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CUTTING-EDGE SCIENCE 2020

### International scientific and practical conference

## **CUTTING EDGE-SCIENCE**

August, 2020 Shawnee, USA Conference Proceedings

#### PRIMEDIA E-LAUNCH

# International scientific and practical conference CUTTING EDGE-SCIENCE

August, 2020 Shawnee, USA Conference Proceedings

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### AGRICULTURAL SCIENCES

## LEVEL AND MEETINGS OF DIASPIDIDAE SPECIES IN FRUIT GARDEN BIOCENOSIS

Bakojon Egamberdiyevich Murodov, Otabek Abdushukirovich Sulaymonov, Jurabek Nodirjonovich Yakhyoyev

Scientific Center for Plant Quarantine at the Inspection "Uzstatekarantin" under the Cabinet of Ministers of the Republic of Uzbekistan

Abstract: A dangerous pest is widespread in Uzbekistan. Of these is a dangerous coccid. They damage many plants. It damages the apple tree, pear, plum, quince, peach, almonds, hawthorn, elm, poplar and others. Winter diapausing larvae of the first age, covered with a dark gray or black scale. In the spring they are intensively fed, molt and form a scale similar to that of an adult female. After the second moult, adult females are formed. After mating, females spawn larvae-tramps, which creep along branches and leaves, and can also settle on fruits. They give rise to the next generation.

Keywords. Orchard, population, adult, offspring, larvae, apples, cherries, plums, peaches, purple scale insect, comma scale.

Introduction. Today, the world's leading countries place special emphasis on research into the bioecology of orchard pests, which play an important role in the sustainable development of the agricultural complex and food security. These include quarantine species that are considered dangerous in the republic's horticulture, including the California scale. California scale, turon false scale, purple and Central Asian comma scale species, which are common every year and cause great damage to fruit, occupy a special place.

Literature review. During the observations (Tashkent region, 2018-2019), the species of scales on fruit trees were identified, including very dangerous species. These include Quadraspidiotus perniciosus, Parlatoria oleae, Lepidosaphes mesasiatica, Tecaspis asiatica, Neochionaspis asiatica, Rhodococcus turansis, Parthenolcanium corn and Parthenolecanium persicae.

Analysis and results. Among them are quarantine species that are considered dangerous in the republic's horticulture, of which the California scale is one of the most dangerous among the species identified in fruit trees. The species that are most common every year and cause great damage to fruit are the Turan false scale, the purple and the Central Asian comma scale. While the total damage to orchards is 11,8%, the Turan false scale is 3,9%, the purple scale is 1,3%, and the Central Asian comma scale is about 1%, while the rest is less than 1%.

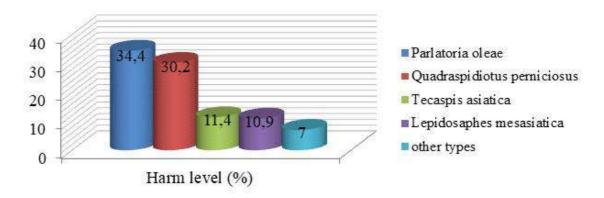


Figure 1. The level of damage to scale in apple orchards (Tashkent region, 2018-2019).

In apple orchards, purple scale and California scale occupy the highest level of damage to various shrubs, with 34,4% Parlatoria oleae, 30,2%, Quadraspidiotus perniciosus, 11,4% Tecaspis asiatica, 10,9% Lepidosaphes mesasiatica and the remaining 7% species. (Figure 1).

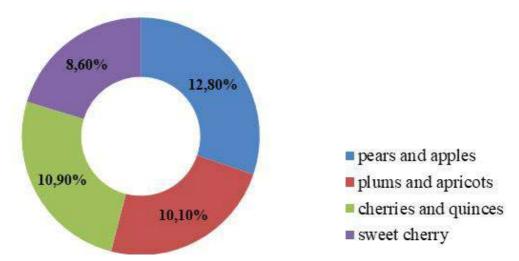


Figure 2. Infestation of fruit trees with California scale (Tashkent region, 2018-2019). Infestation of fruit trees with California scale (Quadraspidiotus perniciosus) affected 12,8% of pears and apples, 10,1% of plums and apricots, 10,9% of cherries and quinces, and the least 8,6% of sweet cherries (Fig. 2).

Conclusions and suggestions. In apple orchards, purple scale and California scale occupy the highest level of damage to various shrubs, with 34,4% purple scale (Parlatoria oleae), 30,2% California scale (Quadraspidiotus perniciosus), 11,4% plum scale (Tecaspis asiatica), 10,9% Central Asian scale (Lepidosaphes mesasiatica) and the remaining 7% species. Influence of California scale (Quadraspidiotus perniciosus) on fruit trees affected 12,8% of pears and apples, 10,1% of plums and apricots, 10,9% of cherries and quinces and the least 8,6% of sweet cherries.

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### **BIOLOGICAL SCIENCES**

## THE STUDY OBJECT OF PHYSIOLOGY AND HISTORY OF DEVELOPMENT

Abdullayeva Marjona Oybek qizi student of National University of Uzbekistan Choriqulov Raximjon Rashidjon o'g'li student of Bukhara State University Mamurova Maftuna Otabek qizi student of Bukhara State University

Abstract. Like all sciences, physiology has its own history of development and object of study. Physiology serves as the theoretical basis for a number of disciplines, such as psychology, medicine, and veterinary medicine. This article discusses the object of study and the history of the development of physiology.

Keywords: physiology, biochemistry, object of study, anatomy, cytology, histology, animals, plants.

Physiology is the study of organisms and their parts, systems, organs, tissues, and vital functions. According to the object of study, it is divided into human, animal and plant physiology. Physiology is inextricably linked with anatomy, cytology, histology, and especially biochemistry and biophysics; it uses chemical and physical methods and concepts to explain physiological processes. Physiology is the theoretical basis of psychology, medicine and veterinary sciences. Physiology is divided into general, specific, and specific physiology. General Physiology studies the basic laws of the activity of all living matter, its response to the external environment, and the properties of living things that distinguish them from non-living nature. Comparative Physiology is the study of the physiological functions of animals through phylogenetic and specific development. Physiology is an experimental science. Physiological studies can be performed using acute (vivisection, dissection, perfusion methods) or chronic experiments (conditioned reflex methods, fistula placement, transplantation, electrode insertion, and other methods).

Beginning in the 19th century, discoveries in physics, chemistry, and general biology led to a detailed study of the function of organisms. In the 19th century, the study of the mechanism of reflex activity of the brain was founded: in this regard, the work of I.M Sechenov in the field of studying the nature of central braking was of great importance; evidence of sensory and permeability functions of the cerebral cortex of the cerebral hemispheres; the doctrines of hearing and sight were created; nerve regulation of respiratory and cardiovascular activity was detected; reveals the enzymatic mechanisms of digestive activity, their neural and humoral pathways; endocrine glands were discovered and the role of hormones in the regulation of physiological functions was revealed; the transport and protective function of blood is shown; Concepts about the stability of the internal environment of the organism and its mechanisms were formed. In the 20th century, the use of electronic amplifiers, cathode oscilloscopes, electron microscopes, and so on in physiological experiments expanded the possibilities for studying physiological functions. As a result, it is possible to directly study the processes that take place in the cell and form the basis of all the functions of the organism. In particular, the cellular mechanism of reception of external stimuli, the origin and propagation of nerve impulses, the nature of synaptic conduction and inhibition; muscle contraction and secretion mechanisms were identified; coding and transmission of signals from receptors to the central nervous system, processing of information reaching the nerve center at different levels were revealed. I.P Pavlov and his students demonstrated the general laws of neural processes in the upper parts of the brain, which form the basis of conditioned reflexivity and consciousness. In modern physiology, much attention has been paid to the study of the mechanisms of mental activity in humans and animals. A detailed study of the function of the cerebral hemispheres and the study of the delicate neural mechanisms of conditioned reflexes are important in solving this problem. Research is also underway on the mechanism of current sleep, emotional, and experimental neuroses. The data obtained from the study of the reception, transmission, and processing of information by various sensory systems help to understand the formation of speech, its comprehension, and the mechanism for distinguishing between visual and auditory signals.

Research in the field of physiology in Uzbekistan A.Yunusov, B.O. Toshmuhamedov, I.V.Danilov, A.I.Izrael, A.S. Associated with Shatalina, ZT Tursunov and others. The main research in the field of physiology is the study of the problem of adaptation of the organism to the most adverse conditions. An important study is the discovery of the mechanism by which hot climates influence hypodynamics, hyperdynamics, pain, malnutrition, and other factors on intestinal digestion. Several studies have shown the effect of bile on nutrients and the relationship between the development of the intestinal hydrolytic and transport systems and the hormonal status of the mother and child. In recent years, a number of textbooks and manuals in the field of physiology in the Uzbek language have been created.

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## ANALYSIS OF LYSOZYME ACTIVITY OF ORAL LACTOBACILLI IN NORMAL AND CARIES IN WOMEN OF REPRODUCTIVE AGE

#### Khaldarbekova G.Z.

Basic doctorant of the Department of Microbiology and Pharmacology
Tashkent State Dental Institute
Uzbekistan, Tashkent
Mukhamedov I.M Prof.Scientific supervisor:

Relevance. The ability of lactic acid bacteria to form lysozyme-like enzymes and thus have a bactericidal and bacteriostatic effect on harmful microflora is widely used in the food industry, medicine, veterinary medicine and agriculture [5].

According To V. V. Pospelova et al. The most important positive side of lactobacilli, as a member of the autochthonous microflora, providing colonization resistance is their ability to produce lysozyme-like enzymes [3]. This ability was first described by N. Kaufman and K. Bauer in 1956. As we know, lysozyme-like enzymes are considered antibacterial agents, enzymes of the hydrolase class that destroy the cell walls of bacteria by hydrolysis of peptidoglycan (murein) [2].

Thus, lactobacilli producing lysozyme-like enzymes prevent the existence and colonization of representatives of allochthonous microflora [4,7,11,12]. This work presents the results of lysozyme activity of the main types of oral lactobacilli: L. acidophilus, L. casei, L. salivarius, L. fermentum, L. rhamnosus in normal and caries in women of reproductive age [1,6].

Purpose of research. Determination and assessment of lysozyme activity of the main types of oral lactobacilli in normal and caries in women of reproductive age.

Material and methods. The material was isolated lactobacilli from the oral cavity of 90 women of reproductive age with absolutely healthy oral cavity and caries. The ability of lactobacilli to produce lysozyme-like enzymes was determined using the method of A. A. Lenzner et al. The degree of lysozyme activity was judged by the presence and size of the lysis zone radius of the test strain around the grown culture under study: 1-3 mm-low activity, 4-7 mm-medium activity and >7 mm-high activity. During static processing, the degree of activity was expressed in conventional units 0(no LA), 1(low LA), 2(medium LA), 3 (high LA) [8,9,10].

Results and discussion. The study found that 94% of the strain from healthy and 63% of the strain from the study with caries had the ability to produce a lysozyme-like enzyme.the lactobacteria of the oral cavity, L. acidophilus, L. casei, L. salivarius, L. fermentum, and L. humposus, isolated by us, generally had average activity. For example, the indicators of lactobacilli in healthy subjects were L. acidophilus- 6.3 mm; L. casei-6 mm; L. salivarius-8.3 mm; L. fermentum-8.0 mm; L. rhamnosus-7.3 mm, while the indicators isolated from the subjects with caries were slightly lowered: L. acidophilus-5.0 mm; L. casei-4.6 mm; L. salivarius-6.3 mm; L. fermentum-6.0 mm; L. rhamnosus-6.0 mm.

The average value of lactobacilli to produce a lysozyme-like enzyme in normal and caries was 2.6=0.15 and 2.0=0.22, respectively.

Conclusion. The above research results show a decrease in the lysozyme activity of lactobacilli in caries, which once again proves the microbiological etiology of the disease. When caries is reduced not only the number of lactobacilli, but also their inherent biological properties.

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#### GENETICS AND ITS TYPES

#### Tuychiyeva Shoxista Shamsiyevna

biology teacher of 32 schools of Kushrabot district, Samarkand region

Abstract. The concept of population and pure line was proposed in 1907 by Johannsen. A population is a group of animals and plants that belong to the same species, spread over a certain area, and reproduce in isolation from other populations.

Key words: Animals of a particular breed or herd, heterozygosity and polymorphism, mutational pressure and its directions.

The pure line differs from the population in that it consists of plants with a homozygous degree, that is, plants with a similar genotype. But in a pure line, homozygosity is never complete, because the genetic similarity of the line changes as a result of natural mutations. There are no pure lines in animals. Although homozygosity has increased as a result of inbreeding, there has been a sharp decline in productivity and vitality in children. Therefore, without the creation of such lines in animal husbandry, they often work with populations in the breeding of breeds and herds. Iogannsen was the first to discover that the diversity of genotypes in a population and the same selection of organisms on a pure line lead to different results. No progress was made when Iogannsen conducted a selection of bean grain sizes on different lines for 6 years. It was observed that the derived generations always returned to the mean of the line, i.e., a regression event. Thus, in the absence of genotypic variability, selection was found to be ineffective. The reason for the sharp difference in the outcome of the selection in the population and in the pure lines is that they are genetically different in structure. The variability in the population is so large that it consists of two parts, genetic and non-genetic variability. Variability in the pure line is a phenotypic variability that occurs mainly under the influence of external environmental factors. It has been found that this variability is not passed on to offspring. Selection works primarily with genotypic variability. The major private genetic sciences mentioned above are further subdivided into smaller private genetic sciences that study the genetics of individual organisms, series. For example, the following special genetic sciences have emerged in the field of plant genetics: wheat genetics, potato genetics, cotton genetics, and others. Genetic sciences are classified according to the methods used in scientific research as follows: Ontogenetics (phenogenetics) - the study of the laws of development of traits and characteristics of an organism in the process of ontogeny (personal development) in its phenotype as a result of gene activity. Cytogenetics is a science that uses the method of hybrid genetic analysis in a complex way with the cytological method. Mutational genetics is the study of the laws of mutational (genetic) change in the genotype of organisms. Ecological genetics is the study of the influence of environmental factors on the development of the genotype of an organism as a phenotype. It creates ways to solve the problem of protecting their gene pool from the negative effects of the extreme factor. Population genetics is the study of the qualitative and quantitative composition of a population's gene pool, the distribution of genes and genotypes in a population, and the laws of distribution. Medical genetics - develops the genetic basis of methods for diagnosing and treating the causes of hereditary diseases in humans. Molecular genetics is the study of the structure and function of genes, which are the material basis of heredity and variability. Genetic engineering - conducts practical research on genes and chromosome engineering based on the theoretical advances of molecular genetics. Transgenic plants are involved in creating new forms by creating animal forms, transplanting certain chromosomes or a

portion of its beneficial gene. Biotechnology - develops and puts into practice methods and technologies for obtaining physiologically active substances, recombinant proteins, substances used as drugs, using organisms with a new genotype obtained by the method of genetic engineering. S. Wright, S. S. Chetverikov, N. P. Dubinin, D. D. Romashev and others played an important role in the development of problems of population genetics. Advances in population genetics help to understand the laws of evolution, and at the same time it plays a major role in the study of the genetics of agricultural animals and plants. In all free-range animal and plant populations, the evolutionary process takes place according to specific laws.

2) The English scientist Hardy and the German physician Weinberg (1908) found that if selection is not made in a free-breeding population, equality is maintained, ie the ratio of genotypes remains the same from day to day. This ratio is determined by the following formula:

p<sup>2</sup>AAK2pqAaKq<sup>2</sup>aaK1, here:

pA - in the population

A:Probability of concentration or concentration of gametes with gene

qa - The probability of encountering gametes with the "a" gene. Because each female and male animal gamete carries the "A" or "a" gene, its sum is equal to pAKqak1.

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### **CULTUROLOGY**

#### TRADITION AND INNOVATION IN RISHTON POTTERY

#### Khayitboboeva Khurshida Pirmakhmatovna

Researcher of the 2nd stage of the National Institute of Art and Design named after Kamoliddin Behzod E-mail address: xurshida1402@gmail.com

Annotation: This article provides information about the role of modern Rishtan art in the applied art of Uzbekistan and the unique role of Rishtan pottery in the cultural heritage of our people. After gaining independence, the Uzbek state began a new era in its history, opening new historical pages in the field of culture and art. Attitudes towards cultural heritage and national values will change radically, and a new process will take place in the field of applied arts.

Keywords: Cultural heritage, national values, applied arts, pottery, tradition, innovation, ceramics, bowls, bowls, bowls, flatware.

As the process of integration intensifies and globalization deepens, the diversity of world cultures, embracing the cultural heritage and modern achievements of different peoples, is becoming increasingly important. The uniqueness of the applied art of Uzbekistan, in particular, the modern applied art of Rishtan, is determined by the spiritual, aesthetic and historical foundations of the cultural heritage of our people. In the process of its gradual development, the traditional applied art, which is constantly enriched with new ideas, has managed to demonstrate the national identity of the people

After gaining independence, the Uzbek state began a new era in its history, opening new historical pages in the field of culture and art. Attitudes towards cultural heritage and national values will change radically, and a new process will take place in the field of applied arts. Forgotten traditional holidays, customs, rituals, as well as a number of lost crafts have been revived. In the field of applied arts, the "Teacher-Apprentice" system was established, and the social status of artisans began to grow. Given the process of transition to a market economy, the state has created a number of tax incentives for masters of applied arts.

During this period, UNESCO and other international organizations also provide some assistance in the development of folk arts in Uzbekistan. Uzbekistan's independence has largely determined the future development of traditional arts and crafts. Despite the huge economic difficulties faced by our country in the first years of its independent development, economic support of culture and arts, as well as arts and crafts, creation of conditions for the formation of private entrepreneurship, economic and taxbenefits for masters of applied arts. took responsibility forgiving. Such a prudent policy paved the way for the revival and improvement of traditional arts and crafts. The growth of national identity has played an important role in increasing interest in cultural heritage.

Since 1993, the traditional pottery of Uzbekistan has emerged from the crisis. Masters of Rishtan, such as U.Ashurov, I.Kamilov, Sh.Yusupov, A.Toirov, R.Usmanov, A.Esonov, N.Kadirov, restored the traditional forms of ceramics using the technology of working with alkali.

From ancient times the people of Rishtan were famous for their pottery. According

to historical sources, the locals were engaged in making pottery and other pottery 800 years ago. It is in this district that there are red clays used in the manufacture of pottery associated with the name Rishtan, as well as natural minerals and mountain herbs used in their decoration. Rishtan master potters are also famous all over the world for their unconventional methods of making pottery and decorating finished products.

Craftsmen have been teaching the secrets of their craft from generation. In Rishtan, the work of potters who still use ancient technology can be observed in their small workshops. At the same time, the city has a large workshop for the production of ceramics. Rishtan pottery can be seen at many international exhibitions and fairs.

In the early 1990s, the worst situation was with traditional Uzbek pottery. The general economic crisis occurred during the same period. Since 1993, when the social and economic situation in Uzbekistan began to stabilize, the situation has stabilized. Rishtan masters have restored the basic traditional forms of their wares and are now making two types of pottery.

The masters who made flat dishes were called "kosagar". They made things that were flat and not very high. The masters of making long, tall vessels (jugs, jars) are called "jugs". At present, such a classification has lost its meaning. Because some craftsmen can easily make both types of things. At the same time, many craftsmen, especially the middle and young generation, are engaged in the manufacture and decoration of more flat objects - bowls. In Rishtan, the method of making alkaline glaze has been revived and masters use it to paint their dishes. The decorative content of the items made in Rishtan determines the artistic features of Rishtan pottery. Rishtan pottery is very rich in pattern-flower species. It contains all kinds of patterns and flowers of ceramics used in Uzbekistan: handicrafts and Islamic patterns, symbols, images of objects, bowls with images of animals and people, household flat dishes - trays and crockery.

Firdavs Yusupov, the son of Rishtan master Sharofiddin Yusupov, started making terracotta toys without paint in 2012. Its length is from 10 cm to 15 cm. The heroes of the fairy tale are made in the late XX century by the master of the Middle Ages Gafur Khalilov. The size is from 20 cm to 40 cm, the upper part is painted in white-red-blue lime. reminiscent of large-scale fantastic images covered with. However, the experience of creating these Rishtan toys, which are rooted in other centres, demonstrates the essence of the author's approach.

From the middle of the twentieth century, traditional handicrafts began to be valued not only as household items, but also as gifts, and this continued into the new century. Many traditional forms of art have disappeared. Only the patterns on the trays have survived, and they have not lost their vitality. New types of patterns are also being tested on the trays. In the XIX century, the main schools of glazed pottery of Uzbekistan were formed. There are three schools of pottery in the country in terms of style, shape and technological features of ceramics: north-east - Fergana school, centre - Bukhara-Samarkand school, south-west - Khorezm school. The pottery of Fergana and Khorezm schools is blue in colour and is mostly covered with alkaline glaze. The Bukhara-Samarkand school supplies are yellowish-brown, with more leaded glaze used. In the middle of the XX century in the markets of Samarkand, Shakhrisabz, Kattakurgan, Rishtan, Kokand, Jizzakh, Khiva, Urgench it was possible to buy colourful glazed ceramics or painted whistles.

During independence, the creation of private property and the transition to a market economy became a key economic factor for the revival of traditional arts and crafts. During the years of independence, a number of government documents and decrees aimed at strengthening the status of folk craftsmen and supporting traditional handicrafts were issued. The activities of the expert community, consisting of scientists, specialists

and art critics, have also played an important role in the restoration of high-quality products of traditional arts and crafts. The masters themselves realized the need to change the craft.

Nowadays, traditional pottery is declining in Rishtan. Many craftsmen are creating their work for market trade. Of course, this is a good market economy and tourists are creating affordable products, but it can lead to the gradual disappearance of traditional pottery. saw the face of the world with. Due to the adaptation of Uzbek ceramics to the conditions of the market economy and the attempt to sell their products in the market conditions, many masters have created products that are attractive to tourists, undermining the originality of ancient traditions and style.

There are also many problems with discipleship. The ancient "teacher-disciple" system is now alive. If in the past, teachers tested their students in exams and gave them a certain level of knowledge and skills before giving them a "white blessing" in lieu of a diploma, now such internships, unfortunately, are not observed. Since young masters do not have the opportunity to study for a long time, after completing 2-3 months of training, they rush to sell their artistically very poor quality products in the market.

Trade in the market disrupts the traditional system of training highly skilled potters. This has led to a further decline in the status of previously popular pottery centres, as noted above. At a time when leading masters of high-quality ceramics are trying to sell their products at high prices, students are selling products at a low price. They have filled the art salons, markets of Bukhara, Samarkand and Tashkent tourist centres with low-quality products.

Young potters are accelerating the production of products to suit the needs of the market and the customer. This lowers the quality of the product. Of course, there are young potters who understand ancient traditions and try to preserve them in some way. During the period of independence, the process of restoration of traditional pottery intensified. All economic incentives are being created for masters to sell their products.

Currently, the development of national ceramics, the preservation of its unique nature, its ancient patterns and the structure of the artistic image of Uzbek ceramics is a pressing issue. Despite the problems of a creative and organizational nature, the positive results that have taken place during the period of independence are gratifying. The social status of folk masters has increased. Interest in pottery traditions has grown significantly in Uzbekistan and neighbouring countries. Many masters were sent on creative trips abroad to improve and strengthen their skills. They also managed to hold solo exhibitions abroad.

In conclusion, it should be noted that for the development of traditional ceramics it is necessary to pay more attention and expand the conditions to ensure its continuity.

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### **ECONOMICS SCIENCE**

# DIRECTIONS FOR THE DEVELOPMENT OF THE ICT SECTOR IN UZBEKISTAN IN ORDER TO ENSURE SUSTAINABLE RATES OF ECONOMIC GROWTH

Egamberdieva Malika Odil qizi

Egamberdiyeva.malikaa@gmail.com

Abstract: ICT today is an integral infrastructure of the world global economy, not only ensuring the most efficient functioning of world markets, but also playing the role of a locomotive in the development of the world economy. The degree of implementation and use of ICT in various areas of society is becoming a decisive factor in the progressive economic and social development of states. Now the information revolution is moving towards the global integration of all computers into the worldwide network. Uzbekistan is an integral part of the world economy. And the faster measures are taken to develop ICT, the faster economic changes leading to growth will occur.

Key words: ICT, international information networks, digitization, the Internet of things, cloud data

The role of information and communication technologies (ICT) in the implementation of the 2030 Agenda for Sustainable Development is gaining in importance. By reducing the cost of collecting, storing and processing data, as well as significantly increasing computing power, digitalization is transforming more and more economic activities around the world. However, the pace of development of the digital economy varies considerably. Some countries have quickly embraced digital technologies, but most are lagging behind in their willingness to participate in the digital economy. One of them is Uzbekistan (table 1.).

Table 1. Ranking of countries with slow internet connections

Rank	Country	Speed mb / s
120	Honduras	6.1
121	Pakistan	6.1
122	Uzbekistan	6.1
123	Nicaragua	6.1
124	Bolivia	5.6
125	Egypt	5.4
126	Lebanon	4.9
127	Libya	3.9
128	Venezuela	3.7
129	Algeria	3.5

Source: Hootsuite Digitization Report 2018

In 2018, the total speed of using international information networks was (for providers) 26.3 Gb / s, in 2019 it reached 65.7 Gb / s, i.e. has more than doubled. But this is no longer enough given the rapidly growing needs of Internet users in Uzbekistan. With this in mind, projects are being implemented to achieve the speed of access to external channels up to 200 Gbps.

But, despite the modest indicators of Internet connection, there is an increase in social media users in Uzbekistan (Table 2.).

Table 2. Ranking of countries with the largest percentage growth in social media users

Rank	Country	Growth in%	Users
1	Kiribati	191	21,000
2	Tajikistan	172	196,000
3	Iran	135	23,000,000
4	Kyrgyzstan	117	700,000
5	Kazakhstan	87	2,700,000
6	Uzbekistan	69	530,000
7	Vanuatu	57	25,000
8	Comoros	57	47,000
nine	Solomon islands	53	26,000
ten	Cambodia	43	2,100,000

Source: Hootsuite Digitization Report 2018

At the moment, the number of Internet users in Uzbekistan has reached 14.7 million. Compared to the same period last year, the growth amounted to 2.6 million subscribers. However, the lack of investment in communication infrastructure in Uzbekistan makes it difficult for the majority of the population to access the World Wide Web; there are only two operators with regional long-distance broadband networks in the Republic, which leads to high domestic transport costs for the Internet and makes it inaccessible to the majority of the population.

Despite the fact that in the regions of the country more than 20 thousand km. fiber optic lines, unfortunately, the average rate of broadband Internet users is 1.33 for every 100 respondents to the survey .

According to the experts of the International Finance Corporation (IFC), due to the fact that there is a significant demand for digital services in Uzbekistan, the first step in building the digital economy of Uzbekistan should be the creation of an infrastructure that is universal in terms of coverage and accessibility.

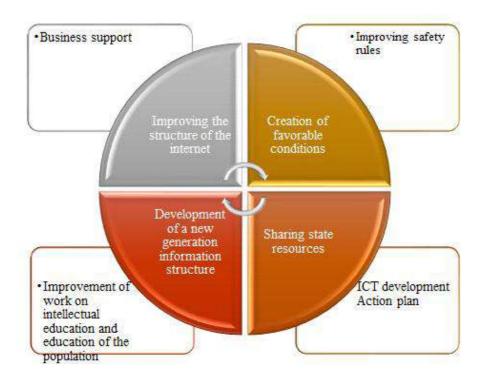


Figure 1. Proposed action plan for ICT development, based on the experience of China

Source: compiled by the author Revenko N.S. "China's digital economy: a new stage of the country's economic development" 2017

Experts emphasize that "to meet the insatiable demand for data, constant investments are required in the communication infrastructure of Uzbekistan, with about 17.2 million, approximately 53 percent of the population of Uzbekistan experiencing constant problems with coverage and use of communication."

In particular, taking into account the aforementioned problems, it is planned to organize coverage of more than 277 thousand kilometers with fiber-optic communication lines by 2021.

At the same time, the high population density of Uzbekistan allows the republic to more efficiently introduce fiber optics than its neighbors in Central Asia.

Reforms are underway in Uzbekistan that will certainly contribute to economic growth through the introduction of ICT.

As the experience of China has shown, it is never too late to start developing the ICT sector. The proposed action plan for the development of the ICT sector (Fig. 1.):

Strategy "Broadband Uzbekistan", in order to improve the structure of the Internet. The government needs to take measures to ensure by 2022 broadband access to the Internet using terrestrial networks at 50% and mobile 3G / 4G - 55%, to bring the average speed of Internet connections in cities to 30 Mbps, in rural areas to 8 Mbps;

Encouraging entrepreneurship (contribution to start-up projects), promoting the introduction of innovations, that is, business support;

Development of a new generation of information infrastructure in cooperation with leading companies in the ICT sector of China (implementation of the Internet of things, cloud data);

Sharing public resources, that is, the introduction of an "e-government" system that helps to improve the quality of public services provided;

Improving security rules, improving the level of information security;

Measures to increase the level of digital literacy will help to improve work on intellectual education and education of the population.

The active use of ICT is currently one of the main factors determining economic growth in modern developed countries and some developing countries and countries with economies in transition. The modern requirements of globalization are the development, implementation and use of information and communication technologies in various spheres of economic and social life, which is the priority of our country's leadership for the development of the national economy. In recent years, Uzbekistan has made significant strides towards an information society. For the development of communications on the legislative, regulatory basis, independent communication channels with international operators have been developed, created, the modernization of telecommunication networks based on digital technologies has begun, which is associated with significant investments for reforms in the ICT field.

Thus, the development of information technology should help improve resource management, planning and control schemes and enterprise development projects with a key focus can help increase productivity. Low levels of human capital can become an obstacle to the development of the ICT sector. Therefore, a strategy aimed at developing human capital leads to more efficient use of ICT in other areas. As in the case of infrastructure, increased user skills can lead to increased efficiency of existing facilities. Today, we can speak with complete confidence about the widespread introduction of computer and information technologies in various spheres of life, management, business, science and education.

## ORGANIZATIONAL AND ECONOMIC MECHANISMS OF INNOVATIVE DEVELOPMENT OF THE SMALL BUSINESS IN UZBEKISTAN

Nedelkina Natalya Ivanovna,
Tashkent State University of Economics
E-mail: nedna@mail.ru
Abdurahimova Yoqutoy Maxammatjon qizi,
Tashkent State University of Economics
E-mail: yoqutoy91@gmail.com

Abstract. The article examines the issues of innovative development of the economy of Uzbekistan, where the small business have a significant determinative role, as well as identifies problems and proposes measures to further intensify the potential of small businesses in the innovation process and the commercialization of scientific developments.

Key words: innovations, innovative development, commercialization, small business, scientific developments.

An innovative way of economic development is on the agenda for all states of the world. Innovative activities and the level of development of the relevant fields determine the ability of countries to ensure significant competitiveness of their economies and take advantage of systemic factors of growth.

The transition to innovative development is being considered as the main strategic guideline of economic policy for Uzbekistan. The State Strategy of Actions for the Further Development of the Republic of Uzbekistan defines specific tasks for the development of science, innovation and innovative activities. Their solution required the intensification of the country's transition process to an innovative way of development, as a result of which the Strategy for Innovative Development of the Republic of Uzbekistan for 2019-2021s [1], the state programmes in "Year of support of active entrepreneurship, innovative ideas and technologies" [2] and "Year of development of science, education and digital economy" [3], and other regulatory documents were passed. These documents are aimed at the accelerated development of the republic, where the basis is modern achievements of the world science, innovative ideas, developments and technologies.

In the current context, the small business acts as one of the forces helping to promote the economy of any country. In the world, the small business provides significant GDP production. In developed countries, its share in GDP production ranges from 55 to 60 percent. In Uzbekistan, the share of small business and private entrepreneurship in GDP is also significant, and over the past nine years, has increased from 31 percent (2000) to 56.5 percent in 2019.

At present, the small business has become a driver of economic development in Uzbekistan, where the innovative component is outlined among the topical issues. The operation of actors in this sector of the economy involves innovative activities, the production of innovative products and technologies that can compete in the domestic and international markets. For their successful implementation, it is necessary to comply with a number of conditions, including a strict market orientation, compliance of innovations with the goals of the enterprise and its receptiveness to innovation, an effective system of project selection, and etc.

However, despite some positive experience and the implementation of a number of initiatives in the field of innovative development of the economy in the republic, there has not yet been a noticeable breakthrough. In order to achieve a global scale of the development of the innovation system in the country, there are a number of problematic

issues that are being progressively resolved. These include insignificant involvement of small businesses in the innovation sphere, the weak formation of innovative infrastructure, insufficient support for innovation by incentive mechanisms, and etc.

These and other issues require substantial financial support, which involves the allocation of its two main forms - internal and external financing. Internal financing is not very suitable for small businesses due to the limited resources of their own, whereas external financing becomes the most adequate and effective for them. Therefore, as once relevant is the consolidation of efforts of the government authorities and the business community in terms of the development of mutually beneficial advantageous partnership. However, practice has shown that the existing mechanism of co-financing of the state and the private sector of innovative projects almost does not take into account the interests of small business entities, and is mainly aimed at financing the activities of state-owned enterprises or structures of strategic importance.

One more problematic place in using the potential of small business can be distinguished - incomplete scientific research and its separation from production. This comes down to the fact that the ongoing applied development does not have the continuation in the form of commercialization and introduction into production. But, at the moment, in Uzbekistan, the basis for innovative development is not just innovations, but fundamental science as one of the strategic components of the development of the whole society, and its ability to commercialize the results of scientific developments.

The solution to this problem is outlined in the Strategy for Innovative Development of the Republic of Uzbekistan for 2019-2021s [1], which resulted in a new system for the commercialization of scientific developments - from science to practice. The system involves the triple "scientist - bank - entrepreneur". All of this requires the creation of a number of institutions in the republic that can help entrepreneurs starting their business and scientists to bring their ideas to the market. These include targeted technology platforms, the development of technology parks, design and research departments at industrial enterprises, and innovation centers, research institutions, and etc. With their assistance, the further formation of an effective system of approbation, implementation and practical development of promising scientific developments will be carried out. At present, the country has already been implementing a policy for the establishment of creating technoparks. The Resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On measures to create youth technology parks in the regions of the republic" adopted on 22nd May, 2020, is aimed at increasing the innovative potential of the regions through the development of youth "start-up" projects and creating a single platform for their implementation.

In addition, it is important to create a comprehensive legislation in the country that regulates the processes of innovation, including the commercialization of the results of scientific and technical activities, as well as the support and financing of small businesses, including the provision of additional incentives and privileges for enterprises that develop and implement innovative projects.

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## INTERREGIONAL SOCIO-ECONOMIC COOPERATION IN UZBEKISTAN

Sattarov R.A.

Phd fellow Institute of forecasting and macroeconomic researches fargona2012@mail.ru

Abstract: This article discusses the methodological aspects and important issues of interregional cooperation in the Fergana valley, the level of socio-economic interdependence, innovation, the natural, economic potentials of the regions and the advantages of competitiveness.

Keywords: interregional cooperation, socio-economic issues, trade and services, labor resources, economic regions, scientific and analytical stages, regional policy, road map, information base.

In Uzbekistan great attention is paid to the complex and balanced socio-economic development of the regions it is looked as an important factor of sustainable economic growth. President Shavkat Mirziyoyev in his address to the Oliy Majlis mentioned the need to "Accelerate the process of urbanization integrated development of the regions the creation of suitable living conditions for the population." It should be noted that the role of human capital, innovation and digital technologies in the formation of interregional cooperation, along with specialization, location of productive forces, natural and geographical conditions sharply has been increased. In Uzbekistan demographic processes and social factors play an important role in development of interregional cooperation.

The analysis of scientific works and articles on interregional cooperation shows that it has different levels of forms each with its own characteristics.

Cooperation between the regions of Uzbekistan which is the object of direct research can be divided into different levels. They consist of interregional and inter-district cooperation between the regions, part of the economic regions the Republic of Karakalpakstan, 12 provinces and the city of Tashkent.

One of the important areas of regional cooperation is how it will be implemented. Scientists' and experts' recommendations in various forms of cooperation relations, in our opinion in condition of Uzbekistan, forms of interregional socio-economic cooperation should be aimed at solving existing problems, increasing production efficiency, ensuring sustainable economic growth and improving living standards. The definite grouping of the proposed forms of interregional cooperation is reflected in the following main directions:

the first, the location and development of production including industrial enterprises, effective cooperation as well as the formation of a system of clusters;

the second, effective cooperation in the social sphere, use of labor resources, development of trade, education, health, tourism and recreation, science and innovation, training of highly qualified personnel;

the third, the formation of an advantageous business and investment environment, the implementation of investment programs and projects;

the fourth, the formation of a market economy, the development of market infrastructure, ensuring the effective functioning of the banking and financial systems;

the fifth, environmental protection, implementation of environmental programs, rational use of nature, land and water resources.

Uzbekistan needs to fundamentally change inter-regional socio-economic cooperation

to make effective use of its potentials, consider it as a new factor in ensuring economic growth and one of the important priorities to the reforms is being implemented in our country. The most difficult task here is to form the organizational and economic mechanisms for the organization of interregional cooperation. In this case, it is important to assess the level and potentials of regional cooperation to scientifically substantiate strategies and methods for development.

The importance for developing inter-regional socio-economic cooperation has been noted by almost all foreign and domestic scientists, and the development of its scientific and methodological basis is becoming very significant for Uzbekistan.

Expects results of proper organization of interregional economic cooperation:

- more sustainable development of the consumer market;
- to provide manufacturers with raw materials and components;
- to expand the domestic markets based on demands;
- meeting the needs of the population in various goods and services,
- raising the level of competitiveness of enterprises,
- reduction of transportation costs and prices for products (services),
- effective use of existing natural and economic potentials,
- interregional production,
- removes barriers to the free movement of investment and labor resources.

During the years of independence in Uzbekistan almost there was not conducted any researches on deeply studying regional policy and interregional economic relations.

In particular, the organization and development of interregional socio-economic cooperation based on the relative advantages of the regions, coordination of these processes, bringing relations between the region and the industry to a new level, the use of new innovative forms of cooperation (cost and development model) has both scientific and practical significance.

The activation of interregional socio-economic cooperation should consist of several interrelated stages.

I stage - formation of the necessary information base.

II stage - carrying out scientific analysis.

III stage - define clear goal and task parameters.

IV stage - implementing the established strategy and tactics.

In the first stage, the main focus is on creating the necessary information base. Official data, monographic studies and the results of diagnostic assessments provided by experts can be used. Demands and proposals for export of products (services) produced in the region to other regions and abroad are prepared by studying the situations in the markets of goods (services) in territories.

In the second stage, the current socio-economic situation in each region on the basis of information collected and processed at the scientific-analytical stage, formation of the market products (services), competitive advantages, degree of specialization, production, the impact of social market infrastructure on interregional cooperation, existing problems and the imbalances will be scientifically analysed.

In the third stage, purpose and objectives of interregional socio-economic cooperation, clear future parameters will be determined, system of measures will be developed.

In the last stage, the developed roadmap is normative - legal aspects, specific proposals on institutional and organizational, economic and financial mechanisms should also be prepared.

It should be noted that goals and objectives of each region, from the parameters of sustainable development, the advantages of the existing natural and

economic potentials the cooperation with all regions of the country, formation can be based on an effective market economy.

However, the neighborhood which is an important factor in the organization of interregional cooperation, unique natural - climatic conditions, availability of integrated infrastructure facilities, mutual trade with nearby areas subject to the efficiency of using common land and water resources, it is expedient to ensure additional economic growth through the implementation of joint investment projects, full satisfaction of the needs and requirements of the population.

In order to achieve intensive interregional (including cross-border) cooperation in Uzbekistan, it would be advisable to strengthening integration processes:

- to develop a general simplified procedure for the implementation of border trade and entrepreneurial activities;
- to prepare bilateral and multilateral intergovernmental agreements between countries on the principles of cooperation in border regions, providing for measures to simplify procedures for the clearance of customs, border, immigration, veterinary and other types of control for citizens of border territories;
- develop and approve harmonized laws on border areas, taking into account the many years of experience of European countries;
- to create in Executive Committee a coordinating body for interregional and crossborder cooperation;
- to develop a general concept of cooperation between regions, highlighting crossborder cooperation.

Based on the mentioned above, regional cooperation should serve as an integral part of ongoing regional policy to prove its scientific and practical basis and to develop mechanisms for implementation remains important.

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## SYSTEMS AND METHODS FOR ANALYSIS OF THE FINANCIAL SECURITY OF THE JOINT STOCK COMPANIES

#### Yusupov Shokhjakhon Bakhodir ugli

Tashkent State University of Economics, independent researcher

Abstract: This article describes the methods that serve to ensure the financial security of joint-stock companies. It also cites several analysis methods that are widely used around the world in ensuring the financial security of a joint-stock company. The analysis of the financial condition of the joint-stock company and financial ratios is also reflected.

Keywords: Financial security, financial analysis, capital, assets, cash flow, financial rations.

An essential component of the mechanism for managing the financial security of the joint-stock companies is the systems and methods of its analysis. Financial security analysis is a process of studying the financial condition and the main results of the economic activities of joint-stock companies to determine the level of protection of its financial interests from threats and to identify reserves for its increase.

To solve specific problems of managing the financial security of an enterprise that several unique systems and methods of analysis are used, which make it possible to obtain a quantitative assessment of the level of protection of individual financial interests from threats both in statics and in dynamics. In the theory of financial security, depending on the methods used, the following main topics of financial security analysis carried out by the enterprise are distinguished: horizontal analysis; vertical; comparative analysis; analysis of coefficients; quarterly analysis.

Horizontal financial analysis;

- 1.Research of the dynamics of indicators of the reporting period in comparison with indicators of the previous period.
- 2.Investigation of the dynamics of indicators of the reporting period in comparison with indicators of the same period last year
  - 3.Study of the dynamics of indicators for several previous periods.

Vertical financial analysis. This analysis is based on the structural decomposition of individual indicators of the financial statements of the enterprise. In the process of carrying out this analysis, the proportion of different structural components of aggregated financial indicators is calculated. In the management of the financial security of an enterprise, the following types of vertical analysis are most widespread:

- 1.Structural analysis of assets. In the process of this analysis, the proportion of current and non-current assets is determined; elemental composition of current assets; the element composition of non-current assets; the structure of the company's assets by the level of liquidity; formation of the investment portfolio by type of securities and others. The results and analysis are used in the process of optimizing the composition of the company's assets.
- 2.Structural analysis of capital. In the process of this analysis, the proportion of equity and debt capital used by the enterprise that is determined; the composition of the borrowed capital used by the periods of its provision (short and long-term borrowed capital was counted); the formation of the borrowed capital used by its types bank credit; financial credit of other forms; commodity (commercial) credit, etc. The results of this analysis are used in the process of assessing the financial effect, determining the weighted average cost of capital, optimizing the structure of sources for the formation of borrowed financial resources, and in other cases.

3.Structural analysis of cash flows. In the process of this analysis in the composition of the total cash flow, cash flows from the operating, investment and financial activities of the enterprise are distinguished; as part of each of these types of cash flow, the receipt and expenditure of cash are more deeply structured, the composition of the balance of monetary assets for its individual elements.

Comparative financial analysis is based on comparing the values of individual groups of similar indicators with each other. In the process of using this analysis system, the sizes of the absolute and relative deviations of the compared indicators are calculated. In the management of the financial security of an enterprise, the following types of comparative financial analysis are most widely used the comparative analysis of the financial security indicators that are given joint-stock companies and the industry average indicators. In the process of this analysis, the degree of deviation of the leading indicators of financial security. That is given enterprise from the industry average is revealed to assess its competitive position by the financial results of the business. Also, to identify reserves for further increasing the efficiency of the systems for protecting its financial interests.

Analysis of financial ratios (R-analysis) is based on calculating the ratio of various absolute indicators of the financial activity of the enterprise among themselves. In the process of using this analysis system, various relative indicators are determined that characterize individual results of financial activities and the level of the financial condition of the companies. In the management of the financial security of the joint stock companies, the following groups of analytical financial coefficients are most widespread: coefficients for assessing the financial stability of the company; coefficients for assessing the solvency (liquidity) of the company; ratios for assessing asset turnover; coefficients for assessing capital turnover; profitability assessment coefficients and others.

The coefficients for assessing the financial stability of an enterprise allow us to identify the level of financial risk associated with the structure of sources of formation of the enterprise's capital, and, accordingly, the degree of its financial stability in the process of future development.

Solvency (liquidity) assessment ratios characterize the ability of an enterprise to timely settle its current financial obligations at the expense of current assets of various levels of liquidity.

Assessment coefficients of asset turnover characterize how quickly formed assets turn over in the course of business activities of an enterprise.

The coefficients for assessing the capital turnover characterize how quickly the capital used by the enterprise as a whole and its individual elements turn over in the course of its economic activity.

Profitability assessment coefficients (profitability) characterize the ability of an enterprise to generate the necessary profit in the course of its economic activities and determine the overall efficiency of the use of assets and invested capital.

Fifthly, integrated financial analysis allows you to get the most in-depth (multifactorial) assessment of the conditions for the formation of individual aggregated financial indicators. In financial management, the following systems of integral financial analysis are most widely used:

1. The system of integral analysis of the efficiency of using the assets of the enterprise. This system of financial analysis, developed by DuPont (USA), provides for the decomposition of the "return on assets ratio" indicator into a number of private financial coefficients of its formation, interconnected in a single system. This analysis system is based on the "DuPont Model" (developed by "DuPont", USA), according to which the profitability ratio of the assets of the enterprise is the product of the profitability ratio of

product sales by the turnover ratio (number of turnovers) of assets.

2. System of SWOT analysis of financial activities. It is used in the strategic analysis process in conjunction with a number of other strategic analytical systems (it is discussed in more detail in the corresponding section).

3.Object-oriented system of integral analysis of the formation of the company's net profit. The concept of integrated object-oriented analysis, developed by ModernSoft (USA), is based on the use of computer technology and a special software package. The basis of this concept is the presentation of the model of the formation of net profit (or other effective indicator of financial activity) of an enterprise in the form of a set of interacting primary financial blocks that simulate "classes" of elements that directly form the amount of net profit. The user himself determines the system of such blocks and classes based on the specifics of the financial activity of the enterprise, in order to represent in the model all the key elements of profit formation in accordance with the desired degree of detail. After building the model, the user fills all blocks with quantitative characteristics in accordance with the reporting information on the enterprise. The system of blocks and classes can be expanded and deepened as the direction of the enterprise changes and more detailed information about the process of generating profits becomes available.

4. Portfolio analysis system. This analysis is based on the use of "portfolio theory", according to which the level of profitability of a portfolio of stock instruments is considered in one connection with the level of risk of the portfolio (the "profit-risk" system). In accordance with this theory, it is possible through the formation of an "effective portfolio" (appropriate selection of specific securities) to reduce the level of portfolio risk and, accordingly, increase the ratio of the level of profitability to risk. The process of analyzing and selecting such securities in a portfolio is the basis for using this system theory.

In conclusion, it should be noted that the financial security of joint-stock companies is currently carried out through five analyzes in world practice. These analyzes serve to assess the financial condition of the company and ensure the security of its financial performance.

## KEY INDICATORS AND METHODS REFLECTING THE FINANCIAL CONDITION OF THE COMPANY

#### Iminova Nargizakhon Akramovna

Tashkent University of Information Technologies named after Muhammad al-Khwarizmi, Head of Department, n.iminova@tuit.uz,

Rakhimboev Sardor Kahramonovich

Tashkent University of Information Technologies named after Muhammad al-Khwarizmi, Senior Lecturer, s.rakhimboev@tuit.uz

Abstract. This article presents and analyzes the coefficients that allows to quickly diagnose the financial condition of the enterprise. Specific indicators of liquidity and solvency are compared. At the end of the article, a conclusion is given on the results of the analysis.

Key words: financial condition, financial ratios, liquidity, solvency, stability indicators, financial dependence, turnover ratios, economic analysis.

Analysis of the financial condition of the company is carried out according to the system of absolute and relative indicators characterizing various aspects of its financial position, which are called financial ratios.

Financial ratios characterize the proportions between the various items of reporting. The advantages of financial ratios are the simplicity of calculations and the elimination of the effect of inflation. The calculation of these coefficients is based on the implementation of certain ratios between individual reporting items. These coefficients allow you to quickly diagnose the financial condition of the enterprise.

The system of relative financial ratios by economic sense can be divided into a number of characteristic groups:

financial sustainability indicators;

indicators of balance sheet liquidity and solvency;

indicators of business activity;

profitability indicators.

It is believed that if the level of actual financial ratios is worse than the base of comparison, this indicates the most painful places in the activities of an enterprise that require additional analysis.

One of the characteristics of the stable position of the organization is its financial stability.

Financial stability is a characteristic of the stability of the financial position of an enterprise, provided by a high proportion of its own capital in the total amount of funds used by it. The assessment of the level of financial stability is carried out using an extensive system of indicators.

Analysis of the financial stability of the organization is based on the study of the corresponding system of absolute indicators, which together reflect the essence of the stability of the financial condition. The indicators that can be used to characterize the financial situation in an organization include the availability of working capital, the size and composition of other sources of reserves and costs. This refers to the sources of own and borrowed funds.

The financial condition of enterprises characterizes the placement and use of funds of the enterprise. It is determined by the degree of implementation of the financial plan and the measure of replenishment of own funds at the expense of profits and other sources, if they are provided for by the plan, as well as the rate of turnover of production assets and especially working capital. Since the implementation of the financial plan mainly depends on the results of production activities, it can be said that the financial condition, determined by the entire set of economic factors, is the most general indicator.

The financial condition is manifested in the solvency of enterprises, in the ability to timely meet the payment requirements of suppliers of equipment and materials in accordance with economic agreements, to repay loans, pay wages to workers and employees, make payments to the budget. So, there are several types of the indicators, that are given in ratios between several factors that is shown in the statements of a company.

