ZAMONAVIY FAN, TA'LIM VA TARBIYANING DOLZARB MUAMMOLARI

АКТУАЛЬНЫЕ ВОПРОСЫ СОВРЕМЕННОЙ НАУКИ, ОБРАЗОВАНИЯ И ВОСПИТАНИЯ

ACTUAL PROBLEMS OF MODERN SCIENCE, EDUCATION AND TRAINING

CONTENTS

UDC: 371.

ETHICAL AND AESTHETIC ASPECTS OF FORMATION OF COMMUNICATIVE COMPETENCE OF FUTURE DOCTORS.

Ergasheva Shakhlo Pulatovna
Senior Lecturer of "Languages and educational technologies" department of Fergana branch of Tashkent Medical Academy
E-mail: ergasheva_sh@gmai.com

Аннотация: Ушбу мақолада бўлажак шифокорларни коммуникатив компетентлилигини шакллантиришнинг аҳлоқий эстетик жиҳатлари, аҳлоқий – эстетик мақсадларга йўналтирилган принциплари, коммуникатив компетентлигини шакллантиришда қўлланиладиган таълим технологиялар, одоб – аҳлоқ қоидалари, олимларнинг одоб – аҳлоқ қоидалари ҳақидаги фикрлари, аҳлоқ спецификаси, аҳлоқ мезонлари, аҳлоқ маданиятини бошқариш механизмлари,маҳсус аҳлоқий категорияларнинг педагогик модели, аҳлоқий бирлаштирадиган коммунитив хусусиятни чуқур билимга эга бўлиш лозим бўлган таркибий қисмлари, мулоқотнинг кўп қиррали жиҳатлари,педагогик принциплар ҳақида фикрлар юритилган.

Калит сўзлар: аҳлоқ, аҳлоқ спецификаси, аҳлоқий категориялар, коммуникатив компетентлилиг, коммуникатив хусусиятлар, педагогик принциплар, таълим технологиялари, эстетик жиҳатлар, эстетик принциплар .

Аннотация: В данной статье рассматриваются этические и эстетические аспекты формирования коммуникативной компетентности будущих врачей, принципы этических и эстетических целей, образовательные технологии, используемые при формировании коммуникативной компетенции, этика, взгляды ученых на этику, этические особенности, этические критерии, механизмы управления нравственной культурой. педагогическая модель этических категорий, составляющие коммуникативного признака, объединяющего этику, потребность в глубоких знаниях, многогранные аспекты общения, педагогические принципы.

Ключевые слова: коммуникативная компетентность, коммуникативные особенности, этика, нравственная специфика, этические категории, эстетические аспекты, эстетические принципы.

Annotation: This article discusses the ethical and aesthetic aspects of the formation of communicative competence of future doctors, the principles of ethical and aesthetic goals, educational technologies used in the formation of communicative competence, ethics, scholars' views on ethics, ethical specifics, ethical criteria, mechanisms of moral culture management the pedagogical model of ethical categories, the components of the communicative feature that unite ethics, the need for in-depth knowledge, the multifaceted aspects of communication, pedagogical principles.

Key words: communicative competence, communicative features, ethics, moral specificity, ethical categories, aesthetic aspects, aesthetic principles.

Introduction: Today, the formation of a full personality in man is inconceivable without education focused on moral and aesthetic goals. This type of education should enable students to master and absorb the system of moral criteria and values. Because their aspirations must develop spiritually and morally, and the behaviors necessary for a specific purpose must be formed as a solid foundation. Therefore, the problem of moral education of the specialist is especially relevant in the modern pedagogical process. In a constantly changing environment, opportunities are being created for students to establish communicative relationships - the Internet or face-to-face meetings, personal relationships with members of other cultures.

Observing the content of various pedagogical technologies in the formation of communicative competence in medical students, first of all, led us to the need to teach students the cultural and ethical rules created by humanity, teaching them to look at all people with respect and kindness.

Literature review: It should be noted that the code of ethics, by its very nature, is an order that is essential to human beings, covering important parts of human behavior, and is a set of criteria that governs how each person interacts with another person. At the heart of this communicative form of interaction lies a special interest in people's respect for each other and their aspirations. But morality is manifested in the way people behave and look. At the same time, the vital criteria of morality are conditional. Many modern scholars (D. Alimova, S.K. Annamuratova, M. Ochilov, E.N. Stepanov, A. Schweitzer) on the example of A.V Razin, The study of the means of education depends on the field of human cultural choice. [6,7 p.].

