу дунйа, тоңул².**

*(Ortiq mag'rurlanmagin, ko'nglingni ko'tarma (ya'ni gerdayma),
Bu dunyo ishonadigan narsa emas, undan umidingni uz.)*

The phrase "cheer up" is used in our modern language to mean "to comfort," "to express sympathy." However, the above byte does not have this meaning. Here he comes to the fore with meanings such as boasting, twisting, pretending to be strong. If we take into account the fact that this verse is related to the chapter "Aytoldy eligke gambling and bitig kodmyshyn ayur", we can understand that the direction of speech is directly directed to elig. Such a rude and harsh expression can only be uttered by a person who is within the limits of an elig (king). The state symbol in the play, Minister Aitoldi, was in this position. After all, he is older than Kuntugdi in terms of age, has a much richer life experience, and is a man who deserves the blessing of the elig. It is these positions that allow him to apply the above expression directly in his speech.

The play also uses the phrase "disappointment":
**Туруб чықты андын сақынчын түгүг,
Кәлиб қаршықа кирди көңли түшүг³.**
(He got up from there with sadness and pain,

Disappointed, he entered the palace.) The phraseological phrase here - "sad dream" is seen as the only form of expression of clarity and expressiveness in the image. The skill of the author is that he was able to seize this unique opportunity and masterfully incorporated it into the content of the verses. It is said that Elig came to visit Aitoldi and was returning from there. Aytoldi was seriously ill at the time. Kuntugdi, a ruler who had tasted some of the bitterness of life, as an adult, could have imagined the consequences of this situation. So, it can be said that the horrible feelings about Aitoldi's death covered his body as well. Giving the same situation through the expression "disappointment" can indeed be seen as the most powerful and impressive opportunity in the image. "Heartless" is a quality of a person who can look at everything with vigilance and intelligence.

**Өлүмкә осанма, көңүл тут тириг,
Нэчә кэч тирилсә, төшәнгу йэриг⁴.**

*(Do not be ignorant of death, keep your heart awake,
No matter how long you live, you will definitely lie on the ground.)*

In Aitoldy's speech, these verses acquire a life-giving meaning. Although it is about death, Aitoldi emphasizes not to go to death "carelessly", to go against it with a keen eye and a "living heart". Because everyone's destiny is to "cover the earth." So it is necessary to prepare properly for this death. In expressing the same goals, the phrase "keep alive" has a special meaning and content.

The antonym of this phrase is also used in the play. This is the "dead corpse":

**Уқушсуз өкүнди айур эй уқуш
Сэниңсиз муңадур-мә артуқ өкүш
Мэңәр тэгмәди бир сэниңдин үлүг,
Сэниңсиз киши көңли болды өлүг⁵.**

*Uquv-idroksiz(lar) o'kinadi, ular, ey uquv-idrok,
(Men)sensiz haddan ortiq g'am
chekarman, deydilar.*

*Menga sendan zarracha ulush nasib bo'lmadi,
Sensiz kishi(lar)ning ko'ngli (misli) o'lik
bo'ladi.)*

«Көңли өлүг» the quality of a person who is indifferent and indifferent to everything. If a person does not have the mind, the perception, it can become the same. Hence, the "bird" is considered to be the main condition, the main factor, to keep a person's heart alive at all times.

The author says that in order for a person's language and actions to be right, his heart must be right:

**Көңүл тил көни тутса қылқы бүтүн
Аңар тэгмәсә от йалыны түтүн⁶.**



(*Ko'ngil, tilini to'g'ri,*

fe'lini rost tutsa,

(*Toki unga o't yolini, tutun tegmasa.*)

It is not a secret that a person who has a “КӨНЛИ КӨНИ” (“right heart”) and a “ТИЛИ КӨНИ” (“good language”) has a “whole deed” (“a whole verb, that is, without flaws”). Therefore, no calamity can harm him, says the author again in the speech of Ogdulmish, “the day of the heart and the tongue.” In our language, the above expressions live in the form of the right heart (human), the right language (human), and in the context used by the writer.

**АЧЫҒ ТЫДСА ИШЧИ ЭРӘТ КӨНЛИ СЫР
 ЭРӘТ КӨНЛИ СЫНСА АЛЫР БЭГКӘ КИР?**

Xazinachi in'omni tutib qolsa, askarlarning

ko'ngli sinadi (og'riydi),

Askarning ko'ngli og'risa, bekkani nisbatan (ko'nglida)
 kir

saqlaydi.

It is the treasurer's fault that the soldier may become an enemy, not a friend, of the “КӨНЛИ СИР” (“heartbreak”) and the bek (chief), because they had a “dirty heart”.

That is why the treasurer should be appointed from very honest, honest people who fear God and someone else, Ogdulmish said. The phrase “disappointed” is synonymous with figurative expressions such as “disappointed”, “disappointed”, “disappointed”, “disappointed”, “disappointed”, “disappointed”.

The fact that some of the phrases associated with the word “heart” appear in the “Central Asian commentary” indicates their more stable position. In Tafsir, a number of phrases such as “sadness has begun”, “sadness is great”, “sadness is not”, “hardness of heart” are mentioned.

Well-known scientist AI Efimov states: “Phraseological analysis of a work of art has the following purposes: to determine the composition of phraseological units used by the writer; identify the source of these phraseologies; to show how creatively the writer has used them by changing and updating their form, moving from one stylistic front to another.” It is not difficult to see that the above expressions are consistent with all of these purposes.

In short, the author's appropriate use of phraseological expressions in the artistic image with different stylistic requirements not only instilled in the work the spirit of the vernacular, but also helped to reflect the unique thinking and spirit of the protagonists.

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APPLICATIONS OF OPTIMIZATION TECHNIQUES IN CONSTRUCTION MANAGEMENT

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ABSTRACT

The time management for a construction project can better justify by using optimization methods. Nowadays many computerized software are used to explore, to design, to analyze, and to solve different engineering problems. Construction management is not only a concept to manage a project work under the guidelines of 5M aspects, while it is actually a whole of initialization and termination of the particular construction project work. This concept can better understand by incorporating optimization techniques to find feasible solutions of different situations arise during the execution of an activity. An activity may be a matter of complication if it is started without planning. The worse results of activity reflected at end of the work in the form of uneconomical achievement. Thus, to overcome these unforeseen situations, it may be suitable to solve them using optimization methods and get an optimal result.

KEYWORDS – *Optimization Techniques, Construction Project Management, Linear Programming Problem, Minimum Construction Cost.*

1. INTRODUCTION

Optimization; in fact is a method of finding the feasibility of anything that happen. The optimization techniques are useful in finding the optimum solution or unconstrained maxima or minima of continuous and differentiable functions. These are analytical methods based on mathematical approach and used in locating the optimum solution of various engineering problems. When general optimization is used for engineering application then is termed as Engineering optimization in which various optimization techniques use to achieve design goals in engineering. It is sometimes referred to as design optimization.

1.1 Types of Optimization

Based on advanced mathematical approach the various types of methods of optimization are used for modeling of the different goals and to find the possible results. The various types of optimization are, that generally used in almost all disciplines of analytical studies -

- Continuous Optimization.
- Bound Constrained Optimization.
- Constrained Optimization.
- Derivative-Free Optimization.
- Discrete Optimization.
- Global Optimization.



- Linear Programming.
- Non-differentiable Optimization.

2. USE OF OPTIMIZATION TECHNIQUE IN SOLUTIONS OF (CPM) WORK RELATED PROBLEMS

The optimization is the best method to find the feasible solution of a formulated linear programming problem (LPP). It can be used to find out a feasible solution (mathematically) of a construction project activity regarding its progress and to find minimum construction cost calculation in performing the various activities (like to find out the best suitable path for performing various activities at priority and also result in getting minimum construction cost). This concept can be used as optimizing the solution to problems regarding progress of work. These two major problems related to project management, can be formulated as optimizing problems and their feasible solution can be found. The following examples are better describe the feasible use of this technique -

2.1 Example : *Problem 1* – is regarding for the progress of work, and

2.2 Example : *Problem 2* - is regarding for finding the minimum cost of construction choosing best suitable path.

Problem 1 –

For a sewer line project work, it is seen that the critical activity is of **7 months** for the **block no.-21** and **5 months** for the **block no.-27** i.e. **5040 hrs.** and **3600 hrs.** respectively (in the **block no. 21, 27** the running sites have to do job almost **720 hrs./month**). Both blocks move to sites **A1, A2, A3** and **A4** per day.