Table 1.
The list of indicators of liquidity and solvency

Name of the indicator	Standard value	
Private indicators of liquidity and solvency		
Current liquidity ratio	from 1.5 to 2.5	
Quick (urgent) liquidity ratio	more than 0.8	
Absolute liquidity ratio	more than 0.2	
The share of working capital in assets	more than 0.5	
Solvency recovery ratio	more than 1.0	
The coefficient of loss of solvency	greater than 1.0	

Liquidity Ratios. Liquidity ratios and solvency ratios are tools investors use to make investment decisions. Liquidity ratios measure a company's ability to convert its assets to cash. On the other hand, solvency ratios measure a company's ability to meet its financial obligations.

Liquidity ratios gauge a company's ability to pay off its short-term debt obligations and convert its assets to cash. It is important that a company has the ability to convert its short-term assets into cash so it can meet its short-term debt obligations. A healthy liquidity ratio is also essential when the company wants to purchase additional assets.

One common liquidity ratio is the current ratio. The current ratio measures a company's ability to meet its short-term debt obligations. It is calculated by dividing its current assets by its current liabilities. Generally, a higher current ratio indicates that the company is capable of paying off all of its short-term debt obligations.

Solvency Ratios. Solvency ratios include financial obligations in both the long and short term, whereas liquidity ratios focus more on a company's short-term debt obligations and current assets.

In contrast to liquidity ratios, solvency ratios measure a company's ability to meet its total financial obligations. The solvency ratio is calculated by dividing a company's net income and depreciation by its short-term and long-term liabilities. This indicates whether a company's net income is able to cover its total liabilities. Generally, a company with a higher solvency ratio is considered to be a more favorable investment.

Table 2.

The list of indicators of financial stability as defined by Sheremet A. D.

Name of the indicator	Standard value	
Private indicators of financial stability (Sheremet)		
Mobility coefficient	equal to 0.5	
The coefficient of autonomy of sources of formation of stocks		
The ratio of stocks own sources	from 0.6 to 0.8	
The ratio of own funds	is greater than 0.1	

Financial stability indicators. Unlike price stability, financial stability is not easy to define or measure given the interdependence and the complex interactions of different elements of the financial system among themselves and with the real economy. This is further complicated by the time and cross-border dimensions of such interactions. However, over the past two decades, researchers from central banks and elsewhere have attempted to capture conditions of financial stability through various indicators of financial system vulnerabilities. Indeed, many central banks through their financial stability reports (FSRs) attempt to assess the risks to financial stability by focusing on a small number of key indicators. Moreover, there are ongoing efforts to develop a single aggregate measure that could indicate the degree of financial fragility or stress. Composite quantitative measures of financial system stability that could signal these conditions are intuitively attractive as they could enable policy makers and financial system partici pants to:

- (a) better monitor the degree of financial stability of the system,
- (b) anticipate the sources and causes of financial stress to the system and
- (c) communicate more effectively the impact of such conditions.

The approach to the development of these measures of financial system stability has changed over the years as the locus of concern moved from micro-prudential to macroprudential dimensions of financial stability. From the analysis of early warning indicators to monitor the state of the banking system, particularly the risk of default of individual institutions, the focus has shifted to a broader system-wide assessment of risks to the financial markets, institutions and infrastructure.

Table 3. The list of indicators of financial stability as implemented by V.V.Kovalev

Name of the indicator	Standard value	
Private indicators of financial stability (Kovalev V.V.)		
Equity ratio	less than 0.5	
The leverage ratio of capitalized sources	less than 0.4	
The coefficient of financial independence of capitalized sources	is greater than 0.6	
Level of financial leverage		
The ratio of interest payable	more than 1.0	
Coverage ratio		

More recently, the analytical focus has further concentrated on the dynamics of behaviour, the potential build-up of unstable conditions as well as the so called transmission mechanisms of shocks. A key issue underlying these analytical developments is the need to bridge the data gaps in several areas. Clearly this is an ongoing debate and a work in progress.

The high value of the coefficient of financial dependence shows that the company uses borrowed funds. The decrease of coefficient of financial dependence in dynamics suggests the decrease in the share of borrowed funds in enterprises financing, and hence decrease of its financial dependence on creditors and investors.

The greater the value of the ratio of long-term financial independence, the higher the financial stability of the company and the smaller share of its current obligations that require continuous operational control over their timely return. The growth rate shows an increase of financial potential future development.

Table 4. The list of indicators of financial stability suggested by Savitskaya G.V.

Name of the indicator	Standard value			
Private indicators of financial stability (Savitskaya G.V.)				
Leverage ratio	from 0.4 to 0.6			
Current debt ratio	from 0.1 to 0.2			
The ratio of long-term financial independence (coefficient of financial stability)	from 0.75 to 0.9			
Debt-equity ratio (solvency ratio)	is greater than 0.7			
Financial leverage ratio or financial risk ratio				

The ratio of liabilities and equity shows the volume of liabilities accounted for every money of own funds, invested in enterprise's assets, and characterizes the level of company's dependence on the involved funding. The ratio do not exceeds 1.0, so most property is formed by own costs.

The objectives of the economic analysis of the financial condition are: an objective assessment of the use of financial resources in enterprises, identifying intra-economic reserves to strengthen the financial position, as well as improving relations between enterprises and external financial, credit authorities, etc.

The financial condition of enterprises characterizes the state and placement of their funds, which is reflected in the balance sheets. The main indicators of financial condition are:

- provision with own working capital;
- compliance of the actual stock of materials with the standard (financial and operational need);
  - availability of stocks with sources of funds allocated for them;
  - immobilization of working capital;
  - solvency of the enterprise.

Table 5.
Turnover ratios

Name of the indicator	Standard value			
Turnover ratios				
Asset turnover ratio				
Current assets turnover ratio				
The turnover ratio of non-current assets. Capital productivity				
Equity turnover ratio				
Turnover ratio of invested capital				
The turnover ratio of borrowed capital				
The turnover ratio of receivables	lue			
Payables turnover ratio	d va			
Inventory turnover ratio	Not available standard value			
Cash turnover ratio	star			
The turnover period of total capital (in days)	able			
The turnover period of current assets (in days)	vaila			
The period of turnover of equity (in days)	ot a			
Period of turnover of invested capital (in days)	Z			
Period of turnover of borrowed capital (in days)				
Receivables turnover period				
Payables turnover period				
Period of inventory turnover				
Cash turnover period				

A turnover ratio represents the amount of assets or liabilities that a company replaces in relation to its sales. The concept is useful for determining the efficiency with which a business utilizes its assets. In most cases, a high asset turnover ratio is considered good, since it implies that receivables are collected quickly, fixed assets are heavily utilized, and little excess inventory is kept on hand. This implies a minimal need for invested funds, and therefore a high return on investment.

Conversely, a low liability turnover ratio (usually in relation to accounts payable) is

considered good, since it implies that a company is taking the longest possible amount of time in which to pay its suppliers, and so has use of its cash for a longer period of time. Calculation of financial indicators is carried out in a certain sequence. The solvency of the company reflects its financial position. Normal solvency allows you to repay obligations to other organizations in time and in full.

The solvency assessment should be approached taking into account the specific working conditions of the enterprise. Sometimes the cause of insolvency lies not in the mismanagement of the enterprise itself, but in the insolvency of the buyers of its products.

Thus, the financial condition is a complex concept, which depends on many factors and is characterized by a system of indicators reflecting the availability and allocation of funds, real and potential financial opportunities. Profit and profitability are important indicators of production efficiency. Profit is, on the one hand, the main source of the fund of enterprises, and on the other - the source of income of the state and local budgets. It is important to take into account not only the size and profit growth, but also the level of profitability; know how much profit is received for each ruble of production assets.

Methods of financial analysis is a set of techniques, approaches, ways of studying business processes in their dynamics and statics.

Characteristic features of the analysis methods are:

- use of the system of indicators;
- studying the causes of changes in these indicators;

Revealing and measuring the relationship between them.

In the process of financial analysis uses a number of special methods and techniques. All methods of economic analysis can be divided into two large groups - qualitative and quantitative .

Qualitative methods allow, on the basis of analysis, to draw qualitative conclusions about the financial condition of an enterprise, its level of liquidity and its solvency, investment potential, and solvency of an organization.

Quantitative methods are aimed at assessing the degree of influence of various factors on the effective indicator, calculating regression equations for using them in planning and forecasting variants, and finding the optimal solution for using production resources.

The qualitative methods include: the use of absolute, relative and average values; reception of comparison, information and grouping, reception of chain substitutions.

Quantitative methods are divided into:

- statistical (statistical observation, calculations of averages, time series, summary and grouping, comparison, calculation of indices, detailing, graphical methods);
  - accounting (double entry and balance method);
- economic-mathematical (methods of elementary mathematics, differentiation, integration, calculus of variations, correlation and regression analysis, optimization, programming, methods for researching operations, heuristic methods).

Analysis of certain indicators, economic phenomena, business processes, situations begins with the consideration of absolute values in physical or value gauges. These indicators are major in financial accounting. In the analysis, they are used to calculate averages and relative values.

The absolute figures of the financial statements are based on actual data. For the purposes of planning, accounting and analysis in the organization are calculated similar absolute indicators, which can be: normative, planned, accounting, analytical.

For the analysis of absolute indicators, the comparison method is used, as a rule, by means of which absolute or relative changes in indicators, trends and patterns of their

development are studied. Reception of comparison is the preparation of financial indicators of the reporting period with their planned values and with indicators of the previous period. Receiving information and grouping is to combine information materials into analytical tables.

Reception of chain substitutions is used to calculate the magnitude of the influence of factors in the overall complex of their impact on the level of the aggregate financial indicator. The essence of the methods of valuable substitutions is that, by successively replacing each reporting indicator with a base one, all other indicators are regarded as unchanged. This replacement allows you to determine the degree of influence of each factor on the total financial indicator.

The main methods of analyzing an organization's reporting are: horizontal analysis, vertical analysis, trend analysis, coefficient analysis, comparative analysis, factor analysis.

Horizontal analysis (time) - a comparison of each position reporting with the corresponding position of the previous period, is to build one or more analytical tables, in which the absolute balance sheet indicators are complemented by relative growth rates (decline). As a rule, basic growth rates are taken for adjacent periods, which allows analyzing not only changes in individual indicators, but also forecasting their values. In the course of the horizontal analysis, absolute and relative changes in the values of various balance sheet items for the reporting period are determined.

Vertical analysis (structural). The purpose of vertical analysis is to calculate the proportion of individual balance sheet items, i.e. clarification of the structure of assets and liabilities on a certain date, with the identification of the impact of each reporting position on the result as a whole.

Trend analysis - comparing each position of reporting with the positions of a number of previous periods and determining the trend, i.e. the main trend in the dynamics of an indicator cleared of random influences and individual characteristics of individual periods. With the help of the trend, possible values of indicators are formed in the future, and, consequently, a prospective, predictive analysis is conducted.

Analysis of relative indicators (ratios) - is reduced to the study of the levels and dynamics of relative indicators of financial condition, calculated as the ratio of the values of balance sheet items or other absolute indicators obtained on the basis of reporting or accounting.

Many factors influence the amount of profit and level of profitability. Profit and profitability of the enterprise are generalizing indicators of the intensification of production and marketing activities.

The use of analysis techniques for the specific purposes of studying the state of the analyzed economic entity in the aggregate is the method of analysis.

As seen from the above, different authors offer different methods of financial analysis. The detailing of the procedural side of the methodology of financial analysis depends on the goals set, as well as on various factors of information, time, methodological and technical support.

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#### THE IMCOME METHOD OF THE VALUATION OF COMPANY CAPITAL

#### Khurshid Khudoykulov

Tashkent State University of Economics

Department of the finance associate professor gelios\_1985@yahoo.com

Abstract. This article describes the scientific and theoretical aspects of using the income method in determining the capital value of a company. It also reveals the possibilities of using the income method in estimating the value of capital. In addition, the focus is on the use of this method in determining the market value of a company's capital.

Keywords: Income method, dividend, discount rate, EBIT, FCF, enterprise value

These days, The International Committee for Valuation Standards identifies three approaches for evaluating any asset: a direct market comparison approach, an income approach and a cost approach. There are valuation methods in each approach including some methods. The income approach is based on two methods: the capitalization method and the discounted cash flow method. The comparative approach consists of three methods: the capital market method, the transaction method and the sectorial coefficient method. The cost approach is based on two methods: the net assets method and the residual value method.

**Income approach** - a set of methods for assessing the value of the appraised object, based on the determination of the expected income from the use of the appraised object. In the income approach, the value of the company is determined based on expected future earnings and bringing them by discounting to the present value that the assessed company can bring.

Marjorie Grice-Hutchinson who was the representative of the Salamanca school first developed the present value theory<sup>1</sup>. This is one of the key principles of modern financial theory. The discounted dividend model is fundamental to the discounted cash flow model. John Williams first proposed the discounted dividend model after the US crisis in the 1930s<sup>2</sup>.

The formula for the discounted dividend model is as follows:

**PRICE** = 
$$\sum_{t=1}^{n} Div * \frac{(1+g)^{t}}{(1+R)^{t}}$$
 (1)

Where,

Price - share price

Div - dividends

R - discount rate

g - growth rate of dividends.

However, now, dividend payments are very rarely used to measure the fair value of share capital. Why? Because if you use dividend payments to estimate the fair value of share capital, then almost all shares in the stock markets around the world will seem overvalued to you for very simple reasons:

- Dividend payments are very low and virtually dividend yield rarely exceeds 3% per year.
- Some companies do not pay dividends at all. For example, Apple does not pay dividends, but its market cap is \$ 372 billion in 2018 year.

Thus, the DDM is more used today to assess the fundamental value of a company's preferred stock.

Stephen Ryan, Robert Hertz and others in their article say that the DCF model has become the most widespread, as it has a direct connection with the theory of Modigliani and Miller, since free cash flow is a cash flow that is available to all holders of the company's capital as holders debts and shareholders<sup>3</sup>. Thus, using DCF, both the company and the share capital can be valued.

The formula of the DCF model is identical to formula (1); the only thing is that instead of dividends, free cash flow is used. This formula is as follows:

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<sup>&</sup>lt;sup>1</sup> Marjorie Grice-Hutchinson, the School of Salamanca Reading in Spanish Monetary Theory 1544-1605. Oxford University Press, 1952.

<sup>2</sup> John Burr Williams, the Theory of Investment Value. Harvard University Press 1938; 1997 reprint, Fraser Publishing.

<sup>&</sup>lt;sup>3</sup> Stephen G. Ryan, Chair; Robert H. Herz; Teresa E. Iannaconi; Laureen A. Maines; Krishna Palepu; Katherine Schipper; Catherine M. Schrand; Douglas J. Skinner; Linda Vincent, American Accounting Association's Financial Accounting Standards Committee Response to FASB Request to Comment on Goodwill Impairment Testing using the Residual Income Valuation Model. The Financial Accounting Standards Committee of the American Accounting Association, 2000.

$$Value = \sum_{t=1}^{n} FCF * \frac{(1+g)^{t}}{(1+R)^{t}}$$
 (2)

Where.

FCF- Free Cash Flow.

Since we have moved on to the DCF model, let us take a closer look at the concept of cash flow. In our opinion, A. Damodaran shows the most classification of cash flows for assessment purposes<sup>1</sup>. Damodaran identifies two types of free cash flows that need to be discounted to determine the value of the company:

- Cash flow for a firm (company) (FCFF free cash flow to firm) is a cash flow that is available to all holders of invested capital.
- Cash flow to equity (FCFE free cash flow to equity) is the cash flow available to the company's

In order to move forward, we already need to show the difference in company value and shareholder value. The company operates at the expense of invested capital, and the invested capital may include both equity capital and different proportions of equity and borrowed capital. The formula for the free cash flow to firm model is as follows:

$$FCFF = EBIT*(1-T) + DA-\Delta WCR-Investments$$
 (2)

Where,

EBIT-Earnings before Interest and Taxes;

*T-income tax rate;* 

DA – depreciation;

 $\Delta WCR$  – changes in required working capital.

Sometimes in the literature you can find another formula for FCFF, for example, James English uses formula (3), which is identical to formula (2).

$$FCFF = CFO*Interest \ expense*(1-T)-CFI$$
 (3)

Where,

CFO- cash provided by operating activities;

*T-income tax rate:* 

CFI- cash provided by investing activities.

$$FCFF=Net\ income +\ DA\ -\Delta WCR-Net\ borrowing$$
 (4)

Where,

DA – depreciation;

 $\Delta WCR$  – changes in required working capital.

*Net borrowing – this is the difference between received and repaid loans / borrowings.* 

Formula 5 shows how you can get the value of share capital from the value of the company.

Equity value=
$$EV$$
-(Debt-Cash) (5)

It turns out that there are two types of valuation based on DCF cash flows depending on cash flows. In formula (6), the model for assessing the company taking into account debts, and in formula (7), the model for assessing equity capital. To estimate the fundamental value of a company or equity capital, one can use both formula (6) and formula (7) together with formula (5).

Enterprise value =  $\frac{FCFF_1}{(1+R)^1} + \frac{FCFF_2}{(1+R)^2} + \cdots \frac{FCFF_n}{(1+R)^n}$ Enterprise value =  $\frac{FCFE_1}{(1+R)^1} + \frac{FCFE_2}{(1+R)^2} + \cdots \frac{FCFE_n}{(1+R)^n}$ 

Enterprise value = 
$$\frac{FCFF_1}{(1+R)^1} + \frac{FCFF_2}{(1+R)^2} + \cdots \frac{FCFF_n}{(1+R)^n}$$
 (6)

Enterprise value = 
$$\frac{FCFE_1}{(1+R)^1} + \frac{FCFE_2}{(1+R)^2} + \cdots + \frac{FCFE_n}{(1+R)^n}$$
 (7)

In conclusion, it may be appropriate to perform a valuation using the income method in valuing a company's capital. Because this method allows you too accurately, assess the value of capital, and serves to determine the value of debt and private capital in the capital structure.

Асват Дамодаран, Инвестиционная оценка. Инструменты и методы оценки любых активов. Альпина Паблишер, 2010 г.

#### USE OF BENCHMARKING IN RETAIL TRADE

### Nigora Abdurashidova Alisherovna

Scientific aspirant of the Department of Marketing, Tashkent State University of Economics E-mail: ms.nigora1981@mail.ru

Abstract: The article reveals the idea of the content of benchmarking as a marketing tool for interaction and its weak use, high practical significance and insufficient elaboration of the issues of methodological support of the competitiveness of retail enterprises at the present stage of development.

Keywords: Benchmarking, business, retail trade, competitiveness.

At present, the risk and uncertainty of the activities of trade organizations has significantly increased. There is an increase in competition between retailers, both among themselves and with foreign retail chains entering the market. The situation is complicated by the fact that the assortment of goods of many trade organizations does not differ much.

The trade business largely determines how desirable and competitive a product will be, the level of sales of which depends on the correctly selected market segment, assortment, price and communication policy, as well as on the quality of basic and additional services.

Thus, the marketing mechanism of trade enterprises faces the problem of finding effective methods of competitive struggle and forms of adequate response to external threats

Competition for many retailers today is global in nature and, not accidentally, the main goal of most of them - achieving world quality standards. Benchmarking is one of best methods for this. This modern marketing technology, based on the experience of companies - market leaders, can be applied by retailers to improve their competitiveness.

In modern conditions, the use of benchmarking in retail trade becomes relevant in connection with the search for enterprises directions of increasing competitiveness. Regional retailers rarely benchmark due to the insufficient widespread use of this concept. However, in participate in anon-profit information exchange and use certain methods of access to knowledge. Some elements of the use of benchmarking are present in all retailers, but it is used haphazardly.

Enterprises are implicitly interested in learning experiences, which they practically do not consider as their advantage and do not appreciate the possibility of its implementation.

In marketing, there are several options for the benchmarking process. Benchmarking scheme proposed in the literature mostly general and not brought to the level its practical application in retail trade, since it was developed for industrial enterprises. Individual processes developed benchmarking at Motorola, Digital, Xerox. For benchmarking in the regional retail sector is necessary develop a model for organizing the benchmarking process in the enterprise retailers adapted to the existing level of its development.

To the main provisions of the organization of a benchmarking project regional retailer must include: planning the organization of the benchmarking process and characterization object; identification, collection and analysis of information about objects benchmarking; designing the future level of object measurements comparisons; implementation of the set goals. The benchmarking project has practical value for the top management of a trading enterprise, functional and line managers of large, medium and small retailers

both domestically and international markets.

Modeling the competitive position of a regional enterprise retailers improve the scientific and efficient process formation of a competitive strategy of a retail enterprise, orients the culture of the enterprise towards values such as striving staff to train, enhance their own potential and achievements. The main goal of modeling is to predict behavior retailers in planning their competitiveness. Implementation of a marketing strategy for the formation of the competitiveness of a regional retail trade enterprise involves structuring the quality function. All of this must appear the impetus for the development process of the retailer itself and creating the prerequisites for innovative impulses for the development of new strategies and working methods.

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# SOCIO-ECONOMIC CONTENT OF THE INVESTMENT AND CONSTRUCTION SPHERE

Usmanov Mirumar Abdulla Ugli

Tashkent Financial Institute master mirumar1990@gmail.com

Abstract: This article examines the socio-economic content of the investment and construction sector, reveals the features of the stages of the investment process in the field of housing construction.

Key words: Construction, economics, production, industry, investments, indicators, project, housing complex, activity.

The study of the investment and construction sphere, first of all, requires clarity, scientifically grounded characteristics of the main, basic economic categories that reveal the socio-economic essence of this sphere.

During the transition to market conditions of management, there are corresponding substantive changes in the conceptual apparatus of economic terms and categories. Such a category as "capital investments" has practically lost its significance, which has been replaced by the category "investments".

The term "investment" in its content is a broader category than "capital investment". Investments can be carried out both in the real sector of the economy and here both terms can be understood as synonyms and in the field of financial flows.

The emergence of qualitatively new phenomena in the real economy, reflected in the theory by the concept of "investment", attracted wide attention of researchers to the study of their essence, nature and place both in economic reality and in theory.

A position close to this understanding is contained in the following definition of investments: "Investments in fixed assets (fixed assets of production), in stocks, as well as in other economic objects and processes that require the diversion of material and monetary funds for a long time, are called investments."

First of all, let us pay attention to the fact that investments are not costs, but the advance of capital, followed by the corresponding costs.

Not all investments in stocks, in our opinion, can be considered investments, although they can be of a long-term nature.

The social effect of investments can be of two kinds. First, investments directly in human capital, or rather in labor resources, defined as investments primarily in housing, education, health care, and culture. Secondly, direct investment in the real economy also contributes to the achievement of social effect, but not for society as a whole, but within the framework of an individual economic entity. Thus, the social effect is one of the essential goals of investment.

Based on the foregoing, in our opinion, the most acceptable definition of investments may be: "Investments - any long-term capital investments in order to obtain an economic and (or) social effect ".

All types of resources are formed in the real sector of the economy, including both material and non-material production. They will be in demand and will not begin their movement into the investment sphere until financial resources are formed.

The lack of a generally accepted definition of the investment and construction sphere, revealing its socio-economic content and forms of manifestation, does not allow an objective assessment of the role and place of this sphere in the structure of the country's social production. In our opinion, the concept of the investment and construction sphere

primarily includes its content (the structure of elements and the nature of interactions between them), its place in the national economy and the purpose of functioning.

The socio-economic essence (nature) of the investment and construction sphere can be defined as follows: the investment and construction sphere is a technological and organizational-economic combination of all types of resources and contract construction activities aimed at creating and reproducing material and technical base of the national economic complex of the country.

In our opinion, the assessment of the efficiency of the investment and construction sphere can be carried out based on the economic results obtained at the level of social production, the investor, and the investment and construction sphere itself.

Enterprises and organizations that form the investment and construction sector assess the effectiveness of its activities directly through their final indicators.

Private indicators of the efficiency of enterprises and organizations in the investment and construction sector are: labor productivity; the coefficient of using the production capacity of construction machines, mechanisms and equipment; compliance with the terms of the duration of the construction of objects and the performance of work.

The investment and construction sector is susceptible to changes that relate to the production and supply of types of equipment directly related to the renewal of the production apparatus of enterprises and organizations of the construction complex.

The intensification of investment and construction activities, the transition to the stage of economic growth require a detailed analysis of the current situation in this area. The state of the production apparatus should be assessed, its cost, natural and power characteristics should be compared and studied. The causes of the general and investment crises require especially deep analysis. The trends in the investment sphere in recent years are of the greatest interest. They are the basis for assessing the processes and phenomena of the Russian economy in the future.

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# FEATURES OF SOCIAL PROTECTION OF THE RURAL POPULATION IN UZBEKISTAN DURING THE EPIDEMIC

#### Khusainova L.Yu.

Assistant Professor of the Department of Language Teaching of Samarkand Institute of Economics and Service, Uzbekistan, Samarkand. ymaxmadiyorova@mail.ru

#### Mamatkulova K.A

Senior Lecturer of the Department of Language Teaching of Samarkand Institute of Economics and Service, Uzbekistan, Samarkand.

Annotation: This article deals with the problems of social protection of people in the sphere of agriculture, ways of social help to them and how the system of insurance works in such conditions.

Key words: social, insurance, guarantee, favourable, labour, protection.

The issue of social protection of the population and the formation of high-quality human resources is very important in our time, since, along with capital, technology, natural resources, investment in professional training, social protection of the rural population, education of new specialists is one of the main factors of economic development

The transition to a market economy in agriculture has caused an urgent need to introduce the concept of "social protection of the population".

The social protection system should be built on the basis of solving the problems of ensuring real socio-economic efficiency, and not from narrow considerations of the effectiveness of the market system. At the same time, the social protection of agriculture is always objectively determined, on the one hand, by the system of economic relations in which it functions, and on the other, by the requirements of the current state of the world economy, the human community as a whole, agriculture, and especially during a pandemic.

In a modern agricultural economy, which should be an "economy for a person", an effective system of social protection is needed - one that allows using the labor potential of each person regardless of his socio-economic status, regardless of which socio-economic group he belongs to. This is how you can achieve effective use of human potential and what is called "confidence in the future." If such protection is not provided, then it becomes impossible or, at least, significantly complicates the use of qualified labor, which should have the ability to retrain, master new things, and create.

In other words, the existence of an effective social protection system in agriculture is an integral feature of a modern economy based on the labor of a skilled worker. Otherwise, an effective economy in agriculture at the turn of the 21st century simply cannot be created.

Effective social protection means a system of economic relations that provide each member of society with guarantees of a certain standard of living, the minimum necessary for the development and use of his abilities (labor, entrepreneurial, personal), and ensuring it in case of loss (absence) of certain abilities (old people, disabled, sick, children, etc.)

With this approach to the definition of social protection, the following guarantees become its components:

- work for the able-bodied (protection against unemployment);
- provision of benefits to those already and still disabled, disabled and other socially vulnerable groups of the population;
- a normal standard of living based on income from work or benefits (including the consumption of basic material goods, primarily food);
  - minimum equitable provision of housing, health care and cultural services;
- obtaining the education necessary for the formation of a modern skilled labor force in agriculture.

Accordingly, the state and its structures guarantee the solution of the following tasks. First, society guarantees the right to work, including guarantees of obtaining a job or the necessary resources and payment for work. The state guarantees socially acceptable working conditions, minimum wage conditions, and also creates guarantees of equality of subjects in the labor market (insofar as it exists in a mixed economy), guarantees of free choice of profession, occupation, place of work, sphere and place of application labor. Such a system presupposes not only the activities of state bodies, but also a developed system of organization and self-organization, of workers in the person of trade unions, associations of labor collectives and other bodies representing the interests of employees or workers who are the owners of their enterprises.

Secondly, society through the system of state bodies and other public tours guarantees legislative and other social protection of the agrarians' working day, working week, working year, favorable conditions for maintaining long-term working capacity with high labor efficiency in agriculture.

Third, society guarantees the development of the socio-cultural sphere with priority given to the requirements of social protection of the population. In particular, this task is realized on the basis of favorable conditions for daily, weekly and annual rest by developing the necessary system of institutions and recreation infrastructure.

Social protection of the population is provided by the following types of social assistance:

- pensions;
- benefits;
- benefits, benefits and services;
- one-time (non-systematic) material assistance.

The objects of social protection are:

- persons of retirement age;
- disabled people;
- children who have lost their breadwinner;
- children from low-income families;
- unemployed;
- pregnant women and non-working mothers caring for young children;
- temporarily unemployed due to illness;
- student youth;
- able-bodied non-working citizens caring for the disabled.

Pensioners are persons who have lost their ability to work due to reaching retirement age or disability, as well as children who have lost their breadwinner (orphans). Social protection of this circle of persons is achieved by the pension system.

The unemployed are able-bodied persons who have lost their jobs for various reasons and who want to find a job. Social protection of this circle of persons is achieved by the system of unemployment benefits.

Children from low-income families are persons who have not reached working age in families, the total income for each family member in which is less than the officially

established minimum subsistence level. Social protection of this circle of persons is achieved by the system of child benefits.

From all of the above, the following conclusions can be drawn: social protection of the population is ensured through the insurance system for old age, disability or loss of the breadwinner (pensions, including private pensions), social payments to low-income families (child benefits), social support for temporarily unemployed (benefits unemployment), the provision of benefits and benefits to certain categories of the population, taking into account their material security and merits (social assistance in the form of patronage services, provision of food, fuel, etc.), maternity protection (provision of prenatal and postnatal leaves), health insurance (medical insurance, allowance for temporary disability), material support for students (scholarships), prevention of disability and restoration of working capacity (rehabilitation of disabled people, prosthetic and orthopedic centers).

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# MODERNIZATION OF PSYCHOLOGICAL FEATURES OF SCHOOL DIRECTORS AND DEVELOPMENT OF THEIR PROFESSIONAL COMPETENCE

### Shonazarov Asror Mahmaisoyevich

Samarkand Institute of Economics and Service ashonazarov@83mail.ru. Uzbekistan, Samarkand.

Abstract: It means that the leaders of the general education system should be able to modernize their activities, develop their professional competencies, and apply their knowledge, skills, abilities and experience gained in the field of management in practice.

Keywords: Competence, modernization, education, profession, leadership, socialization, development, pedagogical and psychological knowledge, self-awareness, self-improvement.

We can see that the rational policy pursued in our country and all the consistent reforms are based on a serious focus on education and modern requirements for quality personnel. In this regard, in his address to the OliyMajlis, President ShavkatMirziyoyev declared 2020 the Year of Science, Enlightenment and Development of the Digital Economy in order to raise the country to a modern level. Dear compatriots! As you all know, where there is knowledge, there is development, and where there is science, there is progress. Therefore, a strong focus on development requires great responsibility, professionalism, and tireless work on the part of education leaders. his remarks are remarkable.

Further reform of the educational process, systematic analysis of the management of the modern education system, ensuring that executives are at the center of a comprehensive management approach, comprehensive education of the younger generation, development of modern management methods based on ancient values output, the creation of quality management standards that meet world standards has become one of the most pressing issues facing the education system today.

Given the relevance of the study, it should be noted that the main purpose of modern education is a modern, socio-psychological, professionally competent, well-developed, modern, socially oriented labor activity, which is necessary for the state and society. is to train school principals who are flexible, able to worktirelessly, and have amental and ethical level. This means that the level of competence of the leaders of the general education system and teachers plays an important role in educating a comprehensively developed person and training them as personnel in the interests of the country. To date, the concept of competence based on management processes and pedagogy and psychology has been introduced and used as a modern concept.

The question is, what is competence?

Competence effective use of theoretical knowledge in their work, the ability to demonstrate a high level of professionalism, skill and talent.

Scientific research shows that to date, the management process requires from each leader aserious responsibility, strict discipline and personal responsibility. This, in turn, imposes a number of modern tasks on the management of the education system. Therefore, it is necessary to address a number of tasks related to the modernization of the existing education system and the general education system in our country, which is a fundament al stage of the system. In particular: individual, perspective, pedagogical, psychological, didactic, professional, social, public speaking and many other tasks.

Based on the above tasks, school principals should have modern management methods based on the needs of the state and society, their development as leaders in accordance

with modern requirements, individually have a professional-pedagogical, psychological approach. The following professional and qualification recommendations have been developed, aimed at the formation and development of management skills, knowledge, skills, abilities, professional competence. They are:

- -development of individual psychological skills;
- -development of perspective planning skills;
- -development of pedagogical skills;
- -development of psychological skills;
- -development of professional knowledge and didactic skills;
- -development of skills in the organization of educational work;
- -development of initiative, creative approach skills;
- -development of skills in the field of professional qualities and personal qualities of the soul;
  - -development of self-technical and technological skills;
- -development of professional, methodical, informational, creative and innovative skills;
  - -skills to develop business skills;
  - -development of skills to overcome negative habits;
  - -development of skills related to positive qualities and characteristics;
  - -skills of forming social consciousness, high communication and culture.

The formation of these professional and qualification qualities in secondary school principals is of great importance today.

The modern leader is constantly working on himself in the following stages:

- 1.Identify the achievements and shortcomings based on a systematic analysis of their activities.
  - 2. Enriching the achievements and successes in their activities.
  - 3. Make a clear decision on the existing problems and shortcomings in their work.
  - 4. Develop plans for the gradual regulation of their activities.
- 5.Self-accountability, self-management, self-control, willpower and self-assessment throughout daily activities.

There are also steps that a leader can take to work on themselves, and it is recommended that they be used in the management process as follows:

- 1. Special or professional competence is the ability of the leader to organize his / her professional competence at a high level and level.
- 2. Autopsychological competence is ability to develop professionally, socially and psychologically.
- 3. Social psychological professional competence is the ability to take social responsibility and organize professional activities together.
- 4.Extreme professional competence is the ability to work in a variety of unexpected situations and make informed decisions.

It means modernization of all types of secondary school principals in our country, identification of their management skills, improvement of management knowledge, skills and abilities of reserve leaders to adapt to modern requirements.

In conclusion, in the historical development of education, young people have been educated on the basis of Eastern approaches, based on social experience, which have had their own management methods in each period.

The ability of the leader to self-analyze in the acquisition of professional competence, and thus the leader has the opportunity to evaluate himself objectively. After all, it is important for leaders to have the skills of self-assessment in order to acquire the qualities of professional competence.

Through self-analysis, the leader:

- -to study the essence of the practical actions of the leader in the professional activity, to improve the leadership process on the basis of aclear goal, aspiration;
  - -knowledge of prevention and timely resolution of negative situations and conflicts;
  - -increasing the process of effective management and self-employment;
  - -consistent acquisition of modern and professional knowledge;
  - -knowledge of modern technology, methods and tools;
- -effective application of the latest science and technology and innovations in the management process;
- -be able to apply socio-psychological knowledge, professional skills and abilities at a high level.

Indeed, it is desirable that the leaders of the modern education system today should be highly educated, have professional potential, effective management skills, be socially and professionally competent, be able to think clearly and deeply.

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## HISTORICAL SCIENCES

#### THE ROLE OF AMIR TEMUR AND TEMUR'S STATUES IN HISTORY

Boltaboyeva Gavharhon Rakhimovna
School No 22, Chartak district, Namangan region
Abduvokhidova Shahnoza Yokubjonovna
School No 31, Chartak district, Namangan region

Abstract: Amir Temur is a person who has made an invaluable contribution to the history of our country and the development of the Uzbek statehood. Amir Temur is a brilliant figure in the history of the peoples of the world, recognized as a great statesman, a famous commander. This paper will discuss the historical service of Amir Temur, who built a great state in his time, raised it to a high level of development, and spread it around the world, to keep it in the chain of repression.

Key words: motto, effective government, commander, equality of citizens, managing.

A great statesman and commander Amir Temur, being outstanding political strategist, was able to build a powerful centralized state in Maverannakhr, based on the rule of law and respect for traditions. Sakhibkiran actively engaged in legislative activity. He created a work called "The Code of Temur", which outlined his vision for more effective government, as well as the fundamental principles governing the country.

"Justice is not in power, and the power to justice", - Temur was sure, and made this slogan the motto of his reign. Today, for us, his successors, these words are a priority spiritual and moral criterion and measure. [1]

Amir Temur is a person who, in the XIV-XV centuries, liberated Central Asia from the oppression of the Mongols, changed the subconsciousness of citizens, was able to direct all the possibilities of the liberated continent and the mentality of the Turkish peoples to the creation of a developed state. "The special role of Temur in the history of Central Asia can also be recognized because he started the New Dynasty and the New Period of the Culture of Central Asia with his power, which probably can be called the Turkish culture more". He united the nations that were forced to live life in agony as a result of wars of conquest, created perfect laws-rules of government, laid the foundation of an absolutely New civilization, the Commander created the foundation of the state based on the legal system of the ideal form, it is reflected in its the most famous work of "Code of Temur". In this work he expressed the views of the commander on government affairs, society, socio-economic, political areas. Amir Temur, in his administration of power, used 12 precisely established rules and orders. ans as of to date these rules have not lost their importance for the science of government and the development of the subject of jurisprudence, namely:

- 1.To govern the state on the basis of law, regulations.
- 2.In the conduct of public affairs to proceed from the equality of citizens, it is necessary to take into account the opinions of all segments of the population Seids, sheikhs, intellectuals, citizens, officials, artisans, merchants and others, to protect their rights and interests;
- 3. When managing the state, it is important to put on the agenda meetings, deal with business, hold congresses;
  - 4. Encourage public servants according to their ranks, position and service rendered;
  - 5. Establish justice in the conduct of public affairs, protect those in need of help from

attacks:

6. Wise men and scholars who mobilize their great knowledge and abilities for the prosperity of the state should be honored;

7.State issues should be resolved by a comprehensive in-depth analysis, not ending one thing here, not touching another, that is, state measures should be conducted in stages, without jumps;

8. Provide social protection to ordinary citizens, protect them from attacks by officials, state deputies to choose among honest, decent people;

9.Respect the rulers, visitors from other countries, give a roof to visitors seeking asylum, unconditionally fulfill the contracts and peace concluded between the states;

10.Do not interrupt related kindness to children;

11. Show tribute to the soldiers who are willing to sacrifice themselves for the sake of the state, to be indulgent towards other soldiers. [2]

During the life of Amir Temur, a special book on public administration was written, known as "Temur's Statutes". It reflected the views of this famous statesman and commander on martial arts, state structure and governing the country. Examples from "Temur's Statutes":

"The first order of my heart that rose from the east was that I spread Islam and supported Muhammad, may God bless him and grant him peace. I spread Islam in different countries, big and small, and among good people, and 'I have adorned my kingdom with sharia."

"I was aware of the situation of the people, I saw the elders as brothers and the younger ones as children. I was aware of the nature of every place, the customs and traditions of every people, everyone I became acquainted with the nobles and nobles of the people of the country and the city, and appointed as their rulers the people who were in harmony with their clients, their nature, and whom they wished. I was aware of the condition of the people of each land. I have appointed religious people to tell me about the situation in a country, the mood of the people, their lives, and the connections between them."

"I was not in a position to take revenge on anyone. I tasted my system and handed over to the Lord those who did evil to me. I took with me hard-working, courageous men, and drove out the corrupt cowards from my assembly."

"As oppression and corruption increase in a country, the real kings must establish justice and launch an attack on such a country with the intention of eradicating corruption and tyranny. to the righteous (king)."

"When a soldier came to me, forgetting his right to salt and loyalty, and turning away from his master during his service, I found such a man to be my worst enemy."

Today in history classes we proudly teach the life way of Amir Temur and his written statues as they are role model of managing the country with justice and peace.

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# FUNCTIONAL PROBLEMS OF KALPHA AT FUNERALS IN KHOREZM OASIS

#### Razzokova Guzal Kadirovna

senior lecturer at the Jizzakh State Pedagogical Institute, Faculty of History, Department of History Teaching Methods

ABSTRACT. This article describes the rites of mourning in Khorezm, their historical roots and the functional responsibilities of the khalfs at these events.

Index Terms: Khorezm, religious khalfa, "Three days", "Seven days", "Forty days", "One year", functional, funeral, pamphlet ruhnama, achirat azik, mawlid, pand-nasihat, kiraathan, kissahon khalfa, wedding,ceremonie.

In Khorezm, Khalfs take part in mourning ceremonies (mainly among women). At such events as "Three days", "Seven days", "Forty days", "One year", epics performed by khalf sing about the mortality of the world, the brevity of human life, the right to death, the nature of Islam, the superiority of good.

The epics performed by the khalfs encourage the relatives of the deceased and encourage them to show patience.

Khorezm khalfs are divided into two types. That is, there are certain functional functions of the activities of the khalfs involved in weddings and ceremonies.

Today, religious observances have declined significantly, mostly to funerals and "three-day" or "charitable" events. Therefore, the participation of Khalfain religious rites is significantly reduced. Khalfs participate in the celebrations mainly with lectures.

The epic "Bobo Ravshan" is widely used in mourning rites. This, of course, is not accidental. In the epic, an example of how Ali betrayed himself as a slave and his kindness to poor grandfather Ravshan, promoting to live only in goodness in this world, affects everyone's faith. In the Khorezm oasis, such rituals associated with death look like a folk theater. Funerals are rituals associated with prolonged mourning for the dead.

The women who had gathered for the funeral on the day of the funeral performed religious rites around the corpse. Khalfy also took part in all religious activities related to women in the oasis.

It has become a tradition to hold funerals for three, seven, 40 days and a year. Such events have become a tradition for the Karakalpaks, Turkmens and Kazakhs.

At many such religious events, the Khalfs recited the Qur'an among the women, who gathered at the ceremony in a room separate from the men. Consequently, the halfs, in addition to singing and dancing, possessed religious knowledge.

That is, the participation of the khalfs in religious rituals demanded religious knowledge from them. It should be noted here that the khalfs who took part in religious ceremonies danced at weddings and differed from the khalfs who sang in their clothing, which often wore black and blue.

The khalfs participating in religious ceremonies in the oasis do not attend weddings. The khalfs attending the funeral begin the meeting with a story about the best qualities of the deceased. According to custom, then the close relatives of the deceased loose their hair, clap their hands, sing mourning songs and cry.

M. Alavia noted that not everyone knew the mourning song well. That is why the halfs were often mentioned in this question.

N. Baskakov also noted that such cases are observed in Karakalpakstan, that is, among performers of special mourning songs.

Every summer residents of South Khorezm go to the cemetery, go around the grave in a ring, accompanied by many elderly women who have seen them, read blessings and pray with tears.

The roots of this Khorezm ritual go far into the past. According to Zoroastrian mythology Shahnama Ferdowsi Ahuramazda - the god of good, created Kayumars to fight Ahriman, the god of evil. When Ahriman fights Kayumars and cannot defeat him, he kills his son Siemak. The traditions associated with Zoroastrianism are preserved in the religious rites of the Khorezmians.

Khalfa traditions are based on religious, family and household rituals of the Uzbek people.

Although the first feature of prayer was partially retained, new aspects expanded - the creation of works on secular motives, singing, participation in weddings, mourning, celebrations and other public ceremonies. The inhabitants of the oasis have developed centuries-old executive traditions of the Caliphate. But they do not cancel the territorial and local characteristics of private characters associated with certain performance traditions. These features served as the basis for the emergence of the following centers of the Caliphate:

- -Khiva Calligraphy Center
- Khazarasp Caliphate Center
- Xonqa Khalfa Center
- The center of the southern regions of the Republic of Karakalpakstan is one of them.

Each of these centers differs in such aspects as the variety of folklore works, the place of genre and music, the method of performance and the level of art. Also, from a historical point of view, it is expedient to divide the performing and creative halfs of the oasis into shamanic halfs, new halfs, doonchi-kisakhon halfs, half singers and half poets. This classification allows, firstly, to fully understand the historical and evolutionary development of the half, and secondly, to help determine the unique repertoire of each half, its method of performance and attitude to tradition.

The following conclusions were drawn from the study of the traditions of Khalfism in the Khorezm oasis:

Khalfa is one of the types of folk art, a syncretic holistic art that reflects creativity and performance.

### MEDICAL SCIENCES

# EVALUATION OF THERAPEUTIC AND PROPHILACTIC NUTRITIONAL PROPERTIES IN RETINAL DEGENERATIVE PATHOLOGIES OF THE EYE.

Egamberdiyeva Saida Mamadjanovna Yuldashov Sarvarkhon Akmaljon ugli

Tashkent Medical Academy. Ophthalmology department. Uzbekistan **Akhmadaliyev Rustamjon Umaraliyevich** 

Fergana branch of the Tashkent Medical Academy. Utility and labor hygiene department. Fergana province. Uzbekistan Sarvar.yuldashov.91@mail.ru

Actuality. Age-related macular degeneration (AMD) is a progressive eye disease in which the physiological function of the choriocapillaries, Bruch's membrane and retinal pigment epithelium (PES) is impaired, a defect in the photoreceptor layer and irreversible central vision occurs. Primary open-angle glaucoma is a pathological process characterized by a violation of the hydrodynamics of the intraocular fluid and damage to the optic nerve, despite the fact that the anterior chamber angle is open. In this disease, intraocular pressure (IOP) often rises, and peripheral vision decreases, depending on the level of compression of the retinal layer. According to the WHO statistics, POAG is complicated by the "dry" form of AMD in 41% of cases, that is, a significant combination of the two abovementioned pathologies can be observed in clinical practice. Consumption of foods rich in antioxidant micronutrients for the prevention and treatment of chronic degenerative eye diseases such as primary open-angle glaucoma (POAG) and senile macular degeneration (AMD) shortens the rehabilitation period. The mechanisms of development of pathological processes (especially inflammation, degeneration) are different, but among them the main point is the violation of the antioxidant defense system as a result of detoxification.

Key words: Age-related macular degeneration (AMD), primary open-angle glaucoma (POAG), vitamins, antioxidants, partially oxidized free radicals, healthy diet.

In ophthalmology, modern methods are used to diagnose and treat retinal diseases, however, such methods of treatment require active dynamic control by a specialist, are expensive and cause discomfort in patients. Unfortunately, degenerative eye diseases of the retina are now common among developed countries, but regular dynamic monitoring of visual functions through periodic medical examinations and adherence to a healthy lifestyle is an adequate prevention of the disease. Epidemiological and clinical studies have shown that diets that retain antioxidant supplements prevent or slow the progression of retinal pathologies (especially AMD and POAG). Antioxidants (vitamins C, E, betacarotene, zinc, copper and omega-3 fatty acids) neutralize and even inhibit partially oxidized free radicals and macromolecules. As a result, local inflammatory processes are significantly blocked in age-related degenerative diseases of the retina. Patient age, genetic predisposition, and smoking are key factors in the development of AMD. On the other hand, an antioxidant diet along with a healthy diet reduces the risk of developing retinal pathologies such as AMD.

In the field of ophthalmology, a form of nutrition that retains antioxidant mineral and vitamin supplements is socially simple and economically very inexpensive. This method involves the consumption of natural products and can be used at home. As a result, it is widely used among the elderly to prevent degenerative eye diseases, which are the

leading cause of irreversible blindness in the elderly. According to the World Health Organization, more than 45 million people worldwide are infected with AMD, 25% of whom are blind or have poor vision due to the disease. Glaucoma has also been diagnosed in twice as many people worldwide as AMD, with nearly 8 million of them blind in both eyes. The incidence of degenerative eye diseases is increasing every year. Over the next decade, experts predict that the incidence of AMD will increase by about 250 million and the incidence of glaucoma by nearly 100 million. This requires clinical researchers to find clear and effective ways to reduce morbidity. As a preventive solution, the elimination of existing risk factors remains the best option, that is, quit smoking, which is one of the bad habits in the first place, and lead a healthy lifestyle (HLS). Commitment to a healthy lifestyle is based on maintaining adequate daily physical activity and a healthy diet. The retinal layer, like the neurons of the brain, consists of cells that are most metabolic, as well as those that are most sensitive to a lack of oxygen and metabolites in the blood. Reactive oxygen free radicals are formed from unsaturated fatty acids stored on the surface of photoreceptors in the form of tubes and rods, and have a toxic-degenerative effect on the retinal layer and induce apoptosis of ganglion cells. Numerous clinical studies have shown a decrease in the amount of antioxidants in blood plasma and intraocular fluid in patients with AMD and POAG, as well as an increase in the concentration of oxidative metabolites of lipid peroxidation (mainly malonyldialdehyde). Of the antioxidants, lutein, which is the most important for the eye, occurs in the macular zone 2.5 times more often than in the peripheral zone of the retina. More than 750 carotenoids are known to science, but only 3% of them can be found in everyday food. In addition, carotenoids are absolutely irreplaceable - irreplaceable substances that are constantly absorbed from food. Lutein and zeaxanthin are antioxidants and coenzymes belonging to the carotenoid group. Their main physiological function is, firstly, to neutralize free radical toxic substances formed when light turns into electrical impulses, and, secondly, to participate in color filtration (especially blue). Ultimately, the use of macular pigments (lutein and zeaxanthin) prevents degenerative processes such as cataract aging, diabetic retinopathy and aging macular degeneration. Macular pigments (lutein and zeaxanthin) are absorbed only from nutrients or special phytopreparations, which means that the human body cannot synthesize them on its own. The absorption rate of these antioxidants ranges from 5% to 50%. This indicator is different for each organism and depends on the hereditary and metabolic characteristics of the organism. For example, an imbalance in the normal microflora in the digestive tract reduces the absorption of antioxidant vitamins and minerals into the blood, and a decrease in the level of bioavailability in the blood can increase the risk of developing degenerative eye pathologies. Elevated plasma concentrations of lutein and zeaxanthin suppress the development of AMD in the elderly. Many clinical studies have shown that supplementing daily diets with lutein and zeaxanthin is an effective and safe method of improving vision in patients with AMD. Medical research has shown that the effects of xanthophils and carotenoids on visual function are proportional to the amount of antioxidants in the blood plasma. Taking antioxidant vitamins and minerals as a dietary supplement and in therapeutic doses reduces the likelihood of developing degenerative eye pathologies. Taking antioxidant vitamins and minerals as a dietary supplement and in therapeutic doses reduces the likelihood of developing degenerative eye pathologies.

Below is a special table, compiled by nutritionists, showing the minimum and maximum daily carotenoids.

Follow these preventive measures to significantly reduce the risk and progression of AMD , diabetic retinopathy and POAG .