A. Schweitzer approaches morality as a specific part of human activity: "Morality is a part of human activity aimed at the inner perfection of the individual." [7, 54 p.].

Research Methodology: The specifics of morality, its measures, can solve social problems like any other science, such as economics, politics, which depends on our minds, well-meaning people, the coexistence, decisions and activities of all people. Thus, the moral realm implies that there will be certain ethical criteria about human behavior and rules such as regulating moral behavior, behaving politely, and thinking about one's own mental state. For this reason, etiquette is seen as a separate object of study in ethics:

1) the depiction of morality is all that is called the moral culture of a society - its history, principles, criteria, ideals;

2) explanation of ethics - analysis of the essence, structure, mechanism of work of ethics and its conditional and leading variant;

3) explanation of ethics - analysis of the essence, structure, mechanism of work of ethics and its conditional and leading variant; [5, 6 p.].

Ethics, in turn, offers mechanisms for managing culture. These include:

- moral qualities, managerial ability, which predict the level of critical evaluation of one's actions;
- as a strategic principle to guide for goodwill;
- ideals of spiritual morality as examples of kindness;
- ideals of spiritual morality as examples of kindness

We see that the rules of etiquette have a moral basis. Politeness also strengthens the moral condition of our society with individual etiquette, as a special reflection of the fact that personal behavior is a moral criterion. With the help of the technique of being politely placed in an orderly manner, a person can demonstrate the specifics of his spiritual and cultural attitude towards people, everything around him. In addition, we analyzed a systematic model of philosophical categories about specific ethics. In it, we have identified four groups of philosophical values related to ethics (Figure 1).

Figure 1

A pedagogical model of specific ethical categories

Virtue in the spiritual and moral life of man

Being able to observe oneself from the outside and hear one's inner voice

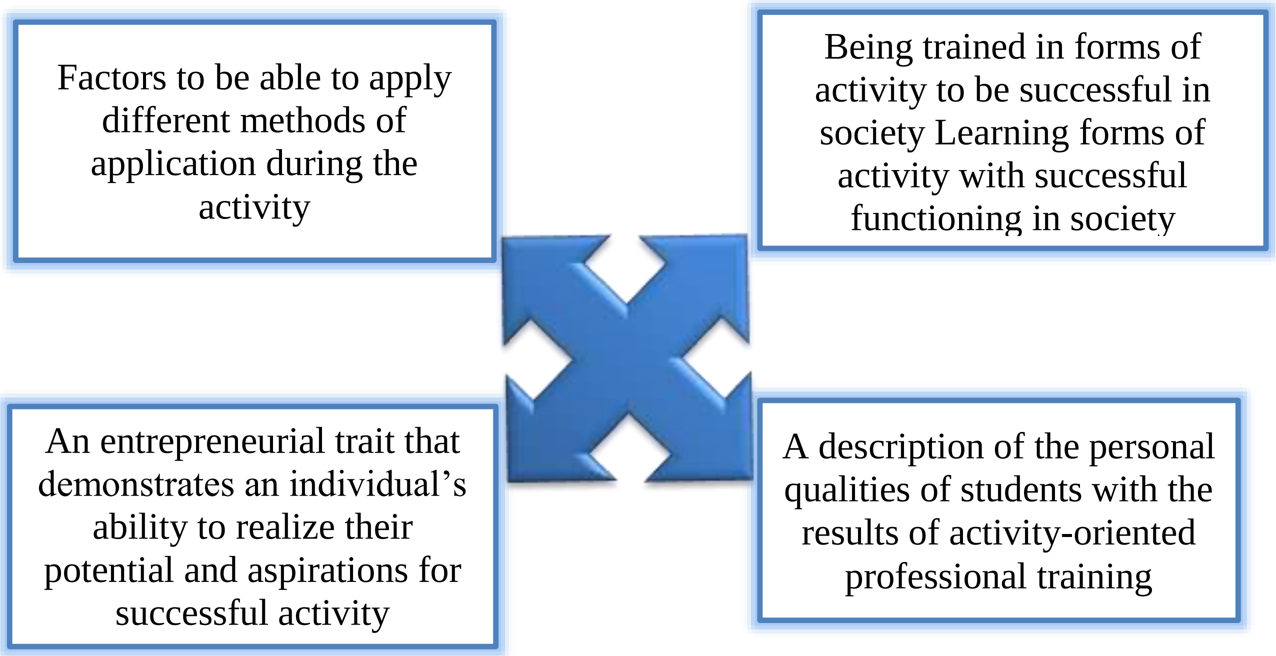
Adherence to the values of life that ensure a prosperous life in a place where every nation, regardless of race, is unique to the culture of the nation

An important concept for future physicians is that these categories, which reflect the professional competence of students such as duty, moral freedom chosen in response to subsequent behavior, as well as responsibility, justice, pride and human dignity, should be a priority for students.