Block no.-21 requires **7 hrs.** to site **A1**, **6 hrs.** of site **A2**, **6 hrs.** of site **A3** and **5 hrs.** of site **A4**, but the sites of this block namely **A1, A2, A3** and **A4** have moved to work for **180 hrs., 120 hrs., 150 hrs.** and **90 hrs.** per month. Similarly **block no.-27** requires **8 hrs.** of site **A1**, **5 hrs.** of site **A2**, **5 hrs** of site **A3** and **6 hrs.** of site **A4**. But the sites of this block namely **A1, A2, A3** and **A4** have moved to work for **210 hrs., 90 hrs., 120 hrs.,** and **180 hrs.** per month. The loss in cost of construction of sewer line at site **A1** is **Rs.18000.00**, at site **A2** is **Rs. 15450.00**, at site **A3** is **Rs. 16250.00** and at site **A4** is **Rs. 14000.00** of both blocks. If the work is not completed at each site by the time than to how many sites need more stress to check it out.

Solution :

Artificial variable technique – Two phase method has been adopted in solving the given problem.

Let x_1, x_2, x_3 and x_4 are numbers of hours of sites **A1, A2, A3** and **A4**.

Total loss in Rs. will be given by-

$$\text{Minimize to } Z = 18000 x_1 + 15450 x_2 + 16250 x_3 + 14000 x_4$$

First we convert the problem from minimization to that of maximization.

$$\text{Taking } Z = - Z$$

$$\text{Minimize to } Z' = 18000 x_1 + 15450 x_2 + 16250 x_3 + 14000 x_4$$

Becomes

$$\text{Maximize to } Z = -18000 x_1 - 15450 x_2 - 16250 x_3 - 14000 x_4$$

Introducing surplus variables, we convert the constraints into equations-

$$\text{i.e. } 7 x_1 + 6 x_2 + 6 x_3 + 5 x_4 + x_5 \geq 540$$

$$8 x_1 + 5 x_2 + 5 x_3 + 6 x_4 + x_5 \geq 600$$

$$x_1, x_2, x_3 \text{ and } x_4 \leq 0$$

Artificial variable technique - Two phase method has been used to solve the problem –


Phase -1 : (Removal of artificial variable)

B	x_B	Y1	Y2	Y3	Y4	A1(S1)	A2(S2)
A1	540	7	6	6	5	1	0
A2	600	8	5	5	6	0	1
	x_j	0	0	0	0	540	600

↑
↓

Here **A1** and **A2** are artificial column vectors corresponding to variables x_5 and x_6 .

We first remove the artificial variable vectors from the basis matrix.

We select **Y4** to enter the basis matrix in place of **A2** (it can be seen that if **Y1** is chosen to enter the basis matrix, the revised solution is not non negative).

Dividing the second row by 6 and then subtracting its 4 times from the first row, we have-

B	x_B	Y1	Y2	Y3	Y4(S4)	A1(S1)	A2
A1	140	5/3	8/3	8/3	0	1	-4/6
	100	4/3	5/6	5/6	1	0	1/6
Y2	x_j	0	0	0	100	140	0

↑
↓

We delete the vector **A2** since x_6 has become 0. Now to remove **A1**

We introduce **Y1** in its place (for similar reasoning as above) in the basis matrix.

For this we multiply first row by 3/5 and then subtract 4/3 times of it from the second row.

B	x_B	Y1(S1)	Y2	Y3	Y4(S4)	A1
Y1	84	1	40	40	0	3/5
Y2	98.66	0	-2.71	-2.71	1	-0.63
	x_j	84	0	0	98.66	0

As artificial variable x_5 has also become 0. We delete the vector **A1** also.

Thus the solution after phase 1 is –

$$x_1 = 84, \quad x_4 = 98.66, \quad x_2 = 0 \quad \text{and} \quad x_3 = 0$$

This is the starting basic feasible solution to start the simplex routine.



Phase - II :Starting simplex table

B	C _B	x _B	Y1(S1)	Y2	Y3	Y4(S4)
Y1	1	84	1	40	40	0
Y4	1	98.66	0	-2.71	-2.71	1
Z' = C_Bx_B = 84-98.66 = -14.66		x _j	84	0	0	98.66
		C _j	1	0	0	1
		D _j	0	37.29	37.29	0

In the above table

$$D_2 = C_2 - C_B Y_2 = 0 - (1,1) (40,40)^T = 37.29$$

$$D_3 = C_3 - C_B Y_3 = 0 - (1,1) (-2.71, -2.71)^T = 37.29$$

Since D₂ and D₃ are both positive the optimal solution is –

$$x_1 = 84 \text{ hrs.}, \quad x_4 = 98.66 \text{ hrs.} \quad \text{and} \quad Z = 82.66$$

Ans.

Problem 2 -

The ongoing sewer line project has to move from 1 to 12 various activities (no. of activities is not limited to 12). The average cost is Rs. in the multiple of 5000 of completion of an activity, then to move next. Determine the best suitable path should adopt to minimize the average cost of completion of all the activities.

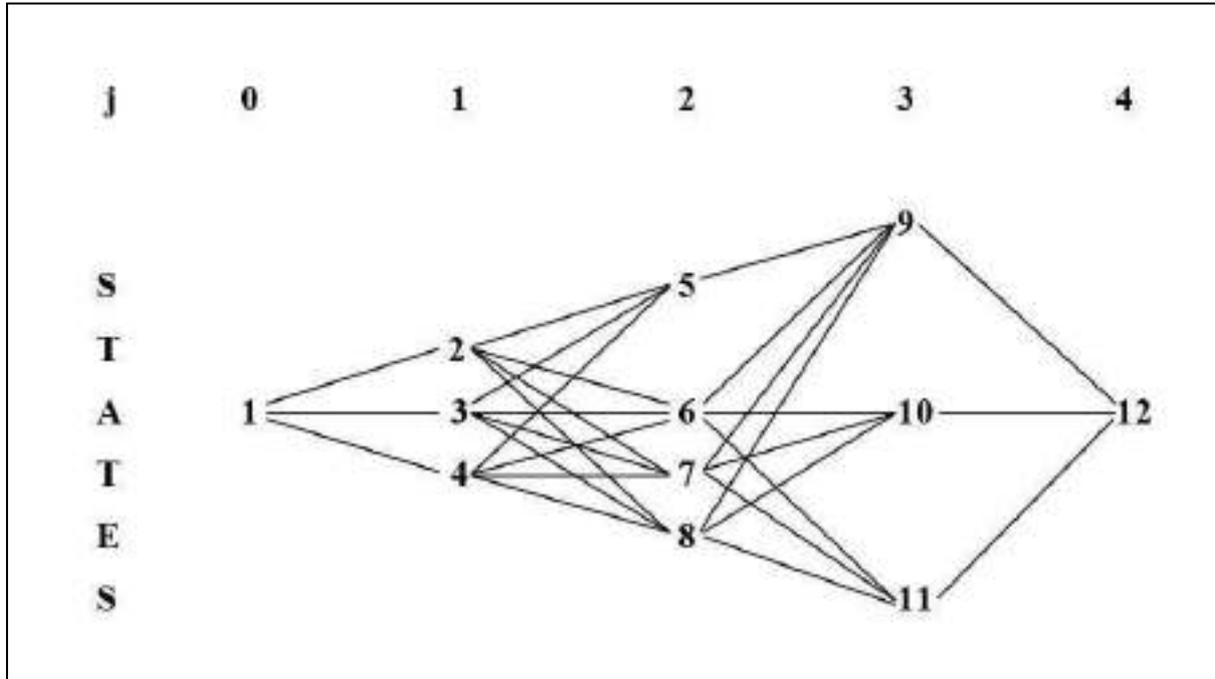
From activity / to activity	2	3	4	5	6	7	8	9	10	11	12
1	5	3	6								
2				4	3	7	7				
3				5	5	3	4				
4				7	4	6	3				
5								7	6	9	
6								6	7	6	
7								8	9	6	
8								8	10	8	
9											9
10											12
11											8



Solution :

The problem is divided into 5 stages (j = 0,1,2,3,4) and each stage has no. of states associated with it. The various stages and states can also be exhibited as follows :

Stages -



Here $x_0 = 1$ and $x_4 = 12$. There are respectively 3, 4 and 3 states in stages 1, 2 and 3, the total no. of stages being 5.