Carotenoids	Daily requirement		Food source	Amount per
	minimum	maximum		100 g (mg)
β - carotene, mg	5	10	Carrots, brier,	9
			horseradish	
			(Sorrel)	
Lycopene, mg	5	10	Tomatoes,	0,9-4,2
			papaya	
Lutein, mg	5	10	Cabbage,	10-15
			spinach	
Zeaxanthin, mg	1	3	Pepper, corn,	0,3-1,6
			persimmon	

For pathologies associated with antioxidant deficiency, based on the results of general clinical studies, develop clear preventive recommendations

First, eat lots of fruits and vegetables, especially cabbage, carrots, nectarines, lemons, and dates. Clinical studies have shown that consistent intake of antioxidant-rich foods can prevent up to 40% of AMD and cardiovascular disease.

Secondly, quit smoking tobacco products (cigarettes). The incidence of AMD among nonsmokers is 4: 1 compared to smokers. For example, every year in the UK, about 60,000 people (especially over 60 years of age) contract AMD as a result of smoking, and 30% of patients become completely blind from complications of degenerative eye diseases. These statistics show that smoking is a socially dangerous habit.

Third, wear sunglasses from the sun. Light rays of short wavelength, which provide the blue color of the ultraviolet rays of the sun, have a reactive, cumulative and phototoxic effect on the macular zone of the retina, which leads to a rapid depletion of antioxidant reserves. The use of sunglasses in the afternoon significantly stops the development of the "dry" - "atrophic" form of AMD .

Fourth, regular consumption of fish meat.

Studies have shown that fish meat contains omega-3s, unsaturated fatty acids and essential amino acids. It is advisable to consume fish products in the diet at least 2 times a week for the normal functioning of physiological processes in the body. As a result, the risk of developing degenerative retinal diseases is reduced by 2-2.5 times.

Fifth, lower consumption of animal fat-containing foods also reduces the development of eye diseases and cardiovascular diseases at the same time, since saturated fat and cholesterol in animal fat reduce the inner diameter of the capillaries, then leads to the development of local hypoxic-ischemic processes.

Sixth, regular use of multivitamins or multivitamins as recommended by your doctor. Vitamin complexes and biologically active additives play an important role in overcoming the deficiency of substrates in the body.

Seventh, the use of special drugs that improve visual function can shorten the period of treatment and rehabilitation. The use of antioxidant preservatives in the form of tablets, capsules and eye drops has been proven in many clinical experiments to increase the effectiveness of preventive and therapeutic processes in diseases such as AMD, POAG and diabetic retinopathy. The most popular of these drugs is AREDS (Age-Related Eye Disease Research), which contains many ingredients (500 mg vitamin C, 400 IU vitamin E, 10 mg lutein, 2 mg zeaxanthin, 80 mg rux, 2 mg copper). In

addition, ideal looking antioxidants contain nutrients such as omega-3, lutein, selenium and B complex.

Lutein and zeaxanthin are especially common in kale, spinach, peppers, and dates. Eighth - daily physical activity and body weight monitoring. Adequate physical activity and optimal body weight on a regular basis are the basis for the prevention of pathologies such as macular degeneration with aging and diabetic retinopathy.

Ninth - dynamic control of blood cholesterol and blood pressure. Clinical studies show that the development of age-related macular pathology is observed in parallel with an increase in plasma cholesterol concentration and blood pressure. Blood pressure and normal blood cholesterol levels are a universal solution to many pathological mechanisms in the body.

Conclusion: Follow these preventive measures to significantly reduce the risk and progression of AMD, diabetic retinopathy, and POAG. Taking antioxidant vitamins and minerals as a biologically active supplement and in therapeutic doses is an effective prevention of degenerative eye pathologies.

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# INNOVATIVE DEVELOPMENT TO OPTIMIZE THE DIET OF CHILDREN WITH DIFFERENT MOTOR ACTIVITY LEVELS

#### Kamilova Roza Tolanovna

Deputy director of scientific work, head of the children and adolescents hygiene laboratory,

PZ-20170918168 project manager, DSc, professor, Research Institute of Sanitation, Hygiene and Occupational Diseases of the Ministry of Health of the Republic of Uzbekistan, rozakamilova@mail.ru

#### Isakova Lola Isakovna

Senior researcher, children and adolescents' hygiene laboratory, responsible executor of the grant project PZ-20170918168, Ph.D., Research Institute of sanitation, hygiene and occupational diseases of the Ministry of Health of the Republic of Uzbekistan, lola.isakova.86@mail.ru

Abstract. The development and implementation of innovative ideas and programs in healthy nutrition sphere based on the scientifically grounded data is an urgent public health problem. According to scientifically based database of main health indicators of children engaged and not engaged in sports (physical development, psychophysiological state, alimentary-dependent pathology) from 7 to 15 years, taking into account the value of daily energy needs of their organism and basic nutrients, staffs of the children and adolescents' hygiene laboratory of the Research Institute of Sanitation, Hygiene and Occupational Diseases within the framework of the State grant project PZ-20170918168 have been developed "Two-week menu calculation program for children aged 7-15, engaged in and not engaged in sports" (№DGU 04997 from January 25, 2018). Implementation of the developed program contributes to preventing the risk of developing disorders in children's health caused by nutritional deficiencies.

Keywords: children, diet, motor activity level, cyclic menu

The development and implementation of innovative ideas and programs in healthy nutrition sphere based on the scientifically grounded data is an urgent public health problem. Nowadays, hygienists, nutritionists and dietarians from different countries are engaged in the study of the organization, evaluation, optimization and methods of diet correction of the population depending on age, sex, occupation and motor activity [7, 8]. More than 100 countries around the world have developed appropriate food-based nutrition principles that take into account the availability of food and raw materials, food availability, national cuisine and dietary habits [1, 9].

The staffs of the children and adolescents' hygiene laboratory of the Research Institute of Sanitation, Hygiene and Occupational Diseases Ministry of Health of the Republic of Uzbekistan within the framework of the State grant project PZ-20170918168 were developed "Two-week menu calculation program for children aged 7-15, engaged in and not engaged in sports", which is available on site http://wwww.gigiena-kasballik.uz. The developed innovative software product is based on a scientifically based database of basic health indicators for children engaged in and not involved in sport (physical development, psychophysiological condition, alimentary-dependent pathology) between 7 and 15 years, taking into account the value of daily energy needs of their organism and basic nutrients [2, 3, 4, 5, 6, 10, 11].

The uniqueness of the innovative development is confirmed by the certificate of

official registration of the program for electronic computers №DGU 04997 from January 25, 2018. The developed product has a number of distinctive features: such as a mobility, which is determined by ability to install on different models of computers and operating systems, without restrictions on its operation in a computer network; a reliability - continuity and stability in the operation of programs, the accuracy of the prescribed processing functions; takes into account the human factor, which includes providing a user-friendly interface for work of the end-user, the presence of a context-sensitive help in the software. In addition, the identification of key aspects for capturing and using embedded data and their functionalities, derivation of results analysis, and possibility of downloading and saving in pdf format are presented in an accessible form; a communicativeness - based on the maximum possible integration with other programs, ensuring the exchange of data in common presentation formats (export/import of databases, introduction or binding of processing objects, etc.).

The program gives an opportunity to get information about the recommended menu, which consists of national dishes, mode ingestion is distributed during the day by volume, including training days; balanced by the content of proteins, fats, carbohydrates and corresponds to the age and gender characteristics of the growing child body and the level of motor activity, ensuring its correct growth and harmonious development.

Implementation of the developed program contributes to preventing the risk of developing disorders in children's health caused by nutritional deficiencies, and will prevent economic damage to the State by reducing treatment costs and rehabilitation in Public health facilities for children with foodborne disorders (endocrine, nutritional and metabolic diseases; digestive system diseases, including tooth cavities; skin manifestations of food allergy; diseases of the blood and blood-producing organs, mainly anemia); reduction in the amount of money spent on the payment of benefits in the event of incapacity for work to care for a sick child; reduction in the amount of gross production lost by one of the parents, etc.

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# CLINICAL CHARACTERISTICS OF PATIENTS WITH HVGS AND EXTRAHEPATIC MANIFESTATIONS

Rakhimova V.Sh.1, Egamova I.N.2, Sharipova I.P.2, Yarmukhammedova N.A.3

1.Center for professional training of medical workers, Tashkent, Uzbekistan

2.Research Institute of Virology, Tashkent, Uzbekistan

3.Samarkand Medical Institute, Samarkand, Uzbekistan

Introduction. In recent years, great importance has been attached to extrahepatic replication of the hepatitis C virus. In 74% of patients, along with hepatic manifestations, various extrahepatic manifestations are observed, which often come to the fore in the clinical picture and in some cases determine the prognosis of the disease.

Purpose of the study. Assessment of the clinical characteristics of patients with extrahepatic manifestations of viral hepatitis C.

Materials and methods. The study included patients (n = 100) with chronic viral hepatitis C who were on inpatient and outpatient treatment at the Research Institute of Virology, MHRU, aged 18 to 65 years. Of these women - 58.0% (n = 58), men - 42.0%(n = 42), the average age is 41.4  $\ddot{e}$  2.5 years. All patients underwent: clinical examination, blood ELISA with anti-HCV determination, blood PCR with determination of HCV RNA level, virus genotype, determination of the level of cryoglobulins in the blood. Collection of clinical material (blood) was carried out in patients with extrahepatic manifestations of viral hepatitis C at the age from 18 to 65 years. Результаты. Clinical symptoms in patients associated with the severity of liver damage were characterized by sufficient scarcity. Of the complaints presented by the patients, 84 (84.0%) patients had complaints of weakness and rapid fatigue. Of the nonspecific complaints, sleep disturbances were noted in 12.0%, complaints of a deterioration in appetite, 43.0, and a decrease in body weight 28.0. Nausea -6.0%. The most frequent objective manifestation of the disease was an enlarged liver. Hepatomegaly was detected in 82 (82.0%) cases. Of these, an increase in the liver by 2 cm was observed in 52 patients, an increase in the liver by more than 2 cm in 30 patients.

At the same time, the liver was painless, had a dense consistency, a smooth surface, and a rounded edge. Hemorrhagic syndrome in the form of bleeding gums was observed in 2 patients (2.0%).

In the study of blood biochemical parameters, the average ALT was  $1.1\ \mbox{ë}\ 0.6\ \mbox{mol}$  / l. The average bilirubin index was  $15.7\ \mbox{ë}\ 1.1\ \mbox{?mol}$  / L. Thymol test in the group of studied patients averaged  $6.8\ \mbox{ë}\ 0.3\ \mbox{U}$ .

Analysis of the cryoglobulin data showed very large fluctuations in units of measurement. So the average level of CG was 2.1 ë 2.7%. At the same time, the maximum indicator was 9%, and the minimum was 0.1%. It should be noted that in the group with an increased CG level, extrahepatic symptoms were noted. So among the examined patients, extrahepatic manifestations were distributed as follows: in 21 cases (21%), they complained of pain in the joints. Type 2 diabetes mellitus was noted in 13 cases. Sjogren's syndrome in the form of "lymphocytic sialoadenitis" - dry mouth, not associated with sugar levels, was diagnosed in 8 patients (Fig. 2). Fatigue was noted in 83 patients.

Conclusions. Thus, the clinical characteristics of patients with CVHC and extrahepatic manifestations are characterized by a paucity of hepatic symptoms and, as a rule, by normal biochemical parameters.

#### THE DENTAL STATUS OF PATIENTS WITH ISCHEMIC HEART DISEASES

Sabirov E.E., Husanov R.A. Tashkent Medical Academy

Relevance. Recently, in the treatment of diseases of the teeth, periodontal and oral mucosa in patients suffering from various diseases of the internal organs, inevitable difficulties arise [1,2]. The increasing morbidity and mortality from cardiovascular diseases largely reflects the negative phenomena in the medical and demographic situation of all countries of the world. Extremely unfavorable for the Republic of Uzbekistan is the fact of an increase in the mortality rate from diseases of the circulatory system, despite the systematic work to increase the effectiveness of prevention, diagnosis and treatment of cardiovascular diseases [3]. Inflammatory processes in the oral cavity and periodontal tissues are more often chronic in nature and can be asymptomatic for many years, being foci of chronic chronioseptic infection. A number of prospective and retrospective studies have confirmed an increased risk of cardiovascular disease in people with diseases of marginal periodontal disease [4]. Purpose of the study. Analysis of major dental diseases followed by patients with coronary heart disease. Material and research methods. This work was carried out by the Tashkent Medical Academy in the Department of RPHO and Cardiology in 2017--2019 (300 people). Objects of study - patients with major dental diseases (carious lesions, periodontal diseases, lesions of the oral mucosa) in the presence (main groups) and absence (control groups) of chronic forms of coronary heart disease (chronic heart failure, stable angina pectoris, cardiosclerosis), aged 40-60 years old. The number of men and women in all groups was 65.5% and 34.5%, respectively. The intensity of caries was evaluated using the index of tooth CPU (Klein, Palmer, 1936), oral hygiene was determined using the Simplified Green-Vermillion Index (OHI-S, Green-Vermillion, 1964); gingival status was recorded using the gingival index (GI, Loe, Silness, 1963); periodontal tissue condition was assessed using the periodontal index CPITN, (Ainamoet al., 1982), gum recession and tooth mobility were also taken into account. Patients with coronary artery disease underwent treatment in the cardiology department of TMA for the first occurrence of angina pectoris, progressive angina with outcome in stable (functional class I – II), post-infarction and atherosclerotic cardiosclerosis. To verify the diagnosis of coronary heart disease, the data of clinical, instrumental (ECG, VEP, echo-cardiography) and laboratory examination of patients were used. The diagnosis was recorded in a specialized card in accordance with the classification of IHD ICD-10 (code 120 - 125).

The results of the study. When studying the dental status of patients with coronary artery disease and practically healthy individuals, an unsatisfactory and poor level of hygiene was revealed, the average values of the simplified OHI-S hygiene index in the control group were  $3.36 \pm 0.06$ , in the group of patients with coronary artery disease -  $3.53 \pm 0$ , 07. The highest values of hygiene indicators were achieved in the group of patients in whom, in addition to IHD, type 2 diabetes mellitus (DM) was observed -  $3.89 \pm 0.16$ . Of the 300 patients with coronary artery disease, only 45 people (12.8%) had a good level of hygiene (OHI-S up to 0.6). In our opinion, this is due to a low level of motivation and a fatalistic attitude to one's own health. Differences between groups in terms of hygiene were not statistically significant, with the exception of tartar between the control group and patients with coronary artery disease and diabetes. In all groups of patients, an inflammatory reaction of the gums was observed, which was interpreted as gingivitis of moderate severity. Inflammation was statistically significantly higher in the group of patients with coronary artery disease and diabetes and was GI index of  $1.57 \pm 0.58$ (p < 0.05). Gum inflammation index data correlated with hygiene index (r = 0.53; P < 0.05). Analysis of periodontal status data showed a high prevalence and intensity of periodontal diseases in patients with coronary artery disease and the control group. All examined patients lacked healthy periodontium sextants (CPITN "0"). The indicators of pronounced changes in periodontal tissues were quite informative — the number of sextants with deep periodontal pockets (more than 6 mm, CPITN "4").

Conclusion .The dental status of patients with coronary heart disease in a number of indicators is statistically significantly different from the status of patients without this pathology. In addition, in patients with coronary artery disease who have an unsatisfactory level of hygiene and pronounced manifestations of periodontal disease, an increase in the biomarkers of inflammation and dyslipidemia in the blood serum has been recorded.

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# IMPROVING QUALITY OF PROSTHODONTIC DENTAL CARE IN PATIENTS WITH HIV / AIDS

A.A. Alimov, A.M. Khaidarov, A.S. Alimov

Tashkent State Dental Institute

Center for the development of professional qualifications of medical workers

(The Republic of Uzbekistan)

Abstract.HIV infection remains a major medical, social and humanitarian problem for many countries of the world.

Since HIV infection is a chronic disease that cannot be cured today, people living with HIV need constant medical attention throughout their lives.

The main component of HIV / AIDS treatment and care is antiretroviral therapy (ARVT). Properly selected ARVT increases the duration and prolongs the quality of life of people living with HIV, as well as reduces the risk of transmission of the infection to other people.

The study of the dental health components of HIV-infected patients is updated by the fact that the structure, frequency and manifestation of HIV-associated oral diseases, as well as the basics of prosthodontic dental care, remain poorly understood.

To assess the quality and effectiveness of rendered prosthodontic dental care, the indicators are availability of dental supplies and need for dental prosthesis are especially important. Due to the significant number of teeth destroyed as a result of the carious process and extracted teeth in patients with HIV, there is an increase in the proportion of people with secondary adentia who need prosthesis.

Key word: HIV infection, dental prosthetics, periodontal endurance.

The main aim. Improving quality prosthodontic dental care for HIV-infected patients. Material and methods. 24 HIV-infected patients aged 30 to 50 years with partial defects of the dentition were examined, for them made plastic dentures from the thermoplastic materials "Ftoraks" and "Vertex Thermo Sens".

To prevent microbial and fungal adhesion, as well as to prevent intolerance to composite materials, the inner surface of the dentures was shielded with an adhesive film.

Our proposed technique is as follows: the inner surface of the prosthesis is degreased with a 70% alcohol solution and, after drying, it is etched with 37% orthophosphoric acid gel for 15-20 seconds.

After intensively rinsing off the gel, the surface of the prosthesis dries and the first layer of adhesive is applies with a brush, and then, using a light air stream, the adhesive is distributed over the surface of the prosthesis and covered with a second layer. The polymerization of the adhesive is carried out in special apparatus for the polymerization of the composite or using LED lamps.

Results. As our studies have shown, the elimination of dentition defects using the basic materials: <<Ftoraks>>, as well as <<Vertex Thermo Sens>> thermoplastic material, led to an equal distribution of the functional chewing load on the periodontium, to a significant reduction of inflammatory processes in the periodontium, as a result of the improvement of regional blood circulation.

The analysis of clinical and laboratory parameters showed that the performed dental treatment with the inclusion in the complex therapy (during ARVT) the correction of the prosthodontic status of patients by means of during prostheses using thermoplastic materials, leads to a significant increase in the clinical effectiveness of the treatment.

Conducted prosthetic dental treatment using the base materials "Ftoraks", followed by coating the contact surface of the prosthes with adhesive system and correcting the prosthodontic status during prostheses using the monomerless thermoplastic material "Vertex termo sens" leads to a significant increase in the clinical effectiveness of prosthodontic dental treatment of this category of patients.

Conclusions. Thus, treatment planning for HIV-infected patients should be based on the joint work of all medical services, etc. improvement of dental care should be carried out along the path of improving the quality of treatment of major dental diseases, pathogenetic and symptomatic therapy.

In this regard, it is recommended to plan dental treatment together with an infectologist, a dermatologist, a physician, an oncologist in order to determine the level of intervention and improve the quality of treatment.

Based on the foregoing, all HIV-infected patients with prosthodontic dental therapy (regardless of the denture and the material used for prosthesis) should be carried out with antiretroviral therapy.

This approach to therapy is intended not only to improve the general condition of the patient, but also to achieve long-term positive results in the treatment of oral pathology.

A rational comprehensive approach to the treatment of HIV-associated oral pathology in HIV-infected patients increases the effectiveness of specialized dental care, which helps to improve the quality of life of patients.

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# FEATURES MORPHOLOGICAL CHANGES OF LYMPHONES IN NEONATAL SEPSIS

### Allaberganov D.Sh., Tojimova N.I.

Tashkent Medical Academy, Tashkent, 100109, Uzbekistan e-mail: dilshodbek9347225@mail.ru

Abstract. In this work, a morphological study of the lymph nodes in early and late neonatal sepsis was carried out. With an early in 85.7%, late neonatal sepsis, 50% of cases in the lymph nodes revealed morphological signs of immaturity and underdevelopment. With early sepsis, the pathomorphological changes characteristic of sepsis merge with changes in the immaturity of the lymph node and are manifested by the expansion of the sinuses and pulp cords of the brain layer of the lymph node. With late neonatal sepsis, all morphofunctional zones of the lymph node are affected in the form of thickening of the trabeculae, meat cord due to inflammatory infiltration and sclerosis, as well as histiocytic sinus lymphadenitis.

Key words: sepsis, neonatal period, lymph node, prematurity, morphology.

#### Conclusion

This thesis examines the study of clinical and anamnestic data and features of morphological and morphometric changes in the lymph node in children of the neonatal period who died from various forms of sepsis. The object of the study was the lymph nodes of 36 newborns who died in the neonatal period from sepsis.

The results showed that in neonatal sepsis, depending on the duration of the disease in the lymph node, different phases of premature organ involution were noted. In the subsequent stages of the disease, there is a decrease in the volume of the cortex and an expansion of the medulla; this process is accompanied by a thickening of the interstitial tissue due to reticulosis and sclerosis.

In this work, a study of clinical and anamnestic data and features of morphological and morphometric changes in the lymph node in children of the neonatal period who died from various forms of sepsis was carried out. The object of the study was the lymph nodes of 36 newborns who died in the neonatal period from sepsis. The results showed that in neonatal sepsis, depending on the duration of the disease in the lymph node, different phases of premature organ involution were noted. In the initial stages of the disease, microscopically there is a loosening of the layers of the lymph node due to edema, massive disintegration of lymphocytes and reticular cells. The disintegration of lymphocytes located in the paracortical zone was especially pronounced, large macrophages with a large number of phagocytic lymphocytes appeared. In the medulla there are also lymphocytes in a state of karyolysis and karyopyknosis. Large cells with hyperchromic nuclei, resembling viral metaplastic cells of other organs, appear in the lumen of the cerebral sinuses. In the subsequent stages of the disease, there is a decrease in the volume of the cortex and an expansion of the medulla; this process is accompanied by a thickening of the interstitial tissue due to reticulosis and sclerosis. In the cortex, reticular cells predominate over lymphocytes. The cytoplasm of reticular cells undergoes dystrophic changes and disintegrates.

Collapse of lymphoid follicles of the cortical layer of the lymph node is noted, where lymphocytes almost disappear, reticulocytes disintegrate, sometimes giant cells with large hyperchromic nuclei appear. In this phase of premature lymph node invasion, lymphocytes predominate in the medulla and are in an active blast-transformed state. From the side of the interstitial tissue, fibrosis of the connective layers with a predominance

of fibrous structures is noted; lymphatic sonuses subside. Reticular cells of the paracortical zone are metaplastic into fibroblasts, then connective tissue cells acquire a fusiform shape and grow towards the cortex and cerebral sinuses.

### Findings:

- 1. With early in 85.7%, late neonatal sepsis, 50% of cases are lymph nodes with morphological signs of immaturity and underdevelopment.
- 2. In early neonatal sepsis, the pathomorphological changes characteristic of the septic process merge with changes in the immaturity of the lymph node and are manifested by the expansion of the areas of the existing morphofunctional zones, especially the sinuses and pulmonary cords of the brain layer of the lymph node.
- 3. Typical changes were proliferation of macrophages and histiocytes of the germinal center with diffuse infiltration of the interstitial tissue of the lymph node by lymphocytes.

# THE VALUE OF NEURO-SPECIFIC PROTEIN S-100 AND LIPOPROTEINS IN THE DEVELOPMENT OF MULTIPLE SCLEROSIS

### Mukhiddinova Mukaddas Arabbayevna

The phD in Tashkent medical academy, the neurologist in clinic Medion of the city of Tashkent Tashkent medical academy. Uzbekistan

Annotation. This article describes the clinic of multiple sclerosis (MS) depending on the parameters of the neurospecific protein s-100\beta and low-density lipoproteins. It was found that patients with MS in the activity phase showed high levels of protein s-100\beta and LDL. This indicates that in MS patients, the process of demyelination and degeneration continues steadily, and as a result, patients are more likely to develop new symptoms. Thus, the results of the study of the protein s-100\beta and LDL can be used to predict the possible development of adverse symptoms in multiple sclerosis.

### The purpose of our research:

To study the role and significance of the neuro-specific s-100ß protein and lipid spectrum parameters in the pathogenesis of multiple sclerosis. determine the effect of lipoproteins on degeneration processes.

### Material and methods of research.

54 patients with multiple sclerosis (MS) aged from 19 to 45 years (average age 34=1.5 g) were examined. Of these, there were 17 males(32,5%) and 37 females(68,5%). All patients underwent clinical and neurological studies, MRI of the brain. Patients were distributed along the course of MS: with remitting -37 (68,4%), primary-progressive – 4(7,4%) and secondary progressive – (11) 20,4% progressive course with exacerbations-2 (3,7%)course. The study of the prescription of MS from the beginning of the disease showed that patients with a prescription of "1-5 years" was-30%, "5-10 years" - 39%, "more than 10 years" - 30%. Patients with MS in the active phase were 40 (74%), in the remission phase - 14(26%). In blood plasma, the neuro-specific protein s-100ß (s-100ß protein) (normal <0.11 mcg/l) and low-density lipoproteins (LDL) (normal<2.5 mmol/l) were studied.

#### Research result.

The results of the study showed that in patients with MS, the s-100 $\beta$  protein index varies from 0.06 to 0.22 mcg/l (on average, 0.17±0.09 mcg/l). In 70% of cases, this figure is higher than normal (28 patients). The study of indicators of neurospecific protein, depending on the disease revealed that patients with remitting disseminated over protein s-100 $\beta$  was equal to 0,14±0,1  $\mu$ g/l,

highest rate for primary-progressive course. In the active phase of MS, the s-100ß protein index was increased by  $0.13\pm0.01$  mcg/l, and during remission within the normal range  $-0.08\pm0.02$  mcg/l. p<0,05. The s-100ß protein index did not differ depending on gender. Thus, men had  $0.12\pm0.01$  mcg/l and women  $0.14\pm0.02$  mcg/l.

It was determined that the longer the disease, the indicator of the protein s-100ß increased, regardless of the phase of activity. Thus, for the duration of the disease "1-5 years" s-100ß was equal to  $0.16\pm0.01$  mcg/l, "5-10 years" -  $0.21\pm0.05$  mcg/l and "more than 10 years" -  $0.2\pm0.1$  mcg/l. p<0,05

Studies have shown that in MS patients, LDL values range from 2.2 mmol / 1 to 4.65 mmol/l, with an average of 3.6=0.1 mol/l.

In all forms of MS, the average LDL index is increased, especially in the secondary progressive course  $(3.6\pm0.1 \text{ mmol/l})$ , as well as in the remitting  $(3.4\pm0 \text{ mmol/l})$  and primary progressive  $(3.1\pm0.02 \text{ mmol/l})$  course.p<0,001. LDL values in the active phase  $(3.5\pm1.3 \text{ mmol/l})$  differ sharply from those in the remission phase  $(3.0\pm1.1 \text{ mmol/l})$ . p<0,01. There were no gender differences in LDL indicators (male. - 3,4±0,03 mmol. l and women. - 3,4±0,15 mmol/l).

The LDL index is higher than the longer-standing disease with MS. So, at prescription "1-5 years" this indicator was equal to  $3,4\pm0,01$  mmol/l, "5-10 years" -  $3,6\pm0,1$  mmol/l, "more than 10 years" -  $3,7\pm0,2$  mmol/l.p<0,001.

When comparing the parameters of the protein s-100 $\beta$  and LDL showed a mean positive correlation (r= 0.6).

#### Conclusion.

Evaluation of the results of the study showed that in all the studied forms of MS, the average index of the neuro-specific protein s-100ß and LDL was increased. This indicates that our patients have a demyelinating and neurodegenerative process. The study of the duration of the disease revealed that the longer the disease proceeds, the process of demyelination (degeneration) is stronger. A comparative study, depending on the form of the disease course, showed that the s-100ß protein index is consistently high in the primary progressive course, and the LDL index is stable in the secondary progressive course. Also, in the activity phase, both studied indicators are higher than in the remission phase. According to the results of the study, it can be thought that in patients with MS, a high indicator of the protein s-100ß and LDL indicates that in patients with MS, the process of demyelination (degeneration) is steadily continuing, and as a result, patients have a high probability of new symptoms. When analyzing the studied parameters, depending on the activation and remission of MS, it can be observed that the indicator of the protein s-100ß in the activity phase is increased, and in the

therapy, interferons, immunomodulators). As a result, the indicator of the s-100ß protein in the remission phase is within the normal range. However, usually patients with MS do not receive drugs that improve lipid metabolism. On the other hand, it takes a long time to normalize the lipid spectrum, on average 3-6 months. But, by this time, or there is an exacerbation of the disease, or the disease progresses

Thus, the results of the study of s-100ß and LDL protein parameters can be used to predict the possible development of adverse symptoms in multiple sclerosis. in multiple sclerosis, low density lipoproteins increase and they affect the aggravation of the degeneration process. means there is a correctly proportional relationship between degeneration and dyslipidemia

## PEDAGOGIGAL SCIENCES

# EDUCATION IN TWENTY-FIRST CENTURY: PROSPEROUS WAYS FOR YOUNG GENERATION

## Abulxayev Umid Baxtiyorovich

The Institute for Research of Youth Problems and Training Prospective Personnel at the Academy of Public Administration under the President of the Republic of Uzbekistan Chief Specialist of the Methodological Support Department

Ramazonova Salima Choriyevna

English language teacher, School №15, Romitan district, Bukhara region

Abstract: This article provides a critical overview of national and international efforts to shift education to what has been commonly called 21st century learning. The paper will give some example high education institutions and colleges through the world which will offer best education system and discuss the most important aspects for young generation to give more attention.

Key words: 21st Century skills, issues of equity, "traditional" education, features, "transformational" education, QS and Times Higher Education World University Rankings.

The term 'education for the 21st Century' recognises that we are living through a period of rapid change in an increasingly globalised environment, to which education systems need to adapt, not just through a one-off reform, but continuously.

Innovation and technological advances are constantly changing the ways we communicate, work, and live together and education systems which reflect this dynamic will be most capable of responding effectively to the current and changing needs of young people, society and indeed the labour market.

And while foundational skills such as numeracy and literacy remain important foundations for all future learning, students also need to develop 21st Century skills. This requires a renewed focus on a whole range of skills including adaptability, critical thinking, creativity, problem solving and collaboration, to name some of the most prominent.

These skills are often referred to as transferrable skills as they can be used in different scenarios and across different domains, reflecting the growing trend that young people will move across and between different areas of work during their careers where their ability to transfer skill-sets to meet new challenges will be tested. [1]

If it is to be successful, education must, of course, meet some quite specific needs, teaching skills, preparing individuals for their economic roles. But an education at any level that focuses directly on narrow utilitarian aims will be sadly incomplete and ultimately will fail to fulfil adequately even those aims it has itself set. This message came through clearly in all our consultations, and was embodied in our proposal that education be constructed on four pillars: learning to know, learning to do, learning to be and learning to live together. Giving equal attention to each of these four pillars will ultimately enrich all the facets of education, including those that are more narrowly professional. [2]

In addition to 21st century learning initiatives there have been other international efforts to reform education to better equip future generations to meet the challenges posed by issues of equity, social justice, and environmental degradation facing communities around the world. [3]

Education is, in many important ways, the pulse of society. It reflects both today's tensions and tomorrow's aspirations. Thus, the interest of these texts is in their diversity, in their search to understand the continuing relationship between thought and action, and, finally, in their committed optimism. [2]

The good news is that nearly all discussions of twenty first century education agree: "traditional" education in which the teacher transmits knowledge to students, must give way to "transformational" education in which the teacher facilitates the acquisition of skills and competences in addition to essential values and knowledge. The teacher serves as guide/learning coach. 16 Typically transformational pedagogy is seen to include the following features:

- Action-oriented, inquiry-based learning
- Systems-based learning
- Integrated, holistic approaches
- Creative use of technology [4]

To achieve high education in a prestigious university is one of desirable wishes of young generation. In education world the list of top education universities and institutions are always being ranked by QS and Times Higher Education World University Rankings. Both rankings have been providing trusted performance data on universities for students and their families, university academics, university leaders, governments and industry. A degree in higher education administration helps future heads of colleges and universities and other administrators learn how to lead effectively.

Times Higher Education has ranked the best universities for education degrees to help you decide on the best university for you.

Stanford University and Harvard University take the top spots in the ranking, with the University of Oxford taking fourth place. The University of Hong Kong is the only university in Asia to rank in the top 10, at number three, and the University of Cambridge comes in at number 7. The remainder of the top 10 is dominated by US universities. US universities are well-represented in the entire subject ranking for education, with 120 universities. A total of 198 of the universities are from Europe and 59 are from Asia. Canada and Australia are also represented in the ranking, with 19 and 33 universities respectively.

A higher education trains students in chosen field, but it also teaches to understand complex subjects, think analytically, and communicate ideas effectively. It should support to learn important skills, such as organization, self-discipline, and how to see atask from start to finish. A higher education helps become more professional and gives many work-related skills. Thus, to choose the best and suitable education place is important point to build new life way. In this article we pointed out key aspects of education system in twenty-first century and recommended two world rankings which offer top best universities worldwide.

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#### PERSPECTIVE TEACHING METHODS OF HISTORY CLASS

Dilorom Abdurakhmanova
History teacher, Yangiyul district, school No 50
Tukhtamurod Askarov
History teacher, Yangiyul district, school No 53

Abstract: This action research study investigated the effects of different types of instruction on student learning of historical thinking. The paper will support some effective ways of educating history classes.

Key words: active learning, challenges, Past and Present, "lifelong learner" skills, debate, demonstration.

Teachers of history, or the study of past events, desire to excite and engage students in the learning of history. To enhance engagement and active learning of history, teachers have conceptually organized their history courses from very different perspectives. History is a very complex arena of knowledge that requires domain-specific thinking skills. History intersects with every knowledge system and leads to the transference of historical thinking skills into other dimensions of knowledge, like the historical chronological development of math, science, religion, and language. Whereas other knowledge systems, like theology (study of faith, reasoning, and religion), utilize historical thinking skills because they themselves are historical, historical thinking abilities are the essence of history. The historical thinking skill of cause and effect and continuity or change is applicable to many of the other domains. In an applicable environment, teachers of history need to know the purpose of history and "teach" it to the educational level of which they are learning history. [1]

Dave Neumann (2010) in his article "A Different Way of Viewing History Teaching: Balancing Competing Intellectual Challenges" argued that, history classes have 3 challenges:

- 1. The Challenge of Time: Past and Present The challenge of time involves the need to balance the concern of relevance with the desire to avoid "presentism"-thinking that people in the past were simply foolish for thinking and behaving the way they did rather than as enlightened twenty-first century people like themselves.
- 2. The Challenge of Scale: Large and Small. Large-scale, long-duration changes are the most significant in determining human experience. The event-oriented history that many historians focus on, argued Braudel, is simply the froth on top of a much larger wave.
- 3.The Challenge of Pattern: Unique and General. The challenge of scale deals with detail -the degree to which a teacher focuses on the features of specific events rather than focusing on larger, more abstract trends. The challenge of pattern, by contrast, deals with typicality-the degree to which a person conforms to more general trends of the era. [2]

Effective history studies teaching requires knowing your subject matter and understanding how to connect your content to students; knowing different teaching and assessment approaches; knowing the school culture and understanding how to make space for yourself in that culture; knowing students, engaging students in critical and higher-order thinking, teaching students "lifelong learner" skills, and presenting students with multiple perspectives. [3]

Some history educators suggests that debate and demonstrative teaching methods make the class more interesting and can hold attention of each student. Holding a debate requires students to critically analyze a certain historical problem and is an excellent way

to show two sides of a picture. For example, the teacher might ask the students Revolution truly revolutionary? First the class could be divided into two separate groups. Then each group should be given readings and background material that supports one historical view of the Revolution. Finally, the two groups would engage in a debate, with guidance from the instructor. The debate certainly would help students think more critically.

Demonstration is an active learning method, which is "an oral exposition of an historical issue demonstrating chance and continuity between past and present". Using this method, a group of students is expected to present a demonstration, under the guidance of the instructor. The students would then report to the rest of the class on, their country's views and policies. [4]

Good History teachers usually do the following;

- Arrange excursions to cultural centres, museums or Parliament. (They often have an Education Officer to help with visits and excursions)
  - Relate topics (from the past) to current national and international events
  - Design activities that promote in students a social conscience
  - Invite guest speakers into your classroom to talk on a specific topic
  - Let students make a choice of topic from a list you prepare.
- As well as work done by the whole class, and small groups, allow individual students to do research on a special topic (of their choice or nominated by you)
- Go out of the classroom and do on-site maps, photography, local surveys, questionnaires or interviews
- Always be on the lookout for useful handouts, printed materials and unusual non-print resources
- Design and then paint as a class activity an historical mural on the wall of your local store, post office or bus stop (get approval first)
  - Screen feature films, documentaries and slides in the classroom
  - Plan classroom opportunities so their students can study a variety of evidence:
  - a)photographs of significant events or people
  - b)investigate the use and making of artefacts
- c)use old newspaper cuttings to discuss how events unfolded after the event was reported
  - d)interrogate old letters (why were they written, who kept them?)

The study of history plays an important role in the education of secondary school students. Through the study of history, your students will develop important historical knowledge and understandings.

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# EDUCATIONAL OF LEARNING LESSONS IMPORTANCE AND FUNCTIONS

Fayziyeva Mohisitora Mahmud qizi

She is the leader of the youth of the specialized boarding school No. 40 of Kyzyltepa district

Khojieva Dilbar Zaynidinovna

TEACHER OF MOTHER TONGUE AND LITERATURE, SCHOOL 16, KIBRAY DISTRICT, TASHKENT REGION

Abstract: In the classroom reading lessons, educational tasks are solved in a complex way, about the environment around children, as well as the formation of positive moral qualities of students, they develop mentally and aesthetically, independently. learn the basics of learning. The analysis of the leak book confirms our opinion. The content and methodological materials of these books (assignments and questions for text analysis, system of independent work, etc.) are interrelated. In order to carry out educational tasks together, it is important not only to read the text in reading lessons, but also how to work on the text.

Keywords: Homeland is not only land, water, forest, cotton fields, mountains, but, first of all, adding wealth to the wealth of the people with a little work, creating a happy, free life.

The knowledge of the people of our Motherland on the theme of the works included in the flowing books is deepened as students move from class to class. The homeland, its glorious eighties and heroism are now in the leaking books. The teacher told the students that the homeland is not only the land, water, forest, cotton fields, mountains, but also, first of all, people who add wealth to the nation with a little work, create a happy, free life, protect their homeland from enemies. understand. A prerequisite for combining the educational function of reading lessons in the classroom is the teacher's instruction to teach students to appreciate the social nature of a work of art during the comprehension and analysis of a work of art or popular science article. "Psychologist ANLeontyev: It is not enough not only to memorize and understand the word, but also to know the idea and feeling in it; this idea, this feeling should help to determine the inner world of the person. So, the main thing is that the thought and knowledge we give , let the feeling we have nurtured in the child belong to the person we have awakened in him, - he emphasizes.

The most important thing for a teacher is that the child understands that the less knowledge he receives, the emotion that is formed in him is necessary and important in life. Leakage lessons have a special place here.

The purpose of leakage lessons in the classroom:

- 1.Improving reading skills. Good flowing qualities in students: formation of correct, fast, conscious, expressive flowing skills.
- 2.To instill in children a love for books, to teach them to use books, to get the necessary knowledge from them, that is, to cultivate book-loving, thoughtful readers who know how to work with books.
- 3. Expansion and deepening of students' knowledge of the environment, the formation of elements of the scientific worldview.
  - 4. Educate students morally, aesthetically and in the spirit of love for work.
  - 5. Enhancing students' speech and thinking.
  - 6. Formation of elements of literary imagination.

There is a clear way to accomplish each task, but one task is interrelated with the other in the course of leak lessons and extracurricular activities. The qualities of a good flowing skill are the correct, conscious, expressive flow of the skill; Improving the quality of flow and improving their skills means improving the formation of good reading skills in students. Leakage qualities are interrelated, and conscious leakage is key; if the reader reads fast and does not comprehend, neither he nor others will understand the content of the text; the right flow also serves the conscious flow; correct, rapid, and conscious flow is the basis of expressive flow.

Good fluency is an important condition for successful fluency in all subjects taught in school.Leakage is a major type of activity that engages students in ideological-political, mental, aesthetic, and speech; creates a great opportunity for development in terms of These underscore the need for regular and purposeful work on raising and improving leak skills.

True flow means flow without error, that is, the sound flow of the word. without distorting the grammatical forms, without dropping any sound or syllable in the syllable, without adding extra syllables or syllables, without changing the position of the letters, pronouncing the syllable correctly and emphasizing the syllable. Elementary school students make mistakes in reading because they do not have a thorough synthesis of pronunciation and comprehension of the text.

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# SOCIAL NETWORKS IN SHAPING INCLUSIVE EDUCATION IMPORTANCE

Maqsudova Nodira Alijanovna
Doctoral student of Namangan State University
Moxidil Ziyaeva Khabibjonovna
52- Deputy Director for Academic Affairs of School UIBDU
maqsudovanodira@gmail.ru

Abstract: The article describes the introduction of inclusive education in educational institutions and technologies for preparing future teachers for inclusive education. The role of classroom training in the use of pedagogical technologies in working in an inclusive environment, the needs for inclusive education; the role of international organizations in the implementation of this form of education; the legal basis of inclusive education, the resource educator and his responsibilities.

Keywords: inclusive education, secondary schools, professional pedagogical

The Strategy of Actions for the Further Development of the Republic of Uzbekistan identifies the issues of "education of physically healthy, mentally and intellectually developed, independent-minded, strong-minded, loyal to the Fatherland" as one of the priorities. identifies the need to consider it as a complex pedagogical system with research and analytical directions. The most important tasks set by the President of the Republic of Uzbekistan Shavkat Mirziyoyev at the joint session of the Oliy Majlis on December 14, 2016 in the field of thorough education of the younger generation, their upbringing as physically and spiritually mature people play an important role in developing the education system.

The subject of the proposed concept, the pedagogical effect of higher education (inclusive training) and educational outcomes (quality education of future teachers with disabilities in secondary schools, along with normal teachers, training of competent teachers who meet today's requirements is urgent.

Inclusive teacher training is a very complex personal quality, reflected in professional pedagogical skills and manifests itself in a variety of forms of pedagogical competence, as well as an important determinant in creating conditions for the education of "special needs" children in secondary school.

At present, the country has organized correctional education in 8 areas of special education (mentally retarded, mentally retarded, children with speech, vision and hearing impairments), taking into account the education of children and adolescents with special needs, their types and levels. As a result of the democratization of education reform and the fight against discrimination at the international level, the worldview of society has changed, a new approach, mutual respect and positive attitudes have been formed among different categories of people.

According to the Resolution of the Cabinet of Ministers of Uzbekistan dated March 15, 2017 No 140 "On approval of the Regulations on General Secondary Education" (Chapter 3, Section 19) the process of education of students with special needs is based on the conclusions of the medical psychological and pedagogical commission. is implemented exclusively in general secondary schools close to residences.

Namangan State University, Faculty of Pedagogy, Department of Pedagogy and Psychology 13.00.01 Theory and History of Pedagogy. Maksudova Nodira Alijanovna, a doctoral student majoring in education management, wrote a dissertation on "Technology of teacher training in inclusive conditions". pilots in cooperation with the 5th and 28th

schools and 32nd, 43rd, 68th preschools and the Deputy Director of the Republican Center for Social Adaptation, Ph.D., Professor Muminova Lola Rakhimovna in 2017-2020 in the field of inclusive education -pedagogical analyzes, spiritual-enlightenment activities, educational-practical trainings and educational sessions, consultations to parents and teachers, meetings.

Each event with parents is noteworthy. At the same time, in the current pandemic, we have tried to expand the database by organizing online lessons with teachers, students and parents of inclusive schools and by organizing surveys and competitions via the Internet.

It should be noted that parents and teachers of students of inclusive schools participated in the contest "What has inclusive education has given us" through a social network (telegram) with surveys, videos, comments on inclusive education.

Survey:

- 1.Do you have an understanding of inclusive education?
- A) yes
- B) no
- C) I hear now
- 2.Do you think the introduction of inclusive education is justified?
- A) of course
- B) I did not know
- C) manga is not interesting
- 3.Did inclusive education have an impact on your child?
- A) no
- B) affected
- C) I did not notice a change
- 4.Do you think inclusive education works?
- A) will definitely be the result
- B) I did not know
- C) shows the time
- 5. Are there any reasons that hinder inclusive education?
- A) ves of course there is
- B) probably not
- C) I can't comment
- 6.Should we use foreign experience in developing the skills to prepare teachers to work in inclusive conditions?
  - A) of course
  - B) not necessarily
  - C) I did not know
  - 7. Are teachers ready to work in an inclusive environment?
  - A) yes
  - B) no
  - C) I did not know
  - 8. Have you ever been interested in inclusive education in the media?
  - A) I'm not interested in manga
  - B) of course
  - C) I did not understand
  - 9.Is there enough literature for students in an inclusive environment?
  - A) yes
  - B) no
  - C) I was not interested

- 10.Do we need to innovate in inclusive education?
- A) yes
- B) no
- C) I did not know

A total of 45 participants took part in the survey. We learned that 25 parents of inclusive school students and 15 school teachers, methodologists, psychologists, speech pathologists, school deputy principals and school principals have opinions and information about inclusive education. It is obvious that they tried to answer each question with the right approach. They expressed their views, suggestions and recommendations in order to contribute to the further development of inclusive education.

According to the results of the competition:

- 1. Gaybullaev Kadyrbek, 4th grade student of Namangan Secondary School No. 5.
- 2. The winner of the nomination "The most active teacher" is a primary school teacher of the 28th comprehensive school of Namangan.
- 3. The winner of the nomination "The best woman entrepreneur" is the director of the inclusive education resource center established at school No. 11 in Namangan.
- 4. The winner of the nomination "The most enterprising teacher" is the Deputy Director of the Inclusive Education Resource Center established at school No. 11 in Namangan.

At the end of the competition, children with disabilities were awarded a certificate in order to support and encourage them. I hope that in the future there will be practical assistance in establishing partnerships for the further development of inclusive education and the implementation of the developed methods. Our future is in the hands of our youth. We need to take care of them.

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# ASSOCIATION METHOD AS A WAY TO IMPLEMENT INNOVATIVE APPROACHES

O.A. Yakubov

Senior teacher, Department of Languages Chirchik Higher Tank Command and Engineering School mooncheek8778@gmail.com

Abstract. In recent years, the attitude of school teachers to the use of modern educational technologies has changed: from doubt to implementation. What is the main difference between traditional teaching methods and new ones? The teacher's activity is explanatory and illustrative, and the teacher himself becomes a translator of this knowledge. Students perceive what is reported, comprehend, remember, memorize, reproduce, train, etc. Their activities are reproductive in nature. Is this good or bad? Neither one nor the other reproductive activity is inevitable for any type of learning. Consequently, the main difference between new technologies is the idea of a dialogue, where the student is viewed as a subject of learning. It is the student's activity that is in the first place in teaching, and the teacher directs and corrects his work.

Key words: associative images, associative link, subtraction, associative chains.

One of the components of innovative teaching technologies is the associative method. To create conditions for the favorable implementation of this method into practice, it is necessary to work together to enhance the cognitive activity and cognitive interest of students and teachers. When working with associations, special attention should be paid to the systematic presentation of the material under study. One of the most important conditions for applying the method is the teacher's emotionality: facial expressions, gestures, and expressiveness of speech.

The associative method is implemented through associative images. There are certain requirements for images:

An associative image must necessarily be associated with some common feature.

The associative link can be by: color, location, form, sounding, action, taste, material, appointment, quantity.

You should not impose your association on the child!

The value of an idea is that everyone has their own associative image for the given requirements: communication and a common given theme.

The application of the associative method is realized through a system of exercises. One of these exercises is the chain association exercise. In literary reading lessons, a thematic associative chain is used. Students build a chain of associations around a given topic or add spaces in a topic chain. For example, the theme "Garden". Children build a linear chain of associations: earth, shovel, garden bed, vegetables, harvest. That is, each student offers his own associative word for a given topic. At the next stage of the work, a general chain of associations is created on a given topic: harvest - autumn - school - holiday. You can give the task to use in the associative chain only adjectives, only nouns, only verbs. The work also uses tasks to restore gaps in the associative chain. The teacher sets the first and last word, and the children must restore the middle. For example: the first word is "melody" and the last word is "dandelion". Children restore the chain: melody - waltz - lightness - wind - flight - fluffs - dandelion.

Elementary school students often find it difficult to memorize mathematical terms and action components: addition, subtraction, multiplication, and division.

Chains help learners navigate and memorize component names faster. So in math

lessons, you can use an associative game. For example: the word "subtraction" is given, children are asked to build a chain of associations. They can get the following result: minus - subtraction components - decreasing - subtracted - difference - the result of subtraction. Also, in a playful way, you can work on restoring the logical chain "composition of a number", "algorithm for solving a problem", etc.

Associative chains can also be used in the lessons of the surrounding world when studying special terminology, natural zones, when working with a map, when studying the animal world, etc.

In addition to the associative chain, symbolization is used in the work of the elementary school. The children are offered the following tasks and exercises: to express with the help of color the mood of the work, the character of the hero of the work, the color of their mood, etc.

With the help of signs and symbols, students are invited to depict the coat of arms of the hero, the coat of arms of the number, the coat of arms of mathematical action. With the help of symbols and signs invented by the children themselves, educational material or individual elements of the lesson are formed into semantic groups. So, for example, in the lessons of the surrounding world, each child comes up with his own symbol of animate and inanimate nature. Thus, according to its elements, other children can name the components of animate and inanimate nature. Also speaking about associative perception, at various stages of the lesson, children are invited to choose from musical works the one that they associate with a work of art, with the character of the hero, with the mood.

For more successful memorization of vocabulary words, the technique of associative memorization is used.

The spelling is presented as a vivid image associated with the child's personal experience. Short tales or stories about the word are also used using associative pantomime. For example: while studying the vocabulary word "tomato", children point with their finger to a round or oval shape of a tomato and this movement is associated with the letter "o" in the spelling of this word. Working on the word "people", we say that at the parade people shout "Hurray!" For joy. The emphasis is on the letter "a". This is associated with the writing of this letter in the word "people". Children also easily remember the correct spelling of vocabulary words when they rely on personal feelings associated with this word. For example: pronouncing the word "lemon", children have an association with something sour and their lips stretch. Willy nilly, they pronounce the sound "and" in the word "lemon".