An important concept for future physicians is that these categories, which reflect the professional competence of students such as duty, moral freedom chosen in response to subsequent behavior, as well as responsibility, justice, pride and human dignity, should be a priority for students. In doing so, we ask the question of what else contributes to the full formation of communicative competence in the moral-educational process, in addition to the character traits that are necessary for the formation of the whole person. We answer this question by rounding the following components using a diagram (Figure 2).

Figure 2

A communicative feature that unites ethics is an component that needs to be shaped by deep knowledge



Analysis and results: However, in addition to the acquired competencies, there must be behavioral competencies. For example, we should always emphasize that:

– what to look like in formal occasions - ceremonial or as usual;

– it is important to say when and where to praise or criticize;

– which rules should be followed when conducting a debate or discussion;

– what needs to be done in the business negotiation process and what needs to be said and avoided;

– when to greet first, when to expect others to greet.

These and other similar behavioral issues are addressed by etiquette.

It is also necessary to know the specifics of the conversation and its conduct, which is a leading component of communicative activity:

- to listen to the interlocutor, as well as not to interrupt him, as well as to be able to speak based on their own opinions;

- it is necessary to be able to listen to your interlocutor, look at him, at the same time smile sincerely at him, sometimes shake his head in the sense of agreeing with his opinion (slower and less often, not often and not strongly);

- it is important to remain silent while your interlocutor is speaking. However, it is important to listen carefully without missing his monologue, to express his views, and thus to present himself as a person who understands the problem under discussion and is even interested in this discussion;

- when expressing your opinion, try not to include in your arguments anything that would offend or arouse suspicion in your interlocutor;

- when expressing your opinion, try not to include in your arguments anything that would offend or arouse suspicion in your interlocutor;

Thus, the necessary experience gained in the communication process can help and develop the ability to be enterprising. Because man has the ability to understand the experiences gained. Like the ones below:

– who to talk to, how, what topics to remember, what word and speech techniques to use;

– how to adapt to the new environment using all its capabilities;

– how to narrate a monologue (with a phrase, a sentence);

– when you can change your body position during a conversation;

It is necessary to try to follow the rules of etiquette in order to know the multifaceted aspects and details of communication. Because it is in them that the communication experiences of all mankind are concentrated. However, in practice, it is possible to be aware of a detail after several conversations. However, less attention is paid to the process of introducing the rules of cultural communication into the practice of pedagogical education.

Also, the multifaceted role of philosophical views on ethics in improving teacher behavior is not always taken into account. Under the concept of the introduction of views on morality, we understand such a process, as a result of which the student acquires the following:

– the formation of a culture of communication, the acquisition of moral standards aimed at the environment, first of all, a full spiritual and moral attitude to people;

– begin to work intelligently and understand the need for cultural ethics;

– acquires educational aspects of cultural moral potential, as well as the theoretical and practical basis of ethics in the teaching of children and adults.

Conclusion: It is necessary to pay attention to the fact that the future life activities of the younger generation are relatively large and serious, the responsibility falls on the educator. This requires a high level of professionalism, the development of communicative components and, of course, tremendous mental strength. It is recognized that a teacher has the ability to effectively shape and improve the cultural communication and behavior of his or her students. In this area, to have a special impact on everyone around you, to take an active part in the qualitative improvement of our society. Only in this way can a conscious attitude to the moral and aesthetic values of our society be formed in the younger generation.

References

[1]. Azizxodjaeva N.N. Formirovanie professional'nix kompetensiy budushix spesialistov. Obrazovanie cherez vsyu jizn': neprerivnoe obrazovanie v interesax ustoychivogo razvitiya. Vip. 12. Ch.1. SPb, 2014.

[2]. Bondarevskaya Ye.V. Pedagogicheskaya kul'tura kak obshestvennaya i lichnaya sennost' / Ye.V.Bondarevskaya // Pedagogika, – M.: Pedagogika, 1999. –№3. – S. 37–43.