To find the minimum cost of construction when a number of options are available at each stage, we use the relation –

$$f_n^*(S_n) = \min_{x_n} [C_{sxn} + f_{n+1}^*(x_n)]$$

Recursively as shown in tabular form :

j=3	State (s)	$f_4^*(s)$	x_4^*
	9	9	12
	10	12	12
	11	8	12

(Since there is only one path to get the minimum cost in each case i.e. move through activities 9, 10, 11 at priority)



j=2		< - Total cost for remaining stages->				
$\begin{matrix} x_3 \\ s \end{matrix}$		$f_3(s, x_3) = C_s x_3 + f_4^*(s)$				
		9	10	11	f_3^*	x_3^*
5		16	18	17	16	9
6		15	19	14	14	11
7		17	21	14	14	11
8		17	22	16	16	11

j=1		< - Total cost for remaining stages->					
$\begin{matrix} x_2 \\ s \end{matrix}$		$f_2(s, x_2) = c_{sx2} + f_3^*(s)$					
		5	6	7	8	f_2^*	x_2^*
2		20	17	21	23	17	6
3		21	19	17	20	17	7
4		23	18	20	19	18	6

j=1		< - Total cost for remaining stages->				
$\begin{matrix} x_1 \\ s \end{matrix}$		$f_1(s, x_1) = c_{sx1} + f_2^*(s)$				
		2	3	4	f_1^*	x_1^*
1		22	20	24	20	3

The total minimum cost = $f_1^*(s) = 20 \times 5000 = \text{Rs. } 1,00,000$

The root to be taken by the constructor for minimum cost is as follows:

Activity : 1 -> 3 -> 7 -> 11 -> 12

Ans.

3. CONCLUSION

The duration of activities for a particular project and cost can be minimized by the use traditional concept of CPM & PERT. These are the conceptual techniques under the project management planning and execution of work. Beside this technique the problems related to control and regulate critical activities and cost minimization can be easily obtained by using optimization. The result of problem-1 shows that the cost of activity can be minimized by reducing the duration of activities by optimization, which may result in cost control. The result of problem-2 shows that the suitable path for completion of critical activities of project work can be find by optimization. This is concluded that use of optimization techniques in solving critical situations arise during construction project management (CPM) is feasible.

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IOT ENABLED FOREST FIRE DETECTION USING ARDUINO

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ABSTRACT

In the current field, natural life and backwoods divisions are confronting the issue of development of creatures from woodland region to neighborhood. The quantity of trees has decreased definitely from the woods that establishes an undesirable climate for creatures to get by in the timberland. It has been found in a study that 80% misfortunes are caused because of fire. This might have been evaded if the fire was recognized in the beginning phases. This undertaking proposes a framework for following and disturbing for the security of trees against backwoods fires. These days IOT (Internet of Things) gadgets and sensors permit the observing of various ecological factors, for example, temperature, moistness, dampness and so on Arduino stagebased IOT empowered fire finder and observing framework is the answer for this issue. In this task we have constructed fire indicator utilizing Arduino UNO which is interfaced with a temperature sensor, a smoke sensor and a signal. To actualize this undertaking, we will utilize GSM which is utilized to give the last SMS to the client through the given number in the reenactment program, Temperature sensor which is utilized to indicate the temperature High and Low that will be shown in the LCD Display, Flame sensor which is utilized to mean the fire ranges and in the event that it is high the backwoods fire will be identified in the LCD show and on the off chance that it is low woods fire won't be recognized. At whatever point a fire happens, the framework consequently faculties and cautions the client by sending an alarm to an application introduced on client's android versatile or website page available through the web.

KEYWORDS: GSM, LCD, ARDUINO, SENSORS.

1. INTRODUCTION

Envisioning woods fire is a warmed point the world over in standard confirmation. Each stage, from fire confirmation to extinguishing the fire, some convincing suggestion are mentioned to do enable in this manner away forest area to fire. A great deal of looks at are made and assorted undeniable papers are composed to get some reasonable information. Boondocks bursts are the explanation behind different and irreversible damages to both nature and cash related issues. For example, extraordinary productive species are cleaned up, human's life and resources are sabotaged, and so on notwithstanding a loosening up of state expenses to control this failure, dependably boundless mishap happens all around the world. It spent a monstrous degree of standard human perception seeing, at any rate the precision of report is impacted by theoretical parts. So it is making to show the dynamical direct of fire spread in a forest in order to

make game- plan to control and fight fire. Various specialists turn around the fire spreading model to copy the Propagation of wild effects. Money related activities, for instance, the advancement business can be affected confidently by quickly spreading bursts considering hurts it causes to the vegetation of regular systems [10]. Quickly spreading flares are a faithful risk to normal structures of backwoods and human security especially in areas which present hot condition. Models anticipating the gobbled up region are ordinarily American Rothermel diagram, Canada's public forest area fire spread model, equivalently as China's Wang non-woods fire spread model, Therefore, we pick a region of forest fire hazard rating as a pointer of the segment of boondocks fires, under the known conditions of woodlands sorts, connection between meteorological parts and forest area flares in the zone between the assessments on a vital scale. Expected to foresee woods fire region may have



occurred after the forest area fire rating, to give a hypothetical inspiration to woodlands fire assessing in various districts [11]. Human activities like clearing field for advancement, charcoal eating up or smoking can make wild fire occur. Broken glasses can be another wellspring of crazy fire considering the way that now and again they can go probably as full scale reason for get together focusing sunshine on a little spot for a period length, a condition that could trigger flame [12]. A great deal of spotlights dependent on distant sensor systems have been finished by specialists worldwide to think structures qualified for taking a gander at and seeing of control fire. Bolourchi and Uysal in 2013 arranged an examination work that proposes the utilization of far off sensor make (WSN) for information get-together to be utilized as crude data information into a control framework that they made [6]. They pick fire affirmation to address the Intelligent Decision Making (IDM) breaking point of the structure and made Fuzzy Logic figuring utilizing temperature, smoke, light, moistness and separation as cutoff points. Likelihood of fire subject to fluffy principles utilizing the status of the cutoff points is appeared by reflecting the made structure on the Matlab programming. The shortcoming in this examination is that it is only a hypothetical work dependent on age on the Matlab programming to find the likelihood of event of fire. The structure isn't endeavored in the truly condition to give out some comprehension on how it will continue [13]. An assessment work by Lloret et al. in 2009 proposed a distant sensor network sending for country and forest area fire affirmation and confirmation [7]. This structure utilizes IP (Internet Protocol) cameras in a distant system to see and assert fire in country and forests zones. The structure includes different sensors and sections to see fire and send a sensor alert through the system to a focal worker. The focal worker picks the nearest far off cameras to the multi-sensor, in context on a thing application, which are swung to the sensor that raised the alert, and sends them a message to get endless pictures from the zone. This framework requires better web thought in country and backwoods zones. In Tanzania the forest area and rustic regions don't have exceptional thought of web and hence if this structure is sent it won't work viably and effectively as anyone might expect. Another disadvantage of this framework is the utilization of IP cameras which eats up more prominent goals and requires colossal data transmission to doubtlessly send the photographs. The overall expense of executing this structure for a creation nation like Tanzania is a lot of high. In 2016, backwoods checking and wild land early fire exposure structure by an alternate leveled distant sensor put together was spoken to [8]. The

examination work gets a standard distant sensor arrange approach utilizing two estimations for the middle focuses, focal focus focuses and sensor focuses, and some update strategies to compel control necessities. Amidst structure sending, every sensor would record its delocalization dependent on GPS (Global Positioning System) data. Sensor focus focuses get information from the condition that are traded to the focal focus focuses, which exchange all of the data to the structure center product. The exchanging of sensor information from the focal focus highlight the center product for this structure is concerning packs, so for it to work there must be web thought which is a weakness if the framework must be executed in Tanzania because of scrappy nature of web benefits in backwoods and far off locales. Likewise to appreciate the most outrageous constraint of the structure it must be gotten together with every single central participant in firefighting tasks, for Example, fire units, correspondence frameworks, and raised, coordination, and land derives so the expense of utilization is high [14].