In elementary school, visual reference cards with vocabulary words are used, where the spelling is a vivid image and contributes to better memorization of vocabulary words. At the first stage, children are offered ready-made reference cards, and then they themselves offer their own versions of such cards. Moreover, each child's associations may be different. An associative image should have an unmistakable letter in its spelling, which is doubtful in a dictionary word. For example: in the word "weather" someone draws an unstressed vowel "o" in the form of the sun, and someone in the form of a round cloud from which it is raining. Also, the associative method of work helps primary school students to create reference cards with vocabulary words in the form of puzzles.

Moreover, when making up a puzzle, children must not only encrypt the word, but also come up with an option that would help classmates to better remember this vocabulary word.

The results of this method are: Creative activity of children; Emancipation of the personality of each child; Creation of a situation of success; Enrichment of vocabulary; Development of logical thinking; Improving student memory; Gaining experience in

working in groups, in pairs, independently; Strengthening motivation in learning.

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# ANALYSIS OF PROBLEMS IN THE EDUCATION SYSTEM IN A PANDEMIC CONDITIONS.

Shukurova Markhabo (researcher)
Nomozova Elmira (student)
Ruzieva Madinakhon (student)
Karshi branch TUIT named after Muhammad Al-Khwarizmi

Abstract: This article provides an analysis of the problems in the education systems caused by the coronavirus pandemic, which is currently plaguing the world, and the necessary advices for the convenient organization of distance learning.

Keywords: Pandemic, distance learning, Online training, Zoom platform, Video lessons, Online conference, cheap internet, conservative education.

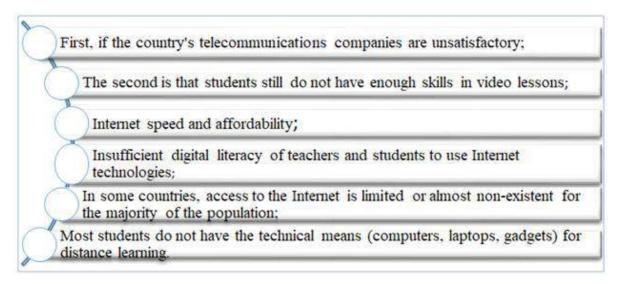
It is known that in order to prevent the spread of the coronavirus pandemic in Uzbekistan, from April 2019-2020 academic year, the education system was transferred to the form of distance learning, which was completed with complex and specific difficulties. It is no exaggeration to say that, concepts such as "Distance Learning", "Online Training", "Zoom Platform", "Video Lesson", "Online Conference", which are widely used by professors and teachers, explain the essence and goals of today's modern e-learning.

The coronavirus pandemic can radically change people's lifestyles in many areas. World experts acknowledge that the strict quarantine rules imposed due to the pandemic have created new opportunities for education, including higher education. It has even forced the conservative education system to adapt quickly to new conditions and to follow special rules.

We all know that no one was ready for this form of education before. It was a whole new field for the distance learner as well. Both our teachers who learned live face-to-face teaching skills and our students who learned to teach in this situation were confused from the first days of distance learning. In the context of the pandemic, unfortunately, it was the students who suffered the most from the relative "loss of knowledge", as a result, most of them were unable to master the topics identified in the curriculum.

The WHO emphasizes that the pandemic is a long-term process and we need to learn to live with it. The transition from traditional to digital education is currently underway. Therefore, we need to determine that the current and future development of education is directly related to digital and distance learning. This process undoubtedly leads to various technical and technological problems. However, we will mitigate the impact of the pandemic on e-learning by focusing on the following issues related to distance learning that we experienced in the first pandemic academic year:

The main problem is that students live in areas where different parts of the world are fully accessible, internet accessed but speed is very low and not internet access at all according to internet access. In this process, students living only in the first round of high-speed Internet access will have a better chance of receiving quality e-learning. This has led to an active and high-quality participation of only 8-13 out of an average of 100 students in traditional video lessons created by teachers and professors (especially on the Zoom platform).



The e-learning system, founded during the quarantine period, divided teachers and students into two groups, i.e., actively participated in the e-learning process, used virtual learning achievements and improved their skills, and completed the school year with almost no participations.

Although emergency organized online education did not increase the knowledge of the learner and the educator in the field of specialization more than the usual system, In any case, it served to provide them with certain lessons and skills. As a result, the issues that will need to be addressed in the near future for the further development of distance learning are being analyzed, and statistics on this are being enriched.

Distance education is now being used as a beta experiment for the future in digital science world. One of the benefits of distance learning is the diversity of communication with students. In this case, the student can express the desired answer as a text, audio or video. This is a convenient form for students who are unable to express their views in public in an audience setting. Distance education saves teachers, and students, time for the ways, they spend going to college. It also allows both learners and tutors to do other activities due to the time saved. Clearly, if we focus on solving such kind of problems, we will be able to provide quality education to the younger generation during the pandemic. Most importantly, we will take a huge step towards building a new education system in the new Uzbekistan.

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# USE OF ELECTRONIC EDUCATIONAL RESOURCES IN THE EDUCATIONAL PROCESS

Tangirov Khurram Ergashevich, senior lecturer Khasanov Zafar Shavkatovich, student Jizzakh state pedagogical institute, Uzbekistan

Abstract: Solutions for improving the content of education are closely related to the implementation of information technology in the educational process. This is especially true for new forms and means of education based on information and communication technologies. These include e-learning, which requires the active use of electronic educational resources in education.

Keywords: electronic educational, computer science, modern information technologies, multimedia, AutoPlay Media Studio, electronic educational resources.

In recent years, much attention has been paid to the development of multimedia electronic textbooks and teaching aids in order to improve the quality and efficiency of education, and a lot of work is being done in this regard. The effective use of modern information technologies in educational institutions, their application in the educational process, increasing the level of opportunities for programmers and users is a requirement of the time. Therefore, in our schools, great attention is paid to teaching informatics and information technology and the effective use of modern information technologies, improving the qualifications of teachers who use them in practice.

It is important to create multimedia e-tutorials and guides, there are several programs for creating such e-tutorials, one of which is AutoPlay.

AutoPlay Media Studio provides a very simple and user-friendly interface for all applications and for creating multimedia electronic applications. Building an app in AutoPlay Media Studio isn't difficult. The user can use not only a few ready-made project templates to choose a different software development environment. AutoPlay software includes ready-made objects for creating a rich application environment, including a command button, an amplifier, a number of functional objects that allow you to print files from a printer, open websites and access them. To create graphic skins for the AutoPlay application, Media Studio automatically creates all the necessary files and sorts them into folders depending on the type. Users will only have to create ready-made projects for recording on hard drives and CDs.

The program allows you not only to quickly create animated menus, directory trees, databases and similar objects, but also to manage them. Plus, the ability to burn data to CD or DVD shows just how powerful AutoPlay Media Studio is.

Now, in teaching computer science, if we get into the hands-on process of creating a computer science slideshow, we need to start by selecting the required images and designing the controls. In this case, we perform the following steps:

- 1.After starting AutoPlay, we will select the "Blank Project" template from the list of project templates.
- 2.Go to the "Project" menu, select "Settings" and enter the name "Slaydshow" in the "Windows title:" field on the "General" page of the "Project Settings" dialog box, in the "Page Size" field in the "Dimensions" section of the page "Appearance". Select the "Custom" panel from the list.
- 3.In the "Options" section, check the "Custom icon" box. Click the "Browser" button, select the previously prepared "monitor.ico" file and click "OK".
  - 4.In the work area select "New Slideshow Object" and place it on the right. In the

"Properties" dialog box on the "Options" page, enter the color code in the "BackColor" element, and in the "ImageFiles" section, select the desired images using the "Add" button on the "Image Files" page.

5.In the work area select 2 "New xButton Objects". We call one of the buttons "Play" and the other "Pause". Now that the "Play" button is clicked, double-click the button to start the slideshow and select the "Script" menu in the window that opens. The OnClick property includes "SlideShow.Play ("SlideShow1");" we are writing the script. For the "Pause" button, click "SlideShow.Pause ("SlideShow1");" we are writing the script.

Optionally, you can change the exchange of images in our slideshow, the number of turns, the state of the image display and much more. To do this, use the "Properties" dialog box.

6.We run and check our work to check the quality of our work and find possible errors. To do this, click the "Preview" button on the toolbar. Now you can save the finished project. To do this, follow these steps:

7.Use the "Build" button on the toolbar: a) confirm the "Continue" command in the first window; b) in the second window, we choose that our project is saved in the computer's memory; c) in the third window, enter the address of the saved folder and give the file name; d) At this stage, when our project finishes downloading, click "Close".

As a result, special files of our software are created, created in a separate folder. We can run it from the resulting folder using the "autorun.exe" file. The slideshow is displayed when you press the play button, and you can pause the slideshow by pressing the pause button. It allows you to create slideshows of photos related to computer science or any science subject that can be used in the educational process. Images, videos, Flash elements, PDFs, and web objects can also be used extensively with AutoPlay.

In short, the use of modern information technologies in the educational process can provide a visual demonstration of the lesson. In particular, with the help of pedagogical software, you can purposefully use it in informatics lessons. For this, as indicated above, it is necessary to create educational software using AutoPlay.

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## OPPORTUNITIES TO USE FOLK SONGS IN THE SPIRITUAL EDUCATION OF YOUNG PEOPLE

## Yakubov Zarif Mamasharipovich

SamSU

Abstract: Folk musical art is the ancestor of people's life. In this sense, it plays a great role in the fact that it has a great potential for upbringing the younger generation in a national, spiritual sense. The article discusses specific ways and forms of using the capacities of folk tales in the learning process.

Keywords: Music art, Song, aesthetic education, high pedagogy, ending

The feeling of love, respect and respect for national values is a sacred feeling. The ideological and artistic expression of this sanctity has left its indelible mark on the traditions and legends of folk songs, epics and folklore heritage. Therefore, their use for educational and pedagogical purposes serves to enrich the content of education, strengthen its national-historical basis. Therefore, it is advisable to systematize this work, first of all, in higher education institutions that specialize in the training of teachers responsible for the education of the younger generation.

It is known that folk songs and chants play an important role in the invaluable treasure of folk music heritage. Folk songs and chants are based on folklore or literary texts of certain genres. Also, if we take into account the fact that modern composers and composers creatively use the melodies of the most popular works of folk art to create songs in the spirit of the people, it becomes clear how important this national art is.

Spiritual and aesthetic ideas in folk songs and hymns have a positive impact on the formation and development of human qualities in people, especially young people, such as patriotism, friendship, honesty, purity, honesty, justice, intolerance of negative appearances reaches Folk music, in particular, is another key aspect of the educational impact of folk songs, which is reflected in its text. As mentioned above, glorifying positive qualities and composing music in harmony with a text that values negative qualities, it becomes one of the powerful tools of aesthetic education with a strong, emotional impact on human emotions.

When a song is sung without music (big songs, applause), the place of music and its direct effect on hearing is felt. Music enhances the aesthetic impact and status of the song. This has the effect of educating both the performers and the listeners, giving them aesthetic pleasure. Emotions in the songs, accompanied by wonderful common verses, methods, magic tones, are human. evokes feelings of goodness and beauty in the heart. Therefore, the use of folk songs and hymns, folk tales, their spiritual and aesthetic educational potential for pedagogical purposes has a good effect and fulfills the social order of educating the younger generation in the spirit of high spirituality. I is coming.

In this regard, a clear and accurate assessment of the educational and affective properties of the works of folk music heritage through the use of aesthetic and spiritual education, that is, by future educators it is important to achieve perception. Students of higher education institutions, especially pedagogical ones, also need continuous aesthetic education along with education in their specialties.

They are exposed to various influences of aesthetic education while listening to lectures on various subjects and acquiring certain knowledge, skills and competencies in practical classes. Lectures on literature, art, conversations, spiritual and educational events, preparation for various musical competitions, participation, activities of amateur art clubs, as well as cultural and art events, performances Activities such as trips also

serve the purpose of aesthetic education. However, observations show that the modern requirements for the education system of aesthetic education in pedagogical universities of the Republic are not at the level of modern requirements.

In this regard, the lack of attention to the heritage of folk music, which is especially important among our national values, their use in the spiritual and enlightenment aesthetic development of young people, requires profound changes in this direction. This is especially evident in the fact that there are only amateur art clubs in higher education, there is a lack of consistency in training, low knowledge and skills of club leaders, and the repertoire is not in line with national ideas, national ideology and educational goals. The reason for the inaccuracy of aesthetic education is that many amateurs are not inclined to study and perform folk songs with folk instruments, classical songs, folklore samples, modern songs created in a folk style.

Many young people, on the other hand, have a strong desire to listen to and play music videos that are "created" in imitation of the "computerized" foreign sounds that are becoming a tradition today.

In this case, we consider it necessary to specify the following conditions that allow students in pedagogical universities to aesthetically educate students through the heritage of folk music, in particular, folk songs, thereby forming in them a high spirituality:

- 1.Approach to aesthetic education based on the national and cultural values of the people, the national heritage.
- 2.Development and implementation of specific opportunities, conditions, methods of deep and consistent integration of the history, traditions and customs of our people into the content of aesthetic and spiritual education.
- 3.Educational and didactic opportunities of folk songs, a program covering their specific features, the development of methodological manuals in the spirit of the times, and the provision of amateur art circles of all universities.
- 4.In pedagogical higher education institutions, it is necessary to integrate aesthetic education of students through folk music, in particular, folk songs, that is, lessons and extracurricular activities should complement each other.

The above-mentioned issues ensure the successful solution of educational and organizational pedagogical issues, the high efficiency of aesthetic education, play an important role in training teachers and educators for the education and upbringing of the creators of our spiritually mature, morally mature, sensitive future.

Contemporary folk music, especially folk songs, is the most popular and influential art form, and each song reflects the spirit of the period, the immortal trace of which he created. Samples of historical classical folklore songs are not only aesthetically pleasing, but also play an important role in young people's understanding of the history and way of life, customs, traditions and ethnic characteristics of our people.

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## THE ROLE OF TEACHER PSYCHOLOGICAL KNOWLEDGE AND PROFESSIONAL COMPETENCE

Yakubova Munisa Muratovna

Pastdargom district 36th school

Abstract: This article discusses the ways in which primary school teachers are well versed in the psychology of youth, ways to improve the quality of education.

Keywords: Primary school, teacher, student worldview, education, quality of education.

As a child enters school, he or she enters a completely new environment in his or her imagination. Although the child does not give up play, his or her responsibility for learning becomes a leading activity. In this case, first of all, the influence of the primary school teacher will be strong. Therefore, the primary school teacher must be a strong psychologist. He must be able to correctly assess the situation, understanding their inner experiences.

From the first day of school, there are various contradictions, contradictions, internal conflicts that drive the growth of the child. Underlying these are the level of mental maturity of the child and the contradictions between positive qualities and requirements. This means that every teacher must be not only a strong psychologist, but also have professional competence.

The concept of competence is a deep knowledge of the specialty, a good science. The teacher acquires competence only when he acquires the basic qualities that determine his spiritual, professional image. In pedagogy, the spiritual qualities of a teacher are determined by the following qualities:

patriotism; humanity;

labor;

morality.

In turn, these qualities also consist of several parts. For example, in order to have the qualities of patriotism, a teacher must be selfless, patriotic, united, peace-loving and courageous.

Humanism is characterized by justice, thoughtfulness, kindness, generosity, Social activity, diligence, discipline, and initiative are the basis of ateacher's diligence. Such qualities as decency, honesty, tolerance, conscientiousness, vigilance, self-awareness give rise to his moral qualities.

In addition, in order to achieve competence, a teacher must have the following professional qualities:

A good understanding of national and universal values;

Thoroughly mastered religious and secular knowledge;

Has pedagogical and psychological skills;

Deep knowledge of global scientific, theoretical and practical knowledge;

Loving children;

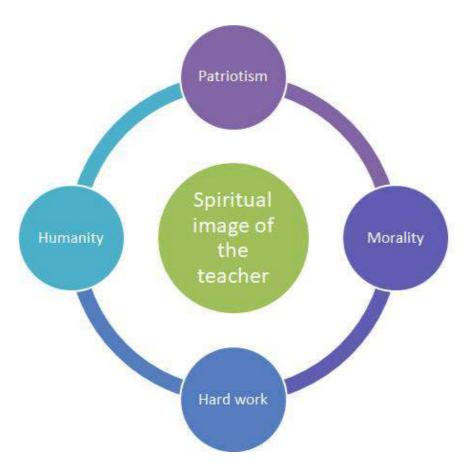
Strong speaker, logical thinker;

Cultured, aesthetically pleasing, able to be an example to students in all respects;

The whole faith:

Patriotic;

Should have a reputation in society.



In the ideological field, the teacher is required to have a scientific outlook and beliefs, social needs, understanding of civic duty, social activism. In the professional and pedagogical sphere, a teacher should love children, their profession and be interested in working with them. He must also be alert and observant, and have such qualities as pedagogical tact, pedagogical imagination, creativity, organization, honesty, assertiveness, perseverance, purposefulness.

The field of knowledge requires a wide range of scientific potential, spiritual needs and interests, the ability to feel innovation, the desire to increase pedagogical knowledge.

In the process of education, the teacher uses his reputation wisely and fairly, to develop in students such qualities as diligence, diligence, a positive attitude to learning, self-control, overcoming difficulties. To do this, it is necessary to use the method of all-round influence.

In short, a good knowledge of the psychology of youth determines the success of the teacher-student relationship, has a positive impact on the quality and effectiveness of education.

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#### EFFECTIVE TEACHING METHODS IN PRIMARY EDUCATION

Yuldasheva Gavkharoy

Primary school teacher of the 23rd school, Pakhtaabad district, Andijan region

Abstract: The term teaching method refers to the general principles, pedagogy and management strategies used for classroom instruction. The paper presents partial results of a comparison in educational approaches at primary schools in Uzbekistan. The attention is devoted to the use of teaching methods in practice.

Key words: transmissive approach, educator, organisational forms, Networking, small group, problem-based learning.

Currently many educational systems around the world are undergoing transformation. In addition to finding the optimal way to an efficient educational process based on curriculum innovation at all levels, one of the main features is also a transformation of the real educational process. One of the main principles is the implementation of constructivist elements into teaching, which gradually replace the traditional transmissive approach to education. This is mainly reflected in the transformation of teaching methods utilisation in education, which in lay far more emphasis on the co-operative elements in education and preference of a pupil's individuality. [1]

Modern pedagogy supports and promotes a teaching methodology that is both diversified and flexible, providing a very wide range of teaching-learning methods. The large number and the great diversity of teaching methods used in modern pedagogy provide opportunities for the enrichment and development of the teachers' teaching and educational expertise. A teaching method is an effective way of organising and guiding learning, a common way of procedure that unites a teacher's and students' efforts. A teacher's creativeness and personal development level determine how these teaching methods are used and combined. [2]

The teacher is the basic instigator of interaction with his/her pupils and he/ she can be such an instigator only with well organised teaching. Interactive teaching, a promising approach, represents a challenge not only for the teachers but for the professional service as well. The traditional teaching, dominated by a verbal approach and memorising of the teaching material, is entirely replaced with other activities, both in the process of following the teaching and in the process of learning the material. Application of interactive teaching within a class also dictates a change of the teacher's role. Such a change requires the teacher to possess knowledge, to be an educator, advisor, friend, organiser, coordinator, associate, assessor, in a word, to be a versatile person. More specifically, the teacher has a wider and more versatile role in interactive teaching. [3]

According to Ma??k and ?vec [4], a teaching method represents "a dynamic element" in teaching, which compared with the content and organisational forms changes relatively rapidly and adapt to new circumstances and objectives. The teaching methods, however, are not the decisive determinant of teaching, but only one of the elements of the educational system, and therefore cannot replace the missing content and compensate the indistinct target.

With interactive teaching, the pupil is positioned in the role of a subject and equal partner of the teacher. Teachers who respect their pupils and the pupils' opinion organise the teaching process in a way in which the pupils acquire knowledge more easily and at the same time, they instigate pleasure and curiosity in them during the implementation of the programme contents. [3]

"Networks" or "Cluster" method. In primary school, it is necessary to use the "Networks"

method to determine interdisciplinary knowledge through an integrated lesson or to determine what concepts they have understood in the previous lesson. This method is important in increasing students' learning activities. Usually, some students are slow listeners because the teacher explains the text to them, so there is a belief that the teacher is responsible for their knowledge. Through the "network" method, he or she tries not only to rely on the knowledge of others, but also to express their opinions. Networking (clustering) is a strategy of networking ideas, which helps students to play freely and actively on a particular topic. Networking is a strategy for working individually or in groups. It only requires the identification of connections between ideas, a structure that allows thinking. It is not a simple form of thinking, but is associated with brain activity.

The "small group" method can be used in a variety of ways, depending on the teacher's experience, skills, and creative approach. When dividing into groups, try not to offend or discriminate against students, to divide them into groups from the point of view of aesthetic taste, without disagreement. For this purpose, pre-made cross-sections (circles, triangles, rectangles, pentagons) are used on the basis of various games or, for example, colored paper in different shapes, in small volumes, taking into account the total number of students in the class. Interactive. - Student-student?, - Teacher-student? communication method. Helps to increase lesson effectiveness through collaborative work which encourages pupils to think independently. Q&A is done in pairs and in groups.

Problem-based learning is the effective study and management of the knowledge that is imparted to a student at what age and in what ways. In problem-based learning lessons, the teacher and the student work together at the same time, the student develops the ability to think creatively - a sign of human importance. The problem-solving teacher gets clear actions, the textbooks get the result every minute, creating an opportunity for useful and effective use. An important condition for solving this problem. Teachers entering into problem-based learning face a number of challenges. The importance of the teacher's innovative creative activity in overcoming these difficulties is great.

We conclude by emphasizing that the teacher's creative behavior is actually one of the factors that ensure the development of the students' creative potential. Applying the new innovative methods in teaching process like networking or cluster, small group method and problem-based learning will lead to effective way of learning, and also it will encourage students to develop knowledge and stimulate collaborative interaction between students.

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# WEIGHT-BEARING INDICATORS OF BOXERS IN WEIGHT TRAINING AS A COMPOSITION OF PLANNING AND IMPLEMENTATION OF THE TRAINING PROCESS

#### Dilmurodov Shukhrat Safarovich

miravoy University of Economics and diplomacy Teacher of the Department of physical culture and sports

Abstract. In this article, the problem of training heavyweight boxers in modern Boxing becomes extremely urgent, since heavyweight boxers cannot boast that heavyweight boxers and heavyweight boxers occupy a much higher place at the Olympic games and World Championships in front of heavyweight boxers. To some extent, the same situation indicates that the methodology used in training with them is not perfect. In Boxing, the search for effective ways to improve the level of sportsmanship of heavyweight boxers is considered one of the most pressing problems. To study and prove in practice the influence of weight indicators on the training process of boxers in the weight category.

Keyword: boxers of the heavy weight category, training process, weight indicators, athletes, methods

Introduction. In modern boxing, the problem of training heavy-weight boxers is extremely urgent, since heavy-weight boxers can not boast about the fact that they take place many times from the highest place on the podium in the Olympic Games and World Championships in front of light and medium-weight boxers.

To some extent, the same situation indicates that the methodology used in training with them is not perfect. In boxing, the search for effective ways that help increase the level of sports skills of heavy-weight boxers is considered one of the most urgent problems. Data on some features of the training of boxers of heavy weight are so small that it is impossible to develop an effective methodology of training on their basis. Until now, it is enough to admit that the planning and conduct of the training process of boxers of heavy weights is carried out according to the general scheme adopted for boxers of all weight categories. At the same time, the current level of sports achievements dictates the need to study and evaluate the interdependence of all systems of the organism of athletes, as well as their individual characteristics, as well as the impact on the outcome of sports. Therefore, among the numerous indicators of the individual characteristics of the organism of athletes, anthropomorphological signs, in particular, body weight, are of great interest.

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# "PAYING ATTENTION TO EXERCISES IN PHYSICAL EDUCATION CLASSES"

D.K. Yakhyoev

Teacher of physical education at school No. 238 in Uchtepa district of Tashkent

Abstract: The article describes the pedagogical aspects of a healthy lifestyle to improve physical and mental qualities in modern conditions, a serious focus on the hygienic health of the younger generation, personal and collective hygiene and the development of their physical activity.

Key words: healthy lifestyle, building skills and competencies, increasing physical activity, personal and collective hygiene, maintaining a moderate body temperature.

Health is one of the most important components of human development, a guarantee of an inalienable right to self-development, active participation in personal and social life.

It is known that in society, human health, physical fitness and a culture of healthy lifestyle are very important social values. Also, the health of the nation, the preservation of the gene pool of the people will be achieved in a positive way only due to a healthy lifestyle.

A healthy lifestyle is a way of life that aims to maintain and strengthen health by organizing daily life according to biological and social laws.

The problems of shaping a healthy lifestyle have recently received a lot of attention in the philosophical and social hygiene literature.

It should be noted that as we fight for a healthy generation, we will have to teach the nation to live a healthy lifestyle in order to achieve our goals. The school is a stage that prepares and guides students for social life. Because the starting point of every human virtue, such as goodness, is formed in school.

The science of physical education plays an important role in the development of the young generation as a whole, physically healthy, spiritually mature and harmoniously developed. Physical training is carried out in various types of work: in the service of the armed forces of our country, in sports and other socially useful work, with the



development of the necessary actions, skills and abilities.

So, unfortunately, in most educational institutions, there are cases of "Hands-on and floor-standing exercises" in general physical education classes. This shows that the teacher does not pay attention to "hygiene".

When students place their hands on the floor, the dust germs on the floor remain in their hands and they naturally rub their eyes, nose and face with their hands without washing their hands until the end of the lesson. Due to the irresponsibility of the "educator" who thought that this situation was insignificant, allergies, hepatitis "A", harmful microbes and sore babies are caused by dust mites on the skin. There are similar exercises even in the textbook (Physical Education 4th grade textbook. Seventh edition. Tashkent-2017. K. Mahkamjanov. Page 27 Figure 5.)

The saddest thing is that students rub their faces, eyes and noses with dirty hands during class. Such situations require the teacher's attention.

By the way, the skin protects the body from any adverse effects of the external environment, various harmful microbes, and helps the body to maintain a certain temperature on a regular basis. So, first of all, it is necessary to pay attention to keeping the body clean and increase physical activity. Therefore, it is important to get into the habit of washing your face and hands with soap and water on a regular basis.

When creating a set of general developmental exercises, it is advisable to include exercises designed to develop the muscles of the arms, shoulder girdle, legs and neck. Such exercises can be performed in different rows, in a circle, in a row of two or three people, in a spread, side by side, standing and walking with different objects.

The skin layer of our body plays an important role in the body's interaction with the environment. The skin layer protects the internal organs and tissues from the effects of the external environment, maintains a moderate body temperature. The normal course of these processes depends largely on the cleanliness of the skin.

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# PSYCHOLOGICAL PROTECTION OF STUDENTS AND PSYCHOLOGICAL SUPPORT OF COMMUNICATION IN THE MODERN EDUCATIONAL PROCESS

## Khodjaeva Dilnavoz Djumoevna,

The leader of the Primary School No. 17, Shakhrisabz, Kashkadarya Region,

Abstract: Teachers are exposed to a constant barrage of methodologies that promise to improve both instructional strategies and student learning through institute days, team meetings, seminars and the media. While some of this information is helpful, some of the suggestions have little or no empirical data to support their effectiveness. This paper will be focused on educational psychology to help students learn more effectively.

Key words: psychologists, Educational Technology, Instructional Design, Growth mindset, practice.

Educational psychology involves the study of how people learn, including topics such as student outcomes, the instructional process, individual differences in learning, gifted learners, and learning disabilities. Psychologists who work in this field are interested in how people learn and retain new information.

This branch of psychology involves not just the learning process of early childhood and adolescence but includes the social, emotional, and cognitive processes that are involved in learning throughout the entire lifespan. The field of educational psychology incorporates a number of other disciplines, including developmental psychology, behavioral psychology, and cognitive psychology.

In today's complex educational system, educational psychologists work with educators, administrators, teachers, and students to learn more about how to help people learn best. This often involves finding ways to identify students who may need extra help, developing programs aimed at helping students who are struggling, and even creating new learning methods. Some of the different topics that educational psychologists are interested in include:

- Educational Technology: Looking at how different types of technology can help students learn
  - Instructional Design: Designing learning materials
  - Special Education: Helping students who may need specialized instruction
  - Curriculum Development: Creating curriculums can maximize learning
  - Organizational Learning: Studying how people learn in organizational settings
  - Gifted Learners: Helping students who are identified as gifted learners

Educational psychology has discovered how thinking and learning can be improved in the classroom. There are some principles and issues which affect teaching and learning process.

- Growth mindset. Students' beliefs or perceptions about intelligence and ability affect their cognitive functioning and learning.
  - Prior knowledge. What students already know affects their learning.
- Limits of stage theories. Students' cognitive development and learning are not limited by general stages of development.
- Facilitating context. Learning is based on context, so generalizing learning to new contexts is not spontaneous, but rather needs to be facilitated.
  - Practice. Acquiring long-term knowledge and skill is largely dependent on practice.
- Feedback. Clear, explanatory and timely feedback to students is important for learning.

- Self-regulation. Students' self-regulation assists in learning and self-regulatory skills can be taught.
  - Creativity. Student creativity can be fostered.
- Motivation: What motivates students? Students who are motivated and interested in learning are more successful. Students tend to enjoy learning and to do better when they are more intrinsically rather than extrinsically motivated to achieve.
- Mastery goals. Students persist in the face of challenging tasks and process information more deeply when they adopt mastery goals rather than performance goals.
- Teacher expectations Teachers' expectations about their students affect students' opportunities to learn, their motivation and their learning outcomes. The beliefs that teachers have about their students affect students' opportunities to learn, their motivation and their learning outcomes.
- Goal setting of Setting goals that are short term (proximal), specific and moderately challenging enhances motivation more than establishing goals that are long term (distal), general and overly challenging. This principle explains how students can use short-term (proximal), specific and moderately challenging goals to increase self-efficacy and build toward larger goals. Students should maintain a record of progress toward their goals which is monitored by both the student and the instructor. After students experience success with moderately challenging proximal goals, they will be more likely to become intermediate risk takers, which is one of the most significant attributes present in achievement-oriented individuals.
  - Social contexts. Learning is situated within multiple social contexts.
- Interpersonal relationships. Interpersonal relationships and communication are critical to both the teaching-learning process and the social development of students. This principle provides detailed and specific guidelines for improving both teacher-student and student-peer relationships in the classroom.
- Well-being. Emotional well-being influences educational performance, learning, and development. Various components of emotional well-being can be included across many psychology units, such as self-concept and self-esteem (social psychology), self-efficacy and locus of control (motivation and personality) and happiness and coping skills (emotion and stress).
- Classroom conduct. Expectations for classroom conduct and social interaction are learned and can be taught using proven principles of behavior and effective classroom instruction.
- Expectations and support. Effective classroom management is based on (a) setting and communicating high expectations, (b) consistently nurturing positive relationships, and (c) providing a high level of student support.

While educational psychology may be are latively young discipline, it will continue to grow as people become more interested in understanding how people learn.

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## ENVIRONMENTAL EDUCATION AND UPBRINGING OF PRE-SCHOOL CHILDREN.

### Namazbayeva Lola Zakirova

Tashkent, Shaykhantakhur district GDOO 111 Educator-teacher lolanamazbaeva@gmail.com

Abstract: Environmental education and upbringing is one of the main components of the unified educational process. There are no age limits for forming the foundations of ecological culture, but it is easier to do this at preschool age: children are especially receptive, emotionally responsive, and positive. Systematic acquaintance with the world of nature, knowledge of its relationships and laws, careful attitude to it, a sense of responsibility for the surrounding world and, as a result, environmentally-literate behavior, constitute the essence of modern environmental education and upbringing.

Keywords: preschool child, nature, environmental education, environmental education, environment, environmental knowledge, educational process, environmental culture, methods and forms of organization of environmental education and upbringing.

#### Introduction

Human life is closely connected with nature, which has always been a source of material and spiritual forces for it. But today, humanity is faced with many problems caused by the consumer attitude of man to nature and associated with the low educational level of the population.

You can see how often children are sincerely happy when a flower blooms or watching a flock of fish in an aquarium, but at the same time they are able to mercilessly kick or tear an unfamiliar plant or crush an ant. The responsibility of parents and teachers in these matters is very high, which is why recently there has been an active discussion about spiritual and moral values, where environmental education is one of the main components of human spiritual development [1]. Environmental education is an integral part of a unified educational process that covers all age categories of students, from preschool children to University graduates. At the preparatory level corresponding to preschool age, the Foundation for further personal development is laid in the process of initial environmental education. That is why it is so important to carry out environmental education and provide education, to form a personality, to be able to live in harmony with nature, to feel part of it, for which the norm of life is a careful attitude to it. And it should start from early childhood. The main task at this level is to identify and develop the abilities, aptitudes and interests of the child, the development of needs for knowledge of the world. During this period, it is necessary to lay the foundations of ecological culture, the right attitude to nature, to oneself and people as part of nature.

The activity of a teacher in the process of environmental education of preschool children consists of two interrelated processes: environmental education and environmental education, which leads to the formation of students' environmental outlook, which is manifested in various forms of environmental culture. It is assumed that environmental knowledge acquired in the process of environmental education contributes to the formation of environmental consciousness, the external response of which is the appropriate behavior.

In order to achieve this, the general education program of preschool education has the following main tasks:

- Understanding the value of nature (nature can exist without a person, and a person

without the natural environment - can not);

- Awareness of yourself as a part of nature;
- Understanding that everything in nature is interconnected;
- Emotionally positive attitude to the world around you;
- Understanding the unique beauty of nature in all seasons;
- Active life position, love and respect for nature and all life in it;
- Awareness that human health depends on the quality of the environment;
- Awareness of the need to know the rules of behavior in nature and observe them.

Environmental education of preschool children aims not only to present relevant knowledge, but also to understand the ecological value of the natural environment in its unity with man.

Preschool children should be given knowledge in a form that is accessible to them in order to encourage further knowledge of the environment, develop and educate the child.

Thus, environmental education of preschool children is a basic component of the unified educational process. At the same time, the task of environmental education is to acquire knowledge about the environment and the relationship between natural objects, and the task of environmental education is to form a conscious and correct attitude to natural phenomena and objects; as a result, the child's environmental outlook is manifested in his behavior. From knowledge and attitude, the child's behavior is formed, and it is the child's behavior that is decisive in this process. And "correct behavior" is a reflection of the best qualities of the human soul in the corresponding actions. For example, responsibility, care, beauty and kindness.

When giving children information about the environment, an explanatory and illustrative method is used (story, explanation, conversation). The stories contain educational elements and use interesting natural material. Many classes are built in the form of a heuristic conversation with problematic issues, tasks that are solved during a conversation with children. This gives children the opportunity to learn to compare, analyze, use existing knowledge, and develop logical thinking.

When working with children, it is necessary to practice visibility - a variety of illustrations, herbariums, albums (tables, diagrams, maps, layouts, photos, natural objects).

Environmental knowledge is more appropriate for a child to receive in cognitive activities. Its main types are ecological excursions, observations, and walks.

Observation is the main method of introducing children to nature. This is an active form of cognition of the surrounding world, initial ideas about objects and phenomena of nature, as a result of which it can be considered as a cognitive activity and as a method of learning. Based on sensory perception, observation activates mental activity, allows you to compare and generalize objects, make logical conclusions.

For the formation of a conscious attitude to nature through observation, modeling activities are important - maintaining nature calendars, reflecting the results of observations in them. The nature calendar helps to consolidate the knowledge gained in the system, namely:

- To form children's idea of the regularity of seasonal changes, the characteristic signs of each month, the sequence and causes of changes in nature: the state of the weather, the life of plants, animals, work activities of children and adults;
  - Consolidate knowledge about the sequence of days of the week;
- Develop creative imagination, logic of thinking through the ability to generalize, systematize, draw conclusions and display them in drawings and graphic images [2].

The teacher teaches preschoolers to fill in the calendar pages themselves, navigate

its parameters, and correctly use the appropriate symbols. It is of great importance that this joint activity takes place over a long period of time and is carried out periodically - constantly throughout the school year.

Walking is a daily form of work where children, observing, get acquainted with the signs of objects of nature, phenomena that occur over a long time.

Ecological tour is a method of educational work that allows you to organize the observation and study of various objects and phenomena in natural conditions. During the tour, children get acquainted with the phenomena of nature in their natural relationships, with plants and animals in their habitat, with the destructive impact of man on nature.

This is followed by the work of children, conscious and emotionally positive, with elements of independence. Further, it is pointed out that children's ability to perceive nature in an aesthetic way, which contributes to a careful attitude towards it, while a special role is played by the artistic word in its various forms (literature, painting, music, etc.), through which the attitude to nature is artfully expressed, and which is a role model.

No less important is the continuous (systematic) communication of children with objects of wildlife that are sensitive to changes in the environment and are able to bring joy in communication.

The main form of preschool activity is educational games of ecological content. At the same time, the game is the main way for him to learn about the outside world, the main element of children's development, including environmental education. The game is a creative and emotional activity of children, full of joy, so its introduction into the educational process contributes to the creation of an emotional mood and motivation for environmental activities. [3]. You can use story-role-playing games, games with rules-story-moving, mobile, desktop-printed, as well as exercises of environmental content that develop children's independence, contribute to the acquisition of knowledge about the surrounding reality [4].

It is very helpful in consolidating the knowledge gained, creating interest in the environment using various quizzes, contests. Conducting educational activities of ecological content helps the educator to expand the aesthetic, cognitive, health-improving, practical significance of nature in human life. We use folklore material, fairy tales, and poetry about nature in environmental festivals. All children and their parents are involved in the celebrations, and each individual can express himself as an individual.

Organizing environmental exhibitions of children's drawings, illustrations for each season of the year, crafts from natural material, photo exhibitions contributes to the activity of children and parents, formation of steady interest to objects of nature, vision of beauty in the ordinary.

In modern practice of preschool education, the solution of environmental problems in the course of a heuristic conversation is widely used. Entertaining questions encourage children to think, teach them to be independent in the process of learning, activate initiative and give thought to criticism, form a creative attitude to the solution of the task. Children freely express their thoughts, doubts, follow the answers of their friends, agree or argue [2]. Since it is initially easier for a preschooler to establish similarities between objects of nature, the method of comparison allows you to deepen the thought process and identify more difficult to describe the differences between natural objects. Of particular interest and at the same time difficult for preschool children are provisions that contradict their own experience or already acquired knowledge, for example, "why do they say that it is spring, but in fact it is snowing so hard that the entire road to the kindergarten is covered with snow?" And you have to build a whole chain of conclusions to connect the learned knowledge and real facts into a single logical scheme.

In addition, the statement of a heuristic problem can serve as a basis for specific observations or experimental activities.

And, finally, the main condition for successful work on environmental education is the natural scientific awareness, environmental culture of teachers and, what is also important, parents, for the successful formation of the child's foundations of environmental consciousness. One should dwell on the personality of the teacher in the educational process, because, first and foremost, children learn by watching adult behavior, capturing his actions and his attitude to problems, so an adult, competent, tactful, with a sense of proportion, becomes a kind of sample. This is the most effective method - a personal example, because children, and especially preschoolers, are highly emotionally receptive and imitative.

#### Conclusion

To form the necessary skills and abilities of preschool children for environmentally competent and safe behavior in nature, and above all, a system of elementary ecological concepts. The solution of this problem is facilitated by the use of mainly active methods and forms of work with children. [5] Play, experimentation, observation, various creative works of children, the solution of entertaining speech and practical problems - today are considered as the most optimal ways to educate the foundations of environmental culture of the younger generation. Full-fledged environmental education of preschool children is the foundation on which the further versatile development of the individual will be built.

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## THE INFLUENCE OF MODERN TECHNOLOGY IN DISTANCE LEARNING AND BENEFITS OF ONLINE FIELD.

#### Shakhzoda Abdirasulova

Uzbekistan state world languages university shahzodaabdurasulova7@gmail.com

Abstract: These scientific studies indicate that technology is currently evolving and particularly advanced in the field of education. Online industry has expanded due to the modern technology. There are so many benefits of online learning such as time management, convenience that helps the budget and so on. Online learning in the field of technology will continue to grow in the futur.

Key words: Modern technology, online field, cyberspace, distance learning, human generation.

Technology is a system that relating to the techniques sphere and the main resource of daily devices of the social life. According to Shane (2009), technology was the application of materials, processes, techniques, and tools for human activity. The recent researches show that technology is going zenith fast. Therefore, it is particular event to see new generation of technological objects currently. Globally analysises indicate that almost 4,57 billion people active in social network, and it is accounted for 59 percent of world people. There is some evidence to suggest that technology has covered even the smallest of branch of the life.

Technology changes has been renewing from the 1950's to the present, then it considerably influenced online education during the time period. Previous studies have reported that PLATO was established by Daniel Alper and Don Bitzer and it was a home for the first internet based community designed for learning purposes(Davis, 1980; Hobbes, 2011). In general, this required higher technological knowledge in the same time, it demands to technologize learning process system. The data reported here appear to support the assumption that online field have widened the opportunities of humanity.

First of all, one of the facilities of distance learning is flexibility. Take into consideration, during the academic year a range of instructors and students suffer from parking, traffic and other problems. In online learning system they never face such kind of daily problems, even they can work during their studies.

Furthermore, online field enables learning possiblities those who out of city centre. Residences of rural distance don't have to go any development country or city centre to study. Apart from this, instructors and students have a great opportunity that are provided with cheap and fast research. Published books and some scientific pamphlets cannot be find easily. However, in online field, it is possible to find information searching and actually affordable price.

Overall, there seems to be some evidence to indicate that technological changes evaluating with modern thoughts of human generation's. Therefore, people arrived at high level of online branch. Today humanity those who studying via online gained several facilities in this field. Overall, online learning allow to be educated in spite of time, place, and other factors. Online learning will never stop improving, because the are of cyberspace is broadening in our life.

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# PHILOLOGICAL SCIENCES

# EFFECTS OF USING INTERACTIVE METHODS IN MOTHER TONGUE AND LITERATURE CLASSES

## Abdikodirova Farida Khasanovna

Teacher of native language and literature at the 30th comprehensive school Gurlan district of Khorezm region

Annotation: This article discusses the advantages of using interactive methods in native language and literature classes. It also aims to expand the scope of our students' independent thinking.

Keywords: Interactive, Blitz Poll, Venn Diagram, Chain, Role Play, Half Letter, Keys Stade, FSMU.

In today's developing independent Uzbekistan, it is very important to direct our students to education. Because the future of our country is in the hands of our youth. We know that most of our students spend most of their time in general secondary schools. Proper organization of their education is a high duty of teachers.

"A bad teacher" - says, "Good teacher" - shows. The modern teacher, on the other hand, effectively uses interactive methods in the teaching process, quickly realizes the gaps in the minds of students, finds solutions and fills them with knowledge and enlightenment.

How effective are interactive methods in education? Let's talk about that. There are many types of interactive methods.

For example: Role Play, Roundtable, Debate, Problem Situations, Chain, Half Letter, Letter, Blitz Questionnaire, Venn Diagram, Assistment Technology, Swot Analysis, Syncway and so on.

The use of these methods in language and literature lessons leads to a better mastery of the content of teaching. In time, asincere relationship is established between teacher and student. Teaching methods take different forms in the learning process (individually, in pairs, in groups, in large groups). The learning process is highly motivated by meeting learning needs.

Develops skills such as giving, receiving and processing information, interacting, expressing opinions, exchanging ideas.

How are our methods organized in the learning process?

The "half-letter" method can be used by our teachers to study the life and work of our poets and writers in the study of their poems and works. The condition is that you omit some parts of the text, ghazals and poems given in our textbook. Before applying the method, give students a complete study of the topic as a task.

In the literature lessons from the role-playing method, dramatic works written by our writers are staged during the lesson.

There are many types of problem situations method. "Keys stade", "FSMU" all study the origin, causes and solution of the problem. We often use this method in literature classes. The problematic situations at the beginning and end of the works written by the author are studied in collaboration with the teacher and the student, and in conclusion the floor is given to the students.

Venn diagram - this method is a comparative method, through the Venn diagram the lives of writers and poets are compared, the works they write. Similarities and differences

will be considered. The purpose of the method is to develop in students skills such as ingenuity, comparative reading, and further enhancement of knowledge.

The Blitz survey method can be used in both literature lessons and native language lessons. For example: in teaching literature genres in literature classes, including fairy tales, epics, short stories, short stories, novels, and so on. The native language, on the other hand, can be used to identify groups of word groups. The Blitz survey method encourages students to explore their mother tongue and literature more deeply in their hearts. This method can be used in topic reinforcement lessons.

The chain method, on the other hand, involves engaging the entire class in a lesson. Before using the method, the topic to be covered will be given as homework and will be given to students as a handout without any information left on the topic.

The Assistment method allows students to quickly assess their knowledge. In this case, questions such as the work of poets, writers or poems 1 test, the number of birthdays of writers this year with specific words of the verse are asked. The methods we have listed are of great importance, especially in the educational process. Through these methods, students not only acquire knowledge, but also develop the ability to apply the knowledge they have acquired in the future. Learns to look at life with a positive outlook. I think that if such educational methods are used in general secondary schools, in the educational process, on the basis of the topics given in the textbooks, in the form of booklets and textbooks, the quality of our education will increase.

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# SOCIO-PHILOSOPHICAL VIEWS AND REFLECTION OF THE PSYCHOLOGICAL STATE OF THE SPEAKER IN THE SPEECH.

Akbarova Zukhra Akmaljonovna - candidate of philological sciences, associate professor

Nazirjonova Farangiz Sukhrob kizi - student

Fergana state university

Abstract. The article reflects relationship between psychological state and socio-philosophical views, as well as the influence of these relations on the process of the speech activity of the speaker.

Keywords: the speaking subject, external and internal speech, the structure of speech, the sociality of the language

Communication arises from the needs of the speaker, so it is the main object. At the beginning of the conversation is the speaker. It is this speaking individual who acts in the form of two individuals, not one individual, in the process of preparing and speaking. In other words, there are two individuals in the same person. The speaker first speaks to himself, that is, exchanges ideas, works again and again. From this point of view, the speaking individual is an object consisting of two people as an addressee. When the speaker speaks to the "I" and hears his opinion, he expresses it to another, that is, to another object that is the addressee. So the communication process is also a complex process.

The speaker is a subject who expresses his speech based on a specific society, the social environment in which he lives, his personal views and psychological state. Depending on the content of the speech, the speaker first addresses himself. Accordingly, this process involves three objects. In this case, the subject has two objects of its own - the external "I" and the internal "I"; the third object is outside the "own" - the object to which the reference is addressed.

While the socio-philosophical views of the speaker are reflected in the attitude to the psychological state of the other, the activity of the mind in the same situation plays a decisive role. Human thinking does not stop even in the process of speech, it is constantly working. "The human mind is not haram, but it is a workshop, and man is a worker in it" [1,17]. The speaker, that is, the subject of the appeal, thinks and judges within the limits of his consciousness, which is "grown" in this workshop. In this case, 1) the verdict of appeal or not, 2) the verdict of how to appeal is confirmed by the activity of the mind, and the firm verdict, which is confirmed and stabilized, is formed through the internal speech of the speaker-subject. Reflecting on this, V.F. Petrenko writes that the possibility of verbal communication with other people, according to MM Bakhtin, leads to the emergence of autocommunication, which is the basis and mechanism of consciousness, an internal dialogue with itself, "when the mind moves, the dialogue begins."

Whether or not speech occurs depends on the cessation of autocommunication in the subject9' mind. Because "thinking is especially closely connected with inner speech" [2,457]. S.L. Rubinstein continues: "L.S. Vygodsky, who studied the features of the internal speech structure, characterizes this speech structure as predicative" [3,457].

So, judgment is formed and realized through internal speech. This idea is also confirmed by other great scientists. The conclusions of I. Kant and T. Gobbs were also drawn by E.N. Panov and N.D. Artyunova, based on the views of philosophers on the sociality of language, thought, thinking, psychological and emotional-emotional aspects. "The great

philosophers of the past have always emphasized the connection between language and the thought process. The famous eighteenth-century philosopher Immanuel Kant writes: "To think is to speak to oneself ... to hear oneself (by imagining what is remembered) inwardly" [4,9]. When desire, hatred, hope, and fear arise in the human heart for the same thing, and the idea of the good and bad consequences of whether or not that thing emerges alternates in our minds ... the desires, hatred, hope, and fear that are exchanged in our hearts all come true. the period elapsed before it is increased is called the period of reflection" [5,6].

Because through them the evolution of knowledge related to the development of language from the beginning to the present day, its connection with consciousness and thinking, and its functions is observed. Throughout his life, humanity has treated itself and its language within the framework of its life experiences and the knowledge gained on this basis.

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# DIFFERENT ASPECTS OF PRONUNCIATION IN FOREIGN LANGUAGES

National university of Uzbekistan Senior Lecturer: **Akhrarova F. Band Abdullaeva Z.M.** 

Abstract. In this academic paper, pronunciation teaching is examined from a historical point of view. In more detail, the article concentrates on the role of pronunciation within different approaches to foreign language teaching, and it tracks important changes in methods of pronunciation training and the most salient shifts in general principles, overall goals, and foci of pronunciation teaching.

Keywords: classroom practices, foreign language teachers, pronunciation, teacher beliefs, teacher questionnaire

The foreign language is well-defined by many prominent scholars in foreign countries and the United States. In this article, however, we shall try to follow the conception introduced by scientists. The sociolinguistic situation in some countries is very complicated. It is molded by certain linguistic, cultural, historic, demographic, geographic, political and other factors. For example: America, Germany, French and USA.