[3]. Yo‘ldoshev J.G‘. Ta'lim yangilanish yo‘lida. – Toshkent: O‘qituvchi, 2000. – 207 b.;

[4]. Kazarseva O.M. Kul'tura rechevogo obsheniya: Teoriya i praktika obucheniya. - M.:Flinta-nauka,1999. –183 s

[5]. Mishatkina T.V. Etika. Ekspress-kurs.–Mn.: Novoe znanie, 2005.- S. 6

[6]. Razin A.B. Etika: Uchebnik dlya vuzov. – 3-e izd., pererab. – M.: Akademicheskiy Proekt, 2006. – S. 15

[7]. Shveyser A. Kul'tura i etika/per. s nem. - M.: Progress,1973.- S. 87.

[8]. Castells M. Communication power. Oxford University press, 2009. - 564 p

[9]. Kegan R. The evolving self: problem and process in human development / R. Kegan. - Cambridge, Mass : Harvard University Press, 2012

[10]. Maslow A.H. Creativity in self actualising people. In Anderson H.H. «Creativity and its cultivation», Harper, 1980. - 56 p.

UDC:159.9.072.5

PEDAGOGICAL AND PSYCHOLOGICAL FEATURES OF THE FORMATION OF SOCIAL CONSCIOUSNESS IN PRESCHOOL ADULTS

Khujamatova Khusnidakhon Mansurovna
Lecturer, Kokand University,
Faculty of Business and Education,
Department of Education
E-mail: husnidamansurovna@gmail.com

Abstract: Maqolada maktabgacha tarbiya yoshidagi bolalarning bilish jarayonlari, hissiy-irodaviy, motivatsion jihatlarining shakllanishining pedagogik-psixologik xususiyatlari chuqur tahlil qilingan.
Key words: bilish jarayonlari, ijtimoiy ong, maktabgacha katta yoshdagi bolalar, O`zini-o‘zi anglash, emotsiya va hissiyotlar.
Abstract: The article deeply analyzes the pedagogical and psychological features of the formation of cognitive processes, emotional-volitional, motivational aspects of children of preschool age.
Key words: cognitive processes, social consciousness, preschool children, self-awareness, emotions and feelings.
Аннотация: В статье глубоко проанализированы педагогические и психологические особенности формирования познавательных процессов, эмоционально-волевые, мотивационные аспекты у детей дошкольного возраста.
Ключевые слова: когнитивные процессы, общественное сознание, дошкольники, самосознание, эмоции и чувства.

Introduction: The mental development of man, his formation as a person, depends on the determination of his self-consciousness, that is, his perception of himself as a physical, spiritual and social being.

The development of self-awareness is unique to each child. However, all children usually show signs of self-awareness by the end of the first year of life: the child begins to separate himself, his body from the space around him. The further development of self-awareness depends on the child's understanding of his desires and motives for action in general. Understanding the motives of one's own activities helps the child to move on to the next stage of self-awareness, that is, to differentiate between their actions.[1]

At first, the child does not see himself as a subject. "Doniyor is jumping," "Sevinch wants to sleep," are the words of an early childhood about himself.

The third year of life is an important stage in the development of self-awareness. Because during this time, the child gradually begins to separate the action, which was previously firmly attached to the subject. This does not happen all of a sudden. The reason for its realization is that the child performs the action of the previous object in new conditions and transfers it to other objects.[2]

Literature review: In the early stages of personality development, such as the end of early childhood and the beginning of kindergarten, the child's genesis of self-esteem is crucial. Because the child does not have adequate knowledge of his or her abilities, he or she will be accepted by the adult.[3] In other words, the child evaluates himself through the adults, through the teacher's opinion of the child. The child's self-esteem during this period is based on the opinion of the adult. Elements of self-image appear a little later.

Your special prohibition shows that (B.G. Nechaev et al.) These elements are initially manifested not in the evaluation of personal qualities, moral qualities, but in the evaluation of the subject and external characteristics. This indicates that the action is not completely separated from the subject.[4]

The development of self-awareness is inextricably linked with the formation of the child's cognitive and motivational spheres. As a result of this development, the child begins to understand both himself and the situation he is in, that is, he develops an understanding of his social "I". This event plays an important role in the child's transition to the next stage of life and his psychological readiness for school. By the end of kindergarten, the child's independence and critical self-esteem will increase significantly.[5] The motivational sphere of a child of kindergarten age is actively developing. The behavior of a small kindergartener does not differ much in early childhood. Even during this period, children act mainly under the influence of situational emotions and desires, and when they perform an action, they do not fully understand and cannot explain why they are doing it. The behavior of your older kindergartener is much clearer. Different motives motivate children at different stages of kindergarten to perform the same action. For example, if a 3-year-old's goal is to wash his toys and play with water, a 6-year-old's goal is to clean his toys and help his mother.[6]

This is exactly the style of governing the country that he has used in Russia. These include motives for the child's interest in the adult world and for trying to be like them.