2. RELATED WORK

In the paper writer says about, fire spread model is valuable to give proposal for keeping from and doing engaging against boondocks fire. Factors affecting the chance of the model circuit precision, perfection, and costing. Here, three-sided cushioned numbers is portrayed first, by then amass an AHP show subject to three-sided agreeable number (F-AHP), and see the greatness of the three assessments. To get a five star fire confirmation show up, we set explicit essentials for precision, support and costing, and after that make a sweeping spatial scales CA plot, by joining significant CA appear and the Monte Carlo figuring. We in like manner develop an amusement program, which can give excellent visual phenomenal pictures and is important to set and change fundamental arithmetical boundaries electronic by dreadful direct scene assessment. Development results show our model is strong and it can all the basically certain reproduce reality of the spread of woods fires [4]. In this paper creator shows an attestation based framework for calamity the board by using far off sensor figure out, which sense the customary change and subject to that pass on between the middle center interests. For the correspondence reason, Low Energy Adaptive Clustering Hierarchy (LEACH) figuring has been utilized. The LEACH figuring is dynamic in nature and all things considered, helps in keeping up relationship among the middle places, which prompts persuading correspondence. Fiasco is an action, which can occur at whatever point and any place without



earlier data, which impacts the entire humankind, human, creature and their flourishing. Since, fiasco is a brand name improvement, it's dubious for anybody to stop it, at any rate a structure can be given to caution the comprehensive framework before the event, with the target that different lives can be spared. Inside is towards using the sensor system and LEACH assessment for the improvement of a readied structure, which handles the temperature. A farthest point based part is utilized to spare the fundamentals that is the structure works unequivocally when the temperature degrades to its edge respect generally don't misuse the centrality by orchestrating the information enterprisingly [15]. In this paper creator says most standard threat in forest area is backwoods fire. Backwoods impacts are as old as the woodlands themselves which wreck the forest area, and can be an incredible peril to people who live in woods additionally as untamed life. They address a threat not solely to the boondocks wealth yet regardless of the entire regular totally irritated the bio mediocre blend, the nature and the earth of a region. The current frameworks for disclosure of woods fire using satellite are normally seen as splendid to foreknow the impacts in the forests. Moreover, the satellite based systems for woods fire clear check foresee the backcountry fire from an overall perspective after the fire win wild and this structure is seen as purposeless to calculate the woodlands fire. Thusly, a sharp structure is shown which contains various classifiers to depict the forested zones fire credits and blend systems using Dessert- Smarandache speculation, are considered to join the data and to check the fire widely more totally and enough. The fundamental outcomes show the joined framework, which yields better precision in envisioning the forest area fire [5]. In this paper writer discusses assignment and speculative assessments of the issues of crown forest area fire initiation and spread in blustery condition were finished. Intelligible model of forest area fire relied on an assessment of known test data and using thought and frameworks from open media mechanics. The assessment considers the standard relationship of the woodlands impacts and three dimensional air streams. The assessment is done by techniques for mathematical seeming actual methodology. It relies on mathematical plan of Reynolds conditions for planned sections and states of imperatives confirmation for vaporous and established stages. It is perceived that the forest middle a boondocks fire can be shown as a two- temperature multi stage non disfigure capable weak responsive medium. A discrete clear for the strategy of conditions was gotten by strategies for the constrained volume structure. The made model of woods fire initiation and spreading would make it

possible to get an organized picture blend in the speed, temperature and substance species center fields with time. Wise model and the delayed aftereffect of the tally offer an opportunity to contemplate fundamental conditions of the forested areas fire beginning and spread which endowments applying the given model for of strategies for excusing flares [6].

3. EXISTING SYSTEM

The issue with timberland fires is that woodlands are generally remote, unmanned domains stacked with trees, and dry wood and leaf litter that go about as fuel sources. These pieces are especially ignitable materials and address the ideal setting for impacts. Flame start can be polished by human activities like smoking or fire cooks, or by regular causes, for example, high temperatures on a mid-year's day. Right when start begins, by then the burnable materials may effectively fuel the flame. The flame by then breezes up continuously basic and reasonably clearing.

3.1. DISADVANTAGES • Difficult to screen all the woodlands zones in light of the fact that here we are using model we won't have much partition to cover certain area.

3.2. OBJECTIVE • the objective is to detect the forest fire as early as possible by measuring the level of temperature and carbon dioxide level. • Apart from the preventive measures, early detection and suppression of the fire is the only way to maintain the damage and casualties. • IOT- based forest fire detection system is proposed to detect the fire by monitoring the values of carbon dioxide level and temperature.

4. MODULE DESCRIPTION

4.1. ARDUINO UNO: Arduino/Genuino Uno is a micro controller board subject to the ATmega 328P, which we are using. It has 14 induced data/yield pins in which 6 can be used as PWM yields, 6 fundamental data sources, a 16 MegaHz quartz gainful stone, a USB affiliation, a power jack, an ICSP header and a reset catch which used for resetting input data [1]. It will have everything to help the micro controller; basically interface will have a PC with a USB affiliation to supply power or power it with an AC-to-DC connector to start the process. Temperature Sensor, Flame Sensor ,The LM35 sensor is an temperature incorporated circuit sensor that can be utilized to gauge temperature corresponding to the temperature (in oC).The LM35 sensor – is an temperature sensor. You can gauge temperature frequently than a utilizing an



indoor regulator. The sensor hardware is fixed and not expose to oxidation, and so on. The LM35 creates a higher yield voltage than three couples and may not necessitate that the yield voltage be enhanced.

4.2. LCD in LCD screen is an electronic grandstand module and finds a wide extent of employments. A 16x2 LCD show is outstandingly central module, which is used in various devices and circuits. These are supported in excess of seven parts and other multi segment in LED. The reasons which being: LCD are judicious; adequately programmable; it have no requirement of appearing and even customized characters (not under any condition like in seven areas), liveliness [3]. A bearing is used to indicate the direction that is given to LCD to finish a predefined undertaking like presenting it, clearing its screen. The data displayed on the LCD will be in ASCII estimation of the character. Snap to think about inside structure of a LCD [2].

4.3. GSM This is a remote modem that works with a remote framework. It continues like a dial- up GSM modem. The main difference between the dial-up modem sends and gets the data through a fixed telephone line but, which a remote modem sends and gets the data through radio waves. Its working mostly relies upon bearings, the headings registers constantly start with AT (which infers Attention) and finish with a character. For an instance, the dialing request is ATD; ATD123456778; here after dialing it closes with semicolon. [7]

4.4. MAGNETIC TRANSDUCER Appealing transducers contain an alluring circuit involving an iron focus with damage twist and a weight plate, an unending magnet and a vibrating stomach with a portable iron piece. The stomach is hardly pulled towards the most noteworthy purpose of the middle by the magnet's alluring field. Right when a positive AC banner is associated, the present traveling through the excitation twist makes a fluctuating alluring field, which influences the stomach to vibrate all over, thusly vibrating air. Resonation improves vibration through resonator containing sound hole(s) and opening and makes a riotous sound [8].

4.5. MAGNETIC BUZZER (SOUNDER) Ringers like the TMB-course of action are alluring fit for being heard banner devices with natural faltering circuits. The advancement merges an influencing circuit unit with an acknowledgment twist, a drive circle and an alluring transducer. Transistors, resistors, diodes and other little devices go about as circuit contraptions for driving sound generators. With the utilization of voltage, current streams to the drive twist on fundamental side and to the area circle on the discretionary side. The strengthening circuit,

including the transistor and the analysis circuit, causes vibration. The influencing current stimulates the twist and the unit delivers an AC alluring field contrasting with a faltering repeat. This AC alluring field captivates the weight including the appealing circuit. The influencing from the unpredictable polarization prompts the vibration stomach to vibrate all over, creating ringer sounds through the resonator.