Generally speaking, the situation in the USA may be characterized as exoglossic, i.e. having several languages on the same territory, the balance being in favor of American English. It is true, of course, that the formation of the American Standard underwent the influence of minorities' languages, but its starting point was the English language of the early 17th century. However, time has passed, American English has drifted considerably from English though as yet not enough to give us ground to speak of two different languages. Thus we speak of the national variant of English in America. Foreign language shows a lesser degree of dialect than British English due to some historical factors: the existence of Standard English when first English settlers came to America, the high mobility of population, internal migrations of different communities and so on. As regards pronunciation, however, it is not at all homogeneous. There are certain varieties of educated American speech. In the USA three main types of cultivated speech are recognized: the Eastern type, the Southern type and Western or General American.

- 1. The Eastern type is spoken in New England, and in New York city. It bears a remarkable resemblance to Southern English, though there are, of course, some slight differences.
- 2. The Southern type is used in the South and South-East of the USA. It possesses a striking distinctive feature vowel drawl, which is a specific way of pronouncing vowels, consisting in the diphthongization and even diphthongization of some pure vowels and monophthongization of some diphthongs at the expense of prolonging ("drawling") their nuclei and dropping the glides.
- 3. The third type of educated American speech is General American (GA), also known as Northern American or Western American spoken in the central Atlantic States: New York, New Jersey, Wisconsin and others. GA pronunciation is known to be the pronunciation standard of the USA. There are some reasons for it. GA is the form of speech used by the radio and television. It is mostly used in scientific, cultural and business intercourse. Also in two important business centers GA is the prevailing forms of speech and pronunciation, though New York is situated within the territory where Eastern American is spoken, and St. Louis is within the region of Southern American. In this chapter we shall give an outline of GA accent. We will then point to differences between this accent and RP.
  - 1. There is no strict division of vowels into long and short in GA, though some

American phoneticians suggest that certain GA vowels are tense and likely to be accompanied by relative length: [i:] in seat, [u:] in pool. They also admit that a slight rise in tongue position during the pronunciation of tense vowels leads to a diphthongal quality of tense vowels which contrasts to a monophthongal quality of lax vowels.

- 2. Classification of vowels according to the stability of articulation is the most controversial subject in GA. Some diphthongs are treated in GA as biphonemic combinations. The inventory of GA diphthongs varies from three to twelve phonemes. Following DA.Shakhbagovawe distinguish here five diphthongs in GA: [ei], [ai], foi], [auj, [ou].
- 3. Another very important feature that causes different interpretations of diphthongs and vowel length in GA is the pronunciation of [r] sound between a vowel and a consonant or between a vowel and. a silence: turn [t3:rn], bird [b3:rd], star [star]. It has been estimated that 2/3 of American population pronounce [r] and 1/3 omit it. Thus GA is rhotic in words like far, core, etc. (when [r] follows the vowels and ends the word), this sound is consonantal and non-syllabic according to Ch. Thomas. It involves the characteristic hindering of the free flow of breath which we associate with consonants. The sound [r] in far closes the syllable more definitely than in British Received Pronunciation of the word [fa]. On the other hand, there is a vocalic, or vowel-like and syllabic [r], that occurs in words like bird, murmur (after a vowel and before a consonant). Ch. Thomas writes that in such cases we should better transcribe the words bird and murmur like [brd] and [mrmr]. In such cases [r] is responsible for the characteristic vowel-like quality within the syllable; it is responsible for syllabic quality as well. That's why Ch. Thomas says that [r] syllabic in bird and [r] non-syllabic in far should be transcribed differently. According to V.A. Vassilyev it is still the vowel of the word that forms a syllable ([3;] in bird, [o:] in corn, etc.), not the syllabic [r] sound. He mentioned although that all the vowel sounds in pre - [r] position sound more like [a], [r] gives the preceding vowel aretroflex coloring. It means that the tip of the tongue glides to the retroflex position without, however, staying there long enough to produce a full-fledged retroflex [r] sound, [r] also prolongs the vowel a little. V.A. Vassilvev uses the term "[r] - compensating" vowels for the vowels in such words in British Received Pronunciation.
- 4. One more peculiar feature of pronunciation of vowels in American English is their nasalization, when they are preceded or followed by a nasal consonant (e.g. in such words as take, small, name, etc.). Nasalization is often called an American twang. It is certain that we have not covered here all the cases of different intonation structures used in RP and GA. Recently there have appeared in this country several papers and books on the subject, so for further information see those books.

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# ABOUT DIFFERENT APPROACHES TO THE CONCEPT OF EQUIVALENCE IN TRANSLATION IN 1990S

## Azizbek Mukhamedov

Jizzakh State Pedagogical Institute Faculty of Foreign Languages e-mail: azizbek-uzb@mail.ru

Abstract: The article investigates approaches to the concept of equivalence in the 1990s and analyses various views of scholars such as Maria Calzada-Perez, Mary Snell-Hornby and Hans J. Vermeer.

Keywords: translation process, equivalence, translation's identity, interpretation, literary translation, cultural transfer, translator.

Scientific literature and publications of the last decade of the 20th century devoted to "equivalence" and its interpretation shows an attempt to overcome existing norms of this concept. A salient example is an article "Trusting the translator" (1993) [1,158-178] by a Spanish scholar Maria Calzada-Perez. The article was published under the long sarcastic subtitle: "Theoretical and descriptive study of different approaches to the concept of equivalence and speech, with some deviations from these approaches". Relying on number of eminent scholars' opinions (including Eugene Nida), the author analyses several interpretations of "equivalence" and considers even the most successful ones to be completely imperfect.

Performing her brief critical analysis (and quoting Andr? Lefevere and Susan Bassnett), Calzada-Perez concludes that translation process is not determined only by searching for equivalence, but it is also defined by the translator's identity, and whether we should trust the translator or not. Thus, equivalence is deprived of an objective criterion, and it becomes a subjective concept related to the identity of whoever translates. No translation can be evaluated identically or equally and various translations should not be contrasted. "On the contrary, they should be seen as the translations that complete one another. After all, the more frequently a book is translated, the better it will be realized and accepted in a different cultural environment and setting. There is no perfect translation, yet a translator should strive to achieve the goal as completely as possible." [2, 170,171].

The dispute over the legitimacy of the concept of equivalence led to the development of two directions in the field of general translation theory that had severed the absolute connection with linguistics. This phenomenon, as it turned out, could resemble a powerful mutiny on board of an academic ship.

One of such directions was founded by a British-Austrian translator and scholar Mary Snell-Hornby and her colleagues, mainly from German-speaking countries. They viewed translation as a "cultural transfer" in a broader context. According to this view, key aspect of understanding translation is to analyze its performance and how it operates in a new cultural environment. They expressed current rule as "the dominant (primary basis) of any translation is the goal. "Such a primary basis for the "Skopos-idea/theory" (Greek skopos - goal) was developed by Katharina Reiss and Hans Josef Vermeer in their "Groundwork for a General Theory of Translation" [3].

The author of "The Turns of Translation Studies: New Paradigms Or Shifting Viewpoints?" Mary Snell-Hornby stated that translation science ("?bersetzungswissenschaft") should not be considered as a "private branch of linguistics" (ie, not included in "practical linguistics"). Contrastingly, it should be, by its very nature, an independent, interdisciplinary, and multi-perspective discipline. It is also

necessary to bridge the gap between theory and translation. Because "the goal of translation theory is not only to understand the translation process, but also to create space for a translator to work, and the ultimate goal of these two should be to pave the way for a good translation." [4,12]. Therefore, translation (excluding machine translation, which is a separate, atypical event) should not be described as a "re-encoding" process. Translators, on the other hand, should not be considered as a passive, mechanical device, such as a broadcast relay station. Translators deal with the whole text, which is "a verbalized (linguistic) part of culture in society" and not with separate "micro-conclusions" that come one after the other and form a "queue".

While noting the "illusiveness" of the concept of "equivalence," scholars who retained the idea of "text" and are accustomed to understanding translation in the context of "cultural transfer" were not unanimous in interpreting the relationship between literary translation and other types of translation (although, any translation has the right to be referred as a tool of cultural interaction). For example, Mary Snell-Hornby states that there are fundamental differences between various texts, while Hans J. Vermeer argues the opposite: "I do not agree that there are fundamental differences between literary translation and other types of translation. There are only different levels between the two (Gradunterschiede) [5,35]. There are differing opinions and approaches among the representatives of this direction on other issues as well. That is why M. Snell-Hornby emphasizes that articles included in the book are not "unified" (mutually coordinated), and therefore readers themselves should critically review and consider new thoughts and ideas.

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## THE NEW METHOD OF TEACHING PHYSICS

Begmanova Orazgul Embergenovna

Teacher of Physics in School №29, Nukus city

Abstract: Physics is the ground of all nature sciences. It gives to us clear imagine of the world. Because of this we have to find the most interesting and clever method of teaching physics. It is really difficult to remember definitions and formulas. But it is encouraging and fascinating to rediscover everything by ourselves. This research will discuss new methods of teaching physics in school education system.

Key words: teaching physics, typical, technology, communication, conceptual knowledge, empirical enquiry.

The new method of teaching physics is by innovating observation the past discoveries and facts. We can do almost every experiment by ourselves not only the easiest ones. We have to think more, and learn by heart only few obligated topics. A study was conducted of a target group of children at school and students in university about different types of education. More than 70% prefer to study through experiments. The new method of teaching will bring back the interest of science. Everyone can achieve much in their life, only if they have devoted teacher and opportunities for the development of thinking.

Research into teacher thinking offers potential insights into ways of promoting better teaching. A recent qualitative study explored the views about physics, and learning and teaching physics of a group of teachers whose classroom practice was 'traditional' and a group who used conceptual change teaching approaches. This paper focuses on the views about learning physics held by the two groups. To summarize and compare the groups, acomposite description was created for each group. This composite description represents all the common views of teachers who were in that group. The composite description is termed 'typical' teacher.

Technology has permeated all the spheres of human life, including most of our educational undertakings. It is commonly construed that its non-use is tantamount to a regressive attitude towards the 21st century. Mobile tablet devices and smartphones provide users with continuous and ubiquitous access to the Internet with the emphasis being on finding information efficiently and ensuring constant social presence with other people. Instilling mobile learning transformation in schools is not simply about delivering content to mobile devices. It is the process of coming to know and being able to operate successfully within and across new and ever-changing contexts and learning spaces to deepen student learning. Mauritius is investing massively in the use of technology in teaching and learning in primary and secondary schools altogether. However, until now technology is used as a means for teacher's demonstration rather than as a pedagogical tool that is guided by means of a framework for integration.

Since discussions unfurl through the joint activity of the two instructors and understudies, the possible coherencies of desultory practices between various homerooms merit consideration. In this paper we investigate such digressive examples by utilizing a system dependent on situating hypothesis to examine one class of understudies' connections with three unique material science educators. The point of the paper is to distinguish the verbose examples of school material science that unfurl in educator understudy connections and show how coherencies of examples between various circumstances in various homerooms are interpreted.

Science instruction research has a long convention of studies investigating understudies' improvement of reasonable and procedural comprehension in communications and

supporting the advancement of such comprehension through exploration based educating and educational plan advancement. In any case, in the course of the most recent twenty years the science personalities of understudies as delivering and being created by sociocultural talks about science has increased expanded consideration in science training research. Studies concentrated on understudy personalities and commitment have regularly been propelled by the challenges in enlisting and holding science understudies, specifically ladies and minorities. Following crafted by Brickhouse, Lowery, and Schultz (2000) on how four center school African American young ladies connect with science, countless investigations have examined the affordances and imperatives of describing and performing science characters for various understudies. These examinations show how understudy distinguishing proof and commitment with science is delivered in complex layers of communication between an understudy's experience and social assets and a specific science setting (Archer et al. 2017; Barton, Tan, and Rivet 2008). For instance, Archer et al. (2016) found that regular workers, ethnically differing young men had the option to take up places of logical ability in casual science instruction settings through exhibitions of 'solid keenness', that is sure, self-important showcases of information and knowledge. In any case, these exhibitions additionally fortified prevailing elitist portrayals of science and recreated predominant talks of science as definitive, brainy and manly (Archer, DeWitt, and Willis 2014).

Storyline 1: dealing with physics problems in terms of reaching a solution to textbook problems. In storyline 1, physics is positioned primarily as a means to solve problems, typically from the textbook, in order to find the correct answer through calculation. In this storyline, the desirable physics student can solve textbook problems correctly, that is, can get the right answers. This does not necessarily imply conceptual understanding, as earlier research has shown that students can often solve mathematical physics problems without the associated conceptual understanding.

Storyline 2: dealing with physics in terms of gaining conceptual knowledge. In storyline 2, physics is positioned as phenomena that can be made understandable through conceptual discussions using examples from everyday life or conceptual metaphors. In this storyline the desirable physics student not only knows how to solve textbook problems mathematically but also understands the concepts behind the formulas.

Storyline 3: dealing with physics as empirical enquiry. In storyline 3, physics is positioned as a method of investigating reality. In this storyline the desirable physics student is careful not to be led astray by theoretical physics models, it is the real-world objects, with certain properties and constraints, that are under investigation. A strong focus on what is possible in the real world ought to be guiding the reasoning is most relevant here. For example, when solving a physics problem about an ox dragging a box on the ground.

To sum up, physics is a complex subject which we face and use it during our lives. In order to teach it properly and with new teaching methods using technical tools and find out suitable methods three storylines were chosen in this research, and these methods will be helpful for every physics teacher in secondary schools.

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# THE BASIC SIGNIFICANCE OF THE CONCEPT OF GLOBALIZATION. THE ROLE OF GLOBALIZATION IN THE TOURISM SYSTEM

Esanbekova Mohinabonu Ulug'bek qizi - Student Uktamova Navruza Botir qizi - Scientific advisor; UsZWLU Faculty of Lower Courses

Abstract. This investigation is directly related to the current process of globalization. The origin and history of the term globalization, the positive and negative effects of this process on the world, their prevention and what research is being done by scientists in this regard. In addition, this study discusses how this process of globalization is affecting global tourism industry, and how it is bringing us good and bad consequences for the economic, educational, and political spheres.

Key language: culture, imperialism, internet, industrialization, capitalism, united nations, economics, trade, tourism, technology, multinational, production, internationalization, consumerism, innovation, protectionism, inequality.

Introduction. In the 21st century, radical changes have taken place in world civilization. It is difficult to imagine any sphere of our lives today without new inventions. In fact, what is globalization and how does it affect international relations?

Russian scientist L.E. According to Green, "Globalization is the result of the integration of regions and the world as a whole. In fact, it is a process that results in the world becoming more connected and inclusive of all its subjects.

In addition to the above, it should be noted that the term Globalization was first used by Giddins in the 1960s 1. The term was almost never used until the 1990s. However, by 1985, the American sociologist R. Robertson defined the term "globalization" 2. The term globalization was first used by economists in 1981. From the above definitions, it is clear that the process of globalization still exists in its diversity and significance. There is no clear and unambiguous analysis of it. Globalization is a multidimensional process that encompasses all areas through a variety of methods and tools. In particular, it is safe to say that the concept of integration is included in the dictionary of each nation.

It should be noted that globalization has also affected the tourism industry. In modern times, tourism is one of the fastest growing sectors of the world economy. Its vast potential is becoming a major source of income for thousands of countries. According to the United Nations World Tourism Organization, 1 billion 184 million tourists were registered worldwide in 2015, and in 2016 this figure reached 1 billion 235 thousand. That means 3.9%. The total value for attention paid to travelers in 2015 was \$1.5 trillion. It is clear that these figures will increase significantly in 2016-2017. Of course, this is not without the effects of globalization.

For example:

Under the influence of globalization, transnational corporations are integrated, which means that a tourist can have full information about any destination he wants to visit. You can also use the navigator program through Google.

By bringing the world closer, that is, by globalization, people's thinking expands. This means that anyone who wants to open a travel agency has the opportunity to follow the example of the world's leading agencies.

Contrary to the above, however, in today's age of technological advancement, globalization, also known as spider web, is wreaking havoc on the entire world with its negative consequences. We can cite a few examples as proof of our point.

In order to increase the potential of tourism, changes and improvements are being

made day by day. For example, in most five-star hotels, the service is in the hands of robots. This leads to unemployment or lack of vacancies.

As a result of unemployment, there is a spontaneous division among the nation.

Hunger or not following a proper diet can lead to various diseases on its own. COVID-19, which is currently shaking the whole world, is a clear example of this.

If our world continues this imitation, no doubt our world will become a world of arrogance. The sun may not shine, and we may lose the air we breathe. Robots also do the normal work of humans. There are very dangerous types of diseases. Such negative changes will have an impact on future generations.

Of course, all the negative effects listed above are not without the effects of globalization. After all, the proverb among our people: "The other side of the coin will be" is not used in vain.

Conclusion. In short, if globalization in some sense brings color to our lives, that is, at a time when it is progressing in the economic, social, political, cultural, educational spheres, we must not forget its negative consequences. This is the duty of all of us. Protecting nature and ecology is our highest duty!

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# TECHNOLOGY OF TRANSLATION IN TEACHING LANGUAGES

# Eshankulova Adolat Haydarovna

Docent of Russian language philology faculty of Termez State University

Abstract. This article deals with the technology of tranlaton in teaching languages. Today learning and teaching is the most useful and enjoyable job in the world.

Key words: e-learning, resource, technology, computer, useful

There are reasonable grounds for supposing that only studying a foreign language, without supplying some cultural awareness is not enough to provide for mutual benefit in the international relationships. This foundation serves as a starting point for the origin of a new science. The primary aim of the investigation is to prove that the language stands into the close contact with culture and history. Consequently their synchronic research would be very useful for language education. The goal of teaching speaking skills is communicative efficiency. Learners should be able to make themselves understood, using their current proficiency to the fullest. They should try to avoid confusion in the message due to faulty pronunciation, grammar, or vocabulary, and to observe the social and cultural rules that apply in each communication situation. To help students develop communicative efficiency in speaking, instructors can use a balanced activities approach that combines language input, structured output, and communicative. Language input comes in the form of teacher talk, listening activities, reading passages, and the language heard and read outside of class. It gives learners the material they need to begin producing language themselves. Language input may be content oriented or form oriented. Content-oriented input focuses on information, whether it is a simple weather report or an extended lecture on an academic topic. Content-oriented input may also include descriptions of learning strategies and examples of their use. Form-oriented input focuses on ways of using the language: guidance from the teacher or another source on vocabulary, pronunciation, and grammar (linguistic competence); appropriate things to say in specific contexts (discourse competence); expectations for rate of speech, pause length, turn-taking, and other social aspects of language use (sociolinguistic competence); and explicit instruction in phrases to use to ask for clarification and repair miscommunication (strategiccompetence). In the presentation part of a lesson, an instructor combines content-oriented and form-oriented input. The amount of input that is actually provided in the target language depends on students' listening proficiency and also on the situation. For students at lower levels, or in situations where a quick explanation on a grammar topic is needed, an explanation in English may be more appropriate than one in the target language. Structured output focuses on correct form. In structured output, students may have options for responses, but all of the options require them to use the specific form or structure that the teacher has just introduced. Structured output is designed to make learners comfortable producing specific language items recently introduced, sometimes in combination with previously learned items. Instructors often use structured output exercises as a transition between the presentation stage and the practice stage of a lesson plan. textbook exercises also often make good structured output practice activities. In communicative output, the learners' main purpose is to complete a task, such as obtaining information, developing a travel plan, or creating a video. To complete the task, they may use the language that the instructor has just presented, but they also may draw on any other vocabulary, grammar, and communication strategies that they know. In communicative output activities, the criterion of success is whether the learner gets the message across. Accuracy is not a consideration unless the lack of it interferes with the message.

In everyday communication, spoken exchanges take place because there is some sort of information gap between the participants. Communicative output activities involve a similar real information gap. In order to complete the task, students must reduce or eliminate the information gap. In these activities, language is a tool, not an end in itself. In a balanced activities approach, the teacher uses a variety of activities from these different categories of input and output. Learners at all proficiency levels, including beginners, benefit from this variety; it is more motivating, and it is also more likely to result in effective language learning. Students often think that the ability to speak a language is the product of language learning, but speaking is also a crucial part of the language learning process. Effective instructors teach students speaking strategies -using minimal responses, recognizing scripts, and using language to talkabout language -- that they can use to help themselves expand their knowledge of the language and their confidence in using it. These instructors help students learn to speak so that the students can use speaking to learn. Language learners who lack confidence in their ability to participate successfully in oral interaction often listen in silence while others do the talking. One way to encourage such learners to begin to participate is to help them build up a stock of minimal responses that they can use in different types of exchanges. Such responses can be especially useful for beginners.

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# AMIR TEMUR'S INTERPRETATION IN THE WORKS OF HAZRAT NAVOIY

# Khayitov Khamza Akhmadovich

He is a teacher of native language and literature at the 30th comprehensive school of Bukhara district.

# Akhmadov Humoyun Khamzayevich

2 nd year student of Bukhara State University, Faculty of History and Cultural Heritage.

Abstract: This article discusses the artistic interpretations of the great historical figure Amir Temur in classical literature, in particular, in the works of Hazrat Alisher Navoiy. Key words: Shakhrisabz, Samarkand, Movorounnahr, Hazrat ul-abror, son-in-law of the khan, Majolisun nafois, Khoja Boyazid, Bobo Sungu, Nasayim ul-muhabbat, Doro, Iskandar, Faridun.

One day, Amir Temur's father gave him a flock of sheep and told him to come to the market in Samarkand for money. When he sells the sheep for a thousand coins, the market becomes. As he holds a piece of paper with a poem in it, he encounters a potter explaining something to people. "Whoever buys this poem for a thousand coins will succeed," he said. Without hesitation, Timur gave a thousand coins and took the paper. "Read this to your father," said the man who sold the poem. Timur brings the paper and gives it to his father. This is the rubai of the famous poet Kamal Khojandi, which reads: "It is impossible to make a name for oneself in the world through oppression. Jamshid, Suleiman, Alexander have passed, and it will be your turn. Make a name for yourself when you are born. "A thousand and one doubts that my father must have fought a great battle - Timur, trembling with suspicion, suddenly heard the words: "My son, you have spent money in many good ways," said his father. - Now this wisdom must be strictly followed for a lifetime. [1,161.]

Scholars from all over the world have been studying the personality of the great commander Amir Temur, who is described in the legends as such a wise, generous, prudent and thoughtful among our people. The great thinker Alisher Navoiy is also highly respected in the works of Amir Temur. As a proof of our opinion, "Nasayim ul muhabbat min shamayilul futuvvat" ("Nasayim ul muhabbat min shamayilul futuvvat" written in 901 AH, 1495-1496 AD on the basis of many years of knowledge, experience and conclusions accumulated in the last years of his life as a prelude) Here is a short excerpt from the commentary "The winds of love that spread the fragrance of greatness"): "Temurbek was famous when he was walking in the majesty of Khurasan's property, when he was Andhudra, he went to the service of Bobo (meaning Sheikh Bobo Sungu H.H) Then he sat down and ate some meat on a table in Bobo Illay. He took a sheep's head and threw it at Temurbek. Temurbek was very wise and intelligent: "Khorasan is called the heart of the earth. Ali Bobo referred us! "knowing this prophecy, he took the property of Khorasan. And the tomb of Bobo Sungu is also in the town of Andhud. [2,470.] We read and continue our thoughts from the works of another Hazrat: The Sahibkiran conquered, conquered several territories, and inflicted great terror on the enemy. The enemies became infidels, and the emperor ordered them to be annihilated. Each soldier volunteered to be beheaded. Heads filled the air like stones in a flood. Sharp daggers were everywhere. At that moment, two poor fellows came face to face with the killers. One of the soldiers tried to cut off the head of one of them. If he doesn't obey the horn, he's going to die! He took out his dagger and tried to cut off the head of the Indian. His friend saw his head under the sword and opened his head. He begged. The soldier had left the previous Indian and raised a knife to kill the next one, and his comrade put his head on the killer's bear and wished to kill himself. The angry soldier said, "Whoever raised a dagger to one of you would be beheaded, and the other would cry out in agony. Two friends were arguing with each other to cut off their heads first. As the situation continued, a public order was issued to save those who had stopped killing Al Amon. The two friends sacrificed their lives for each other, and the horn still ordered the blood to be shed. " [3.48.] "I have used these councils and measures to conquer other countries, to rule them, to break the enemy's armies, to trap the enemy, to turn the opposition into a friend, to treat the enemy as a friend, to make peace," he said. [4.9.]

Amir Temur was a great statesman of the Middle Ages, a great commander, the founder of the Timurid dynasty. His mother, Takinabegim, was from Bukhara. He served several rulers until the age of 25 in order to strengthen his strength, zeal, and will. During this period, Movorounnahr was divided into several emirates. Conflicts between tribes and ethnic groups were at an all-time high. In this situation, Amir Temur, due to his military and diplomatic skills, was able to rise to the rank of governor of Kesh. In 1370, Amir Temur marched from Kesh to Balkh, defeated the forces of Amir Hussein, and after his opponent was killed, he married one of his wives, Saraymulkhanim. In connection with the marriage of the khan's daughter, Amir Temur was named "Koragon", which means the khan's son-in-law. In 1370, nomadic nobles, settled feudal lords and Muslim scholars proclaimed Amir Temur as the Emir of Movorounnahr. Amir Temur turned Samarkand into the state capital. He started the "3-year war" in 1386, the "5-year war" in 1395, and the "7-year war" in 1399, and carried them out consistently. In 1404 he returned to Samarkand to prepare for a march to China, and in 1405 he set out with his troops and died of an illness when he arrived in Otrar, northeast of Tashkent.

The name of Amir Temur is reverently mentioned in 9 places in 6 of Navoi's works. In "Hayratul abror" "Four nations khan Temur Kuragon) chapter 38)" Jahon khan Temur Kuragon "(chapter 48)" Farhod and Shirinda "" Temurkhan "(chapter 53)" Majlis ul Nafois "In" The Garden and Salad of Muluk Trees, Oman of Pearls, Haqqan Jahangir Sahibqiron "(7th session)," Muhokamatul Lug'otayn "in" Sultan Sahibqiron Temur "Koragon (p. 534), -letter) [5.64.].

Of course, the great figures and heroes of our nation will live forever in the works of our people. Moving from mouth to mouth, from book to book, it is a step towards eternity. We would like to conclude with the quote of the German philosopher Friedrich Nietzsche, who was a professor at the University of Basel at the age of 25: "Sometimes you have to sacrifice your life in order to be involved in eternity." [6.390]

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## POETICS OF LYRICAL SET

M.K.Orazimbetova

researcher Karakalpak state university named after Berdakh

Abstract: Lyrical sets have been remained as a special lyrical form in the literature of world nations. Giving theoretical definition about poetical feature of such kind of lyrical form which fulfills one lyrical function combining several lyrical poems together, classifying them, defining the role of them in Karakalpak literature and showing the way of evolutional development is one of the most important issues of science of literature. Poets who has been improving the karakalpak lyrics from idea, meaning and lyrical form sides carry out different lyrical researches when expressing their moral experience. Altough aspects of lyrical sets appeared as a result of such researches are observed in Karakalpak literature in XIX, its evolvement as a specific literal form coincides 60-70s of XX century.

Key words: a set, composition, poetics, lyric character, literal component

In literature, combination of several works on a certain goal is called a set. Sets include a group of works which are combinated by genre and thematic sides, the works in sets can be seen as a separate lyrical work. Epic, dramatic and lyrical sets are marked in artistic literature [1:117]. However, any group of literal works cannot combine to one set. The same topic or authorial emotion plays a main role on combination of several works to one poetic structure, each work in the set expands poet's thoughts and it enables to express lyric character's outlook to the reader as a whole state. Lyrical sets have their certain features and developing principles. Currently, lyrical sets have been completely shaped as a literal form in Karakalpak poetry. According to specialists who reasearched Karakalpak lyrics, high development of lyrical sets in Karakalpak literature coincides to 70-80s of last century [2:102].

Indeed, good examples of lyrical sets were appeared in XIX in Russian, Uzbek literature. Emerging sources of lyrical sets in the whole Turkic literature have not been fully studied yet. However, the issue of studying them is not he same in the literature of all nations. This issue was studied more in Russian literature. For instance, lyrical sets of A.S.Pushkin, M.Yu.Lermontov, N.S.Tikhonov, S.A.Esenin were marked in several scientific works of Russian literature.

Lyrical sets combine to one group by their sides of idea-thematic, genre and form. Lyrical sets which were combined by idea-thematic side make up majority in Karakalpak poetry. For example, sets such as "Sorrows of war in each of my poem" ("Ha'r bir qosig'imda uris sarsig'i") by Sh.Seytov, "Sentiments of birthplace" ("Tuwilg'an jer tolg'anislari") by K.Rakhmanov, "Elegies of love" ("Muhabbat elegiyalari") by J.Izbaskanov are considered as examples of such sets. Furthermore, there are sets which are combined by their forms. They are made through the combination of poems in the same forms. For example, a set of sonnets by M.Karabaev, a set of cinquains (g'a'zzeller) by I.Yusupov, a set of poems on free topic by Sh.Seytov can be noted.

We aim to analyse in our article briefly the issue of lyrical character of the sets combined by idea-thematic side, compositional relations of poems in the set.

The set of "Eighth beam" ("Segizinshi nur") in the collection of "White cranes" ("Appaq tirnalar") (1990) by poet K.Reymov was able to express very skillfully inner feelings of soul and love of lyrical character. Seven colours of nature create magic views of life, these bems shine to the whole world, eighth beam in poet's life — is the feeling of love which made the character fall in love and change his life, that is the beam of

lover's eye. It is considered a poetic decision which was used by the poet. The poet expresses the power of love with poetic component.

```
Seven beams,
(Jeti nur.)
Seven colours – these are life.
(Jeti ren' - bul o'mir demek.)
In these, various secrets of nature,
(Bunda ta'biyattin' a'lwan sirlari,)
However,
(Lekin,)
sometimes these wreck our life
(bazda o'mirimizdi shil-pa'rshe eter)
Charming looks-
(Mu'la'yim qaraslar-)
full of eagerness.
(intiglig toli.)
Heaven's-
(Ta'n'irdin'-)
Eighth beams
(Segizinshi nurlari)
Moving feeling in his eyes-
(Onin' ko'zlerinde balqig'an sezim-)
There is a divine beam changed my world-
(Du'nyamdi ten'seltken ila'hiy nur bar-)
It is brighter than beam of the sun
(Ol quyashtin' nurinan o'tkir,)
Just one time came across I,
(Og'an dus kelgenmen bir g'ana sapar,)
I have no patience since that time.
(Sonnan berli mende sabir tagat jog.) [3: 8]
```

A set begins like this. Feeling of love which hurt lyric character's heart and soul and remained him in dilemma, way of love, separating fade are continued in the next poems. In the set, 2-3-poems consist of 4 lines, 10-11 syllables as a traditional poem form, whereas 4th poem is given in free form unlike traditional poem. Furthermore, there are also a-three-line poem in the set. So we can assume that the poet pays specific attention to literal form when giving the content.

In the poem begins as "Yellow colour is a sign of perfidy□", a chain of feelings do not suit to capacity of traditional poem, the poet describes perfidy and its pains with great emotional senses. Is there colour of perfidy? Is yellow colour a sign of perfidy? Thinking about these questions lyric character left in chaos. At last, he concluded that there is no sign of perfidy, the yellow colour is not the sign of perfidy.

```
The yellow colour is a sign of perfidy (Sari ren' qiyanettin' belgisi -emish) I don't know. (Bilmedim.)
Leaves became yellow and withered-(Japiraqlar sarg'aydi soldi -)
Are spring, summer being disloyal?
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(Biyopaliq etip ba'ha'rler jazlar?)
I don't know.
(Bilmedim.)
The bride who bowed at the doorway today,
(Bu'gin bosag'ada iyilgen kelin,)
Becomes pretty in yellow shawl tomorrow.
(Sari oramalda gu'l jaynar erten'.)
The bride who forgot the world from happiness
(Baxittan du'nyani umitgan kelinshek)
Say,
(Ayt sen,)
Is shawl on your head a sign of perfidy?
(Qiyanettin' belgisi me basin'dag'i oramal?)
Maybe being undeserving
(Ba'lkim aglamay)
To parents,
(Ata-anag'a,)
Love and honour
(Muhabbatga ar namisga)
Weren't you disloyal, say,
(Biyopaliq etpedin' be, ayt,)
I don't know...
(Bilmedim...)
No, I don't believe
(Jog, men isenbeymen)
The vellow colour – isn't a sign of perfidy
(Sari ren'-qiyanettin' belgisi emes)
Leaves become yellow and wither-
(Japiraglar sarg'ayar solar-)
Leaving their lives to the next buds
(Keyingi bu'rtikke uzatip o'mirin)
Wear on their heads with good intention
(Jagsi niyet penen tartar basina)
Yellow shawls, happy girls
(Sari oramaldi baxitli qizlar)
No, the yellow colour isn't a sign of perfidy
(Jog, sari ren' qiyanettin' belgisi emes)
                                             (page 10)
```

All poems in the set are about the feeling aroused by motives of separation, unfulfilled desire, splitting up. Poetic lines as "You are leaving me saying goodbye" ("Sen ketip barasan' a'lwidag' aytip"), "Were wings of dreams and wishes wind?" ("Arziw a'rman qanatlari qayrilg'ani ma?"), "My soul hurts terribly due to your sorrows" ("Qa'lbim qan jilaydi da'rtin' da'rtinen") show exactly moral experiences and state of lyric character. Poems in the set would not be so emotional separately as they were in the set. Because, they become relevant to each other and serve to create one idea. After reading the first poem in the set, reader becomes eager to read the second one, he is interested to the fade of two young loves. Although there is not large epic plot in a set, reader feels himself as if he read a large epic poem about love. The beam which shined to lyric character's soul as eighth beam makes the reader interested. In the second poem, poet remembers his last happy life making lyric withdrawal, suffers from perfidy in the third poem, in the fourth one he wants to be with his lover forgetting all, in the fifth he expresses

separated fade and love broken up forever. As you see, setting poems like these is considered as a result of poet's skill. So, lyrical sets are firstly made in order to express poet's outlook, his feelings to the events more completely making in general and to create the image of lyrical character in full.

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# THE IMPORTANCE OF COMPUTER LINGUISTICS IN THE FIELD OF PHILOLOGY

# Madaminova Zilola Ismailovna

Karakalpakstan Republic of Nukus 27th comprehensive school Teacher of Uzbek language (State language)

Abstract: The article reflects, albeit partially, the current issues in computer linguistics, in particular in Uzbek linguistics, which need to be addressed today and in the near future.

Keywords: effective use of computers in linguistics and literature, study of computer solutions to linguistic problems, basics of mathematical logic, mathematical model of natural languages, mathematical model of Uzbek language, computer method of Uzbek language.

Abstract: The article partially addresses current issues in computer linguistics, especially in Uzbek linguistics, which need to be addresses today and in the near future.

Key words: Effective use of computers in the field of linguistics and literature compyuters in the field of computer science, learning the basics of mathematical logic, mathematical model of natural languages, mathematical model of Uzbek language, computer style of Uzbek language.

Today, in the process of global integration and globalization, it is vital to bring the Uzbek language to the level of secular languages. The need for computer technology, in particular computer linguistics, will increase in order to achieve this great, responsible and very important goal. Because it is computer linguistics that allows Uzbek to become one of the secular languages in the world, and to optimize its study and teaching. Particular attention should be paid to the most important of these issues, which is the creation of a computer style of the Uzbek language. Because this issue is the basis, so to speak, the solution to all these problems. The above problems can be solved only after the creation of a comprehensive, convenient and popular computer style that meets the requirements of world standards. It is known that a person uses various grammatical means in the formation of oral or written thought, he uses in his speech phraseology, various expressions, means of artistic expression, that is, each person's speech is unique and unrepeatable. However, in the XXI century, the age of information and technology, these are redundant for computer style, that is, the breadth of artistic style does not meet today's requirements, in particular, the breadth of computer style does not meet today's requirements, especially computer style. Because it is necessary to be concise and concise in the transmission of information. We are proud of all the possibilities of the Uzbek language, its richness of meaning, the vocabulary formed over the centuries, its beauty, as noted by Alisher Navoi, its superiority over other languages. However, I would like to emphasize once again that in the computer style there can be no place for artistic means, various rhetoric and peculiar neologisms. This style is formed and developed in parallel with the artistic style, but their field of application is different. Both methods are used by people from different fields: literature, art, culture, computer specialists, advertising business, natural sciences, and most importantly, the Uzbek language. The computer style will be clear, concise, concise, adapted to computer processing in accordance with the requirements of world standards.

Creating a computer style of the Uzbek language is important in our lives. After all, computer style unites specialists in computer linguistics. Together, experts are created in the Union of Computer Programs and Philologists. The positive side of computer

linguistics is the same: it unites philologists and computer specialists. We know from history that in the history of mankind there were times when various objects, such as coal, gold, salt, were considered the greatest wealth. At the beginning of the third millennium, humanity has entered the information age. For human thought, which has evolved over thousands of years, today the primary source, that is, information, is becoming a vital necessity. Therefore, in the world market, information is more valuable than gold. There is a growing need for convenient ways to find, store, process and communicate this information. So, whoever develops and masters these convenient methods, he will be the richest man in the world. It is known that the richest man in the world is Bill Gates. Why is the richest person in the world a computer, that is, a representative of the field of reception, storage and processing of information? Why did the leader of the information industry become the richest man on the planet, not the owner of the oil prices, the banker's oil, cotton, automobile plant? Bill Gates himself answers this question: Whoever has information, he has everything, or another observation of his is world-famous: Information is superior to even the largest, most valuable material wealth in the world, because these resources are information. is obtained in the vehicle. Accordingly, computer linguistics is a source of both spiritual and material wealth for linguists. Only it should be supported by all the correct understanding and, most importantly, support. However, computer linguistics is a key tool not only in the study of Uzbek, but also in other languages, in particular Russian and English. Also, in the establishment of the training of translators specializing in science, art, business and advertising in higher and secondary special education institutions, English will be taught in Uzbek and Uzbek will be taught in English. It also helps computer linguistics in the development of teaching aids and computer programs. The main tasks of computer linguistics are to teach languages, test knowledge, edit texts and develop machine translation programs.

In classical linguistics, language is interpreted in relation to man, in pairs, that is, classical linguistics is necessary for man. Mathematical linguistics, on the other hand, leaves no room for the participation of the individual in the descriptive process, which is more computer-aided. The mathematical model of language grammar is based on the axiomatic theory of mathematical logic. Another feature of the electronic virtual library multimedia room is a networked library with electronic copies or electronic multimedia textbooks. Russian-speaking students studying the Uzbek language can effectively use the Internet: to collect information in the process of independent study, to master the topics, to write an essay on a given topic, etc. Email can also communicate with a teacher or peer through a system that allows information to be transferred from one computer to another. Working with video materials is especially important in language teaching. This tool of information technology can be used in different ways and methods. Distance education is a method of distance learning via the Internet, on the basis of which tests are conducted in certain areas in the country. It turns out that there are different ways to use a computer in the classroom. There is no doubt that the application of these and a number of other computer technologies in the process of language teaching will give high results. The world has accumulated enough experience in the use of computers in the educational process, there is important scientific and methodological research in this area, many educational control programs, multimedia textbooks. The quality of the created software and other electronic developments, of course, depends on the personal views of the authors, the level of scientific methodology and the general culture. This is difficult to control. For example, some educational electronic developments serve to achieve the desired goal, while others are very interesting, aesthetically pleasing, and provide the necessary knowledge and skills on a particular topic. It does not serve to acquire skills, but only to study the course of informatics and information culture. Today there is a need to develop a theory of computerization of teaching, to establish general and specific criteria for the creation of educational electronic developments that really increase the effectiveness of educational activities, form a positive attitude and interest in the subject. Currently, scientific and methodological research on the concept of creating educational electronic developments is being conducted in Russia, Ukraine, France, Japan, Canada and other countries. The concept defines the essence of developments, the order of their creation, testing and application. According to experts, educational electronic developments should meet the technical, pedagogical and methodological requirements. They can be used in the process of such requirements.

Therefore, it is necessary to use computers effectively in the field of linguistics and literature, to study ways to solve linguistic problems by computer, to create the basics of mathematical logic, mathematical model of natural languages, mathematical model of Uzbek language

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# ANALYTICAL METHODS OF COMMUNICATION IN PREPOSITIONAL-OBJECT EXPRESSIVE DEVICES

Mardiyev Begali

Samarkand state university Samarkand, Uzbekistan mardiyevb @ mail.ru

Abstract. This scientific article is about prepositional-object expressive devices, in particular, the prepositional-analytical object is related to the use of a connector as a third possible type of expressive device. We will consider the first two separately as it has a specific feature, it can be attached as a type of "connection without a connector" (we agree with this conditional naming, agreeing with the opinion of most Turkic scholars). The "morphologically intended" type of communication is not related to "non-binding" as a special type of communication that differs from linking.

Keywords-prepositional device, communication, specific feature, analytical object.

A number of factors act in such a way that the declarative part fills the object valence of the pronoun transitive verb and is convenient for the contraction of -predicative relations in the preposition and to obtain synthetic indications (agreements) in its substantive-attributive content. In expressive devices, the subordination of parts and the unity of complex communicative integrity are characterized primarily by structural and semantic deficiencies of the expressed part, as well as position and tone. But that's not all

Such a definition may involve morphological features of the subordinate predicate without turning it into a control or infinitive form but by giving this part of the sentence a communicative incompleteness and a synactic connection with the main part. Typically, such means of action are:

- a) in the subordinate predicate -mi interrogative load;
- b) -day / -dek analogy load in the subordinate predicate;
- c) the conditional tense;
- g) a repetitive form of the verb in the future tense with a positive or negative aspect;
- d) a load in the form of the next tense.

This type of structure can be called "morphologically designed". It should be distinguished from the ascetic, which is completely devoid of morphological features attached to the prepositional subjunctive, in which case two sentences with a finite predicate can be placed in a single unit. The structural formula of both types is the same:

The prepositional-analytical object is related to the use of a connector as a third possible type of expressive device. We will consider the first two separately as it has a specific feature, it can be attached as a type of "connection without a connector" (we agree with this conditional naming, agreeing with the opinion of most Turkic scholars). The "morphologically intended" type of communication is not related to "non-binding" as a special type of communication that differs from linking and following.

The factors influencing the preservation of the person meaning of the prepositional subordinate predicate can be determined by examining the material, which distinguishes between the subordinate and the main part of the complex integrity - the following syntactic categories that form the speech function:

- by means of communication (representing the question or vice versa);
- on modality; by time; by individuals.

These factors do not seem to have led to the formalization of the subordinate part of the personal cut in a strictly orderly manner, in addition to the need to convey different modal meanings in the head and subordinate clauses. In most cases, verbs can have personal predicates. Therefore, the main thing is that the subordinate part of the morphologically completed sentence helps to visualize the speech state of the speaker, the methodological tasks of sentence construction.

Let us consider the action of the factors mentioned. In the need to give the direction of the question in the subordinate clause, the subordinate syntagma can be formalized as a morphologically complete sentence, in which there is always a difference in the predicate of the two parts and a grammatical person:

Semyonning oqibqti nima bo'ldi -bilmadik... (G'.G'ulom)

- Nimaga kerak bo'libman unga, bilmadingmi? - deb so'radi Margarita quvlik bilan. (M.Bulgakov. Usta va Margarita).

Shu bois,yaqin orada bu yo'ldan bironta yo'lovchi o'tganmi yo'qmi,bilib bo'lmaydi. (O.Husanov).

We did not know what happened to Semyon ... (G. Gulom)

"Don't you know what I need him for?" Margarita asked slyly. (M.Bulgakov. Master and Margarita). Therefore, it is not known whether any passengers will cross this road in the near future. (O.Husanov).

The presence of a question in the explanatory part determines the form of the person in its predicate in a precise order. Compare: Otamiz qizillarning kim ekanini yaxshi biladi (T.Murod. Otamdan qolgan dalalar). ... Kampir bu chaqaloqning qaysi birisiniki ekanligini bilmas edi. (?.?улом). Our father knows very well who the reds are (T. Murad. The fields left by my father). ... The old woman did not know which one this baby belonged to. (G. Gulom). Sening nega kelganingni bilaman, Natasha! (M.Bulgakov. Usta va Margarita).

I know why you came, Natasha! (M.Bulgakov. Master and Margarita).

Comparison of two series of examples with the verb predicate to know shows that subordinate predicates in the second row - as indicators of dependence in the substantive form with conjunctive suffixes. Descriptive syntagms have an evocative meaning, while the verb means either "know" or "firmly believe in one's own assumptions".

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# FUNDAMENTAL PRINCIPLES OF COGNITIVE SEMANICS

## Mavlonova Hilola Husanovna

Master of Samarkand state institute of foreign languages ikromjon07.07@mail.ru

Abstract: The article is devoted to the terms of central assumptions of cognitive semantics. Key words: cognitive semantics, conceptual structure, semantic structure

Cognitive semantics started during the 1970s as a response against the objectivist world-view assumed by the Anglo-American convention in reasoning and the related methodology. Leonard Talmy, one of the first pioneers of cognitive linguistics during the 1970s, portrays cognitive semantics as follows: "Research on cognitive semantics is research on conceptual content and its organization in language" (Talmy 2000). Cognitive semantics commonly have adifferent set of foci and interests. There are various principles that collectively describe a cognitive semantics approach. In this article I would like to represent four fundamental assumptions of cognitive semantics which are viewed as outcomes of the two commitments such as "Generalization Commitment" and "Cognitive Commitment". The assumptions are listed below:

- 1. Conceptual structure is embodied (the "embodied cognition thesis").
- 2. Semantic structure is conceptual structure.
- 3. Meaning representation is encyclopedic.
- 4. Meaning construction is conceptualization.

Conceptual structure is embodied. An essential concern for psychological semanticists is the idea of the connection between conceptual structure and the outer universe of sensory experience. In other words, psychological semanticists set out to investigate the idea of human communication with and awareness of the external world, and to fabricate a hypothesis of conceptual structure that is consonant with the ways in which we experience the world. One thought that has risen trying to clarify the idea of conceptual organization based on communication with the physical world is the embodied cognition thesis. As we saw, this theory holds that the nature of conceptual organization emerges from substantial experience, so part of what makes conceptual structure significant is the real involvement wherein it is linked.

Semantic structure is conceptual structure. This guideline states that language refers to concepts in the brain of the speaker as opposed to objects in the outside world. In other words, semantic structure (the meanings routinely connected with words and other linguistic units) can be compared with concepts. These meanings related with words are semantic concepts or lexical concepts: the ordinary structure that conceptual structure requires so as to be encoded in language. In any case, the case that semantic structure can be equated with conceptual structure does not imply that the two are indistinguishable. Rather, cognitive semanticists claim that the implications associated with words, for instance, structure just a subset of possible concepts.

There are two significant admonitions that follow from the rule that semantic structure represents to a subpart of conceptual structure. Firstly, it is critical to mention that cognitive semanticists are not asserting that language identifies with ideas interior to the psyche of the speaker and nothing else. This would prompt an outrageous type of subjectivism, in which concepts are separated from the world that they identify with (Sinha 1999). The second caveat is related to the idea of semantic structure. It is accepted so far that the meaning related with words can be de?ned but word meanings, which we are calling lexical concepts, cannot directly be de?ned. For this reason, cognitive

semanticists reject the de?nitional or word reference perspective on word significance for an all encyclopedic perspective.

Meaning representation is encyclopedic. The principle is considered crucial one and holds that semantic structure is encyclopedic in nature. This means words do not represent the dictionary view but serve as 'points of access' to immense archives of information identifying with a specific concept or conceptual space (Langacker, 1987). The meanings depends on words regularly draw upon intricate and refined groups of knowledge. Obviously, to guarantee that words are 'points of access' to encyclopedic meaning isn't to deny that words have conventional implications related with them. However, cognitive semanticists contend that the importance related with a specific word is only a 'prompt' for the way toward significance development.

Meaning construction is conceptualization. In this section, we investigate the way toward significance improvement in more detail. The fourth standard related with cognitive semantics is that language itself does not encode meaning. Instead, words and other linguistic units are just 'prompts' for the development of meaning. According to this view, meaning is built at the conceptual level: meaning structure is likened with conceptualization, a dynamic procedure whereby phonetic units fill in as prompts for a variety of theoretical activities and the enlistment of foundation information. It follows from this view significance is a procedure instead of a discrete 'thing' that can be 'packaged' by language. Meaning development draws upon broad knowledge, as we saw above, and includes different strategies that identify with di?erent viewpoints of conceptual structure, association and packaging (Sweetser, 1999).

In conclusion, there are four principles of cognitive semantics and the diagram which is given below summarizes them we have discussed in this section.

## Conceptual structure is embodied

 the nature of conceptual organization arises from bodily experience

# Semantic structure is conceptual structure

 semantic structure (the meanings conventionally associated with words and other linguistic units) is equated with concepts.

# Meaning representation is encyclopedic

 words and other linguistic units are treated as "points of access" to vast repositories of knowledge relating to a particular concept

# Meaning construction is conceptualization Meaning construction is equated with conceptualization, a dynamic process whereby linguistic units serve as prompts for an array of conceptual operations and the recruitment of background knowledge.

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# SPECIFICITIES OF LITERATURE TERMINOLOGY ON THE EXAMPLE OF ENGLISH NOVEL "AMSTERDAM"I.MCEWAN

# **Mokhigul Altundag**

National University of Uzbekistan named after Mirzo Ulugbek Faculty of Foreign Philology, Department of World Literature, 2nd year basic doctoral student

10.00.06-Comparative literature, comparative linguistics and translation studies

Annotation. This article deals with one of the most important problems of terminology to the present day - status, functionality and questions of scientific description of the literary terms in novel genre. Analysis of the literary terms in novels is important because this study will improve the principle of the conceptual apparatus of literary genre and to denote the similarities and differences of literary terms in novel genre of English literature of the last decade XX century.

Key words: term, terminology, novel, genre, English literature, analysis, XX century.

The last third of the XX century - the period in the history of world literature is not simple enough; the transition to the new century and the millennium shows a wide palette of aesthetic searches in the novels of English literature, the subject of which is deepened by the understanding that scientific, material and technical achievements of the last years of the XX century have dramatically changed the concept of the world around and man in it. Hence the extraordinary ideological, genre, style diversity and at the same time the unity of thought. These specificities in the form of literary terms in English novels of the last decade of the twentieth century are explored in our work.