Special research (L.Z.Neverovich et al.) Shows that social motives, by their very nature, are much more motivating at a young age than motivations such as personal interests and interest in external, procedural aspects of activity. may have. However, social motives, which are social in nature and content, are formed spontaneously, not by chance, but under the educative influence of an adult.[7]

Research Methodology: The following general trends in the development of emotions and feelings can be highlighted: the formation of the emotional state of the child in response to changes in life situations; emotional paralysis; the formation of emotions and feelings as a new structure between personal structures.

The development of emotions and feelings in ontogenesis has certain laws:

1. Initially, in ontogenesis, there are emotions that represent simple experiences. These experiences are related to the satisfaction of your natural needs (if they are satisfied - positive, if they are not satisfied - negative emotions). Such emotions are also present in animals. However, the simplest emotions in a child should be distinguished from the simplest emotions in animals. Because the way you express your emotions is social.[8]

From the age of 2, the most informative (informative) reactions for a child are those that express joy, happiness, and generally positive emotions. In one experiment, a 2–9-year-old child was asked to identify different facial expressions (reactions of surprise, anger, fear, joy, etc.) from photographs and then show them. The experiment showed that the children were the first to show a happy facial expression. Thus, the ability to identify mimic reactions that initially express positive emotions, to be able to recognize and express, among other reactions, is formed.

Undoubtedly, positive emotions have a positive effect on the mental and physical development of preschool children. However, as VA Sukhomlinsky points out, if a child achieves happiness without hard work, without using his mental powers, sooner or later his heart may turn into a piece of "ice". It may be cold.[9]

2. The development of emotions takes place through their differentiation, the enrichment of your experience. Examples of experiences that have a positive emotional or negative emotional color are those that a child experiences due to the satisfaction or non-satisfaction of the need for food. In a preschooler, negative emotions can be manifested in the form of fear, anger, disgust, positive emotions in the form of joy, the child's affection for others, the heart and closeness to his parents.

3. The development of children's emotions occurs as a generalization of their object-oriented emotions. In the system of emotions and feelings, emotions are embodied as a manifestation of the emotion being experienced.[10]

Preschool children are just beginning to develop their emotional and emotional systems. Therefore, their emotions are not a manifestation of the feelings they are experiencing, but a material that needs to be generalized in order to form higher emotions.

Analysis and results: The development of a child's emotions depends on certain social situations. The child's understanding of the situation, the experience of the situation and the changes in it, create a certain emotional state.

Changes in the child's lifestyle and schedule may be the cause of the child's disruption. This can sometimes be stressful. According to AI Mishkis and LG Golubeva, children need 2 months to adapt to the new conditions.

Affective reactions can also cause fear. An affect (short-term, intense, negative emotional reaction) can also be the result of poor management of the cerebral cortex.

Emotions that arise in the process of cognitive activity are called intellectual emotions. These include curiosity, amazement, enjoyment of the news, and a sense of joy. The feeling of happiness is manifested in preschool children in the process of learning the reality. Children who have a clear idea of the world around them like to give the object a definition that is not unique to them.

Preschoolers experience certain experiences depending on whether or not they meet the requirements of social life, i.e., morality. The onset of guilty feelings about having the affair, in the first place, further zaps whatever energy the partner having the affair might still have left. Because in this period, on the basis of existing knowledge, skills and abilities, the child begins to form a moral consciousness. Because during this time, children begin to understand the needs of their elders and begin to apply them to their own behavior and the behavior of others.

Preschoolers also experience ethical experiences such as pride and shame. In order to create a sense of pride in the child's mind, a positive assessment of the specific qualities of the world around him, the perception of the relationship between them, serves as an internal basis. In particular, the quantitative indicators that children aged 4-5 achieve in each type of activity are able to dance the whirlwind together; fast running; ethical qualities (endurance, attention); His parents are proud of him.

By the end of preschool, higher emotions become more and more a motive for children's behavior. Through emotions, children begin to control their desires and behaviors in accordance with the aesthetic and moral requirements of society. The development of emotions and feelings in preschool children is associated with a number of conditions. Research by M.L. Lismamng has shown that emotions and feelings are formed in the process of a child’s interactions with adults and peers.