4.6. EMBEDDED C Programming language:

4.7. C Standards driving gathering of trustees to address shared quality issues that exist between C advancements for various inserted structures. Truly, presented C programming requires nonstandard developments to the C language to help noteworthy highlights, for example, fixed-point math, distinctive evident memory banks, and key I/O endeavors. In past few years back, the C Standards Committee stretched out to this language to address those issues by giving a typical standards to all utilization to hold it in fast. Presented C utilizes by a long shot a large portion of the complement and semantics in standards of C, for an instance, rule() work, variables definition, datatypes insistence, restrictive declarations (if conditions, switch case), drifts (for, while), limits, shows and strings, structures, connection, bit activities, and so forth.

4.8. ARDUINO IDE • The Arduino Uno can be altered with the Arduino Software (IDE). Select "Arduino Uno from the Tools > Board menu (as shown in the figure 1.1). For instance, see for an instance and instructional activities. It has on the Arduino Uno comes prearranged with a boot loader which empowers you to exchange new code to it without the usage of an outside hardware programming engineer. It passes on using the first TK500 tradition (reference, C header archives). You can similarly avoid the boot loader and program the micro controller through the ICSP (In Circuit Serial Programming) header using Arduino ISP or equivalent; see these bearings for nuances. The ATmega16U2 (or 8U2 in the rev1 and rev2 sheets) firmware source code is open inThe Arduino vault. The ATmega16U2/8U2 is stacked with a DFU boot loader, which can be activated by using: • On Rev1 board: connecting the solder jumper on the back of the board and then rese in the 8U2. • On Rev2 or later boards: it will have a resistor that pulling the 8U2/16U2 HWB line to the ground position, making it easier to put into DFU mode. You could then have the capacity to use Atmel's FLIP programming (Windows) or the DFU programming platform of Mac OS X and Linux to stack another firmware. Then again you can use the ISP header with an outside programming



engineer (overwriting the DFU boot loader). We can see the customer contributed instructional exercise for

more clarity information [9].

4.9. ARCHITECTURE DIAGRAM

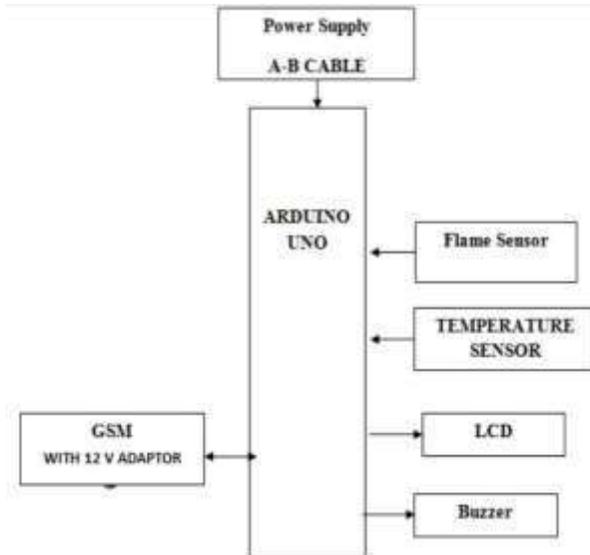


Figure no: 1.1 Architecture Diagram

Here we are using temperature sensor which has three pins, vcc pin connected the 5v supply pin in Arduino and second pin is connected to A2 pin of analog side in Arduino, third pins is grounded. It is an analog sensor which us in analog format. Then we are having buzzer which has only two pins in which one is connected to 5v and another is grounded. And we have flame sensor similarly it has three pins in which one is connected to 5v and another is given to give output and another is grounded. It is a digital sensor which gives us in ones and zeros. We will be using power board because we are using more power consuming inputs so to supply power we are using it. We are using LCD of 16x2 which is nothing but it has 16(0-15) columns and two rows (0&1). It is of 4 bit because to compress the complication. Arduino here we are using it has two sides one is analog pins which is connected to temperature sensor and another side are is digital pins connected to flame sensor. Here we are using GSM that is supplied with 12v power supply. Arduino transmitter pin is connected to GSM receiver pin and another pin is grounded. We know connections as we shown in figure no: 1.1

4.CONCLUSION

In this paper, an IOT based forest fire detection was implemented using the Arduino. So when the temperature is increased it will display on

the LCD and also gives message to authorities by using the registered mobile number. Same process is implemented for the fire detection, when the flame gets increased the buzzer will get activated and intimation will be conveyed to the authorities. So by using this technic we can protect the forests and we can save wild animals.

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THE SCOPE OF GAMIFICATION IN PEDAGOGICAL CONTEXTS: AN OVERVIEW OF LITERATURE

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ABSTRACT

The mode of pedagogy is an essential component that decides the outcomes of the learning program, so it necessitates to be modified appropriately according to the learning expectations. For better teaching and learning that will be accommodating in both the cases whether implemented in the short term or the long-term scenarios and also harmonises the learning expectations to the learning outcomes, gamification can be an efficient technique that meets all the requirements in this context. Various researches in distinct scenarios using various games and techniques have been done in this domain which confirms that gamification can be an efficient tool that promotes both teaching as well as learning. It investigates numerous relevant literature available on different databases which demonstrate the effectiveness of gamification as a tool for pedagogy. This article presents a methodical review of the literature on the usage of gamification in pedagogical contexts and also study the consequences of various researches and describing them systematically to provide the theoretical approach to the gamification module for pedagogy and gravelled the way for further researches in the field.

KEYWORDS: *gamification, gamified learning, games, pedagogy*

INTRODUCTION

We all are considerably accustomed to the term "Game" and its nature. In today's world where human civilization is heading towards technology, everything is now transforming into digital whether it is a game, or anything related to our day-to-day life. Even though we do not have any hoverboards or flying cars yet, as promised in old movies like Back to the Future, Star Trek, Pacific Rim etc but we still have lots of things to boast about. In the 21st-century human are proficient in doing various undesirable chore with the assistant of technological advancements like satellites and Internet technology. The introduction of the gamification module in the pedagogical context is one of the results of technological advancement. Gamification has accomplished extensive reputation in recent years among numerous learners and educators, as this pedagogical technique is immensely immersive, multimodal, and interactive for various environments. It heightens the experience of pedagogy as well as learning both in the classroom as well as in various real-life settings.

RESEARCH METHODOLOGY

The research that will be implemented in pedagogical scenarios concerning the employment of the gamification module is extremely exciting and necessitates a methodical literature review. All the studies, literature and case studies that were referred to in this paper is taken from authentic sources and are indexed in refereed journals.

At the time of data collection, affective filters such as, appropriate keywords and sequential are implemented for capturing the filtered data which comprises all the topic as widely as feasible, that can be incorporated in the paper for better literature review. The motive was to accumulate and scrutinise as many data as possible which will contribute to the research and also enhance the understanding regarding the concerned domain.

For drafting this paper, all the abstracts, their proceedings, case studies and final consideration of the filtered literature were read thoroughly and then documented according to the construct and different sections of the paper so that it delivers the most pertinent information and can readily deliver the main idea.



GAMIFICATION AND PEDAGOGY

Gamification is a very new term that has been practiced in various educational settings for a few years back, that is why due to the comparatively little time period, one cannot find any comprehensive research which was done in this field. Nevertheless, the volume of research is increasing in plenty of ways. Various studies have been executed that investigate multiple pieces of literature linked with a specific field for achieving sufficient comprehension of all the researches that have been conducted until now. Hamari, Koivisto, and Sarsa (2014) Carried research and ascertain that information concerning various gamification modules that can be exercised in educational settings for a better comprehension of the foreign language is no dearth. The only thing where our curriculum lacks is the interest of the learners and instructors for adopting a new method of teaching.

Randel, Morris, Wetzel and Whitehill (1992) found that when utilized accurately, games could be considerably victorious in terms of the learning outcomes in the proper classroom settings in addition to that they typically enhance the motivation of the learners many times more than employing normal instruction by dissecting various games in the diverse educational setting. Based on various games' influence on the learners, they stated that "games/simulations are more interesting than traditional classroom instruction is both a basis for using them as well as a consistent finding" (p. 270).

Gamification is one of the pedagogical methodologies which explores all reasonable approaches where it can easily be blended, in this approach, some components from a particular game are taken and employed in other settings. Deterding, Dixon, Khaled, and Nacke said that (2011) gamification is "the use of game design elements in non-game contexts" (p. 11). Sheldon (2012) suggested an alike definition, where he affirmed that "gamification is the application of game mechanics to non-game activities" (p. 75).