According to modern scientists, the terminology of literary studies can not be homogeneous, because the terms of literary studies are designed to describe a specific object - literary texts. V. Grigoriev specifies a number of reasons typical for literary terms: 1) the complexity and specificity of the object of study, 2) high exposure to historical changes, and 3) the need and justification of the occasion terms introduction [SLT, p. 408]. V. Grigoriev argues that the terminology system of literary studies is an open, often borrowed concept of other sciences, which resulted in the expansion of the terminological apparatus, which leads to the complexity of its system description.

For more complete description of the object of research the literary term should reflect "some unity of philological, linguistic and cultural components of the image of a literary work" [Degtyaryova, 2002, p. 3]. I.A. Degtyaryova supposes that the term of literary studies has a peculiarity which leads to the possibility of free interpretations of the same term within the framework of different literary directions and concepts of different researchers using this term [Degtyaryova, 2002, p. 3]. Thus, the literary term has different meanings in the works of individual literary scholars. This leads to a certain inaccuracy of the literary terms. It is noted that terms in literary criticism are influenced by ideology, which affects their accuracy, so each term should be considered in diachronic aspect to take into account the transformation of its meaning [Degtyaryova, 2002, p. 4].

In our study, we reviewed the original text of English author Ian McEwan's "Amsterdam", and official translations in order to better understand the terminology and how it is translated. In style and direction, the novel clearly reflects the trends and current themes in the development of English literature in the last decades of the 20th century. As a result of the study of the novel and its translations, it is possible to distinguish three types of literary terms: political, publicist and musical. The publicist

apparatus of literary terms has its own phraseology, aphorisms, proverbs and vocabulary. "Interference in private life, methods of tabloid journalism", "screaming headline" (124, 126). The political apparatus is a field of struggle. It is a dynamic language and, above all, a semantic space in which social meanings are produced and tested. "Harmony spoke for the public", "it is a movement of the eyes, a tireless search for the listeners" (22, 23). Musical terms are mainly represented only by specific vocabulary. "...And in the same rhythm returned ten descending notes of ritardando, the English horn, and in counterpoint with it, softly, ascending motive of cellos, a mirror image" (14-15).

The application of literary terms used here is simple and clear but conveys complex emotions and situations with a deft skill. Paragraphs are built on the sturdy foundations of well crafted sentences, each adding some hue to the overall picture. Arguments are built inexorably towards their natural conclusion in an entertaining and engaging manner. A good example of this technique is phrase 'Here was a rare sight below the waves, of a man's privacy and turmoil, of his dignity upended by the overpowering necessity of pure fantasy, pure thought, by the irreducible human element-mind" (23)' The journey between these word compositions is a skilful and interesting progression. McEwan makes his words work hard for their place in his novel. Each is chosen carefully and barely an unnecessary word is included.

Thus, words that denote special concepts, functioning in the speech of non-specialists, within the framework of unscientific speech, lose the specific features of terms and acquire the properties of commonly used words.

The specificity of the terms of literary studies is the aesthetic and evaluation information contained in them. The development of their meaning is in no small part due to ideology, so the diachronic aspect in the study of terms of literary criticism is not an auxiliary means, but an essential condition for obtaining complete information about the meaning of the term literary criticism.

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## THE PRINCIPLE OF CREATING AN ELECTRONIC DICTIONARY

# Qodirova Dilfuza G'opirjon qizi

magistrate student of Namangan State University Supervisor: **Umidjon Kuziev**, PhD, senior teacher of NamSU

Abstract. This article describes the development of electronic annotated dictionary software and its creation of apk. and web. types.

Keywords: Annotated dictionary, Apk dictionary, Web dictionary, Electronic Annotated dictionary.

Language education is an extremely complex device, distinguished by its linguistic essence and speech phenomenon, which is the subject of in-depth, vocational education-oriented educational institutions - in higher and secondary special education institutions. with internal laws, in terms of language and speech. The over-scientificization of mother tongue education also has a negative impact on the effectiveness of education. As long as mother tongue education does not get rid of the complication of "grammarization" like native language textbooks used in modern foreign school practice, these shortcomings will not be eliminated.

There are two types of dictionaries available online:

1. Web dictionaries. 2. Dictionaries in apk format.

Here are some ideas for creating Web dictionaries. Our software consists of the following parts.

- 1.User communication interface. The creation of this software tool is part of the web design department of programming, where beginners can use HTML and CSS scripting languages, or experts can use frameworks based on these languages.
- 2.A dictionary is a database. This can be normally placed in a table and then added to the program.

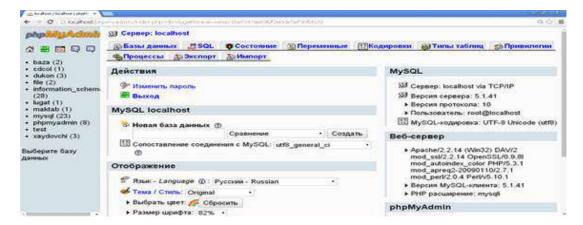
Atamalar	Izohi
Morfologiya	soʻzning grammatik ma'nosi, grammatik shakli va soʻz turkumlarini oʻrganuvchi tilshunoslik boʻlimi.

We will create a database table in this system for the electronic dictionary.



Typically, web developers use the MySQL database management system (MBBT).

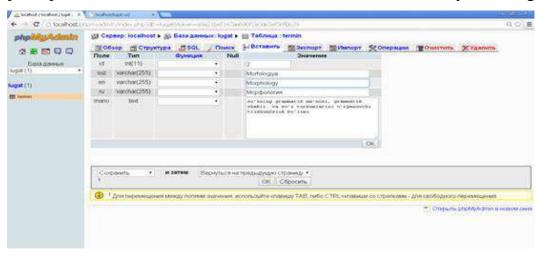
The MySQL database management system creates a database for the dictionary program.



3.A programming language that predicts the operation of a program and allows it to display data at the request of a database user.

The PHP programming language is used to link the two. The database also includes English and Russian variants of words, as well as comments on their etymology, methodology, dialectal features.

Or just open new columns in the ID field to make the dictionary multilingual.



As a result, we have an electronic dictionary with the following features:

- 1.To do this, you need to install a MySQL database management system (MBBT) on your PC.
- 2. This dictionary gives the reader the impression that it is online, even when it is offline.
  - 3.It will then be the basis for an electronic dictionary that will work online.
  - 4. The e-learning dictionary will be available in several languages.

## MARKETING RESEARCH OF TOURISM AND HOTEL ACTIVITIES

Qurbonova Umida Ro'ziboy qizi - Student Orifjonova Layloxon Xasanjon qizi - Student Uktamova Navruza Botir qizi - Scientific advisor; UsZWLU Faculty of Lower Courses

Abstract. This investigation details the marketing research of the tourism and hotel business. In particular, they spoke about the rapid development of tourism in Uzbekistan, all the favorable conditions for tourists and their safety. In turn, the impact of marketing on the economy, its integral relationship not only with the economy but also with the tourism and hotel industries, is covered in detail in this guide.

Key language: Tourism, labor, marketing research, consumption, tourism industry, hotel management, economics, market relations, service provider, customers, marketing strategy, marketing research

Introduction. Commenting on tourism, European scientist Dmitry Anton said: "Tourism has been one of the fastest growing sectors in the world economy in recent years. It is one of the top three most lucrative industries in the world after oil and automotive. Today, tourism and its direct and indirect services account for about 60% of the world's labor force."

Ensuring the safety of tourists is provided for in a separate article in the first laws in the field of organization and development of tourism in Uzbekistan. The first such law is the Law of the Republic of Uzbekistan "On Tourism". The law was adopted in 1999, and Articles 18, 19, and 20 of the law form the basis for the establishment of a system of measures to ensure the safety of tourists. The current process of tourism development in Uzbekistan is characterized by profound changes in all spheres of social life. The country is developing a market of tourist services and developing a new state policy for tourism development. is that all market processes are carried out through it, which creates great opportunities for both producers and consumers. Marketing aims to make a high profit by producing the most affordable products and influencing customers, which is why almost all enterprises in our country attach great importance to it and widely use it in their economic activities.

The content and essence of marketing research is that the type of human activity aimed at satisfying needs and demands through exchange is the combination of actions based on the mutual interests of all market participants to form and satisfy demand. Marketing is a holistic (systematic) approach to solving market problems, which includes all stages of the movement of goods, such as the study of supply and demand, the creation of a production program, the organization of sales and disposal after consumption.

The functions of marketing research are:

- Evaluation of the company's market opportunities;
- Analysis of market share;
- Study of market indicators;
- Study of practical activity factors;
- Identify potential customers, identify their needs, current and future needs;
- Carrying out current observations on the target market;

The duration and frequency of tourist trips are changing. The number of trips is increasing and their duration is decreasing. The main reason for this is that consumers want to split their holidays. Instead of one big vacation a year, 2-3 short trips are preferred. Structural changes in the tourism services market, i.e., competitive conditions

and changes in consumer behavior, are forcing tourism organizations to look for new marketing methods. In this context, marketing is expanding its functions and paying more and more attention to consumer relations. This means that it is necessary to conduct marketing research in a timely manner and find ways to promote the timely production of tourism products and the sale of tourism products.

The task of marketing in tourism and hotel industry is to create conditions for achieving the goals of the tourism enterprise. Tourism marketing tasks usually make them clear based on the marketing objectives of tourism industry enterprises. The important task of marketing is to ensure, as far as possible, the stability of the firm's activities, the subordination of planning to the development and achievement of strategic goals. Tourism and hotel management can be divided into three groups. Including:

- Entering the market on the basis of a thorough and comprehensive study of the market, demand, tastes and desires of consumers, the production of goods and services that meet these requirements;
- Increasing the socio-economic efficiency of market relations and achieving their optimal level, constantly expanding the range of services, actively seeking new markets, expanding existing markets, increasing the market share of the service provider.
- Influence consumers and the market on the basis of continuous implementation of the plan of marketing services by all available means, ie the creation of a reasonable and effective policy for the promotion of manufactured goods.

All three of the marketing groups mentioned above are important for tourism. If they are separated, the development of the tourist hotel business may slow down and lose its customers. For example, if the services are produced on the basis of consumer tastes and desires, but he does not actively market his product to deliver the services to the consumer, or, conversely, does not activate his own market, all available means If the marketing services plan is not implemented continuously, the hotel may be more likely to lose its customers and its impact on the market. Therefore, one of the most important factors in any business is, first of all, the study of consumer demand, the provision of uninterrupted service, planning and, of course, its dominance in the international business market. That's why marketing is so important in developing a service business.

Modern marketing features include:

- Organization of general marketing activities;
- Management;
- Planning and control.

The high level of organization of marketing research, their scope, the set of methods used in the analytical and processing processes, is the first step in defining and implementing the marketing strategy of enterprises and organizations. Economists see price volatility as a stimulus to production. Prices in hotels are high and are set by managers and marketers. If pricing policy plays a very important role, a separate department will be set up or offered.

In conclusion, market-based interactions in the tourism business require managers of tourism enterprises to make a comprehensive assessment of the economic and financial situation in the company, analyze the most important factors affecting the final performance, develop strategy development strategies based on modeling. which is inextricably linked to marketing.

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# IMPROVEMENT OF AGROTECHNOLOGY OF CROPS AN IMPORTANT FINDING

# Reimov Nietbay Baynazarovich

candidate of agricultural sciences, associate professor Nukus branch of Tashkent state agrarian university

Abstract. The article emphasizes the need to improve agricultural technology. You can increase productivity and improve soil fertility by laser leveling the land, crushing the soil with pre-sowing milling equipment, mulching the rows during planting, systematically using crop rotation and farming depending on the water supply.

Key words: Karakalpakstan, agricultural technology, laser leveling, milling land cultivation, mulch, water deficit, crop rotation, a set of measures, efficiency;

Introduction. Resolution of the President of the Republic of Uzbekistan PP-2731 of January 18, 2017 "On the State Program for the development of the Aral Sea Region for 2017-2021" and PF of the President of the Republic of Uzbekistan dated June 17, 2019 "On measures for efficient use of land and water resources in agriculture" Decree 5742-states that in order to constantly increase the volume of agricultural production, it is necessary to cultivate crops.



Associate Professor N. Reimov in the experimental field.

Based on these tasks, a scientific experiment was conducted to improve the issue of increasing crop yields and soil fertility in the Aral Sea region.

Relevance and necessity of the issue.

Farmers and land users of the Republic of Karakalpakstan have long been using the recommended agro-technologies in the agricultural sector. However, when we analyzed the reasons for the lack of planned harvests, it was found in scientific practice that 5 factors need to be improved among the current agro-technological measures. That is, 1st is pre-sowing land leveling, 2nd is pre-sowing soil preparation, 3rd is crop row arrangement, 4th is rational use of crop rotation system, and 5th is farming based on available water resources in the Aral Sea region. Taking these factors into account, we conducted experiments on saline soils, water shortages and low mechanical soils of the Republic of Karakalpakstan.

Preparation of the soil for pre-sowing sowing was carried out with a deep cultivator (KFG - 3,6). In the second experiment, where the trail was compacted with a roller, the yield of cotton was 34.9 to 36.4 t/ha, with an average yield of 35.8 t/ha. Was equal to e. Pre-sowing preparation of 5.2 t/ha of soil in relation to the control variant was carried out with a deep cultivator (KFG - 3.6), which resulted in an additional yield of 1.5 t/ha compared to the variant leveled with a track leveler.

In the simple production method in the experiment - after leveling 3 times, the result was 63.5% of the amount of soil particles with dimensions of 10 - 0.25 mm, which is the agronomic fraction necessary for good growth of plants, when working with KFG - 3.6 76.9% of soil particles with dimensions of 10-0.25 mm were obtained and 83.2% of soil with agronomic fraction required for good growth of plants when working with milling deep softener -KFG - 3.6 to the required density with a roller 10 - The amount of soil particles of 0.25 mm was obtained.

In the third experiment, in the control variant without mulch, the average cotton yield was 23.6 t/ha. In the second variant, covered with a norm of 1 ton / ha of fertilized mulch, the average cotton yield was 25.3 t/ha. The amount of additional yield obtained was +1.7 t/ha compared to the first option. The average cotton yield obtained by the third method, covered by the norm of 1.5 ton / ha of mulch, was 25.6 t/ha. The amount of additional yield obtained was +2.0 t/ha from the first method.

The average cotton yield obtained by the fourth method, covered by the mulch norm of 2 t/ha, was 26.2 t/ha. The additional yield obtained was +2.6 t/ha.

## Conclusions

In the first experiment with laser equipment 12.5 t/ha compared to the control variant, in the second variant using KFG 3.6 equipment 5.2 t/ha compared to the cotton control variant, in the experiment with mulch norms the option was optimal The average yield of cotton was 26.0 t/ha, and the additional yield was +2.6 t/ha. In summary, when the top row of semi-rotten black cow dung was covered with mulch, the additional yield obtained by the options was +2.6 t/ha.

In the experiment in which different rotation systems were studied, cotton was planted alternately with three-year alfalfa, three-year alfalfa at the rate of  $100~\rm kg$  / ha per hectare in the last year,  $150~\rm kg$  / ha in the second year,  $200~\rm kg$  / ha in the third year, and  $250~\rm kg$  / ha in the fourth and artificial years. , phosphorus - 175, potassium -  $125~\rm kg$  / ha and once every three years at the rate of  $40~\rm t$  / ha of local fertilizer - a method of semi-rotten cattle, which was the best way to increase crop yields and soil fertility while maintaining.

Taking into account the results of recent experiments on water scarcity in Karakalpakstan, in the years when the water supply in the Republic was 40-50%, planting of sunflower, sunflower, oats, millet, sesame and soybeans, cotton, corn, autumn and spring wheat, millet, sesame, oily sunflower, sunflower, sorghum, cotton, winter wheat, spring wheat, rapeseed, alfalfa and soybean crops can be sown in all districts of the Republic when the water supply is 50-60%. When the water supply in the country was 60-70%, high yields were obtained from millet, sesame, sunflower, sunflower, white oats, rapeseed, cotton, alfalfa and soybeans.

Experiments have shown that it is possible to plant all agricultural crops, including rice, in certain areas when the water supply exceeds 70%.

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#### STRATEGIES FOR TEACHING VOCABULARY

Salamova Nilufar Fayosovna-English teacher, SCHOOL № 9, SAMARKAND REGION, SAMARKAND CITY; Mansurova Nazira Pulatovna- English teacher, SCHOOL № 9, SAMARKAND REGION, SAMARKAND CITY; Shaxmardanova Umeda Xalimovna-English teacher, SCHOOL № 9, SAMARKAND REGION, SAMARKAND CITY; REPUBLIC OF UZBEKISTAN Email: n.salamova@inbox.ru

Abstract: This article dresses the following question: How can vocabulary be taught efficiently in a way that engages the learner and promotes long-term retention for easy retrieval for future communication? How is vocabulary best introduced and practiced to ensure optimal retention?

Ushbu maqolada til o'rgatishda-lug'at o'rgatishning eng yaxshi, samarali yo'llari haqida to'xtalib o'tilgan.

Keywords: Teaching, Effective, Techniques, Vocabulary, Challenges

Vocabulary is a necessary ingredient for all communication. Language learners encounter vocabulary on a daily basis, and must be able to acquire and retain it. As a language teacher, one of your main tasks is to help students develop a rich and useful vocabulary inventory.

It is emphasized that learning vocabulary is a cumulative process and that it must be deliberately taught, learned, and recycled. This is critical for several reasons:

- 1.Learners need to encounter the words in a variety of rich contexts, often requiring up to sixteen encounters.
- 2.Learners remember words when they have manipulated them in different ways, so variety is essential for vocabulary teaching.
- 3.Learners forget words within the first twenty-four hours after class, so it is important to follow up a vocabulary lesson with homework that recycles the words.

Repeated Encounters with the Same Word

Students need to encounter vocabulary in various contexts in order to remember it and to develop an understanding of the range of usage of a given word. vocabulary words must be repeated in different contexts because contexts-of-use are associated with different cognitive processes during language learning.

Receptive and Productive Vocabulary Knowledge

It distinguishes between receptive and productive language knowledge, and applies this specifically to vocabulary. It is important for an instructor to understand what is involved in knowing a word at both of these levels. In order to know a word receptively, it claims that the learner must:

be able to recognize the word when it is heard;

realize that the word is made up of different morphological parts and be able to relate these parts to its meaning, e.g., "underdeveloped" = [under] + [develop] + [ed];

know the meaning of the word, and also know what the word means in the particular context in which it has occurred; and

understand the concept behind the word in order to be able to understand it in a variety of contexts.

Similarly, productive knowledge implies that the learner must be able to properly pronounce the word;

write the word and spell it correctly; produce the word to express its proper meaning; and correctly use the word in an original sentence.

When we consider what it means to know a word, it becomes apparent why it is necessary to actively teach vocabulary and to recycle the same vocabulary item in multiple contexts

Challenges with Teaching Vocabulary

Teaching vocabulary can feel daunting. The struggles associated with vocab practices in the classroom make it challenging for students to learn and teachers to, well, teach. Teachers may have a hard time handpicking the 10-20 words every week that their students will learn. Which words are the most important? What about the students who learn and read at different levels? From a student's perspective, it becomes difficult (and, for many, uninteresting) to simply memorize words and terms that they have no prior connections to.

Vocabulary instruction doesn't have to be boring! Here are five engaging ways to teach your students vocab while making sure they boost their vocabulary acquisition:

#### 1.Create a Word Map

Word maps are graphic organizers based on the Frayer model that help students learn new words by associating it with its antonyms, synonyms, writing their own definition or using the word in their own sentence. Word map activities allows students to think about vocabulary in several ways, and further make connections with each word in relation to other words they already know.

Flocabulary's new vocab cards are based on the Frayer model, and encourage students to define new vocabulary words on their own terms through writing and drawing.

#### 2. Music for Memorization

Music has always been a great tool to help with memorization. Catchy beats and hooks often make vocabulary retention and recall stickier for students. It allows students to memorize at their own pace. Programs like Schoolhouse Rock and Flocabulary take academic content and deliver it to students in an engaging and memorable way. Our award-winning Word Up! vocabulary units provide students a fun way to memorize vocabulary words.

#### 3. Root Analysis

Instead of teaching the definition of a word, teach root words. Teach your students the meanings of specific root words and have them guess what the definition is. Students can take these root words and use them to decipher words they don't know in the future.

#### 4. Personalized Lists

Why not empower students to build their own vocabulary lists? Students will come across new words they don't know every day in readings and discussions across the content areas. When students pick out their own vocab words, not only will they be more motivated to learn them, but it allows the vocabulary lists to be personalized to each student, too.

#### 5.Use Context Clues

With this instructional approach, the teacher provides reading passages or sentences with new vocabulary words embedded in them. Students then attempt to guess the definitions. Teaching vocabulary through context clues encourages critical thinking skills and helps them make connections to the word, ultimately helping them remember its meaning.

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## METACOGNITIVE COMPONENTS IN LEARNING TO LEARN APPROACHES

#### Vazirakhon Rustamovna Ochilova

PhD student

Uzbekistan State University of World Languages e-mail: vazira.ochilova@gmail.com

Abstract. The study of metacognition will shed light-weight on some elementary problems concerning consciousness and its role in behavior. Metacognition analysis considerations the processes by which individuals self mirror on their own psychological feature and memory processes (monitoring), and the way they place their cognitive content to use in regulation their scientific discipline and behavior (control).

Key words: approach, conditional knowledge, metacognitive strategies, metacognitive information, metacognitive experience.

Approach know-how - "conditional knowledge," or one's potential to apply strategies to learn records, as well as for adapting these strategies to new conditions. This is related to the age or developmental stage of the person. As an instance, a kindergartener can be taught techniques however needs to be reminded to apply them, which includes sounding out words whilst learning to read. In assessment, a higher elementary student is aware of this approach and knows while it will be effective under one-of-a-kind circumstances.

Thinking about questioning is just one easy manner in which metacognition may be explained. Cognition approximately cognition, or understanding approximately understanding are different ways wherein you'll be able to describe a phrase that sounds intimidating when encountering it for the first time. Getting "meta" means to collect, retain, and switch new content, which takes time, attempt, exercise, and an awareness of the need to achieve this.

Livingston (1997, p. 1) defines metacognition as "higher-order wondering concerning energetic manipulate over the cognitive tactics engaged in studying". In Hardi's words, it "consists of information approximately when and a way to use specific strategies for mastering or for problem fixing" (2014, p. Forty). The reliable time period is most usually related to the cognitive psychologist John Flavell, who is taken into consideration to be the founding researcher in metacognition. Developmental psychology has been the first to analyze the function of metacognitive approaches, inside the vicinity of youngsters' reminiscence functioning (Sternberg, 1998; as cited in Hardi, 2014).

The concept, though, has been a gift for so long as humans had been able to mirror their very own cognitive methods, and it has come to be an important part of the educational framework in the last couple of a long time. In his seminal work Metacognition and Cognitive tracking (1979), Flavell proposes a model of metacognitive tracking which incorporates four categories: a) metacognitive information, b) metacognitive experience, c) assignment and goals, and d) techniques or actions. It's miles thrilling to factor out that Flavell claims that the distinction among cognitive and metacognitive expertise lies in how the records are used, more than in a difference in procedures. In addition, metacognitive activities commonly precede and comply with cognitive sports.

Flavell further mentions that metacognition can be activated consciously or unconsciously by an individual. This concept has become a much-mentioned subject among researchers inside the field of metacognition. Larkin (2010), for example, claims that it's far developed in the course of the method of our wondering, and no longer by reflecting on our questioning, which implies that metacognitive procedures are always

an unconscious act. However, what pastimes us the maximum is the closing category Flavell mentions; techniques. In his opinion, metacognitive strategies are designed to reveal cognitive strategies, that is, their position is to control one's very own cognitive activities, which then leads to a certain intention. While we speak approximately metacognitive expertise, we imply that the expertise we've got is actively utilized in a strategic way. Fisher (1998) claims that metacognitive recognition includes information of ourselves, and know-how approximately the techniques we use to assess a mission.

Along those strains, it is critical to mention that metacognition is produced from basic additives: metacognitive knowledge/consciousness and metacognitive strategies. Metacognitive information/awareness is the rookies' understanding of their own learning methods, even as metacognitive strategies talk to rookies' law and control of their gaining knowledge of, which incorporates an extensive range of sports, together with selecting the maximum beneficial techniques for a particular venture; making plans, tracking, regulating and evaluating one's mastering (Schraw, Crippen & Hartley, 2006; as stated in Raoofi, Chan, Mukundan & Md Rashid, 2014). In line with Anderson (2002), the metacognitive gaining knowledge of the process can be divided into: (1) getting ready and making plans for getting to know, (2) choosing and the use of gaining knowledge of strategies, (3) monitoring method use, (4) orchestrating numerous techniques, and (five) evaluating method use and learning.

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## EDUCATING ENGLISH AS A FOREIGN LANGUAGE TO GROWN-UPS USING COMMUNICATIVE LANGUAGE TEACHING

Do'stboyeva Xumora Azimbekovna- Student, Abdukhafizova Nargiza Abdukhafizovna - Scientific advisor; UzSWLU Faculty of Lower Courses

Abstract. Today, the education sector is one of the fastest growing. In particular, the teaching of languages and the demand for it is increasing over time. This paper discusses how to teach English to young people through advanced methods. Adolescents 'cognitive skills, how teachers behave in this regard, and what methods are most useful to adolescents are discussed.

Key language: language skills, subject, CLT, language-learning, communicative skills, EFL, adulthood, inquisitive period, pair work, experience, method.

Introduction. Globalization has grown generally, a regularly expanding number of adults of different nationalities search for the help of English instructors since they have to find business abroad, to pass on even more satisfactorily granulating ceaselessly, to depend on abroad endeavors, or just to acknowledge various sorts of social conditions. In any of these cases, the English understudies are outstandingly vigorous to think about this particular subject. Regardless, the people who train adults must think about the differentiation between the educating - learning plans express to adults, from one point of view, and those that all things considered limit with kids, on the other. A conclusive purpose behind this paper is to make closes that are material for the English teachers drew in with the route toward preparing adults for the different conditions which require a nice data on this obscure lingo. Considering all these, the examiner endeavors to show that CLT improves the understudies' self-conviction and it gives a sentiment of enjoyment to the mentor too in the experience that she is viable in causing the understudies to use the obscure lingo in their conversation. CLT offers clarity to the expression. Adult EFL understudies choose to improve their lives as explicit individual and family and system people. Grown-up individuals in EFL planning give a measure of expectations in choosing classes: "to redesign Standard English language wellness; to deal with individual, family, or social issues; to satisfy work needs or look for after higher business; or to encourage their preparation". The understudies in an adult class are consistently working people. Understudies with work may besides have guidance, planning, and limits that will get them in their learning. Others may in like manner be jobless, and they may in addition be searching for relatively getting ready to set themselves up for the action promote. Understudies who have no work may moreover need to consider work guidance as agreeably as learning English. The extension mature enough, capacities, and acing needs of the understudies can influence the understudies' participation and progress in class. The times of EFL grown-up understudies in a class may vary thoroughly from eighteen to sixty-five. This part can impact not, now simply their tendencies, needs, and getting data on needs anyway in addition the pace at which they learn. According to Robinson and Selman, "understudies' blessings are affected with the guide of their introduction to English and formal language-learning open entryways as properly as their tendency for language-learning." Adults face various individual troubles. Much of the time, when people move to another spot or locale, they may additionally get themselves sick furnished to manage fundamental regular commitments in view of the truth of the language obstacle. Right when basic commitments out of nowhere create to be outrageous or ridiculous because of the language or social cutoff points they experience,

their confidence and shallowness may endure.

The execution of CLT has introduced a lot of inclinations for English learning process. One, it empowers understudies to improve their ability of the utilization of English by using themselves. Suggesting that, it gives understudies with assignments that permit them to improve their own musings in regard to what they are going to talk and how they are going to unmitigated that. Understudies work with the guide of themselves and talk with others to crush the undertaking. CLT additionally attracts understudies with sensible correspondence to achieve achievement on the use of English. It is favorable as a result of the truth by knowing the usage of the verbal exchange, taking everything into account, they don't experience that what they are considering is futile. The time of adult understudies begins from 19 to 65 and anything is possible from that point. Thus, adulthood is isolated into three standard periods. We named the first as a curious period: ages from 19 to 30. Presently, physical turn of events and improvement are done and independence is really settled. Individualization is ending up being progressively obvious in light of the fact that one is by and by fit to choose decisions fully expecting their future; the second one as a self-made period: ages from 31 to 50. This is a period wherein extraordinary bliss, a similar number of new experiences, associations and wants are being looked for after. People begin to set and obtain destinations for their future similarly as choose essential life decisions, for instance, including an occupation, love and family; the third one is a cultivated period: ages from 51 to 65 and over age 65. This adulthood period can be found in little changes, including changed family associations and changes in work life that may make the work give off an impression of being either brutal or satisfying. The essential clarification of apportioning them into three age periods is that their learning goals and viewpoints to the language fluctuate from period to period. There was no age decision for preparing; thus, there are individuals from different age. Regardless, the greatest number of chatted with respondents is developed from 18 to 50 years of age. The hard and fast number of the individuals who participated in the investigation outline survey in order to consider their tendencies in learning English language is 50 and 30 English educators for extra point by direct information about teaching English toward understudies. Ensuing to completing the examination study, the results were intentionally explored and as demonstrated by these results, 12 individuals who had commonly taken in the English language generally as strategies for correspondence were free to participate in further, bare essential exploration.

Instructing grown-up understudies can be extraordinarily satisfying, at any rate inconvenient as well. EFL teachers must not disregard that they are overseeing people who have their own lives outside school, some with very clamoring plans. Regardless, grown-up students are besides more ready for talk and exchange. They come to gathering with a great deal of apparatus and data that can be of striking use. Furthermore, educators need to deftly them with reasons why all aspects of what they train is noteworthy. In addition, adults need rational applications to solidify what they understand.

- 1.Generally grown-up understudies are in the English homeroom in view of the truth they favor to increase some new helpful information.
- 2. Tuning in and talking capacities are the most moving capacities for grown-up understudies to expert.
- 3. Talking is the most perfectly awesome conversation limit among grown-up understudies.
  - 4. English linguistic structure is the most inciting language section to make sure about.
- 5. Pair work is the most profitable showing methodology in consent to grown-up apprentices of English.

Conclusion. It is reliably critical to realize that adult understudies are not so much

that exceptional from fiery ones. They have progressively instructive experience and will be progressively fundamental; in any case they are still tenderfoots concerning English. In teaching grown-up understudies instructors should be set up to know their understudies and their needs. In learning process understudies' experiences, aptitudes, wants can impact the indicating system and learning. It is critical for educators to control the equality, grouping and routine in the homeroom.

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## MEANING OF WORDS. MEANING ANALYSIS OF MULTIPLE WORDS. TRANSFERRED MEANING OF WORDS

Tolibova Gulchiroy Qobil qizi - Student Halimjonova Odina Ortiqboy qizi - Student Abdukhafizova Nargiza Abdukhafizovna - Scientific advisor; UsZWLU Faculty of Lower Courses

Abstract. This investigation deals with the exchange of meanings of words. In addition, in this study, the semantic changes of words, their interrelationships with polysemous words, and other languages are highlighted. In turn, all theories are enriched with examples. Syntactic variations of the word, such as metonymic, metaphorical, and other types, are also emphasized.

Key language: word implications, element of vagueness, plural words, polysemous words, homonym, metaphor, semaphores, metonymy, synecdoche, allegory

Introduction. A word is a unit used to communicate a particular significance and to name an article. It is known as the important part due to its substance and pith. In the investigation of word implications, we center around two principle ideas: solitary and plural. This is dictated by the extent of the word. Words are identified with one another as far as their beginning, and this speaks to an element of vagueness in the manner they are communicated. For instance, when we dissect the significance of the words "grass" or "apple", we have to concentrate on two ideas: "own signifying" and "metaphorical importance."

We go to semantic examination to comprehend the genuine importance of these plural words or their significance in the content. So what do we have to know whether "grass" signifies a pony or an action word? In these cases, we comprehend the first importance of the polysemous words dependent on the specific situation, that is, the significance of the entire sentence.

As in Uzbek, we can discover numerous words in different dialects. So how would they do meaning investigation?

Take, for instance, the English word "wrench," which additionally has thing and action word implications. A thing signifies "yearning," and an action word signifies "to shake." For significance examination in polysemous words, we allude to the importance of the content, not the significance of the word. The significance of the content is additionally significant in the interpretation of homonyms:

Get a decent pony as long as possible,

Do great, kid, discard abhorrent.

Recall the exhortation, my youngster,

A decent pony that doesn't clean when riding alone.

As you probably are aware, words have a metaphorical importance notwithstanding their genuine significance. At the point when words are utilized metaphorically, they name questions as well as depict them and occasions. The metaphorical importance depends on the right significance of the words in the language. The metaphorical significance of words is acknowledged distinctly in setting.

The importance of any word comprises a few sub-implications (semaphores) and there is a transcendence in those implications. For instance, "fox" is gotten from the words "wild", "wild", "delightful", "crafty", "warm blooded animal" and others. On the off chance that we utilize this word for an individual, it implies that he has the characteristics of a fox. All things considered, we can see the move in importance. For

instance, the expression "falcon eye" is utilized to allude to individuals with sharp eyes, a sharp eye, and a sharp eye. These are situations where words are utilized metaphorically.

The exchange of importance incorporates similitude, metonymy, synecdoche, and capacity. Each part is remarkable in that it is novel. Each language that exists on the planet, so far in movement, is associated with implications, which implies that in every one of them we can experience at any rate one of the conditions of analogy, metonymy, synecdoche, and capacity, not futile.

In metaphor, it is comprehended to call single word by another due to the similitude of two things. On the off chance that the significance of single word is moved to another thusly, the character that is regular to that article is held. For instance, a tooth, that is, a tooth that is a piece of the human body, implies that it moves to an article, for example, a saw tooth. For this situation, "tooth", which truly implies a human organ, causes a move in importance because of outside likeness. We can see that the "saw's tooth" has held the normal image for the item.

In metonymy, there are no similitude between objects, yet when one is stated, the other is comprehended. In contrast to similitude, there is no closeness between the two articles, however by communicating one of them, the other can be comprehended. For instance, rather than saying, "I drank some water," I stated, "I drank a cup." For this situation, "cup" signifies water. All in all, there is no similitude among "bowl" and "water", yet "drink" signifies an association between them.

Synecdoche, then again, speaks to the wonder of naming an entire by a section name or a section by an entire name. For this situation, single word can speak to an entire set. To do this, there must be a relationship between the components of the set. For instance, "foot" can allude to an entire crowd of steers. The interrelationship between them is that every steer has a foot.

The principle highlight of the capacity is that because of the presentation of the capacity of one thing by another, the declaration of the following by the name of the previous is likewise communicated. For instance, the word for projectile is the bolt of a rifle, the bolt of a bow. These words are the equivalent in work.

Conclusion. All in all, it ought to be noticed that the move in the importance of words serves to communicate the association between them. As indicated by him, while allegory depends on wide likenesses, metonymy depends on target cases, synecdoche is a development dependent on entire and part relations, and capacity is equivalent to the capacity of the article spoke to by a similar name, physically unique speaks to the relocation between them. We can utilize any of these techniques in language. They increment the adequacy of discourse in discourse, and the moving of word implications thus serves to impact human intuition as well. We can contrast the moving of implications with the flawlessness of the lexical lavishness of words.

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# THE EMERGENCE AND FUNCTIONING OF NEOLOGISMS IN THE SPHERE OF POP MUSIC CULTURE

Dziubina O.I

Doctor of Philosophy (кандидат наук) Ternopil Volodymyr Hnatiuk National Pedagogical University

Constant vocabulary replenishment is the essential condition for language development. Being the best representation of language dynamics, it is directly influenced by extralinguistic reality and changes affecting it. Modern linguistic science considers the process of word formation as the form of language functioning necessary for vocabulary organization as well as the specific means of reality representation. Garnering much attention is the role of neologisms as language development indicator, which reflects its adjustment to changes caused by extralinguistic factors, and its functioning as well. The occurrence and functioning of new words is a subject of systematic research. A great deal of currently available information has been researched and published by L. Bondar [1], N. Drabov [2], E. Kusch [6], N. Moisieieva [7], Y. Zatsnyi [3], A. Yankov [4] who contributed greatly to linguistic science.

Neology, which has long been classified as a branch of linguistic science, still has difficulty adopting one clear definition of the polysemic term "neologism". Different points of view are to be taken into account which resulted in theambiguity of this term [5, p. 59]. There are two approaches to its interpretation suggested by H. Kozmyk. According to the first one, the notion "neologism" embraces new words coined following all word formation rules and patterns present in a specific language, which denotes new, unknown or earlier nonexistent notions, objects or reality. On the other hand, new meanings for the existing words or synonyms to common notions are also referred to as neologisms [5, p. 14]. The same problem is faced while attempting to classify new words. It is different approaches and criteria for differentiation of neologisms that keep scientists from adopting universal classification of new words. Having studied previous experience in published articles, we may conclude that neologisms fall into several categories:

- according to word formation method there are lexical, semanticneologisms and new collocations [3, p. 6];
  - according to origin there are new coinages and nonce words [8, p. 5];
- according to purpose, there are nominative and stylistic neologisms[10, p. 276]. New words can also be classified according to thematic groups which in our article will encompass the notion "pop music", one of the spheres of human life which comprises the largest number of neologisms.

Pop music is a genre of popular music that originated in its modern form in the United States and United Kingdom during the mid 1950s. The terms "popular music" and "pop music" are often used interchangeably, although the former describes all music that is popular and includes many styles. "Pop" and "rock" were synonymous terms until the late 1960s, when they were increasingly used in opposition from each other [6].

Pop culture, particularly hip hop, has been responsible for some exceptionally useful recent additions to the dictionary, reawakening dormant words from their slumber, coining fresh terminology for the changing times, and in at least one case, making new compound words out of bits of old slang and then using them to take over the world.

1 YOLO "you only live once" is used, especially on social media, to mean that you should do things that are enjoyable or exciting, even if they are silly or slightly dangerous: Finished the whole carton of ice cream. YOLO. First recorded in 1995-2000;

but popularized by the Canadian rapper Drake in his song "The Motto" [5].

The phrase "you only live once" has a long and noble cultural heritage, dating back beyond the name of Johann Strauss II's 1855 waltz Man Lebt Nur Einmal to Johann Wolfgang von Goethe's play Clavigo from 1774. This features the line "one lives but once in the world", a phrase which lends itself to the less-thrilling alternative acronym OLBOW. More recently, The Grateful Dead's drummer Mickey Hart named his homestead YOLO Farm, because he didn't quite have enough money to buy it and had to talk himself into it. And then there's Drake, who named a mixtape YOLO, spraying the term liberally throughout his lyrics, including on The Motto, which is arguably the song that really pushed the term into common parlance, hashtags and all - so much so that he later attempted to claim he was due royalties derived from merchandise that featured the term, but was not successful.

2. Shizzle: an informal way of saying for sure (= definitely): He's a great singer, fo' shizzle.

It's not just the OED that has been picking up on the modern lingo that youngsters use. The Scrabble dictionary has also made allowances for buzzwords. One example that made BBC Radio 4 sit up and take notice was Snoop Dogg's old standby, the -izzle suffix [6].

3.Bling: (A piece of) ostentatious jewellery. Hence: wealth; conspicuous consumption. Or, adj: Ostentatious, flashy; designating flamboyant jewellery or dress. Also: that glorifies conspicuous consumption; materialistic. For example: She wore a fake-fur coat, big sunglasses and lots of bling [5].

Originally coined (and accepted into the dictionary) in the doubled-up form of bling bling, this is a term that appears to have come from Jamaican slang for expensive jewellery, of the sort that might make one blink. It was next heard coming out of the mouths of New Orleans hip hop crew Cash Money Millionaires, who worked with rapper BG on the 1999 song Bling Bling. As there aren't that many useful celebratory words for the ostentatious accumulation of wealth, the term quickly began to crop up in other artists' work, and before long became used to describe a particularly spendthrift liftestyle, of the sort enjoyed by a newly rich musician on a spree. Or, in the case of Horrible Histories, as a neat way to encapsulate the temperamental differences between Oliver Cromwell and Charles II.

4.Twerk (twist + jerk): A sexually provocative dance or dance move involving thrusting movements of the bottom and hips while in alow, squatting stance. The word "twerk" - a dance move popularised by singer Miley Cyrus - actually dates back to 1820, according to the Oxford English Dictionary.

Researchers found the word, one of 500 new dictionary entries, was first used in 1820, spelt twirk, to refer to a twisting or jerking movement or twitch.

The verb is believed to have emerged later in 1848 and the twerk spelling was used by 1901, the dictionary says.

Cyrus performed the raunchy dance move at an MTV awards show in 2013.

The first recorded modern use of the word "twerk" appears in a song called Do the Jubilee All by DJ Jubilee from 1993, but it's a word with a longer heritage than may first appear. The modern version seems to have originated in nightclubs as the name for a particular dance or style of dancing (as illustrated - poorly - by BBC Radio Scotland's Fred MacAuley, above).

In that instance, it seems to have been a fusion of twist and jerk, and that meaning has mostly carried on through the centuries. Twerk or twirk becoming a verb around 1848, used to describe the action of thumbs, spurs and even a kitten's tail. Which isn't that huge a jump to its modern meaning.

To sum up, neologisms represent active changes in society and dynamic trends in language. They are the driving force that triggers language development. Mos of the investigated lexical units were formed by means of abbreviation, blending and compounding.

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## DEVELOPMENT OF SPEECH IN CHILDREN WITH HEARING DISABILITIES

Khudayarova Shohista Maxmarejabovna Kholboboyeva Yulduz Murodullayevna Ergasheva Gulasal Sunnatovna

Kashkadarya vil. Class teachers of secondary school No 26 of Shahrisabz district

Annotation: begins with the perception and perception of the surrounding environment, that is, the reflection of real objects and events in the child's mind. The child's perception is much improved in the first years of life, and at the age of two he begins to differ from each other depending on the color, shape, size of objects, distinguishes a familiar tone, and so on. It develops a variety of sensory abilities: sight and sight, hearing and hearing, the ability to distinguish objects according to external signs, the ability to imitate what is less visible and heard.

Keywords: deaf from birth, children with hearing loss..

The child should be able to make different impressions, see and touch objects, observe the work of adults, hear different sounds. . Speech has a great impact on the development of mental processes, cognition, memory, etc., children's activities. As a child begins to develop speech, the role of adult speech as an educational tool increases. The formation of a child's personality begins in the first days of life. Based on what he sees and hears every day, the child shows little attitude to the being and the people around him, the behavior of adults, the child's assessment of the events that take place in his work - all this affects the formation of the child's spiritual image. Violation of certain conditions necessary for the development of the child in the womb and after birth can lead to various anomalies, ie physical or mental defects. In the field of defectology, work is carried out on different categories of children with anomalies: children with hearing impairments (deaf from birth, children with severe hearing loss, children with subsequent hearing loss); poor eyesight (blind children); blind-deafdumb children; oligophrenia (debil, imbesil, idiot children); children with severe speech defects; children with defects in the movement base organs; children with mental retardation. Abnormal children should be brought up and educated in special educational institutions. Only defects that have a strong impact on a child's overall development can be considered abnormal. For example, if a child has only the left ear and this defect does not affect the overall development of the child, he or she will not be considered an abnormal child.

This defect cannot be considered an anomaly in adults even if the defects that appear for obvious reasons do not affect their overall development. Severe abrupt changes in the physical and mental development of abnormal children have a negative impact on the composition of the boal personality. Therefore, special conditions must be created for the upbringing and education of such children, that is, they must be taught and educated in special kindergartens and schools on the basis of special programs and textbooks.

Any abnormal development may be related to organic or functional changes in the central and peripheral nervous system. Various deficiencies in child development can occur as a result of an uncomfortable environment, improper parenting education.

For example, poor family conditions, pedagogical neglect, the teacher's mistreatment of the child, and many other factors have a negative impact on the child's development, causing him to not be able to absorb the program materials well, and to become

involved in underage students. However, we do not include such a child in the category of anomalous children, because the defects in his development are not due to any organic or functional pathological changes in the body, but are due to other reasons. Educators and teachers need to be able to distinguish such children from anomalous children. After graduating from special schools, visually impaired children work in the institutions of the Republican Society of the Blind. Engaged in intellectual activities (writer, poet, high school and high school teachers, musician, etc.). Thus, there are great opportunities to develop visually impaired children through education. Properly covered, it will withstand a great deal of adverse conditions.

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#### IMPORTANT STRATEGIES IN TEACHING READING SKILL

#### Kamola Abdujabbarova

Journalism and Mass Communications University of Uzbekistan, Department of Foreign Languages

Annotation: This article is devoted to how effectively using various strategies, techniques and methods you can teach students. Having determined a purpose for reading, they are better able to evaluate a text and determine whether it meets their needs. If they keep in mind the information they expect to get about the general topic, they will be more aware of details from their reading that will lead to a better understanding of that topic. In fact, they can use a clues/problems/wonderings procedure of their own to help them monitor their learning in other subject areas and evaluate whether they need to use other sources of information.

Key words: clarification, plot, item, expository, genre, straightforward, regional dialect, strategies, clue.

Readers who have set their own reading goals and expectations are more engaged in their reading and notice more in what they read. Having determined a purpose for reading, they are better able to evaluate a text and determine whether it meets their needs. Even when the reading is assigned, the reader's engagement is enhanced when he or she has determined ahead of time what information might be gathered from the selection or how the selection might interest them.

Good readers set reading goals and expectations before they begin reading. This behavior involves a variety of strategies that will help students prepare to read the text. Good readers do not read in a vacuum. When they approach a new text, they consider what they already know about the subject or what their experiences have been in reading other material of the same type or by the same author.

Browse the text to get an idea of what to expect from a text, good readers look at the title, the name of the author, and the table of contents for clues. They may skim a few pages or read chapter or section headings to determine the genre and the subject matter. They may look for potential problems, such as difficult vocabulary, to help them decide how rapidly they should plan to read the text. They may take note of any questions that come to mind that might be answered in the text.

Consider why you are reading with fiction or poetry, the reader may simply choose to read for pleasure. With expository writing, the reader may hope to learn something specific.

Decide what you expect from the text when reading for pleasure, a reader may simply open her or his mind to an enjoyment of the story, the language, or both. When reading with the expectation of learning something, the reader may want to read more slowly and attentively in order to understand the material.

Introduce the students to the idea of setting reading goals and expectations by comparing the process to that of choosing a meal in a restaurant. Point out that if they go into a restaurant that is different from any they have ever been in, such as a restaurant with foods from another country, they will need to look at the menu to decide what to order and what to expect. They can first look at the names of the items on the menu. If some items have unfamiliar names, they can read more to find adescription of the items.

Similarly, good readers approaching several choices of new text look for clues to help decide which piece of writing to read. In the case of assigned reading, they look for clues to help decide what they expect to get out of the reading. They look at the title,

the author's name, any chapter or section headings, a few pages of text, and the illustrations to get an idea about the genre, the content, or the kind of information they might acquire from it.

- Early in the year, it is a good idea for students to read most selections aloud for two reasons: Both you and the students will get a feel for problem areas in reading, and you can model strategy use for the students if they are unused to thinking aloud.
- It is often helpful for students to read aloud any selection containing many facts or complex ideas, stopping for frequent summaries or clarifications. Reading aloud also gives you the opportunity to model the slower, more careful reading required for comprehending informational text.
- The students may read very simple, straightforward selections silently, although you might consider having them read aloud if the class has recently read a number of more challenging texts and the students need the reinforcement and encouragement of seeing how well they can really read.
- For full appreciation of the language, the students should read stories with colorful language or lively dialogue aloud. Often students enjoy engaging in such play with language, but use caution: stories containing regional dialect, foreign expressions, or unusual turns of phrase may be highly entertaining if read well but merely confusing if the reader stumbles over the distinctive language. If it is likely that the students will have problems reading aloud, you may want to read while the students listen, at least until they catch on to the way that language is used in the selection.
- The point of setting reading goals and expectations is to prepare the reader for an attentive and appreciative reading of the material. When activating prior knowledge or browsing be careful not to give away any surprises in the story. For example, if a story hinges on a character's misunderstanding of an overheard comment, discussing what generally happens when messages are imperfectly repeated would prepare students for understanding the dynamics of the plot without giving the plot away, as would happen if you focused on the meaning of the particular overheard phrase. Remember that for the same reason, the students should not browse the entire story.

Setting reading goals and expectations will be particularly helpful to students as they study and read in content areas such as science and social studies. If they keep in mind the information they expect to get about the general topic, they will be more aware of details from their reading that will lead to a better understanding of that topic. In fact, they can use a clues/problems/wonderings procedure of their own to help them monitor their learning in other subject areas and evaluate whether they need to use other sources of information. Encourage the students to follow the usual procedure in the prereading, beginning with setting reading goals and expectations and applying appropriate goals and expectations and applying appropriate strategies as they read.

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#### THE RELATIONSHIP BETWEEN LAW AND LANGUAGE

### Rajabova Sadoqat Rasul qizi

Master of Tashkent State University of Uzbek Language and Literaturenamed named after Alisher Navoi

#### **ANNOTATION**

The article focuses on the relationship between language and law, in particular, the role of language in society, the role of the lawyer, their specific role, and the relationship between them. Language and law go hand in hand. Without the language of law, it cannot function properly. Language, in turn, strengthens its role through law.

KEYWORDS: language, law, legal society, legal information, thinking, civil society, legal system,

In order for each country to move forward towards its goals, it is important to ensure the rule of law and language, the harmony between them and the relationship between them in order to maintain law and order in the country. Each independent state has its own language and a unified legal system, through which the social life of the country is formed. The development of law and language play an important role in the development of society. In society, language is the most important means of communication that conveys information from one person to another. "Language is a unit that is universal for all members of a society, that is, it must be accepted and applied, that serves the purpose of forming, expressing and other ideas, and the laws that govern the interconnection and interdependence of these units. is a set of rules."