Conclusion: In general, children are optimistic about life situations, they are alert and happy. Taking into account the laws of development of emotions and feelings in ontogenesis, as well as the conditions and characteristics of age, allows children to form a psychological readiness for school. One of the key components of psychological preparation for school is emotional readiness. This preparation requires not only a happy start to school, but also a more developed sense of humor, the formation of the emotional characteristics of the child's personality.

References:

[1] Karimov IA "High spirituality is an invincible force". T.: Manaviyat 2008.

[2] Atoyev A.Q. May your child be perfect T., Ibn Sina, 1990.

[3] Sharipova D.J., Semenova L.M. Hygienic upbringing of infants. T., The Teacher, 1997.
[4] Klemesheva L.S., Ergashev M.S. Age-related physiology. T., 1991.
[5] "Preparing preschool children for school" (methodical recommendation). G.Q.Jalolova. Tashkent, 2004.
[6] "The use of non-traditional games in preparing children for school (methodical manual)". Tashkent, 2004.
[7] Regulations on Preschool Education in the Republic of Uzbekistan. T.: 2000.
[8] "National training program". Tashkent, 1997.
[9] Avesto. Historical and literary monument. A. Mahkam's translation - T.: Sharq Publishing House - Printing Concern. 2001.
[10] Basic program "Child of the third millennium". Ma'rifat-Madadkor 2002.

UDC: 371.3.004.73.151

VIRTUAL LABORATORIES AS PROMISING INFORMATION TECHNOLOGIES IN THE EDUCATIONAL PROCESS

Muradova Firuza Rashidovna
Associate professor of the department
of "Information and communication technologies"
Bukhara engineering - technological institute
E-mail: muradovafiruza@mail.ru

Abstract. The article considers the possibility of using a virtual laboratory workshop on the example of the study of electrical disciplines.

Key words: information technology, virtual laboratory, workshop, modeling packages, innovation, information, educational and methodical material, learning tools, multimedia.

Аннотация. В статье рассматривается возможность использования виртуального лабораторного практикума на примере изучения электротехнических дисциплин.

Ключевые слова: информационные технологии, виртуальная лаборатория, практикум, модельные пакеты, инновация, информация, учебно-методические материалы, средства обучения, мультимедиа.

Annotatsiya. Maqolada elektrotexnika fanlarini o'rganish misolida virtual laboratoriyadan foydalanish imkoniyati ko'rib chiqiladi.

Kalit so'zlar: axborot texnologiyalari, virtual laboratoriya, seminar, modellashtirish paketlari, innovatsiya, axborot, o'quv-uslubiy material, o'quv vositalari, multimedia.

Introduction: The specific types of professional activities of graduates are determined by the content of educational and professional training programs developed by universities. The activities of modern engineers are very diverse and require a diverse and deep knowledge of the laws of nature and the laws of development of a number of related branches of applied science and technology, skills in order to carry out and accompany the competitive development of technical devices, systems, complexes, technologies. The widespread introduction of high technology into the industry, the specifics of engineering problems solved in them, located at the junction of several technical sciences, which require combining the efforts of specialists in various fields in the process of solving them, has led to the transformation of many engineering specialties. For the successful performance of its functions, a modern engineer must possess not only the sum of general and special knowledge, skills, and abilities, but also a set of certain personality traits that ensure fruitful work in a team of diverse specialists. One of the features of higher technical education is its industry focus, which is manifested in a wide variety of areas and training programs.[1] Tangible differences between the areas in the content of training are beginning to appear at the level of general professional training. Another feature of the current system of training specialists in the field of engineering and technology is the need to pay considerable attention to such components as design tasks, term papers and projects, technological and production practices, and laboratory work. As a rule, these types of training sessions are conducted according to individual tasks. Students carry out the assignments during the time allotted for independent work with the consulting support of teachers. When completing assignments, students are forced to spend a significant part of their time on computational and graphic works that contribute to the development of such generally useful qualities as attentiveness, accuracy, patience, but to a small extent help active practical mastering of educational material, i.e. achievement of the main goals of these types of educational process.[2] It is required to more actively use computer technology when performing design tasks, term papers and projects with a corresponding change in the nature of the tasks to be solved. The importance of “practice” is confirmed by the current state educational standards governing the lists of academic disciplines, the study of which should be accompanied by the implementation of laboratory workshops and practical exercises. The implementation of this component of the educational process involves a significant expenditure of resources.[3] The costs of organizing and conducting laboratory workshops can be up to 80% of all costs for training specialists in the field of engineering and technology. It is clear that in the conditions of a sharp decrease in funding for educational institutions, the first victims are educational laboratories: the equipment quickly ages morally, and physically becomes inoperable. But the main thing is that traditional educational laboratories do not fulfill their main function, which is to teach students how to set up, conduct and process the results of engineering experiments. Instead, students are encouraged to perform a given sequence of actions to turn on and off power supplies, record readings of measuring instruments, and build graphs.[4]