For further clarification about what gamifications consists and the components of gamification module, Deterding et al. (2011) ascertained five levels of where any game are divided. These are the fundamental components that should be incorporated for distinct and comprehensive definition of gamification. These levels include:

1. Design patterns for the games interface
2. Gaming mechanics
3. Principles and heuristics
4. Models for the games, and
5. Methods use for devising perfect game design

All these distinct foundational levels hold a variety of various gaming elements like badges, leaderboards, time constraints etc. these are the elements that can usually be observed in various

games irrespective of the approach and platforms they are working on.

There is an area that has some sort of overlapping from the game based pedagogical module which is termed as Game-based learning. All, Nuñez Castellar, and Van Looy (2016) precisely refined the methodology of game-based learning and highlight several noteworthy perspectives of the process. One of the most significant points in this methodology is that while exercising game-based learning in the classroom setting the game will be the primary means, through which all the learning takes place. In game-based learning, essentially two types of games are used:

1. When the game has been specifically designed for a pedagogical intent,
2. When games are primarily developed for some other purpose like mainly for entertainment purposes later adapted and practiced in an educational setting.

After an extensive study and interpretive analysis on learners, De Sousa Borges, Durelli, Reis, and Isotani (2014) reviewed various researches and have done an extensive study on how to apply gamification in various educational settings, they came across a fact that Engagement was a significant objective. Supporting their view in 2011 Lee and Hammer (said that "Gamification can motivate students to engage in the classroom, give teachers better tools to guide and reward students, and get students to bring their full selves to the pursuit of learning" (p. 1). They expanded their research and later asserted that by employing various required and apt gamification techniques in emotional, cognitive, and social areas, motivating learners became very apparent which facilitates their learning.

The usage aspect of the gamification module is endless it can be employed in numerous ways in pedagogical scenarios, this nature sometimes results in some confusions also, that where to apply and what techniques should be followed for making learning a better experience for all. As gamification is an entirely new field so it is unclear that which aspects should be included in this approach.

Landers (2014) proposed a framework for employing gamification in learning scenarios. He framed a whole new perspective for the gamification, he anchored his locus on changing the attitude and behaviours of learners instead of focusing on the particular elements which can be taught through the gamification. He believed that various gaming elements of gamification modules can benefit both learners' motivation as well as makes the instructions more engaging.

This proposed framework assists in proffering the direction to the instructors while ascertaining how gamification should be applied in the classroom scenarios. Moreover, the proposed theory is not just about enjoyment from the games, but it is more about learners' attitudes and behaviour. As Landers (2014)



stated: "For gamification to be successful, it must successfully alter an intermediary learning behaviour or learner attitude. That behaviour or attitude must then itself cause changes in learning directly (as a mediating process), or it must strengthen the effectiveness of existing instructional content (as a moderating process)". (p. 765)

MOTIVATION BOOSTER

Through strait-laced gamification modules, learners' behaviour can easily be influenced by instructors which not only help them in attaining present course but also aid in increasing future learning goals. In the modern pedagogical approach, gamification has been exercised in numerous fields yielding various results. Nevin et al. (2014) conducted research on medical graduates and found gamification has positive motivational effects on their learnings. During research on the students of computer science Untch, Li, Dong and Chasteen (2013) observed that gamification has a positive effect on the learning outcomes as it boosts the motivation of the learners. A slight change in their regular pedagogical approach i.e., the addition of gamification in their curriculum, researchers observe that gamified groups participated in online group discussions more than the one who did not receive any modification in their curriculum. Bellotti, Berta, de Gloria, and Lavagnino (2013) practiced gamification as the pedagogical approach for the engineering students to enhance their motivation. Cheong, and Filippou (2013) implemented principles of gamification for the undergraduate IT students and observed that their motivation level increases dramatically. Han (2015) practiced gamification to enhance the Arts students' motivation.

This influence on motivation is constantly associated with different researches on gamification, it might persuade different learners in different manners, contingent upon the setting in which gamification is utilized. Hamari et al. (2014) carried an analysis that was done on several studies based on gamification, some of them comprised studies that employed gamification in the educational settings. They find that the motivation factor of the learners was undeviatingly reliant on the context.

Learners discovered that gamified learning is very enjoyable as it makes learning a fun activity for them. It assists and stimulates them throughout the learning process. Koshino, Hasegawa and Ban (2015) practiced gamification while developing while they were working on a mobile application development and according to them, "A smartphone is effective for independent learning such as English vocabulary memorization because a learner can use the smartphone anytime and anywhere when the learner has only little time" (p. 1). For developing their application and making them engaging for their users they worked hard on their gamified application and

tried their level best to incorporate various gamifying factors like growth of the character, ranking, time trials, various social network connectivity.

METHODS THROUGH WHICH GAMIFICATION CAN PRACTICED

The most well-known and productive way through which gamification can be interjected in the learning curriculum is through the introduction of leaderboards and badges. Ostashevski, Gibson, Grant, Flintoff and Knight (2015) presented an overview that how learners, as well as instructors, can easily be benefited by using badges. They asserted that "Digital badges seem to have important impacts on motivation for learning, status within a community, and can transparently display achievement level" (p. 409). After them, many researchers have done their analysis to find that whether the use of badges yields a positive outcome or not and found that these badges supported both learners as well as instructors. Denny (2013) endeavoured to circumscribe the outcomes of badges and accomplishments on students by employing an eLearning platform and surprised to ascertain the effectiveness of badges on the learners' motivation. Deterding et al. (2011) incorporated the badges in the core framework of gamification under the interface patterns of designs.

Landers and Landers (2014) used the proposed theory of "gamified learning" by including leaderboards in the study framework of an online university. He stated that "Leaderboards represent a combination of three of the nine game attribute categories" (p. 772). It is an effective way of ranking the learners and conferring them with daily challenges having unquestionably defined goals and rules. The researcher formulated research by using a Leaderboard in it, During the research, learners were asked to perform a task. The researcher found that the addition of a leaderboard enhances the learners' performance dramatically. They performed much better and complete their task before time and enhances their competence level.

As games are having a long-lasting impression on learners' mind and consciousness, furthermore, also intensifies their learning and heightens their motivation, so one cannot back out while utilizing various available games as an aid which act as a catalyst in second language learning and also makes classroom teaching interesting and engaging to enhance the language learning process. Additionally, employing games in language classrooms will be expressly effective, especially when employed amidst properly specified goals. Various new phenomena are prefacing day by day in the sphere of pedagogical processes.



CONCLUSION

This paper has review of various available literature on the employability of gamification in pedagogical scenarios and also identified various gamified learning strategies used for successfully teaching in classroom scenarios. It also highlighted that the selection of games remarkably depends on purpose to purpose and can be modified according to the demand of the situation and suggest that what sort of aid learners required for better learning and which perspectives of games and multiple gaming elements are employed for expediting better learning. It explicates that Game-based learning encourages a whole new learning experience and also engages learners as well as instructors by providing a medium through which effective learning can easily take place.

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EFFECTIVENESS OF PIPATIC PROGRAM ON INTERNET GAMING ADDICTION AMONG MIDDLE SCHOOL CHILDREN IN SELECTED SCHOOL

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ABSTRACT

This study was undertaken to assess the effectiveness of PIPATIC program in reducing the level of the Internet Gaming Addiction among middle school children. Quantitative research approach with Quasi experimental, one group pre test & post test design was adopted. This study was conducted in Francis Xavier CBSE school, Vannarpettai, Tirunelveli District. Screening was done to identify the prevalence of Internet Gaming Addiction with the help of Modified Internet Gaming Addiction scale. The study group consists of 251 students. From these samples around 48 were Normal, 116 students were mild Internet Gaming Addiction, 68 students were moderate Internet Gaming Addiction, 19 students were severe Internet Gaming Addiction.

The investigator selected 60 samples from moderate & Severe Internet Gaming Addiction. From each class 20 samples were selected by using stratified random sampling technique with lottery method. The PIPATIC program was given one hour for each group for one month. After one month the post test was conducted by using Modified Internet Gaming Addiction scale. The conceptual frame work based on Imogene King's Goal attainment theory(1981). The data was collected and analyzed using descriptive and inferential statistics. The level of significance was assessed by $p < 0.005$ to test the hypothesis. Result reveals that, PIPATIC program was effective in reducing the level of Internet Gaming Addiction.