The law is based on the need for legal norms that define the rights of people in society and ensure discipline. According to this, ahuman society has emerged, and there are laws that reflect the rules of that society.

Language and law are one of the most ancient social phenomena of mankind. With the advent of man came the need for communication. Later, with the decision of society, the law came into being. Therefore, language is much older and more important than law.

While language allows a person to exchange information, law defines the rights and freedoms of every citizen, and governs social relations in society. The relationship between law and language is extremely difficult to define. This is because, on the one hand, they are interconnected and interrelated, and on the other hand, they have different aspects because they belong to different relatively independent fields.

In the development of society, it is extremely important to clearly define the role of language in relation to law, as well as to determine the relationship between law and language, the relationship between them. By comparison, from time immemorial, lawyers have wondered whether the word is the only means of conveying legal norms to citizens, and whether it can be expressed by other scientific or practical means. One jurist answers that it is unnatural not to express the law in words, but in some cases it can be conveyed to the minds of people with some conditional signs.

Proponents of her case have been working to make the actual transcript of this statement available online. In fact, the idea is so true that legal teachings cannot and should not be expressed by such means. These tools only serve to convey some legal information. In the 5th century BC, the famous ancient Greek historian Herodotus wrote that when King Darius of Iran marched into the Scythian land, the Scythian king sent him an envoy with a gift of a bird, a mouse, a frog, five bows and other valuables. The Persians themselves will have to understand the meaning of this gift. Qubra, one of

Darius's courtiers, said, "If you, the Persians, do not fly to the sky like a bird, hide under the ground like mice, or cross a swamp like a frog, you will perish from these arrows and will not be able to return." explains.

It seems that some objects, symbols, can also be a means of conveying legal information, but even so, they can never replace language. Language is the present, the past, the future of humanity. There can be no civil society without language, including law. Language is a means of expressing our thoughts and ideas to others, as well as a tool for expressing legal knowledge.

In conclusion, the role of language in the development of decision language is very important. The law cannot function without language. For example, language is used to communicate a decision to citizens and enforce it. If we want to convey to the public using any symbols, it does not justify itself linguistically. Because these signs reveal only some aspects of the law and do not fully reveal it.

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## **SOCIOLOGY**

# PEOPLE'S ACTIVITY IN PUBLIC AFFAIRS AS AN IMPORTANT INDICATOR OF SOCIAL CAPITAL

#### Akramov Khusan Furkatovich

National University of Uzbekistan named after Mirzo Ulugbek Independent Applicant at the Faculty of Social Sciences, Department of Sociology

For a comprehensive analysis of the territorial genesis of social capital and the level and status of its description in the social environment, it is expedient to consider the above-mentioned primary and secondary group factors. A number of studies have been conducted for this complex analysis. The first of them was a total of 1,174 people from all regions of the country, selected on the basis of quota selection on the basis of this territorial feature, of which 557, 47.4% were women and 617, 52.6% were men. One questionnaire in this study was found to be invalid.

Table 1
Distribution of the study according to the population by gender of the regions

		gender		Total:	
		man	woman		
Kashkadarya	number	57	60	117	
	Per.	4,9%	5,1%	10,0%	
Republic of Karakalpakistan	number	31	29	60	
	Per.	2,6%	2,5%	5,1%	
Andijon	number	31	37	68	
	Per.	2,6%	3,2%	5,8%	
Bukhara	number	48	48	96	
	Per.	4,1%	4,1%	8,2%	
Jizzakh	number	19	35	54	
	Per.	1,6%	3,0%	4,6%	
Navoi	number	25	24	49	
	Per.	2,1%	2,0%	4,2%	
Namangan	number	40	41	81	
	Per.	3,4%	3,5%	6,9%	
Samarkand	number	65	46	111	
	Per.	5,5%	3,9%	9,5%	
Sirdarya	number	20	29	49	
	Per.	1,7%	2,5%	4,2%	
Surkhandarya	number	30	51	81	
	Per.	2,6%	4,3%	6,9%	
Tashkent region	number	39	47	86	
	Per.	3,3%	4,0%	7,3%	
Tashkent city	number	65	78	143	
	Per.	5,5%	6,6%	12,2%	
Fergana	number	56	56	112	
	Per.	4,8%	4,8%	9,5%	
Khorezm	number	31	36	67	
	Per.	2,6%	3,1%	5,7%	
Total:	number	557	617	1174	
	Per.	47,4%	52,6%	100,0%	

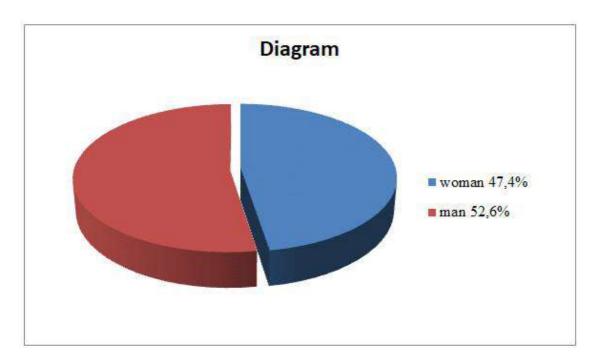


Figure 1 Regional division of the population by gender

Of the 1,173 respondents, 1,082 anonymous questionnaires were asked from 14 regions of the country to be assessed on the basis of social capital indicators on a 10-point scale based on the Likert scale.

At the same time, experts were selected for the research questionnaire conducted in this study, namely 5 employees of the Center for Civil Society Development, 14 interviewers of the Republican Center for Public Opinion Research "Social Opinion" and 72 chairmen and secretaries of the Citizens' Assembly on a voluntary basis from 5 regions. Of the respondents, 30 were female experts, or 32%, and 65 were male experts, or 68%, for a total of 95 experts. Four of the survey questionnaires conducted by these experts were found to be invalid.

Table 2 Distribution of the study according to the experts by gender of the regions

Regions	woman	man	Total:	
Kashkadarya	1	5	6	
The republic of Karakalpakistan	2	4	6	
Andijan	3	3	6	
Bukhara	2	4	6	
Jizzakh	1	5	6	
Navai	2	4	6	
Namangan	3	3	6	
Samarkand	1	5	6	
Sirdarya	1	5	6	
Surxandarya	2	4	6	
Tashkent region	0	6	6	
Tashkent city	7	10	17	
Fergana	3	3	6	
Khorezm	2	4	6	
Number:	30	65	95	
Percentage:	32%	68%	100%	

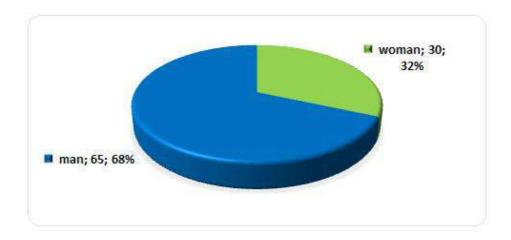


Figure 2; Regional division of the experts by gender

The main essence of this study is to study the measurement of social capital on the basis of the following indicators, in which the following indicators were studied:

- An indicator of human activity in public affairs. "Any job brings tangible economic benefits, and getting a job allows people to connect with society, increase a person's self-esteem, develop skills, and expand competence. In addition, high levels of employment enrich society, leading to political stability and health. "[1] It is precisely by determining the activity of these people in public affairs that the level of social capital can be determined. In this study, the activity of people in public affairs is reflected in Table 3 below.

Table 3 An indicator of the level of activity of people in public affairs

		Low level				Medium level		High level					
		0	1	2	3	4	5	6	7	8	9	10	Total
	1	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	
'opulati on	Number of respondents	9	6	41	60	113	199	198	175	146	72	63	1082
			11	16			510		456				1002
	Percentage (%)	0,8	0,5	3,5	5,1	9,6	17,0	16,9	14,9	12,4	6,1	5,4	92,2
		%	%	%	%	%	%	%	%	%	%	%	
			9,9	%			43,5 %		38,8 %				%
Expert	Number of respondents	0	2	2	5	7	23	9	14	16	7	6	0.1
			ç	)			39		43				91
	Percentage (%)	0,0	0,2	0,2	0,4	0,6	2,0	0,8	1,2	1,4	0,6	0,5	7,8
		%	%	%	%	%	%	%	%	%	%	%	
			0,8	%			3,4 %	3,7 %			%		
Total	Number of respondents	9	8	43	65	120	222	207	189	162	79	69	44.50
			12	25			549		499				1173
	Percentage (%)	0,8	0,7	3,7	5,5	10,2	18,9	17,6	16,1	13,8	6,7	5,9	100,0
		%	%	%	%	%	%	%	%	%	%	%	
			10,7	7 %			46,7 %			42	,5 %		%

According to him, the respondents selected from the population rated public participation as high, i.e.38.8% of the total respondents, 43.5% of the total respondents rated it as moderate, and 9.9% of the total respondents rated it as low. Depending on the assessment of the population, the following conclusion can be drawn. We can see from the diagram below that the public opinion activity in our society is not as high as we think, which is reflected in the attitude of the respondents selected from the population to public work, and it is not as positive as we think. In this diagram, we can see that the reasons given by the respondents were not high, as a result of socio-economic conditions and reforms, the problems of these conditions gradually began to find their solution.

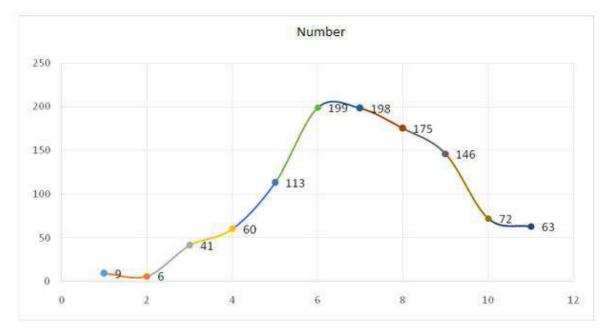


Figure 3; Population; The level of the activity of people in public affairs The level of human activity in public affairs can be interpreted by experts as assessed in Figure 4.According to the experts who participated in the study, the activity in public affairs in the current conditions of Uzbekistan was high, i.e. 3.7% of the total respondents, moderate - 3.4% and low - 0.8%. From the diagram below, we can see a situation that is very similar to the results of a survey conducted among the population. That is, when we compare (correlate) the results of the study conducted among the population and among the experts in this study, we can see that these results are interrelated and interrelated in the indicators.



Figure 4; Expert; The level of the activity of people in public affairs

When we compare the diagrams formed on the basis of the results of the survey conducted among the population and among the experts, we can see that the highest peak, i.e. the score set by the most respondents, was 5 points on a 10-point scale. This comprehensive result proves that the activity of people in public affairs in our country is moderate.

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## STATE AND LAW

#### MODERN UZBEK WOMEN AND GIRLS

Gafforova Mavlyuda

PhD of Social science The Academy of Public Administration under the President of the Republic of Uzbekistan,

Abstract: According to the article is to grow interest of girls to education in Uzbekistan. To create many conditions as possible for the implementation of their talents and opportunities in order to increase the spiritual life of girls, improve their living conditions, increase their capital. Especially, in rural areas many girls should improve their knowledge and education in order to decrease poverty.

Keywords: National Education, social protection, education, women's, positive ratings, socio-economic, socio-political, life, opportunities.

To improve the role of womens' in the administration and management of the state and society they should increase their political knowledge.

16.5 million population of Uzbekistan is made up of women. According to the public view, the results of the tests on the higher educational institution are seen in girls ratings positive higher than boys. This result shows that the girls volition is strong to knowledge. Therefore, from school age, it is necessary to prepare a special tests for girls which is depend on their interests. These tests are show their cability. The computer technology, testing system, which is currently deployed, gives the opportunity to conduct continuous monitoring of girls with disabilities. This is useful and effective way for the girls to know their interest and abilities in learning, to learn the facets them, to be able to keep up with the news in the science. The number of women who contribute to the develop of Science and achieve scientific success they should be supported by family or close people. To achieve a scientific goal for women is somehow difficult. Because they spend their a lot of time to their family. Especially to their children and their education.

To develop interests of girls in education in Uzbekistan should be create many conditions as possible to apply their talents and opportunities to life in order to increase the spiritual of girls, improve their living conditions, increase their capital. So that many girls, especially who live in rural areas can create themselves good conditions to their future..

Today, the achievement of our people, especially women and girls, what is the national image of the country, the solution to the increasingly closed spiritual problems of globalism is directly related to their enthusiasm for reading books and acquiring knowledge. Any ignorance arises because of a lack of common sense. This need is satisfied by a read of the book. A person who has not read a book is no different from a manger.

Today is step integration of women in the contemporary socio-economic and socio-political life of the state. Currently, 41% of employees working in the system of the Ministry of Higher and secondary education are women. In particular, the system currently operates 460 doctors of science, 2080 candidates of science, 430 doctors of philosophy (PhD) .

In a current days government pays attention womens' issues. In the fact that for the first

time in the history of our country in 2019 the number of women in the national parliament has risen to today's indicator is a vivid example of this. 48 or 32% of 150 deputies elected to the Legislative Chamber of the Oliy Majlis were women. In the Senate, however, this indicator reached 25%.

Now a day, many women namely 60.2% working in a government sectors (including educational institutions, hospitals), some of them 36% women works as an administrator or manager.

It is impossible to reckon with the fact that social well-being and spiritual developing of the people are largely determined by the level of moral health of women: in their hands lies the fate of the younger generation, and consequently, the future of our state. Along with this, the women selflessly working in various sectors of the economy and participate in all aspects of society. At the time, M. Behbudi wrote in the newspaper "Sadoi Turkistan" (1914. No. 11)he said that for girls education is more important than boys, and he called for funds spent on various decorations and excess, to spend on girls 'education, to prepare teachers for schools. They are setting a place in the social life and find their way in some spheres in the public life and their numbers are growing in the politics.

In the independence years there were a period of prosperity in the life of women of Uzbekistan. During this time made important steps in improving their social and political activity, the role and authority within the family, in solving problems of state and social construction. Currently, they are active participants in all spheres of life, support and hope society, a symbol of kindness and mercy. The experience of recent years confirms that the protection of the interests of women, especially in transitional stages of development, cannot be outside the realm of public policy. Step by step country is introducing a national programm for advancement of women in society. During independence years Uzbekistan ratified by more than 80 normative legal acts on human rights, a lot of them are directly related to the problem of protection of the rights and freedoms of women. Republic was joined first in Central Asia the UN Convention "Elimination of all forms of discrimination against women, Conventions of the International labor organization, "maternity protection Convention", concerning discrimination and to support them employment and occupation". Today these documents are a part of the whole complex of normative legal acts designed to protect the interests of women and to strengthen their confidence in society.

"We named this year, the year of development of Science, Education and digital economy in our country and adopted the state program in this regard. To develop this program, firstly we have to regard their wishes, requirements and needs of our dear mothers and sisters. To carry out a huge goal, before we should regard, all people's knowledge and experience, cultural and educational potential of the Saints".

In conclusion, it should be note that first of all, science is a way of development of an enlightened woman-society, because it educates children and forms their consciousness, worldview, level of knowledge. Secondly, in order to restore the modern Uzbekistan, a science-educated woman first of all understand that the wealth of the family is in a healthy and educated generation, pay attention to education and medicine, investing in their prosperous future. Thirdly, a modern woman should understand the socio-political processes and correctly assess the events which is happening in the country and over the world.

The addition of the terms "hero of Uzbekistan", "deputy", "senator", "Minister", "place of Minister", "academician", "scientist", "entrepreneur", "director" next to the name and surname of the Uzbek woman is an example of the changes in the sociocultural appearance of women and girls.

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# PECULIARITIES OF THE PROSECUTOR'S CONTROL OVER THE CONSIDERATION OF APPLICATIONS AND REPORTS ON A CRIME AND THE INITIATION OF A CRIMINAL CASE

#### **Rustamov Nodirbek**

Independent researcher of the Academy of the General Prosecutor's Office of the Republic of Uzbekistan (Senior Assistant of the Prosecutor of Uchtepa District)

(Belliot 7 kisistant of the 1 resecutor of Centepa District)

Abstract. The article deals with the issues based on improving the legislation on the main tasks of prosecutorial control while considering applications and reports of crimes and initiating a criminal case, the legal mechanism, to eliminate some shortcomings in its implementation into practice.

Key words: consideration of applications and reports on a crime, preliminary investigation, inquiry, refusal to initiate a criminal case, revocation of a decision to refuse to initiate a criminal case, giving instructions, conducting investigative actions.

The need to prevent violations of the law when considering reports of committed or planned crimes requires the introduction of an effective system of law enforcement at the stage of initiating a criminal case. In turn, a necessary component of this system is prosecutorial control in this area.

We may also notice that there are some problems in the investigation practice when dealing with reports of crimes and other information.

In particular, according to the third part of Article 329 of the Criminal Procedure Code, only the prosecutor has the right to extend the period of pre-investigation investigation of criminal applications and reports to one month by a reasoned decision of the inquiry officer or investigator. In order to save the time of the prosecutor, as well as to increase the independence and responsibility of the head of the investigation department, it is proposed to give the head of the investigation department the following powers: to give instructions to the inquiry officer, investigator to investigate criminal reports before the investigation; transfer of pre-investigation materials from one inquiry officer to another; to give instructions on the nature of the pre-investigation investigation, as well as on measures to prevent and eliminate crimes. At this point, it is proposed to fill Article 329 of the Criminal Procedure Code with a new fourth part on the powers of the head of the investigation department.

An analysis of the practice of preliminary investigation shows that in some cases, pretrial investigation is carried out by law enforcement agencies on documents with obvious signs of a crime, and the issue of timely initiation of a criminal case or legal decision is delayed.

It should be noted that prosecutorial control, which does not depend on the interests of various agencies, plays an important role in the system of ensuring the legality and validity of the initiation of a criminal case.

In accordance with the procedure provided for in the criminal procedure legislation, the instructions of the prosecutor to the bodies of inquiry and preliminary investigation related to pre-investigation investigation, initiation of cases and investigation shall be binding on these bodies. The prosecutor shall make a mandatory presentation on the identified violations. In this regard, the problem of registration and concealment of a crime cannot be solved only by improving the methodology of prosecutorial control. To do this, it is necessary to take measures of an organizational nature at the state level .

Another important area of prosecutorial oversight is overseeing the legality and validity

of decision-making on criminal reports, the initiation of criminal proceedings, or the refusal to initiate criminal proceedings.

While controlling the initiation of a criminal case, the prosecutor shall carefully study the materials of the investigation of criminal reports; not to delay the initiation of criminal proceedings when the symptoms of the crime are obvious; the investigator shall verify the decision and materials of the investigator to initiate criminal proceedings, and in the case of separate investigative actions - immediately upon receipt of their protocols and decisions, their validity and sufficiency to make a procedural decision, determine the circumstances excluding the need to initiation of a criminal case.; determine whether it was conducted in time and legally .

The prosecutor controls not only the legality of initiation of a criminal case, but also the legal refusal to this process. There is a practice in law enforcement agencies that a copy of the decision to refuse the initiation of a criminal case is sent to the prosecutor for notification. This, in turn, is an important means of preventing the concealment of crimes by the decision to refuse to prosecute .

A group of experts states that the fact that the criminal procedure legislation does not set a clear procedural deadline for sending a message on the subject of investigation creates some problems in law enforcement practice. In particular, appeals to state bodies, organizations or their officials, which are not within the scope of its competence to resolve the issues rose in Article 25 of the Law of the Republic of Uzbekistan "On appeals of individuals and legal entities", are sent to relevant bodies, other organizations and officials no later than five days. The applicant shall be notified in writing or electronically. However, Article 1 of this Law specifies that the application of the law, the order of consideration does not apply to appeals established by the legislation on administrative liability, civil procedure, criminal procedure, criminal executive, economic procedure and other laws .

Article 335 of the Criminal Procedure Code specifies the procedure for submitting a report (report) on a crime, depending on its jurisdiction, to send a statement (report) on a crime outside the district (city) and to resolve the issue of instituting criminal proceedings. The investigation is allowed only in cases when it is necessary to conduct an investigation in the district (city) where the crime was committed.

The lack of a clear definition in the criminal procedural legislation of the issue of transferring a statement and report of a crime from one body to another or between separate units of one body leads to an unreasonable delay in the timely consideration of applications and messages and a legal response.

In addition, another investigating body, when accepting the application accordingly, observes the deadline within ten days in accordance with the requirements of the CCP.

Based on the above, it is proposed to supplement Article 335 of the Criminal Procedure Code ("Sending a statement (communication) about a crime depending on its significance for the investigation") with the second part: "Investigation, inquest before investigation of a statement (communication) about a crime is not within its competence. or the application (notification) received by the preliminary investigation body must be sent within one day, since it belongs to the investigation."

# PROBLEMS AND SOLUTIONS IN THE IMPLEMENTATION OF STATE POLICY TO SUPPORT YOUNG WOMEN , PROTECTION OF THEIR RIGHTS AND INTERESTS.

Ergasheva Gulchehra

a history teacher at 18 schools in Kukan, Fergana Province

Annotation: In this thesis, the problems and practical solutions in the implementation of public policy to support young women, to create opportunities for them and to protect their constitutional rights and interests.

Key words: public policy, constitutional law,interest, opportunity and practical solution.

Mission of the united Nations of Women. The United nations Organization for Gender Equality and women's Empowerment(UN- Women) was established to protect and promote the interests and rights of women around the world. The birth of UN Women in 2010 has been recognized by the international community as a major contribution to the UN's core mission of promoting gender equality. The work of UN Women is based on the idea that gender equality is an integral part of sustainable development. UN - Women assists UN member states in implementing international standards for gender equality and in developing and implementing relevant lawsand programs.

The UN Women Regional Office operates in four countries: Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan. Headquartered in Almaty, Kazakhstan, it assists gender equality governments and civil society organizations in promoting gender equality, women's empowerment, and peace in the region. Since 2010, UN Women has been contributing to a number of projects and initiatives in the Republic of Uzbekistan under the leadership of agender consultant. Main activities. Expanding women's economic rights and opportunities. UN-Women, in partnership with the Ministry Mahalla and Family Support of the Republic of Uzbekistan, aims to improve the economic situation and opportunities of women living rural areas of Uzbekistan, to address national and economic issues, to provide legal services, and to provide financial resources, has been helping to find and expand their use. National Programm for Support of Women Enterpreneours of Uzbekistan.

UN-Women, together with the Women's Committee of the Republic of Uzbekistan and other national partners, is assisting the Chamber of Commerce and Industry of Uzbekistn in implementing the national program Development of Women's Entrepreneurship in Uzbekistan". The program is based on the results and experience of the previous Women's Economic Empowerment Project, which focuses on supporting women in need of social assistance, specially in rural areas, focused on measures. Taking temporary special measures in Uzbekistan. One of the priorities of UN Women is to promote the active participation of women in Uzbekistan in the political, economic and social life of the country. At the same time, a program of temporary special measures is being implemented in Uzbekistan . The program is based on the recommendations of UN Women , based on extensive consultations with the Women's Commmittee of Uzbekistan , the National Center For Human Rights, the Oliy Majlis , political parties , and non-governmental organizations. It is planned to increase the number of women in management positions in Uzbekistan.

On the basis of the above clear facts and data, we have witnessed that women and their personal, dignity, constitutional rights and freedoms are legally protected and that women are provided with opportunities that provide broad and effective results, and

this continues to be the case. Indeed, it is probable that the laws adopted in the above-mentioned sourcs, how the opportunities created are reflected in practice, and similar questions, and even some of them have problems. We said that if the positive impact of the reforms does not reach these areas, they should apply to the relevant government agencias. If they do not, it can continue. Women are beautiful, kind and intelligent by nature. These and similar traits are formed in women from birth, but also in the womb, depending on the environment. However, they need a lot of legal and psychological support. They Ministry of Family and Neighborhood was established this year. If a center called "Psychological Assistance and Legal Assistance to Young Women" is opened under this ministry and it is organized in every neighborhood, I hope it will not work. Early marriage is also effective, the number of divorces is sharply reduced, there is no involvement in crime, no one is deceived into wasting his life for profit, and most importantly, they know their rights and can fight for them. This process is the experience of Uzbekistan and will undoubtedly be a turning point in the lives of women around the world.

The number of women entrepreneurs in Uzbekistan is growing day by day. This can be considered as a result of the opportunities provided. But there are also problems in this area, that is, the women has to go abroad, the women is married and has children. If the situation is such that free IT texnology and digital economy information and training monthly courses are organized for women entrepreneurs, both programming and digital economy knowledge will increase from imports, and as a result will make a worthy contribution to the state economy.

Now, as in many countries.we have a problem with staffing.It can be called a shortage of staff.At the initiative of President SH.M.Mirziyoyev, special quotas for girls were allocated to universities, and the number of grants is gratifying. In the past ,girls living in remote areas or with poor marital status could not study in higher education.A positive solution to this problem has been found. Now any gifted, talented, educated women have the privilege. It should be noted that the procedure for making recommendations for participation in the competition for admission on the basis of additional grants for higher education institutions has also been opened. The procedure for issuing recommendations for participation in the competition on the basis of admission indicators and the organization of admission to regulations have also been approved. The Ministry of Mahalla and Family Support of the Republic of Uzbekistan will set up a Commission consisting of deputy heads of relevant ministries and departmentson relevant issues. This is one of the highest examples of opportunities for education and staffing. Another area we should

not forget is that law enforcement agencies (police,prosecutors,courts,etc)currently have a low share of women in these areas , and in practice , when I conducted a voluntary survey" these areas do not apply to women. But we need to work day and night in these areas ." But now it would be more expedient to reduce tax rates and working hours for women who work and work in law enforcement agencies, and our peace. And our well-being I stabilized. Under the auspices of the Youth Union of Uzbekistan, which includes women between the ages of 14 tand 30 , Girls' Voice Club has been established to raise their interests , discover their talents and apply positive and practical experiences , a clear example of the opportunities given to women.

While mentioning the state policy on women, I should also mention their role in public administration . we are glad that the numbe of women leaders in our country is growing due to the fct that women are worthy of historically formed "matriarchal" leadership positions and appoint them .it is no exaggeration to say that such reforms will help young girls to increase their courage , enthusiasm and confidence in our bright future together with pride, pride and honor

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# THE PROCESSES OF TRANSFORMATION OF WOMEN INTO THE SOCIO-POLITICAL LIFE OF THE SOCIETY

**Guzal Boykuzieva**Kokand State Pedagogical Institute

As we proceed from traditional to modern society, the political mobility of the women is getting more and more important. Modernization, as a combination of the results of political, economical, intellectual transformations can cover all spheres of the life that we are living now, including the marriage and family life, and it left its deep impacts on those spheres of our lives.

According to A. Toffler, today's most societies can be considered as societies, formed after and according to the "third wave" and its impacts. The most gruesome effects of the modernization and the third wave come upon the family life, which never encountered changes so deep and transformative in its ten thousand years of evolution as the ones, which rushed us towards the end of the last century.

Although the concept of modernization took its full spread in the late 20th century, the concept itself owes in its formation the classics of sociology, such as H. Spencer, M. Weber, E. Durkheim, and F. Tennis. Most of these thinkers considered modernization as a transformation from traditional society to a modern one.

The modern postindustrial societies faced a great changes and challenges, and through these challenges, the problems, such as women's suffrage and abolishment of every kind of discrimination against them came to the attention of the leading thinkers of the epoch. And this events in a way triggered the full scale events directed to the support of the women's active participation in the policy making and the broader aspects of the society in general. Today's modern family witnessing the increase in the importance of the personal initiative and potential, and along with it, we are witnessing the increase in the women's potential of creative industries, and their social mobility.

The wide-scale movements, attempting the liberation and equal participation of the women in all spheres of the society, which have lasted centuries and is continuing now, resulted in the formation of special social picture of the women in society, in general and also the processes of modernization provided grounds for the re-formation of the socio-psychological bases of family life in multiple societies. The transformation of the traditional family values changed the life values of the women themselves.

In modern societies, the women can have an equal share with men in education, work and leisure activities, and their opportunities for realizing their creative potential have been on the rise ever since. Women have been able to acquire education for the realization of their skills, and this processes had its roots in the early days of women's suffrage in Western societies. Considering that the traditionally, the household chores and children's care was the main tasks of the women in earlier societies, the women now could free themselves of such tasks in order to pursue a career or in order to achieve a greater success in their professional life. On the flip side of the coin of modernization, this emancipation did cause the destruction of the traditional family bonds: now the women could hire a nurse, and doing so could free themselves of the task of child-care. The lack of constant contact between a parent and a child could cause serious breakdowns in the family value system. In Britain, the women, who advanced in all spheres of life and achieved success are referred to as "alpha-women". Their annual salary is over ?100.000 and they comprise 11.4 % of the British higher-class. The women are also starting to marry when they are long into the period of adultness, and it caused a shift in the average marrying age. In Japan, the average marrying age of the women is

28, and the age of the deliverance of the first child is now close to 30.

According to the renowned psychologists and scientists, the recommended average age in Uzbekistan for the marriage is 22 to 25 for females, and 24 to 30 for males. The people reach their maximal physical and emotional potential in these ages. The recommendation of the marriage on this age also facilitates the consideration of the marriage as a task that requires responsibility and the families created at those ages tend to be more resilient to the turmoil of family life. Currently, as all the members of the society faces problems of restoring and preserving the traditional family values, we can make out three types of women, based on their attitude towards work and family life, in general:

- 1. The women, who preferred the pursuit of career rather than family care, mostly single or married women with no children;
  - 2. The women, who preferred family life rather than the pursuit of career;
- 3. The women, who are able to maintain both sides on the same level, and able to achieve a considerable success on both sides.

In the first instance, we have an attitude present at the atmosphere, which encourages women to participate in the public life, and try to accumulate as much wealth and power as possible, as much influence in the society as men. This attitude is quite strong and oriented that the women equipped with it can reject family life and embrace the life without family responsibilities and children (The "childfree" subculture in the USA has now more than 40 organizations) and they apply to the optional sterilization. According to the data, provided by the national statistics center of American Healthcare Association the 2.4 % of the women in 1982, 6.6 % in 1995, 25 % of the adult women in 2015 received the optional sterilization. Recently, we can notice this trend among the women with college and university graduation. 53 % of the adult women in Germany is single and 30 % of them do not have children. 49 % of the women with college or university graduation do not have children. In other words, as F. Aries puts it, "the notion of family gradually acquiring relative rather than absolute character".

It can be traced back to the idea of ascendance of the ideas of individual interests and personal inviolability to an absolute degree, which shaped the Western civilization for many centuries.

The number of families in which both of the parents work is also increasing recently. In the U.S., 65% of women with children under the age of 18 are employed. This figure is 86% in Denmark and 89% in Sweden, while employed women with children under 3 are 53% in the United States, 84% in Denmark and 86% in Sweden. An increase in the number of families where both spouses work leads to an increase in the average family income. In such families, the husband and wife have many opportunities to pursue a business or career. That is why 600,000 women in the UK prefer to go to work rather than be housewives if they find a nurse for their children.

This situation, first of all, leads to a violation of the worldview and values of the younger generation, their spiritual and moral norms. The first President of the Republic of Uzbekistan, Islam Karimov describes the present situation very accurately: "The purest and most sincere feelings of man, the first vital concepts and imaginations, are formed, first of all, in the heart of the family. It is natural that the spiritual criteria and views that determine the character, nature and worldview of the child - the foundation of sacred concepts such as goodness, nobility and kindness, honor and dignity - are nurtured in the family."

The childbirths outside family is also on the rise in modern industrial societies. If we look at the numbers that are available to us, in 1960s, the 5 % of the single or widowed women became conceived and gave birth to children, and this figure increased to 18 %

in 1980 and to 41 % in 2009. The percentage of the women giving birth outside the family constituted 37.7 % of the total adult female population in the 27 countries of the European Union.

As the problems behind the fragmentation and collapse of the family and family relations gradually proliferate and their solutions become harder to find, the governments in modern industrial societies focusing more on the traditional family values and their restoration as the ultimate sources of solution. Recently, a number of researchers conducted researches on the importance of restoring the women's role in family, and on the measures of elimination of various obstacles in the family relations. They provide us with a number of directions of approach to the problem. They are as follows:

1.Patriarchal direction. The followers of this type of attitude towards the women make up a relatively small number among other directions, and they are mainly the journalists and journalists with inclination to raise discussions on the women's problems. According to them, humans are born with "natural" inborn qualities, and ignoring these qualities, "inclinations" and repressing them, or forcing them on to surface leads inevitably to the disruptions in the fabric of society, and these qualities are most profoundly expressed in the traditional family relations and they reflect the men and women's role in the society and especially the family.

2. Economical direction. The proponents of this direction consider the decrease the role of the women, currently employed in the various sector of an economy to be a way out of the debacle that we presently find ourselves in. For, the women, who do more damage to the continuity of the economic cycle by taking too much days off the work for the care of their sick children and for childbirths. Apparently, according to them, this is the main cause of the decrease in the efficiency of the production.

3.Demographic direction. The proponents of this direction considers that the first and foremost duty of the women is to give birth to the new generation and to raise them in the bosom of society's traditional values. The lack of constant demographic policy may take its toll on the development of the whole society and might even cause stagnation. That may be one of the reason for the insistence of the advocates of demographical approach to give women more privileges, to cut off from their work hours, and to give them longer leaves for the child-care.

4. Egalitarian direction. The advocates of this direction see the problems of women's moral, economic and demographic situation not as a separate set of problems that require special and focused attention, but as a part of the whole. They argue that solving the demographic, economic and moral problems of a society will inevitably lead to the betterment of the women's situation in that society. Therefore, focusing the resources to one point would be senseless if the causes of the problem required an approach of a wider scope.

On the problem of the role of women in a society on its way to modernization, it should be said that, it is as a social reality has both theoretical and practical relevance. Currently there is two distinct and conflicting approaches present at the discussions of this problem.

According to the first approach, the women should participate all the spheres of public life. The advocates of this approach interpret the legal equality of the men and women as the basis of their equality in practical matters.

Advocates of the second approach, on the other hand, argue that the women's activities should be limited to the household and child-care matters. They attempt to prove their views by pointing out the differences in the performance of the two sexes, which shows slight excellence on male side, and their motto would sound something, like: "Woman is the cornerstone of the family-life and child-care!"

Although both of these views have elements of truth, neither of the claim to be altogether true. The modernity requires women to participate equally in the matters of the public life, but maintaining the "golden mean" on this issue remains utterly unattainable even to this day.

The socio-political reforms created following trends in family life:

The change in the traditional marriage routines: the so-called "open" marriages, where the spouses may engage in sexual relationships with aperson outside the marriage, becoming more and more common.

The re-assessment of the dominant moral codes and norms, regulating the sexual behavior of the partners: the crisis of the traditional family and marriage relationships in the modern West.

The reorganization of the socio-psychological bases of family life, caused by modernization: the transformation of the traditional family value system acted as a catalyst of change in the value-orientation of women.

The competitive environment of the modern society, which mostly requires the employment of both of spouses for the family to be well maintained, caused the blur in the gender outlines within the family. This is most profoundly illustrated by the fact that, now not only household assets, but also the assets acquired at the time of marriage are also shared equally between spouses.

It must be noted that, after gaining independence, the Republic of Uzbekistan saw many changes and advances in the socio-political life of Uzbek society. The government of Uzbekistan, carrying on the ideals present in the Constitution of Uzbekistan, provided for the equality of men and women in all spheres of public life. As the President of the Republic of Uzbekistan, Shavkat Mirziyoyev points out: "The deepest respect for women and their values is one of the most cherished traditions of Uzbek people. We, all of us, no matter how big and important we may be, no matter how important our positions are, there is virtue in our hearts and we are indebted in front of women for it." Therefore, the raising the socio-political status of women in our society seems to be the problem that needs solving.

The measures are taken to ensure the equality of men and women, to provide equal opportunities for both sexes, to protect the mother and child in our country.

However, we do have quite a lot of obstacles in our way of equality between men and women, and protection of women from discrimination. To name a few:

There is no addressed support system of socially disadvantaged women; the system of individual work with unemployed and socially passive women is not established, the measures taken for bringing down the unemployment rate among women is utterly ineffective;

There is no enough initiation for the preparation of youth for marriage, for the formation of modern family, and nurturing the traditional family values in those families. The measures taken for the issues of early marriages and family conflicts are remaining ineffective.

The activities directed at maintaining the reproductive wellbeing of women are not thoroughly organized. The prophylactics and prevention of mother's diseases and perinatal diseases are not efficient enough, especially in remote rural areas.

The activities directed at the prevention of felonies and bringing down the crime rate among women are not thoroughly organized. The system of legal consultation and education for women still needs revisions and improvements.

The women's committees and organizations, due to their limited authority are not being able to address the pressing issues of women.

The "Oila" ("Family") Republican scientific-practical Center, due to its complex and

intricate power hierarchy and lack of proper financial sources, failing to meet the standards, which is the to detect the most pressing issues concerning the family life in our republic and provide scientifically approved recommendation addressing said issues.

Finally, the preparing the youth for family and raising the moral norms to them is so important, but the activities directed at the supply of staff for this purpose remains utterly ineffective.

As we are all aware, that women play very important role in our daily life, in the development of country, and of society. The women of Uzbekistan, which constitutes roughly fifty percent of the population, are employed in all the spheres of public life, including government and representative organs, production, businesses, healthcare, education, and cultural organizations.

It should be noted that now 514 doctors of sciences, 6 members of the Academy of Sciences of Uzbekistan, and 15 members of the Representative House of Oliy Majlis (Supreme Legislative Assembly of Uzbekistan) of Uzbekistan are women. Moreover, the women constitute over 23 percent of the members of the local legislative bodies and 72 percent of the population employed in the sphere of education.

We cannot imagine neither life, nor the prosperity without the women. They are the leading forces, able teachers and kind nurturers of society.

Today, the development of countries rests heavily on the abolishment of discrimination against women. The youth and their nourishment mainly determine the development, which is mostly in the hands of the women. The nourishment of children starts with the establishment of right value system within the family.

The Uzbek society started giving more attention to the women and their interests in the independence years. Today many opportunities for them to participate in public life are present in the Uzbek society. The respect for women have been at the core of the values of our ancestors, which defended the rights of women and cherished them.

The Republic of Uzbekistan joined among the first of CIS countries to the UN Convention "On the Abolishment of any kind of Discrimination against women", The World Labor Organization Conventions "On the protection of Mothers", "On the prevention of discriminations in labor and activities". These regulations are the components of the normative complex directed at strengthening the role of the women in family and in society.

The Presidential Decree PD-5325 "On the measures of the support of women and strengthening of family institute" on February 2, 2018, is the reflection of these worldwide trends.

This Decree mainly focuses upon the issues of raising the socio-political activity of women, providing enough opportunities for the realization of their intellectual and creative potential, assuring the respect of the legislature concerning the women and their interests, the support of the mother and child, also the issues of strengthening the family institute.

We assume that this legal document will ensure the protection of women's rights and interests, takes it up to a higher degree, and will be the guarantee of the equal role of the women in society and family, and the restoration of traditional values in families.

To sum up, the Uzbekistani women taking an active part in the matters of public life and politics of the Republic, and their role in the family is gradually strengthening. The measures, taken by the Government of Uzbekistan ensures the happy and fulfilling life for the women, the protection of their rights, interests and values, the realization of their intellectual and spiritual potential, and above all the equality of men and women in balancing both the family and the matters outside the family.

### THE ANALYSIS OF THE LEGISLATION OF REGULATE THE RATIONAL USE OF NATURAL GAS

#### Teshaboyev Akbarshokh Adxamjonovich

An independent researcher of Tashkent State University of Law E-mail: shoh.akbarshoh@mail.ru

Annotation: the scientific thesis gives information about the assessment of legal documents to manage the rational use of natural gas, the importance of regulating this field with a single piece of legislation, theoretical views on improvement of normative references in legitimate documents based on the experience of foreign countries.

Key words: rational use of natural gas, a single piece of legislation, reference norms, energy inefficiency, unified law, the calculation of energy consumption.

Today, in the Republic of Uzbekistan there is a lack of legal-civil norms to control the rational use of natural gas, since evolving social relations in this area have surpassed the norms that regulate them. The current picture of the laws governing the rational use of natural gas is characterized by the following specific features:

first of all, licit definitions of the necessary concepts that are important in the legal regulation of relations on the rational use of natural gas have not been made;

secondly, there are no modern legal instruments to ensure legally effective regulation of the rational use of natural gas and no legal norms for their implementation have not been developed;

thirdly, the obligations of natural gas consumers and regional gas suppliers on the rational use of natural gas are not clearly defined in the contract;

fourthly, there are cases of different interpretations in the application of the relevant norms as a result of the fact that the law documents, monitoring the use of natural gas is mainly regulated by legislation.

Since theoretical views on the concept of rational use of natural gas have not been put forward in the civil law of Uzbekistan, legislation in this area has theoretically and practically lagged behind today's requirements.

However, in the sphere of the contract of energy supply professors such as X. Raxmonqulov, I. Zokirov, O.Oqyulov, M.Baratov, Sh.Ruzinazarov, M.Imomov, O. Kamolov [1] speculate some of their scientific opinions about natural gas provision.

In fact, it is determined that, in developed countries legal research has not been conducted as well as scientific research has not been accomplished in the field of jurisprudence on the topic of rational use of natural gas. However, foreign researchers E.V. Luneva, E.A. Saveleva, T.N.Romanova, R.G. Abakumov, A.A. Kamenev expressed theoretical views on some aspects of the use of energy resources.

Currently, in the legislation of the Republic of Uzbekistan it is expedient to implement following aspects of monitoring the rational use of natural gas:

firstly, it is necessary to develop clear definitions of such concepts as "rational use of energy", "energy inefficiency" and express them in the legislation and contracts for the supply of natural gas to consumers;

secondly, wide introduction of digital technologies in the natural gas network in order to ensure automatic monitoring of the necessary information on the use of natural gas, its consumption, the general state, as well as the expression of legal norms in the relevant laws;

thirdly, improvement of contractual and legal norms in order to ensure the rational

use of natural gas;

fourthly, in order to effectively regulate the use of natural gas, it is expedient to combine all normative legal acts in this area into a single code or to adopt a single law.

In recent years, the lack of effective legal regulation of the use of natural gas has led to a significant waste of natural gas. In particular, in the Republic of Uzbekistan natural gas reserves decreased by 4 percent in 2008-2019, and the average rate of replacement of natural gas reserves over the past 5 years was about 70 percent [2].

The study of the legislation of advanced foreign countries regulating the use of natural gas revealed the following cases:

Firstly, countries such as the United States, Russia, the United Kingdom, France, Belarus, and Kazakhstan have adopted unified laws regulating the use of natural gas.

In particular, the Law of the Republic of Kazakhstan "On Gas and Gas Supply", the Law of the Russian Federation "On Gas Supply in the Russian Federation", the Law of the Republic of Belarus "On Gas Supply" and the Law of Germany "On Gas Supply" were adopted. All norms on rational use and responsibility in this regard have been established by this legislation.

Secondly, in countries such as Russia, Finland, Belarus, and Germany, strategies and concepts have been adopted to improve relations on the rational use of natural gas.

In particular, the "Energy Strategy of Russia until 2030" of the Russian Federation states that "the capacity of the consumer sector to use energy resources wisely, the regular implementation of drastic measures to combat irrational use" [3].

Finland's "Energy and Climate Strategy until 2030" also shows "the introduction of new mechanisms to encourage consumers to utilize natural gas rationally in the economy, as well as grow the responsibility of consumers who waste it." [4]

Thirdly, the relevant laws of countries such as Germany, Finland, Russia, Norway establish state control and effective control over the energy efficiency of gas supply projects and compliance with energy quality indicators. In particular, the Law of Finland No. 587 "On the Natural Gas Market", adopted in 2017, was amended in 2019 to "fully monitor the gas supply networks online in a way that saves gas and prevents waste." Therefore, the country has a high practice of saving natural gas consumption and strengthening the country's gas supply [5].

In order to improve the legislation of governing the rational use of natural gas, the following are proposed via taking into account the experience of advanced foreign countries and the current situation:

Initially, there is no possibility of effective legal regulation of the sector due to gaps in the legislation that provide liability for the improper use of energy resources, in particular natural gas. Therefore, it is proposed to reflect such important concepts as rational use of energy and energy inefficiency in the Law on Rational Use of Energy and it is offered to add a new Article 3 to the Law with the following content:

Article 3. Main Concepts

The following key concepts are applied in this Law:

rational use of energy - energy conservation, careful usage of energy resources in compliance with energy consumption standards or avoidance of any form of waste, as well as high efficiency in the use of energy resources at the current stage of technology development;

energy inefficiency - the usage of technologies that do not allow to achieve high efficiency in the use of energy resources.

Secondly, in order to increase the effectiveness of civil law regulation of relations in the field of rational use of natural gas, it is proposed to adopt the Unified Law of the Republic of Uzbekistan "On Gas Supply".

Today, there are 3 laws and more than 10 bylaws regulating the use of natural gas, many of which are duplicative and obsolete and do not meet today's requirements. For this reason, it is important to express them in the unified legislation, adjusting them to the requirements of the time.

Thirdly, Article 15 of the Law of the Republic of Uzbekistan "On Rational Use of Energy" sets out reference norms for energy accounting. According to this article to include a new rule on the calculation of energy consumption by smart meters is considered as expedient decision.

In conclusion, it should be noted that the expression of the above scientific and theoretical ideas and proposals in the legislation serves to thrive the effectiveness of the legal regulation in the use of natural gas in the Republic of Uzbekistan.

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## SCIENTIFIC-THEORETICAL AND ORGANIZATIONAL-LEGAL ASPECTS OF THE STATE FUNCTION ON RATIONAL WATER RESOURCES USE

#### Ashirbaeva Mavlud Hakimbaevna

Candidate of the Academy of the Ministry of Internal Affairs Republic of Uzbekistan

In the world it is systematically and consistently discussed the need to strengthen the international legal framework for the activities of states in the rational use of regional water resources, improve the function of states to save and preserve water resources in innovative development, establish mutually beneficial effective regional cooperation aimed at joint and optimal use of natural water resources. Today 40% of the world population lives in regions where more than 260 international watercourses cross the territory of two or more countries. In turn, as a result of uneven distribution of international water basins the following situation has emerged: if at the beginning of our century 1 billion people suffered from lack of drinking water, today this figure exceeds 1 billion 700 million people. By 2025, this figure is expected to reach over 3 billion. In recent years, the rational use of natural and water resources has become one of the serious problems both in the world and in the region.

The urgency of the state function on organization of rational use of regional water resources is increasing, which is an important factor of efficiency of activity in the field of optimal use of these water resources.

In general, it should be noted that the current stage of innovative development of our society, its achievement of new milestones, as well as globalization processes in the world explain the relevance of scientific research in terms of further improving the functions of the state, adapting them to the needs of complex modern tasks [2, 10-c.].

In the current conditions of globalization, Central Asia, as well as many other regions of the world are concerned about the rational use of natural resources, including water resources, as well as transboundary rivers, while the issues of effective management of water resources and reserves have acquired relevance. These views and considerations play a crucial methodological role in reviewing the theory of state functions, including scientific analysis and interpretation of the content of the function of state use of natural resources at the national and regional levels.

Based on an in-depth analysis of various doctrines, theories and views developed in the legal literature, as well as taking into account the idea and concept of modern pragmatic approach to the state function, the following author's definition in the scientific turn is proposed: "The function of the state is not only the main directions of state activity, but also the activities carried out in important areas of society and country, based on the main goals and objectives, the essence and social mission of the state".

Scientific classification of the system of state functions is based on the subjects and directions of state activity, method of state influence on social relations, content of its functions [1, 110-c.; 3, 87-c.].

Based on the scientific classification, the following types of state functions can be distinguished: 1) on the content of tasks faced by society and the state (creative function, regulatory and protective function); 2) on state activity, implementation of internal and foreign policy of the state (internal functions and external functions); 3) on methods of implementation of state activity (functions performed through persuasion and coercion); 4) on the sphere of state activity (economic, social, political, spiritual and cultural, protective and other functions).

Mutually beneficial, rational use of water resources and natural resources of transboundary rivers between Central Asian states becomes more and more important for countries of the region. To solve these problems, negotiations are held in many meetings of the countries of the region, international treaties, intentions and agreements are adopted and signed. Fulfillment of requirements, norms and obligations in these international documents imposes serious functions on the Central Asian republics and their respective state bodies.

It should be noted that in the context of radical reforms and broad modernization in the life of the state and society, the functions of the state are formed and differentiated [4, 9-c.]. In the process of differentiation, its function to manage regional natural water resources and organize their rational use is systematically distinguished.

Thus, the following arguments can be made in favor of singling out such a function of the state as a separate function: firstly, the function of organization of regional water resources and transboundary rivers use does not fit into a purely internal ecological function of the state; secondly, this function has an international tinge and also has characteristics of an external function.

In conclusion, it should be noted that based on the research and analysis, the following features of the state function on use and protection of regional natural water resources can be highlighted: a) this function is broader than the content of the state's internal ecological function, and can be implemented on the basis of a combination of internal and external functions; b) globalization processes, global and regional natural threats dictate the need for cooperation between states, a new direction of activities related to the effective use of the

- d) formation and implementation of a unified water-technical policy on regional natural water resources use is an integral part of the content of this function; e) organization of rational management and use of natural water resources;
- f) this function of the state is carried out using diplomatic means and methods of achieving common consensus.

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# LEGAL AND ORGANIZATIONAL ASPECTS OF WATER USE IN CENTRAL ASIA AND ISSUES OF IMPROVEMENT OF STATE FUNCTION IN THIS SFERE

#### Ashirbaeva Mavlud Hakimbaevna

Candidate of the Academy of the Ministry of Internal Affairs Republic of Uzbekistan

In the modern world purposeful scientific researches on the resolution and removal of complex regional water bodies are actively conducted.

and environmental problems. In particular, serious attention is paid to the mutually beneficial use of regional water resources and transboundary rivers as an important scientific and practical area for systematic research. In particular, scientific analyses on construction of hydraulic engineering structures and ensuring their safe operation for the environment, especially life and health of the population, ensuring reliable cooperation, as well as research of new directions and prospects for improvement of international legal framework for cooperation in this area.