Literature review: The creation of a system of modern open education in the field of engineering and technology is associated with the implementation of new approaches to the organization of laboratory workshops based on information and communication technologies. The scientific and technological progress of recent decades has led to the fact that traditional, conservative approaches to organizing a laboratory workshop in higher education no longer allow maintaining the effectiveness of the educational process at the modern level.[5] Scientific and technical developments also encountered problems of laboratory equipment and laboratory research methods. In the same way as the ability to read technical literature, understand electrical and wiring diagrams, design documentation, the ability to carry out verification and design calculations, use a modeling apparatus, a future technical specialist. Must be trained in the technique of setting up and conducting an engineering experiment. Without this, a specialist in the field of engineering and technology simply will not take place, because he will have to create research equipment to study new physical processes, laboratory stands to assess the quality of created technical products, technological stands for factory acceptance tests of serial production, etc.[6] At simple and diverse educational facilities, the student must master the skill of setting up an engineering experiment and competently apply this skill in his practical activity when creating new and more complex objects for which the model description, if it exists, is very inaccurate. In this case, the main thing in the design of the experiment is the determination or refinement of the structure and parameters of the mathematical model from the experimental data, i.e. the problem of identifying the structure or parameters of a mathematical model is solved.

The following important tasks are assigned to a laboratory workshop in a technical university:

1) Practical consolidation of theoretical knowledge gained;
2) Acquisition of skills of independent work with real equipment;
3) Planning and setting up an engineering experiment;
4) Selection of equipment for the experiment;
5) Processing and explanation of experimental results;
6) Comparison of the results of theoretical analysis with experimental data.

Analysis: In the ideal setting of the educational process to increase the efficiency of learning material, each object of study within the framework of the discipline must be supplied with all the necessary moments of theoretical, practical, model and experimental study. Let us analyze how the educational functions listed above are realized in various types of existing laboratory workshops and what is the degree of their effectiveness. As a basis for comparison, we will present some hypothetical “ideal” laboratory workshop on a concrete example from the discipline “Electrical Engineering”.[7]

Discussion: However, in practice, such an ideal approach is never applied, since it requires a lot of free equipment and time for its implementation, as well as a high risk of damage to equipment due to inept actions of poorly trained students. A traditional laboratory workshop is, as a rule, a set of almost ready-made, fully mounted laboratory stands intended for experimental study of the basic set of objects in a given academic discipline. The student, at best, performs routine operations of changing voltages, switching individual devices, circuits, etc. At the same time, the student loses the main thing - an independent experiment, the choice of instruments and equipment. In addition, in the real world, setting up a laboratory workshop encounters organizational, technical, and economic difficulties.[8] So, from the point of view of the efficiency of assimilation of the material, it would be most expedient after fixing the theoretical part for each section of the discipline to immediately fix this material with a laboratory workshop. However, a lecture, as a rule, is given for 100-150 students, and the capabilities of the training laboratory are designed for 6-12 jobs at best, which does not satisfy the needs of even one study group. Forced it is necessary to implement team work on one laboratory bench. The effectiveness of this method is extremely low, because in each such team the work is performed by one student, who is the leader of a particular mini-team.[9] The rest of the students get routine, auxiliary, which do not contribute either to the acquisition of practical skills in working with real equipment, or to the assimilation of the essence of the processes under study. This violates one of the main educational functions of the laboratory workshop - the independence of the practical development of real technology. Other study groups of the general flow of students, at best, with a delay of 2-4 weeks will be able to start laboratory work, there is a time gap between the theoretical, practical and experimental study of the material, which also does not contribute to the effectiveness of its assimilation. Thus, the problem of individualization of instruction in the conditions of a mass audience and limited time is at the forefront. A qualitatively new level of teaching is required using non-traditional forms and teaching methods with an emphasis on independent work of students. This is possible with virtual support from the teacher and student. A virtual laboratory workshop is one of the progressively developing types of laboratory classes, the essence of which is to replace real laboratory research with mathematical modeling of the studied physical processes, but with elements of the student's virtual interaction with the laboratory equipment. Depending on the used software tool environment, you can create a good illusion of working with real objects. The capabilities of modern simulation computer models create the complete illusion of working with real equipment. There is a positive moment in this approach, which allows each student to realize their individual creative abilities. While in a virtual laboratory, you can select virtual instruments and equipment, assemble an experimental scheme on your individual task on a virtual bench, conduct a search simulation of the physical process under study for various given parameters and limitations, process the research results without spending effort on routine calculations and graphical constructions. Thus, computer simulation of the studied electrical processes is today an indispensable component of the modern educational process in a technical university. Active implementation of information and telecommunication technologies in the educational process has generated a number of related problems related to the peculiarities of creating electronic educational resources and the effectiveness of their use in independent study.[10]