KEY WORDS: Gaming addiction, PIPATIC program, School children

INTRODUCTION

The world of fantasy has always attracted children and kids. The thrill of playing games provides a high attraction that is completely incomparable. To some extent, it may serve as an entertainment purpose to kids and may keep them busy. But let us not forget the adage "excess of anything is bad". In some cases, it may be worse. The level of violence in games has increased, so has the concern for the effects on those who play and especially those who play a lot. Gaming is not passive, in order to play and win, the player has to be the aggressor.

In June 2018, the World Health Organization (WHO) released the 11th edition of its International Classification of Diseases (ICD), in which it has categorized 'gaming disorder' as a mental health

condition. WHO defines gaming disorder as "playing with out control and more attention given to gaming for more than 12 months" Indians are addicted to entertainment media and media vehicles delivering amusements are seeing huge growth in the country. The percentage of gamers increased from 25.3% to 41.2% at a massive growth rate of 89%. This was accessed by online users and Gaming move to a Rank 5 from a Rank 7 last year. India already has more than 300 million mobile subscribers and still going robust. Most of the mobile users in India are teens. Making mobiles that they own an enormous platform for proliferating gaming related content. This exposed them to varied recreation formats and the new versions available in the market. This has positively increased craving of gamers in the country.



The children and adolescents attractions to the computer games cause several mental, physical, environmental and social problems for them. The children and teenagers aged below 18, according to a December 2017 report of UNICEF, there's rising concern of children and teens will become the biggest victims of gaming addictive disorder. According to Internet Network Information centre, In the year of 2019 more than 70% of children were excess used of Internet Gaming and leads to addictive behavior. This leads to comorbid psychological & health problems. According to the Center for Internet Gaming Addiction Recovery Young, a researcher who has lobbied for the recognition of net abuse as a distinct clinical disorder, "Internet Gaming addiction has caused emotional problems such as depression and anxiety related disorders and lead to psychologically unpleasant feelings or stressful situations."

Internet Gaming addicts may withdraw from social and interpersonal interactions other than those on the Internet. Their family relationships and academic or occupational functioning may deteriorate. Risk factors such as nervousness, agitation, aggression, withdrawal symptoms, increasing tolerance, and loss of control, poor concentration, inattention and sleep problems.

The abuse of internet Gaming can have various negative consequences for such as failure to fulfill role obligations at school and at home, impairment of social relationships, violating schools rules or laws because of internet Gaming.

The PIPATIC program was a method of psychotherapy manual comprising of six modules with specific sub-modules. Each module includes many psychological techniques to cross-psychotherapeutic methods. All the modules embrace therapeutic changes needed to assist the change everyday behavior. The program is six month duration comprising 45-minute weekly, 20 sessions each for both individuals and families. A design process of a manualized PIPATIC program (Program for Individualized Psychotherapy for addiction to Information and Communication Technologies) The design and application of the PIPATIC program integrates several areas of intervention structured into six modules: Individual psychotherapy, intrapersonal, Group psychotherapy, addiction treatment, family therapy, and creation of new lifestyle. The program's goals are to reduce the addiction symptoms related to online videogames and to improve the well-being of adolescents.

Module 1: Individual psychotherapy

- Active listening of the problem and frame the situation.

- Provide motivational aspects and reinforce self motivation.
- Make a negotiated goal.
- Generate awareness among video games, guide & give self observation instructions.

Module 2: Intrapersonal

- To develop insight and guide in correct emotional management.
- To facilitate the expression of emotions.
- Skills & strategies for solving intrapersonal problems.

Module 3: Group psychotherapy

- Verbal & Non verbal with successful communication regarding the emotional & behaviour pattern of playing video games.

Module 4: Addiction treatment

- Thought stoppage to provide positive reinforcement.
- Training in coping responses.
- Therapeutic work based on person centered therapy.

Module 5: Family therapy

- Adaptive family communication and detect faults in communication.
- Identification of family boundaries.
- To detect the type of family bond & improve it.
- Psycho education as a aspect of family therapy.

Module 6: Creation of new lifestyle activities

- To generate the new alternative activities & strategies.
- To promote useful and positive adaptive activities to achieve.

PIPATIC program are a better intervention to reduce internet gaming addiction, it is easy to practice in schools as well as in home. Hence the investigator intended to use PIPATIC program to reduce the level of internet gaming addiction among children.

STATEMENT OF THE PROBLEM

"A STUDY TO ASSESS THE EFFECTIVENESS OF PIPATIC PROGRAM ON INTERNET GAMING ADDICTION AMONG MIDDLE SCHOOL CHILDREN IN SELECTED SCHOOL AT TIRUNELVELI DISTRICT".

OBJECTIVES OF THE STUDY

- ❖ To assess the prevalence of Internet gaming addiction among middle school children.



- ❖ To assess the pre test and post test level of Internet gaming addiction among middle school children.
- ❖ To evaluate the effectiveness of PIPATIC program in reducing the level of Internet Gaming Addiction among middle school children.
- ❖ To find out the association between the pre test level of Internet gaming addiction with their selected demographic variables and gaming variables.

HYPOTHESES

- ❖ H₁- There will be a significant difference in pretest and post test level of Internet gaming addiction among middle school children after practicing PIPATIC program.
- ❖ H₂- There will be a significant association between the pre test level of Internet gaming addiction among middle school children with their selected demographic variables and Gaming variables.

OPERATIONAL DEFINITION

Assess

In this study it refers to evaluate the middle school children with level of Internet gaming addiction .

Effectiveness

In this study, it refers to assess the effectiveness of PIPATIC program in reducing the level of Internet Gaming Addiction as measured by Modified Internet Gaming Addiction scale.

PIPATIC Program

In this study it is defined as “ Program for Individualized Psychotherapy for addiction to Information and Communication Technologies”

It covers the aspects of

- Module 1 :Individual psychotherapy
- Module 2 :Group psychotherapy
- Module 3 :Family Therapy
- Module 4:Creation of new lifestyle activities.

Internet Gaming addiction

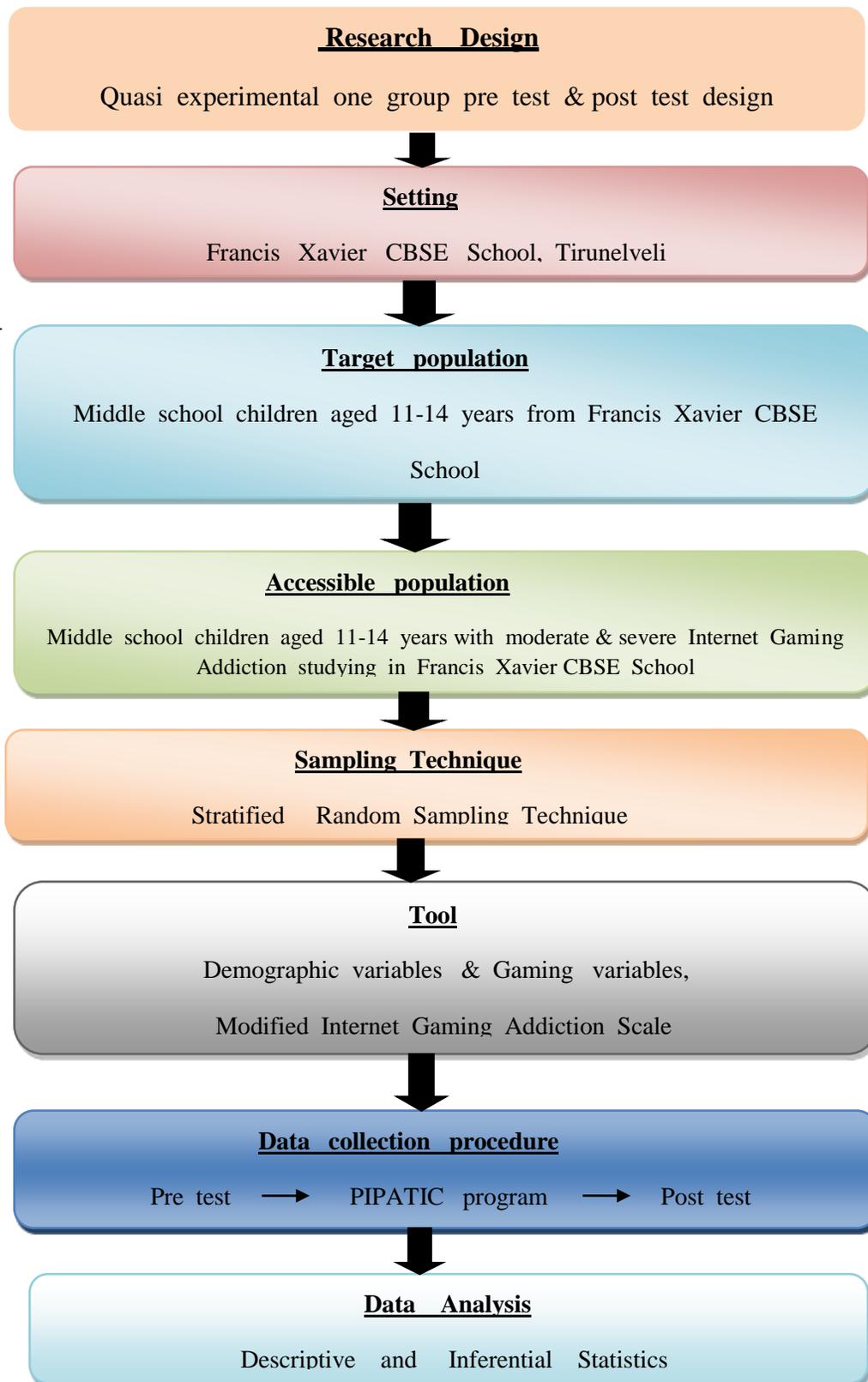
In this study it refers to compulsive or uncontrolled use of video games, in a way that causes problems in other areas of the person's life.