At the present stage of innovative development in our republic, a long-term state policy on environmental protection, mutually beneficial use of natural water resources, regional transboundary rivers and their transfer to future generations is being pursued. Reforms are under way to create a system of rational management of existing water resources. Organizing the rational use of regional natural waters and cross-border rivers is becoming one of the government's important functions. "It is necessary to continue searching for mutually acceptable solutions to pressing issues of shared water resources use". [4].

Proceeding from the above it should be noted that legal aspects of the function of the State of Uzbekistan on organization of rational use of regional water resources is an important factor of efficiency in the field of optimal use of these water resources [2, 177-c].

It should be noted that transboundary rivers create special problems in accordance with international law. In contrast to natural resources such as minerals or oil, the river network is an integral part of a complex hydrological system. The ecological status of the water at the top of a stream has a direct impact on the lower reaches of the river and vice versa (1, 13-c).

In particular, the UN Convention on the Protection and Use of Transboundary Watercourses and International Lakes of 17 March 1992

and the Watercourses Convention of 1997 define fundamental principles and procedural norms of water law - basic rights and obligations of the basin countries.

Legislation aimed at water use and protection establishes procedures for careful treatment, protection and preservation of water resources and establishes measures for observance of these procedures. This means that the right is important for the whole society, as well as for every person in rational water use and protection. Legal norms are implemented through the function of water use by states. So, the importance of this function increases in modern conditions [3, 48-c].

It should be noted that at the end of the last century there was a violation of the hydrological regime along the Aral Sea, a complication of normal living conditions due to the deterioration of water quality from all sources in the region with the strengthening of the process of desertification by reducing the water level of the Aral Sea.

In order to solve the above problems and tasks as soon as possible and jointly, a

regional water management body, the Interstate Coordination Water Commission (ICWC), was established in 1992 in the five Central Asian republics. This organization was tasked to regulate water use and ensure stable international relations on transboundary waters by allocating quotas for each republic. The Water Management Departments of the Amudarya and Syrdarya basins work in accordance with standards established by the Interstate Coordination Water Commission.

Water resources in Central Asia, particularly those of the Aral Sea, and institutional aspects of effective use of transboundary rivers are of practical importance. This is due to the fact that the function of organizing the rational use of these water resources requires the existence of responsible state agencies, as well as interstate structures that perform this function. Study of mechanisms of organization of activity of bodies of each national state performing this function and mechanisms of real cooperation of these bodies with relevant state bodies in other countries of the region is an important scientific and practical problem.

Institutional aspects of water resources use in the region are understood to be the system of state bodies as well as interstate structures that carry out water resources management. Such institutional structures and organizations include the above-mentioned Central Asian Cooperation Organization, Eurasian Economic Community, Executive Committee of the International Fund for Saving the Aral Sea, Interstate Coordination Water Commission (ICWC), public authorities and other bodies of the region.

At the beginning of the century, the population of our republic was 20 million people and the volume of water consumed in the economy was 64 billion cubic meters.

By 2020, the population reached 34 million people. However, it is expected that 51-52 billion cubic meters of water will be used in the economy.

Taking into consideration this situation, the study showed that the leadership of Uzbekistan implements effective measures adopts and actively implements relevant laws, decrees and resolutions of the President of the Republic of Uzbekistan, government decisions, "Smart Water Supply System" is being created.

At the same time, it should be noted that the current legislation does not reflect the tasks and functions of local government bodies at the level of the Republic of Karakalpakstan, regions, districts and cities to participate in the management and use of transboundary and other water resources on their territories. Nevertheless, local authorities are involved in this area within the limits of their competence, performing respective functions.

Based on the above, attention should be paid to local authorities' water resources management, rational use and effective protection of water resources by local authorities and management, as well as operational decision-making activities. In this regard, it is proposed to include this definition in Article 21 of the Law of the Republic of Uzbekistan "On water and water use", as well as to supplement the law with new Article 841, which reflects powers of local authorities.

Moreover, continuation of water resources use without taking into account realities in such situation may lead to interstate cooperation.

and interethnic conflicts, deterioration of social and political situation in the region [5]. In this extremely difficult situation, it is necessary to coordinate activities and functions of competent state bodies of the Central Asian republics in the field of water resources management, accounting, control and use.

In this regard, the Central Asian states should act not only in the national interest, but also in strict accordance with the following principles

with universally recognized principles of international law while performing the function of organization of rational use of regional water resources and transboundary

rivers in the region. The legal regime of transboundary rivers shall be regulated, first of all, by international agreements

and, in turn, applies to states that have signed or acceded to them. Accordingly, the agreements and arrangements

in the region will have to be adopted on the basis of universal international legal documents (conventions).

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### **TECHNOLOGY**

#### THE DEGREE TO WHICH THE PROBLEM HAS BEEN STUDIED.

**B.R.**Hagberdiev

Andijan State University Fine Arts and Engineering Graphics head of the department bahtiyor.haqberdiyev@mail.ru

Abstract; This article mainly highlights the challenges that need to be addressed and addressed to improve teaching through the integration of engineering graphics and design sciences. The Curriculum for Fine Arts and Engineering Graphics is proposed to teach design in general subjects. Brief information on engineering graphics, design and integration is also provided.

Keywords; Engineering graphics, design, integration, art, architecture, creativity, teaching, education, literature, lesson, thinking, knowledge, skill, qualification, problem, drawing, drawing geometry, project, drawing, drawing, computer graphics, fine arts, applied art, architecture, weaving.

A number of scientific researches have been carried out in our country, the Commonwealth of Independent States and foreign countries to improve the system of higher education, integrate the content of academic disciplines, effectively develop students' knowledge, skills and abilities. In fact, an integrated approach is important in improving the quality and effectiveness of the education system and its content. In particular, in the field of improving the educational process in the country B.Ziyomuhammadov, NN.Azizkhodjaeva, N.S.Saidahmedov, RUAyupov, Sh.Murodov, N. Tashimov, D.Nozilov, Sh.Samieva, R. Ismatullaev, I.Rakhmonov, N.Kirgizbaeva, A.Ashirbaev, A.Valiev, B.Nigmonov, H.U.Kambarov various modern teaching methods, engineering graphics in the educational process and independent work, effective use of information on design sciences, modern educational technologies, psychologists PI Ivanov, ME Zufarova, E. Goziev, A. Jabborov The laws of psychological development of students in improving the effectiveness of education, their character, abilities, external influences in the learning process, internal and external motivations, their stability, voluntary and conducted research on involuntary memory.

In the countries of the Commonwealth of Independent States Antsupova L.Yu., Aronov V.R., Minervin G.B., Kuptsov V.I., G.I.Marinko, M.A.Rozov, A.V.Surin, E.V. Girusov, G.Palvelig, Stefanovskaya T.A., Yaroshevich O.V., Zelenovskaya N.V. studied various approaches to increase the effectiveness of education in engineering graphics and design sciences, the creation of scientific and methodological literature and their role in the educational process.

As a result of theoretical study of the problem, it was found that despite the accumulation of experience in teaching engineering graphics in developed countries and higher education institutions of the Republic, insufficient work has been done to enrich the content of the subject, improve its structure, increase students' interest in science. This requires a comprehensive study of the effective development of students' knowledge, skills and abilities through the integration of concepts in these disciplines, the creation of appropriate textbooks.

This requires the formation of an integration that provides for the systematization, generalization and integration of engineering graphics and design sciences. The reason is to increase the knowledge of students through integrated topics, to find their place in society, to feel the need for their creative work in society, to respect the heritage of our ancestors and to educate them in the spirit of confidence in the future. , greatly contributes to the improvement of skills and abilities, the development of creative research skills and scientific-theoretical thinking, and the solution of problems in their specialties.

Our research has shown that textbooks in engineering graphics and design sciences have not been integrated to date. The required information was also used sparingly, and many higher education institutions did not develop integrative methodological recommendations for students in the preparation of master's degrees in this area, and only relevant instructions were given in separate regulations.

The use of design professionals in training processes has not been studied in training programs designed for engineering graphics professionals. So far, no comprehensive research has been conducted in the country to improve the teaching of design in the field of undergraduate education in engineering graphics. With this in mind, the integration of these two disciplines will shape the learning process, identify elements that stimulate integrated learning, increase understanding and interest based on the simple-to-complex principle, identify factors that help students gain in-depth knowledge, and integrate design and engineering graphics. In improving, it is necessary to determine the level of teaching through modern computer programs, to pay special attention to the development, creation and application of methods aimed at solving problems of engineering graphics to students through a design science approach.

The science of engineering graphics includes the basic sections of drawing and descriptive geometry. It is part of the general professional sciences and provides graphic training for future professionals.

The term design in English means various project activities aimed at the formation of aesthetic and functional qualities in the existing environment. Therefore, those who study design in depth should first of all study engineering graphics, architectural drawing, computer graphics, fine arts, it is necessary to have an excellent knowledge of applied arts, weaving, architecture.

The application of the laws of interdependence in all spheres of human activity has a long history, and as a result of centuries of improvement, the modern term integration (integration - Latin "integratio", French "integration" - the interaction of infinitely small parts of information). The integral relationship is interpreted as an approach to determine a single correct conclusion on the basis of their integrity, a whole.

In view of the above, it would be expedient to plan the teaching of design subject 5110800 - "Fine Arts and Engineering Graphics" in higher education institutions in the bachelor's degree program. It should be noted that the educational process will be more effective and efficient if the teaching materials are focused on a specific goal in improving teaching through the integration of these two disciplines, if the teaching materials are suitable for students.

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#### WIRELESS DATA ROUTING WITH ZIGBEE PROTOCOL

M.Q.Karimova

(student of TUIT named after Muhammad al - Khorazmiy)

M.B.Oodirova

(student of TUIT named after Muhammad al - Khorazmiy)

Abstract. The article discusses the technical and practical features of the ZigBee wireless data transmission protocol. It has been talked in details about the device network built on this standard, its application area, advantages and disadvantages. For greater clarity, some comparative characteristics with other popular protocols, such as Wi—Fi and Bluetooth were given. In addition, the article considers the following elements based on this protocol with their real market value.

Keywords: protocol, networks, ZigBee, wireless, routing, smart home.

#### Introduction

Today, wireless technology is growing faster. For this reason, the developers were faced with the question of not only increasing the compactness of such devices, but also their autonomy and ease of connection. The use of existing data transmission wireless protocols such as WiFi, GSM or Bluetooth has been proven to be unsuitable for use in situations that do not require high data transfer speeds running for long periods of time. This led to the creation of the fourth target group of the IEEE 802.15 standard on which the ZEBE protocol was developed.

ZigBee protocol options

ZigBee is a high-level protocol that was ratified by the ZigBee Alliance in 2004 and is based on the IEEE 802.15.4 wireless data standard. There are currently different versions of the protocol, the name of which corresponds to the name of the year in which it was created.

The main feature of devices that use ZigBeeni is low power consumption. The network transmits most of such data using a router, and the end devices connected to them allow you to spend a lot of time in sleep mode, saving energy. Thus, a device running on the ZigBee protocol can run on a single AA battery or even AAA class for two years.

Communication in the ZigBee network is carried out by transmitting data packets between devices connected to the network, and the following devices are used:

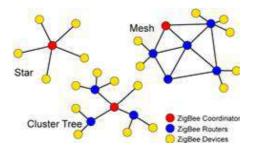
The coordinator starts the network and manages its processes: installs and stores the security keys of the device, sets the security policy of its network and connects to other networks. There can be only one coordinator in each ZigBee network.

A router is a device that dynamically transmits packets of data over a network. It can be connected to other routers or a network coordinator and to other routers or children's devices. Routers are stationary and can be serviced. Live broadcast on devices designed for 32 children at the same time, including stationary devices.

A terminating device is a system element that operates from an autonomous power source and performs a specified function using sensors or actuators. The latter device connects to a router or coordinator, which can send and receive data packets only through a router or coordinator. It can't exchange data directly with other latest devices, so it spends a lot of time in "sleep" mode to save battery power.

Unlike WiFi and Bluetooth, the ZigBee network has a network topology. This allows routers to be connected to each other to increase system reliability. In the event of a router crash, data packets are automatically routed through other available routers,

which maintains the integrity of the information flow. A diagram of a possible ZigBee network is shown in the figure.



Pic.1. ZigBee network diagram

The IEEE 802.15.4 standard allows the use of multiple frequency bands to organize communication channels. In addition, the 2.42.48 GG transmission speed is the highest and provides the best noise. For these frequencies, 16 channels were tuned at 5 MHz. Additional data transfer rate, including data rate, is 250 kbit / s. The ZigBee protocol allocates 16 bits of data per device address, allowing a single coordinator to manage up to 65,536 devices.

Like any protocol, ZigBee has its drawbacks. Major updates in 2006 and 2007 caused compatibility issues with devices with different protocol versions. In particular, this problem occurs when ZigBee 20062007 devices are combined with ZigBee Pro devices. Devices that support one version of the protocol, if they are the last device, may work properly with other devices in the network that have a different protocol version. This is due to differences in routing principles.

In addition, devices running on ZigBeed must be assigned one of the standard target profiles: Industrial plant monitoring; enterprise monitoring; Home automation; Automation of commercial buildings; Telecom programs; outpatient or inpatient treatment at home and in the hospital, and so on.

Due to the low power consumption and high interruption resistance of devices operating under the ZigBee protocol, their coverage includes various systems of building automation, industrial control and monitoring. The ZigBee protocol is very flexible and has a wide range of capabilities for setting up local wireless networks. Ease of installation, safety, reliability, low power consumption, and cost of components make it one of the most popular protocols for creating room automation devices.

#### Conclusion

The article discusses the technical and practical features of the ZigBee wireless data transmission protocol. The device network built on this standard, its scope, advantages and disadvantages were discussed in detail. To be more specific, descriptions are given that are comparable to other popular protocols such as WiFi and Bluetooth.

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### SAFETY EVALUATION OF CRYPTOGRAPHY MODULES WITHIN SAFETY RELATED CONTROL SYSTEMS FOR RAILWAY APPLICATIONS

N.M. Jurayev

senior teacher Fergana branch of Tashkent University of Information Technologies named after Muhammad al-Khwarizmi,

N.Yu. Xomidova

master of Computer Engineering, missnancymagistr1994@gmail.com

Abstract. The paper deals with the problem of safety evaluation of cryptographic modules used within safety-related control system for applications with increasing safety integrity level. The requirements to cryptographic techniques in safety-related communication for railway application are describe. The mainly part is oriented to description of mathematical apparatus for an error probability of cryptography code with a safety code, used in an additional safety communication layer. The practical results are related with the quantitative evaluation of an average error probability of code word for Euroradio protocol recommended for communication in European Train Control System.

Keywords. Safety-related communications, safety integrity level, railway applications, cryptographic code, safety code, safety evaluation.

#### 1.Introduction

Nowadays in railway applications, with respect to high requirement to Safety Integrity Level (SIL) of an interlocking and a communication system, the safety of subsystems cannot be demonstrated by tests only, but also by theoretical models based on quantitative analysis [1, 2]. Negative influence also results from the fact, that a generally acceptable theoretical apparatus for risk analysis and safety level evaluation is missing, which would objectify the whole process of safety consideration. Reciprocity information exchange leads to opinion of safety certification unification. It leads to problems minimize by reciprocity acceptation advisement results. The genesis of the problem is based on the fact, that single countries of European space developed philosophical different signaling systems and interlocking systems too. These systems have been developed basically at the national level with different types of signals and devices. Today it is very difficult to harmonize these devices. Developing the uniform ETCS (European Train Control System) in Europe can solve these problems in the future, although implementation of particular application level of ETCS depends on economic situation in individual European country [3, 4]. Application level ETCS L2 assumes communication across GSM-R (Global System for Mobile - for Railway) network and communication protocol Euroradio, which content some cryptography mechanisms for keeping of integrity and authentication procedures of railway transport entities, e. g. communication between OBU (On Board Unit) in train with RBC (Radio Block Central) and communication between RBC-RBC [5]. In several part of cryptography systems within ETCS system is in the phase of evolution and discussions. Concerning to very dynamic developed discipline (as it is cryptography) and with related cryptanalysis several recommended cryptography algorithm in Euroradio system is not computationally safety just now (not resistant against existing attacks) [6]. Therefore, it is necessary to create the methodology for safety evaluation of the cryptographic algorithms or the cryptographic modules and to determine computationally safety of recommended cryptographic mechanisms, to consider their selection and in addition to proposal for these algorithms KMS (Key Management System). In Europe countries this time KMS is in the phase of developing. With respect of interoperability in railway transport in European countries these procedures and convention must be solved incorporate with railway companies in Europe [3]. The reciprocal acceptance an interlocking and communication systems safety appraisal results bring considerable financial savings and significantly reduce the deployment of new systems into railway operation (the necessary requirement for interlocking system implementation is a positive result of Safety appraisal). In addition, more suitable conditions are created for penetration of these systems onto third-party countries (the reference of the systems safety being accepted by several countries organizations acts positively).

These rules are valid for specific part of safety related systems too, which is communication. It is well known that standards for commercial sphere (e. g. financial sector, company information systems) exist but for applications of cryptography with increasing safety integrity level the methodology for safety evaluations absent. E. g. the FIPS 140-2 [7] standard is applicable to all federal agencies that use cryptographic-based security systems to protect sensitive information in computer and telecommunication systems. For safety evaluation of cryptography modules methods based on the quantitative analyses are recommended in comparison of approach apply in the commercial sphere, where the methods are based on the qualitative analyses. According to standard FIPS PUB 140-2 cryptographic modules are divided to four qualitative levels:

Security Level 1 - provides the lowest level of security. No specific physical security mechanisms are required in cryptographic module beyond the basic requirement for production-grade components.

Security Level 2 - improves upon the physical security mechanisms of a cryptographic module by requiring features that show evidence of tampering, including tamperevident coatings or seals that must be broken to attain physical access to the plaintext cryptographic keys and critical security parameters (CSPs) within the module.

Security Level 3 - attempts to prevent the intruder from gaining access to CSPs held within the cryptographic module. Physical security mechanisms required are intended to have a high probability of detecting and responding to attempts at physical access, use or modification of the cryptographic module, trusted channel for manipulation of critical data - B1 according to TCESEC [8] are used.

Security Level 4 - provides the highest level of security. The physical security mechanisms provide a complete envelope of protection around the cryptographic module with the intent of detecting and responding to all unauthorized attempts at physical access. General requirement to cryptography techniques which must be fulfill are described in the norm EN 50159.

#### 2. Requirements for Cryptography

Mechanisms within Safety Critical Applications Cryptographic techniques are recommended to apply within safety-related application (e. g. safety-related control system in railway transport) if malicious attacks within the open transmission network cannot be ruled out. This is usually the case when safety-related communication uses a public network, a radio transmission system and a transmission system with connections to public networks. Cryptographic techniques can eliminate masqueraded of message. Cryptographic techniques can be combined with the safety encoding mechanism or provided separately. The degree of effectiveness of cryptography mechanism depends on the strength of the algorithms and the secrecy of the keys. According to norm for railway applications the safety case shall demonstrate the appropriateness of the following: technical choice of cryptographic techniques (performance of encryption algorithm, key characteristics), technical choice of cryptographic architectures (checking the correct functioning - before and during the operational phase of the cryptographic processes when they are implemented outside the safety-related equipment), management activities (production, storage, distribution and revocation of confidential keys). The cryptographic

algorithm shall be applied to all user data and may be applied over an additional data that is not transmitted but is known to the sender and the receiver (implicit data). The basic principle of safety - related communication between two safety-related equipment SRE 1 and SRE 2 is illustrated in Fig. 1. The additional safety layer, certificated in the required safety integrity level (SIL) must be implemented within a safety - related equipment. It is layer of the safety - related transmission in which is implemented the safety mechanism a safety code for elimination of unintentional attack affected by EMI (Electromagnetic Interferences) and the safety layer the access protection, which is realized with the use of cryptographic code, or cryptographic techniques. This layer can be component part of safety - related equipment or can be apply in input point to untrusted transmission systems. According to norm within safety - related communication across open transmission system, in which is not possible to eliminate unauthorized access to system, within communication layer of the access protection the block cipher based on secret key is high recommended (model of structure message B0) or cryptography code (model of structure message B1).

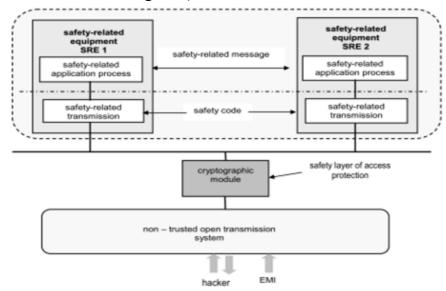


Fig.1: Location of cryptographic module within communication between two safeties - related equipment

#### 3. Result of Error Probability

Determination with Application to Euroradio Protocol Determination of an average error probability of the cryptography code word was realized for combined communication system, which consists from the safety code and the cryptographic code MAC (Message Authentication Code). The formal notation of MAC calculation is: M C MACKc where M is the message, Kc is the shared key and C representing ciphering operation. This alternative cryptographic technique is well recommended for using in Euroradio safety layer of communication protocol within ETCS system, developed in railway application in Europe. This cryptography code is recommended to apply in CBC (Cipher Block Chaining) mode CBC-MAC, which improves the safety of algorithm. CBC-MAC is based on 3-DES block cipher, which enciphered the block size of length k = 64 bits with applying the secret keys of length 168 bits and is using in secure procedures ensuring message authentication and integrity during transmission. Let us assume that the safety code is detection cyclic linear blockcode works in the principle of CRC (Cycling Redundancy Check) - CRC-16. Further we assume that probability of undetected error of code word Pw = 2 - 16 (according to norm, so called the worst case). The ensembleaverage cryptographic word error probability cw P was realized according to relation.

The results of cw P for different length of code word in the input of ciphering encoder (k = 64, 128, 192, 256) and different length of input plaintext (n = 1.10 4, 5.10 4, 1.10 5, 5.10 5, 1.10 6, 5.10 6) are illustrated in Tab. 1 and Tab. 2. Graphical results of cw P as function of input bit stream of plaintext n for constant value of code words in input of cryptography decoder is illustrated in Fig. 3. In the graph illustrated in Fig. 4 we can show how is changed cw P dependence of code words k = 64, k = 128 and k = 256 in the input of cryptography encoder.

Length of input plaintext n	Average error probability $\overline{P}_{cw}$ if $k$ =64	Average error probability $\overline{P}_{cw}$ if $k=128$	Average error probability $\overline{P}_{cw}$ if $k$ =256	
$1,10^4$	3,13·10 <sup>-14</sup>	1,56·10 <sup>-14</sup>	7,81 · 10 -15	
5,10 <sup>4</sup>	1,56·10 <sup>-13</sup>	7,81-10 <sup>-14</sup>	3,91·10 <sup>-14</sup>	
1,105	3,13·10 <sup>-13</sup>	1,56-10-13	7,81 · 10 · 14	
5,10 <sup>5</sup>	1,56·10 <sup>-12</sup>	7,81-10 <sup>-13</sup>	3,91-10 <sup>-13</sup>	
1,10 <sup>6</sup>	3,13·10 <sup>-12</sup>	1,56·10 <sup>-12</sup>	7,81 · 10 · 13	
5,10 <sup>6</sup>	1,56·10 <sup>-11</sup>	7,81-10-12	3,91-10 <sup>-12</sup>	

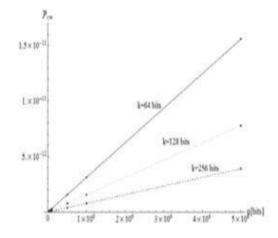


Fig.3: Caption example

Length of input block k	64	128	192	256
Average error probability $\overline{P}_{\scriptscriptstyle \mathrm{CW}}$	3,13·	1,56·	1,04·	7,81·
	10 <sup>-14</sup>	10 <sup>-14</sup>	10 <sup>-14</sup>	10 <sup>-15</sup>

Tab.2: Result of average error probability with using cryptography code in accordance with parameter k.

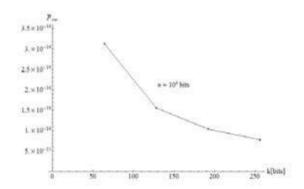


Fig.4: Average error probability of the cryptography code in dependence on k. This is simulation of changing cryptography algorithms DES or 3-DES to today resistant blockcipher to known cryptanalytic attacks AES (Advanced Encryption Standard) for constant length of plain text n = 10 4.

#### 4. Conclusion

In the paper the mathematical apparatus for an error probability of cryptography code was describe, which can be used within the safety evaluation of cryptography codes used in safety-related communication with combination of a safety code. The authors assumed application of CRC-16 safety code. The results are oriented to determination of an average error probability of message authentication code (MAC) on the base of 3-DES algorithm in CBC mode, which is recommended to apply in Euroradio communication protocol in ETCS system providing effect of electromagnetic interferences only. In Tab. 1 and Tab. 2 and in Fig. 3 and Fig. 4 are illustrated the results of an average error probability of cryptography code in dependence of length of plaintext n and of length of code word k (in the case of changing the algorithm 3-DES to more prefer algorithms AES). For keeping high diffusion of acipher text it is necessary the length of message n choice more than selected length of block cipher k (n>4k is recommended). Results of an average error probability of code word can be changed in dependence on the detection or correction possibilities of safety code. In the paper the authors assume one type of safety code only and determination oriented to safety analyses of cryptography code. For global safety evaluation of cryptographic module, it is necessary to create the model which will be describe the effects of the intentional attacks to safety message transmission.

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### RESULTS OF MODERNIZATION OF FLOW LINES OF CLEANING COTTON FROM WEED IMPURITIES

Usmanov Khayrulla Saydullaevich Associate Professor, student Kayumova Dildora Zafar Kizi Tashkent Institute of Textile and Light Industry Zaynobiddinov Muhammad Zahiriddin Tolibjon ugli assistant Jamalov Kamronbek Shukhratbek ugli assistant Andijan branch of Tashkent State University usmanov.khayrulla@mail.ru

At present, there is asituation at the ginneries when the price of equipment, energy and components is constantly increasing. With the transition to cotton-textile clusters for ginneries in recent years, linear-flow lines have become expensive equipment. This fleet of morally and physically obsolete ineffective equipment in the technological process leads to a deterioration in the quality indicators of fibrous material and an increase in the cost of production costs.

The authors propose to modernize the initial section of the production line UKhK.01 (Fig. 1) by means of a vertical arrangement of cleaning units, which consists of feed rollers 1, which uniformly feed cotton into the section for cleaning small weed impurities, to vertically located and parallel to the annular drums 3 with the help of which cotton, loosening and dragging along the mesh surface 4, an enlarged arc of girth of bell drums, is cleaned of fine litter.

At the same time, at each transition from one bell drum to the next, the cotton flow changes the cleaning surface and when it hits the mesh surface of the next section, the cotton receives a shock action, in which small weedy impurities are effectively removed from the machine by weed screws 5.

After that, cotton is fed with a guide 7 to the lapping brush 8 and to the first saw drum 9 along the process, on the teeth of the saw section of which the fixed bats hit the grate 10, large weedy impurities are released. Coarse weed contaminated during cleaning are removed from the machine with a weed screw 5. The brush drum 6 rotates to remove the saw drum from the cotton and transfers the cleaned cotton to the next section to clean up large litter.

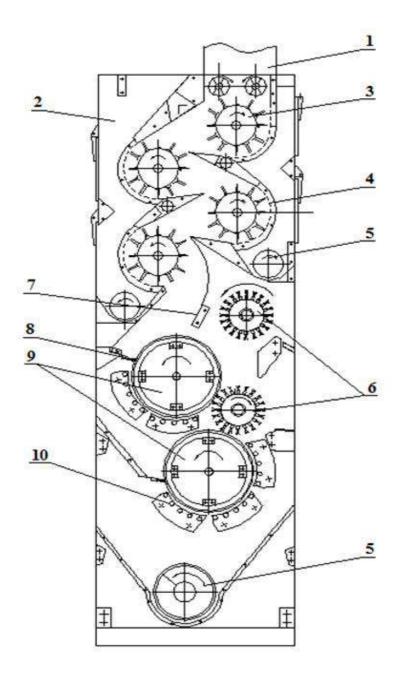


Fig. 1 Technological scheme of the modernized initial section UHK.01

1 - feed rollers; 2 - section for cleaning of small litter; 3 - ring drums; 4 - mesh surface; 5 - weed screw; 6 - brush drum 7 - guide; 8 - lapping brush; 9 - serrated drum; 10 - grate;

The advantages of the modernized initial section of UHK.01 is that due to the vertical arrangement of pegging drums, the number of zones of countercurrent counter impact impacts of peg drums is reduced by half when cleaning cotton from small weed impurities (from 14 zones with 4 sections of UHK to 6) and the cleaner is combined 1HK with the UHK.03 section. Savings in electricity and material resources are also achieved (Table 1).

Comparative technological indicators cotton cleaning technology in a production line with vertical sections for cleaning of small litter

Table 1

		T	
		Unit Options	
$N_{\underline{o}}$	Indicators	Operated 2 units	Two vertical fine litter
		UHK (4) + 1HK	cleaners
1	The number of ring-	24	8 + 12 = 20
	barreled drums in cars,		
	pieces		
2	Productivity t / h	7	7
3	The area of "living		
	sections "	$24 \times 2 \times 0,628 =$	$(8 \times 2 \times 1,54) + (12 \times 2 \times 1,54)$
	mesh surface	=25,1	0,628) = 24,6 + 15,1 = 39,7
	drums, m2		
4	Energy intensity of	196	188
	machines,		
	kw		
5	Metal consumption	40	36
	cars, tons		
6	Volume occupied	20x2x2 = 80	12x2x2 = 48
	unit, m3		
7	Drying area	42x18=756	12x18=216
	cleaning shop, m2		
8	Cost	\$ 99,800	\$ 77.800
	equipment, US dollars		
9	Number of counter-	12	6
	rotation zones adjacent		
	pecked drums		
10	The selection of short	Average	Not more than 0.12
	fibers during cleaning,	1.81 and more	
	kg / hour		

### SECURITY ANALYSIS OF URBAN RAILWAY SYSTEMS: THE NEED FOR A CYBER-PHYSICAL PERSPECTIVE

#### N.M.Jurayev, N.Yu.Xomidova, X.X.Yuldasheva

(Named after Mukhammad al-Khorezme Ferghana Branch of Tashkent Information Technologies University, senior teacher, students missnancymagistr1994@gmail.com)

Abstract. Urban railway systems are increasingly relying on information and communications technologies (ICT). This evolution makes cyber security an important concern, in addition to the traditional focus on reliability, availability, maintainability and safety. In this paper, we examine two examples of cyber- intensive systems in urban railway environments a communications-based train control system, and a mobile app that provides transit information to commuters and use them to study the challenges for conducting security analysis in this domain. We show the need for a cyber-physical perspective in order to understand the cross-domain attack/defense and the complicated physical consequence of cyber breaches. We present security analysis results from two different methods that are used in the safety and ICT security engineering domains respectively, and use them as concrete references to discuss the way to move forward.

Keywords: security analysis, urban railway systems, cyber-physical systems, railway safety

Information and communications technologies (ICT) play a vital role in helping railway operators improve their system safety and service reliability, provide higher transit capacity, and keep the costs of building, operating, and maintaining their infrastructure in check. For example, many urban transportation systems around the world have deployed some form of communications-based automatic train control (e.g., [1],[2]). In those systems, multiple cyber components, including wireless communication, software de?ned control logic, and near-real-time data visualization at control centers, have been introduced to replace their conventional physical counterparts. As another example, with smart phones becoming ubiquitous, transit operators (e.g., [3], [4]) are introducing mobile apps to provide consumers with information about train schedules, as well as push noti?cations about emergency events or other relevant information. While the bene?ts of digitizing urban railway systems are obvious, the potential implications of this evolution could be multi-faceted and profound, especially when it comes to the issue of security. For older railway systems, where train protection is based on track circuits and mechanical relay signaling, the security concerns reside primarily in the physical domain. In comparison, the ICT components used in newer automatic train control systems expose additional cyber-attack surfaces, which could allow sophisticated attackers to combine cyber-attack vectors with physical attack means to achieve malicious goals. This makes it dif?cult to assess the security of digitized urban railway systems using traditional approaches (e.g., safety analysis methods) that are most familiar to transit operators and other stakeholders. At the same time, security analysis approaches used in other ICT systems (e.g., enterprise networks) are also not readily applicable to urban railway systems, since cyber components can have complicated interactions with the physical assets, or even passengers (e.g., with a false noti?cation through a mobile app).

In this work, we take a close look at two concrete examples of cyber-intensive systems used in urban railway environments a communications-based train control (CBTC) system and a mobile transit information app and use them to analyze the cyber-physical security challenges introduced by the digitization of urban railway systems. At the high

level, we identify two key challenges:

- Cross-domain attack and defense: For a digitized urban railway system, with its many components that span a large geographic area in the physical domain and interconnect with each other in the cyber domain, attack and defense can manifest in multiple stages, involving both cyber and physical actions.
- Physical-domain consequences from cyber breaches: Security breaches in the cyber domain, such as falsi?ed information or malicious control logic, can have a complicated impact on the physical domain, which is also subject to an urban railway system's underlying design features, such as fail-safe mechanisms.

The evolution of urban railway systems requires the corresponding evolution of security analysis methodologies in particular, the need for encompassing a systematic cyber-physical perspective. In particular, we ?nd that in the CBTC example, the Failure Modes, Vulnerabilities and Effects Analysis (FMVEA) approach [4], which originates from the safety engineering domain, provides a convenient starting point, since the primary concern in train signaling is avoiding "hazards" such as train collisions or derailments, regardless of whether they are caused by cyber or physical means.

In summary, we analyze the cyber-physical security implications of the ongoing evolution of urban railway systems, present analysis results obtained from two different methods, and use them as concrete references to discuss the way to move forward.

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#### **FUNCTIONAL EQAUTIONS**

Yazdonov Doniyor

student of National University of Uzbekistan

Abstract: Solving functional equation is a mean part in Olympiad Algebra. Functional equations are equations in which a function is specified implicitly.

Functional equations are different from algebraic equations in that they generally

Cannot be reduced into solving an expression in terms of f(x). As functional equations are mainly based on recursion, various substitutions can be used to find the solutions of a functional equation, but there are various clever manipulations involved in them.

Keywords: Theorem, lemma, injective, surjective, Cauchy's functional equation, Jensen's functional equation.

There are special functional equations in mathematics. For example

Cauchy's functional equation, Jensen's functional equation, Pexider's functional equation and D'Alambert's functional equation.

Cauchy's functional equation is the functional equation f(x)+f(y)=f(x+y).

**Lemma1:** If  $f: Q \to R$  and f(x) + f(y) = f(x+y), then f(x) = cx for some constant  $c \in R$ 

**Theorem 2:** If  $f: R \to R$  f(x)+f(y)=f(x+y) and it is monotonic, continuous at a point or bounded on some interval, then f(x)=cx for some constant  $c \in \mathbb{R}$ .

Jensen's functional equation is the functional equation  $f(\frac{x+y}{2}) = \frac{f(x)+f(y)}{2}$ 

**Theorem 3:** If  $f:I \rightarrow R$  satisfies  $f(\frac{x+y}{2}) = \frac{f(x)+f(y)}{2}$  and it is monotonic, continuous at a point, or bounded on some interval, then f(x)=cx+d for some  $c, d \in R$ .

Pexider's functional equation is the functional equation f(x+y)=g(x)+h(y)

**Theorem 4:** If  $f,g,h:R \to R$  are continuous function such that

$$f(x+y)=g(x)+h(y)$$

For all  $x, y \in R$ , then f(x)=ax+b+c, g(x)=ax+b, and h(x)=ax+c where  $a,b,c \in R$ are constants.

D'Alambert's functional equation is the functional equation

$$f(x+y)+f(x-y)=2f(x)f(y)$$

**Theorem 5:** If  $f: R \rightarrow R$  is a continuous function that satisfies

f(x+y)+f(x-y)=2f(x)f(y), then either f(x)=0,  $f(x)=\cos ax$  or  $f(x)=\cosh ax$ , where  $a\in R$  is a constant.

**Theorem 6 (Brouwer).** For any continuous function  $f: I \to I$ , where I is a subset of R, there exists  $x \in I$  such that f(x) = x.

**Theorem 7 (Intermediate Value Theorem).** Consider an interval  $I = [a, b] \in R$  and a continuous function  $f: I \rightarrow R$ . If f(a) < u < f(b), then there exists a  $c \in (a,b)$  such that f(c) = u.

#### **Problems**

1) Find all function  $f: R \rightarrow R$  such that for all real numbers x,y

$$(f(x+y))^2 = (f(x))^2 + 2f(xy) + (f(y))^2$$

#### Proposed by Oleksiy Klurman, Canada

**Solution:** Fist put (-x,x) to receive the equation  $f'(0) = f'(x) + f'(-x) + 2f(-x^2)$ . Then Put (x+y,-x) to receive that  $f'(y) = f'(x+y) + 2f(-x^2-xy) + f'(-x)$ . By comparing this with the first equation and the problem statement we receive the following equation:  $f(-x^2) = f(xy) + f(-x^2 - xy) + \frac{f(0)}{2}f(0)$ 

Now define the equation  $g(x) = f(x) + \frac{f(0)}{2}f(0)$ ; then we receive the following equality:  $g(-x^2) = g(xy) + g(-x^2)$ 

Now set the system xy=a,  $x^2+xy=b$ , so that  $x=\pm\sqrt{-(a+b)}$  and  $y=\pm\frac{a}{\sqrt{-(a+b)}}$ .

Indeed, the system has solution for all a, b such that  $a+b \le 0$ . Thus for all real values for which  $a+b \le 0$ . 0 we have g(a+b)=g(a)+g(b). Now if a+b>0 there exists a real number c such that c+a+b,  $c+a\leq 0$ . Then we have g(c)+g(a+b)=g(a+b+c)=g(b)+g(a)+g(c).

It is Couchy's equation. Now we need to prove that it is bounded. Consider the relation

$$f(-x^2) = \frac{1}{2}$$

$$(f^{2}(0)-f^{2}(x)-f^{2}(-x)) \le \frac{1}{2}(f^{2}(0))$$

Thus  $g(-x^2) \le f^2(0)$ , which implies that g is bounded from above on the left side of the real line. By **Theorem 2** we have g(x)=cx for some real number c, so f(x)=cx+d for some real numbers c,d. By f(x)=0, -2, x, x-2.cheking this with our original equation we find the solution

1) Find all functions  $f: I \rightarrow I$  such that satisfying the conditions

i) f is continuous

ii) f(y-x+f(f(f(x))))+y+f(x)=2f(y)+f(f(f(x))) for all  $x,y \in I$ , where I=[-1,1]

#### Proposed by Doniyor Yazdonov, Uzbekistan

**Solution**: I think it is very easy problem by **Theorem 6**.

By **Theorem 6** there exists  $a \in I$  such that f(a) = a. Put (a, y) to receive that

 $f(y-a+f(f(f(a))))+y+f(a)=2f(y)+f(f(f(a))) \rightarrow f(y)+y=2f(y) \rightarrow f(y)=y \text{ for all } y \in I.$ so, solution is f(x)=x.

3) Find all functions  $f: I \rightarrow I$  such that satisfying the conditions

i) f is continuous

ii) f(1)=1, f(-1)=-1 and f(f(f(x)))=f(f(x)) for all  $x \in I$ , where I=[-1,1]

#### Proposed by Donivor Yazdonov, Uzbekistan

I)=-1, so f is surjective on [-1,1].

Let f(f(x)) = y, then we have f(y) = y for all  $y \in [-1,1]$ .

So, solution is f(x)=x.

4) Determine all function  $f: R^+ \to R$  that satisfy the following f(1) = 2018,  $|f(x)| \le x^2 + 1004^2$ ,  $f(x+y+\frac{1}{x}+\frac{1}{y})=f(x+\frac{1}{y})+f(y+\frac{1}{x})$ .

**Solution:** I claim that if  $uv \ge 4$ , we can find  $x, y \in R^+$  such that  $u = x + \frac{1}{v}$  and  $v = y + \frac{1}{x}$ 

Since  $uv = xy + \frac{1}{xy} + 2$ , if  $uv \ge 4$ , then such xy exists, so we can find x, y by uy = xy + 1 and

vx=xy+I as required. Take an  $w \ge \frac{4}{\min(u,v)}$ . Now f(u+v+w)=f(u)+f(v+w)=f(u)+f(v)+f(w) since  $u(v+w) \ge uw \ge 4$ and since  $u(v+w) \ge uw \ge 4$  $vw \ge 4 \quad f(u+w+v)=f(u+v)+f(w)$ 

So f(u+v)=f(u)+f(v) for all  $u,v \in R$ .

Take h(x) = f(x) - 2008x. It is easy to verify that h(1) = 0, h(x+1) = h(x)

h(x+y)=h(x)=h(y). Also, since  $|f(x)|=|h(x)+2008x| \le x^2+1004^2$ 

we have  $-(x+1004)^2 \le h(x) \le (x+1004)^2$  for all x.

This gives  $-1005^2 \le h(x) \le 1005^2$  for all  $x \in (0, 1]$ , so using h(x+1) = h(x)we have that h(x) is bounded. This gives us that h(x)=0 by **Theorem 2.** 

thus we have f(x)=2008 x for all x, which is indeed a solution.

5) Find all functions  $f: R \to R$  such that for all real numbers  $x, f(x) \ge 0$  and for all real numbers x and

$$f(x+y)+f(x-y)=2f(x)+2y^2$$

**Solution:** Plugging in y=0, I get  $f(x)+f(-x)=2x^2+2f(0)$ .

Let  $f(x) = x^2 + f(0) + g(x)$ . Thus g(x+y) + g(x-y) = 2g(x), plug in  $x=y \to g(2x) = 2g(x)$ 

and I get g(x+y)=g(x)+g(y). This is a Cauchy's equation ,Since  $f(x) \ge 0$ 

we have  $g(x) \ge -x^2 - f(0)$  and by plugging -x we have  $g(-x) \ge -x^2 - f(0)$ which is equivalent to  $g(x) \le$  $x^2 + f(0)$  (since g(-x) = -g(x)), thus  $-x^2 - f(0) \le g(x) \le x^2 + f(0)$ 

it is bounded and we have g(x)=ax by **Theorem 2.** 

Thus the solution is  $f(x)=x^2+ax+b$ , with  $a^2 \le 4b$ .

1) Find all functions  $f: R \to R$  such that for all real numbers x, y we have

 $f(x)^{2}+f(y)^{2}+f((x+y)^{2})=2x^{2}+2y^{2}+f(xf(y)+yf(x))$ 

2)[2017 Iran] Find all functions  $f: R^+ \to R^+$  such that for all positive real numbers x, y we have

$$\frac{x+f(y)}{xf(y)} = f(\frac{1}{y} + f(\frac{1}{x}))$$

 $\frac{x+f(y)}{xf(y)} = f(\frac{1}{y} + f(\frac{1}{x}))$ 1) [2018 Korea Winter Program Practice Test]

Find all functions  $f: R \rightarrow R$  such that such that

1) $f(x+y)-f(x)-f(y) \in \{0,1\}$  for all  $x,y \in R$ 

2) [f(x)] = [x] for all real x.

**4)** [2018 Uzbekistan] Find all functions  $f: R^+ \to R^+$  such that

$$f(\frac{1}{f(x)+y}) = f(x) + \frac{f(\frac{x}{y})}{f(x)}$$
 for all  $x, y \in R$ .

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2) Find all continuous functions  $f: R \to R$  such that for all real numbers x, y we have

$$f(f(f(x+y)))=f(x)+f(y)$$

5) [IMO 2017] Determine all functions  $f: R \to R$  such that, for any real number x and y

$$f(f(x)f(y))+f(x+y)=f(xy)$$

**6)** [2018 Uzbekistan] Find all functions  $f: R \rightarrow R$  such that f is srtictle

increasing and f(1-x)=1-f(f(f(x))) for all real number x.

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7) [2017 ELMO] Find all functions  $f: R \to R$  such that for all real numbers a, b and c:

i) if 
$$a+b+c \ge 0$$
 then  $f(a^3)+f(b^3)+f(c^3) \ge 3f(abc)$ 

ii) if  $a+b+c \le 0$  then  $f(a^3)+f(b^3)+f(c^3) \le 3f(abc)$ 

8) [2018 Hong Kong] Find all functions  $f: R \rightarrow R$  such that

$$f(f(xy-x))+f(x+y)=yf(x)+f(y)$$

for all real number x and y.

9) [2018 Uzbekistan] Find all functions  $f: R \rightarrow R$  such that

$$f(x+y) = f(x) + f(x)f(\frac{1}{x})f(y)$$

for all non zero real x and real y.

#### Proposed by Doniyor Yazdonov

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### CLASSIFICATION OF INTERNATIONAL PROGRAMS IN TEACHING AND ASSESSING ENGLISH AND THEIR IMPLEMENTATION IN UZBEKISTAN.

Ibrohimova O.X.

Masters degree student, ASU

Annotation. The article deals with the overall classification of international English teaching and assessing programs such as IELTS, CEFR, TOEFL, PTE, FCE, CAE and CPE and illustrates the rate of their implementation in Uzbekistan.

Abstract. International programs in teaching and assessing English are highly developed including much more types rather than other languages. Each program is aimed to rate language teaching and learning process together with assessing the level of language learners' knowledge in different scales.

Key words: IELTS, CEFR, TOEFL, PTE, FCE, CAE and CPE.

English is overspread all around the world as a popular study language - it possess the top of the list of the most studied foreign languages in the world. It's the language of communication, science, policy, economy and technology. So, international programs that serves to assess the English language organize a great number because of high demands. By the way, there are more than 50 different English teaching and assessing programs today. In this article we will focus on the most prominent certificates in order to make out the differences. Below, we'll go through some of the general information about the English language certificates that are widely accepted around the world in order to help you understand their structure and grades better.

CEFR - Common European Framework of Reference was created by the Council of Europe. In the CEFR document the reference of six levels is given and

designed as illustrative descriptors (scales) in the term of statements from level A 1 to C2.[1] These scales can be used as a tool for comparing levels of ability amongst learners of FL and also in teaching means of assessing students' progress.[2]

TOEFL - Test of English as a Foreign Language is a standardized test to assess the ability of non-native speakers wishing to enroll in English-speaking schools or universities to follow courses in English. It is recognized by more than 9,000 higher education institutions around the world. It is present in more than 130 countries including Uzbekistan.[3] It lasts four hours and students are assessed in four skills: reading, writing, listening, speaking. It exists in different forms: PBT: Paper-based test and IBT: Internet-based test.

PTE academic - the Pearson Test of English Academic by Pearson Language Tests is an Australian test to assess non-native English speakers' readiness to follow university-level studies. It is recognized in the UK, the US and many other countries like France, Spain, China, Italy Malaysia in prestigious universities like Harvard, Yale, business schools like London business school, HEC and also a number of art and music schools. Test scores range from 10 to 90, using the GSE (Global Scale of English).

ECL English language test - European Consortium for the Certificate of Attainment in Modern Languages. The ECL provides a standardised test system customised to the languages of the EU member states. The test system is based on the recommendations of the CEFR. The ECL language exam can be taken on four levels based on CEFR levels: A2 - Waystage, B1 - Threshold, B2 - Vantage, C1 - Effective Operational Proficiency. The exam consists of four parts: oral communication, listening, written communication and reading comprehension. The test does not grammar tests and translation tasks. The exam can be taken in 15 languages.

IELTS - International English Language Testing System offers an academic version of their test, designed for academic and professional environments. Like TOEFL, IELTS is one of the most popular English language tests in the world. IELTS Academic has 4 parts or sections: listening, academic reading, academic writing and speaking. It's added up to a test duration of around 2 hours and 45 minutes. IELTS test results use a 1 - 9 scale. Common scores required to be admitted for English programs usually range between 5.5 to 6.5. In Uzbekistan also scores above 5.5 and 6 for some universities are available to enroll higher educational establishments.

Cambridge ESOL examinations: FCE, CAE, CPE. Cambridge English Language Assessment is a non-profit organization offering English language certificates for different language levels. They offer many types of exams, but the most popular ones are: FCE, CAE, CPE.

FCE - First Certificate in English is about the same level as the common scores for the TOEFL test (B1 - B2) and IELTS 5.5 - 6.5. It takes around 3 hours and 30 minutes to complete.

CAE - Certificate in Advanced English is oriented at the high C1-C2 levels (comparable to IELTS 6.5 - 8.0) and is accepted by many British universities and over 9,000 educational institutions and businesses worldwide. It takes around 4 hours to complete.

CPE Certificate of Proficiency in English - is the most advanced exam, ranked at C2 level which is well above the maximum scale of the TOEFL test and similar to an 8.5 and above in the IELTS test. It takes around 4 hours to complete.

Here is the international programs level comparison chart.

TOEFL	IELTS	TOEIC	Cambridge exam	CEFR Level	Skill level
Cor	nparison char	t of English cer	tificates to Europe	ean levels	Higher <b>Ed</b> 🕮
118-120	9		CPE	C2	
115-117	8.5		CPE	C2	Mastery or proficiency
110-114	8	975-990	CAE / CPE	C2/C1	***************************************
102-109	7.5	966-974	CAE	C1	
94-101	7	945-965	CAE	C1	Effective operational proficiency
79-93	6.5	900-960	FCE	C1/B2	
65-78	5.5-6.0	785-940	FCE	B2	Vantage or upper intermediate
53-64	4.5-5	785-795	FCE	B2/B1	
41-52	4	670-780	PET	B1	
35-40	3.5	550-665	PET	B1	Threshold or intermediate
30-34	3	225-545	KET	A2	Waystage or elementary
19-29	2.0-2.5	171 -220		A1	0.00
0-18	1.0 - 1.5	120 -170		A1	Breakthrough or beginner

As the field of education in Uzbekistan has risen dramatically, these programs including exam and learning sources can be faced in the education system of the country. As a proof, Uzbekistan has accepted more than 20 international programs including above-mentioned ones. All of them are being used in making textbooks, workbooks and exam material sources for not only international, but also public universities. Not considering different marking structure, all English international programs serves to teach, learn and assess language knowledge efficiently and can be used widely in

Uzbekistan's English pedagogy.

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