Middle School Children

In this study it refers to children between the age group of 11-14 years with Internet gaming addiction in selected school at Tirunelveli District.

DELIMITATIONS

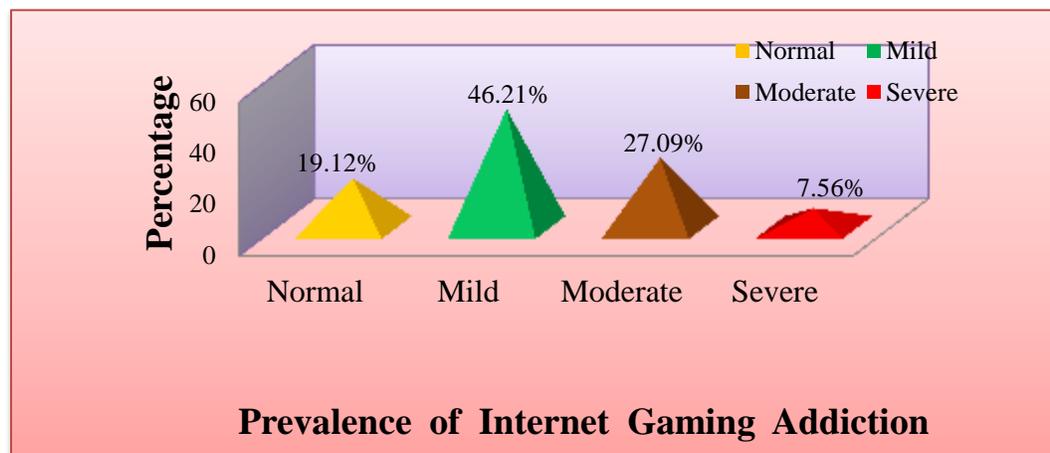
- ❖ The data collection period is one month.
- ❖ The study is delimited only for the Middle school children between the age group of 11-14 years.
- ❖ Data is collected from Francis Xavier CBSE school.





DATA ANALYSIS AND INTERPRETATION

Class	Modified Internet gaming addiction scale								Total no of students
	Normal	%	Mild	%	Moderate	%	Severe	%	
6	4	6.45	30	48.38	24	38.07	4	6.45	62
7	17	22.66	32	42.66	20	26.66	6	8	75
8	27	23.68	54	47.36	24	21.05	9	7.89	114
	48	19.12	116	46.21	68	27.09	19	7.56	251



S.No	Variables	Group	Mean	Standard deviation	Mean difference	Paired 't' test	Table value
1.	Internet gaming addiction	pre test	38.05	6.95	19.15	21.64 *	2.00
		Post test	18.90	8.33			

The mean score on the level of Internet Gaming Addiction among middle school children in study group. In pre test mean value were 38.05 with standard deviation 6.95. In post test mean value were 18.90 with standard deviation 8.33 respectively. The mean difference score was 19.15. The paired 't' test score was 21.64 * which is significant at <0.05 level. Hence the research Hypotheses one is accepted.

There is no significant association between the age, sex, habitat, religion, educational status of mother, educational status of father, involvement in co-curricular & extra curricular activities, number of siblings, mother's & father's

occupation, time spent for studies, time spent with parents, activities involved with parents and there is a significant association in academic performance of children.

There is no significant association between the duration of playing internet games in weekdays, the schedule of playing games, the primary use of electronic device, online mode & offline mode games, aspects of playing games, time period and there is a significant association between the playing games during weekends & holidays and duration of playing game



FINDINGS OF THE STUDY

The major findings of the study was summarized;

- In prevalence among middle school children with Internet Gaming Addiction, the total no. of students were 251. Around them, 48(19.12%) were in normal, 116(46.21%) were in Mild Internet Gaming Addiction, 68(27.09%) were in Moderate Internet Gaming Addiction and 19 (7.56%) were in Severe Internet Gaming Addiction
- During pre – test, 51(85%) had moderate Internet Gaming Addiction, 9(15%) had severe Internet Gaming Addiction.
- During post test, 37(61.66%) had normal, 15(25%) had mild Internet Gaming Addiction, 8(13.33%) had moderate Internet Gaming Addiction and none of them had Severe Internet Gaming Addiction.
- In pre test mean value was 38.05 with standard deviation value 6.95. In post test mean value was (18.90) with standard deviation 8.33 respectively. The mean difference score was 19.15. The paired ‘t’ test score was 21.64 * . It was significant at $p < 0.05$ level. It shows that the PIPATIC program was effective in reducing the level of Internet Gaming Addiction.

There was a significant association between the level of Internet Gaming Addiction among middle school children with their selected demographic variables and Gaming variables such as academic performance (18.34), duration of playing Internet games during weekends & Holidays (12.07) and duration of playing Internet Games (6.01) at the level of 0.05% level of significance. Hence the research hypothesis (H_2) was accepted.

CONCLUSION

The study was done to determine the effectiveness of PIPATIC program on Internet Gaming Addiction among middle school children in selected school, Tirunelveli District. In pre test mean value was 38.05 with standard deviation 6.95. In post test mean value was 18.90 with standard deviation 8.33 respectively. The mean difference score was 19.15. The paired ‘t’ test score was 21.64 * . It was significant at $p < 0.05$ level. From the results of the study, it was concluded that PIPATIC program was effective in reducing the level of Internet Gaming Addiction. These activities are easy to follow and cost effective. Middle school children can follow Individual psychotherapy, Group psychotherapy, Family therapy and creation of new lifestyle activities. For overall

students Middle school children, using power point presentation provided to generalize the Internet Gaming. Therefore, the investigator felt that more importance should be given to PIPATIC program to reduce Internet Gaming Addiction.

Limitations

Since there were few studies done on the effectiveness on PIPATIC program on Internet Gaming Addiction among middle school children, the investigator had a lot of difficulty in collecting study materials for the review.

Recommendations

The following studies can be undertaken to strengthen PIPATIC program as a good remedy for Internet Gaming Addiction among school children.

- A study can be conducted among school children with different levels of academic performance due to Internet Gaming Addiction.
- A comparative study can be conducted for Higher secondary & college students .
- A study can be conducted for longitudinal using PIPATIC program eg; 6 months .
- A study can be done among school teachers and parents of school children on Internet Gaming Addiction & PIPATIC program.
- A study can be conducted for school children to reduce game addiction behavior.
- An experimental study can be conducted for the effectiveness of each module of PIPATIC program.
- A study can be conducted to identify the problems among school children such as physical, emotional, functional, psychological and social aspects due to Internet Gaming.

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