Conclusion: Consequently, both theory is being taught in parallel and the practical skills needed by a qualified specialist are being developed. Let's consider how computerization of the discipline "Electrical Engineering and Electronics" is implemented. At the same time, the following units are involved in the educational process:

1. Website with teaching materials.
2. Computer class with Internet access.
3. A set of computer tests on the main topics of the discipline.
4. A complex of simulation and mathematical software.

Thus, in the process of classes there is an intensification of the educational process through the use of modern information technology. As a result, there is an increase in the activity of cognitive activity of students and, consequently, an increase in the efficiency and quality of the learning process.

References:

[1] Arbuzov Yu. V., Lenshin V. N., Maslov S. I., Polyakov A. A., Sviridov V. G. a New approach to engineering education: theory and practice of open access to distributed information and technical resources / ed. by A. A. Polyakov. Moscow: Center Press, 2000. 38 p.

[2] Sharafutdinova R. I., Galimzyanova I. I. Professional activity of a modern engineer // Bulletin of Kazan technological University. 2012. No. 12, Pp. 255-257.

[3] Arbuzov Yu. V., Lenshin V. N., Maslov S. I., Polyakov A. A., Sviridov V. G. about the project of the industry standard "sys

tems of automated laboratory practice of remote access" // Problems of Informatization of higher school. Issue 3-4. 1997. Pp. 65-72.

[4] Muradova F.R., Murodova Z.R. Use of information technologies in education / International Journal of Psychosocial Rehabilitation, UK. -2020.- P. 3110-3116.

[5] Muradova F.R., Kadirova Sh.M. The use of innovative methods in education // Проблемы и перспективы развития образования, Krasnodar. - 2019. P. 62-63.

[6] Muradova F.R., Kadirov R.J. Igrovie texnologii odin iz effektivnix sposobov obucheniya uchashixsya na urokax informatiki // Vestnik magistraturi, Russian. - 2019 , -P. 60-62.

[7] Muradova F.R. Game Technology for Science Lessons // Eastern European Scientific Journal, Germany. - 2017. - P. 107-109

[8] Muradova F.R. Virtual laboratories in teaching and education. ISJ Theoretical & Applied science. Philadelphia, USA. 2020. P. 106-109.

[9] Murodova Z.R. The formation and definition of the intellectual potential in education. ISJ Theoretical & Applied science. Philadelphia, USA. 2020. P. 113-116.

[10] Dmitrienko, N. A. Use of information technologies in the educational process of the school / N. A. Dmitrienko, Ye. G. Mixnova. — Tekst: neposredstvenniy // Molodoy ucheniy. — 2016. — № 16 (120). — S. 336-338.

UDC: 159.928.23

STANDARDIZATION OF THE TEST "FOLLOWING DIRECTION" FOR THE 9th GRADE PUPILS IN UZBEKISTAN

Akbarova Sanobar Narzikulovna, PhD
National University of Uzbekistan named after M.Ulugbek Department of Psychology, researcher.
E-mail: sanobarakbarova@tashpmi.uz

Abstract: Study problem of human abilities plays the important role in the scientific organization of career guidance at schools. To study ability of Information Ordering for pupils of the 9th form in Uzbekistan, the test "Following Directions" was improved and standardized. The research was carried out by 1094 pupils with M_{age}=15,5 (540 males and 554 females) from Bukhara, Tashkent and Fergana regions. According to the research results it was revealed that the Information Ordering ability had gender distinction. This ability was higher in females than in males relatively.

Keywords: Information Ordering, Following Direction, ability, test, standardization, 9th grade, career guidance.

Аннотация: Ўрта мактабнинг битирувчи синф ўқувчиларини касб-ҳунарга йўналтириш ишларини инсон қобилиятларини ўрганган ҳолда ташкил этиш мақсадга мувофиқдир. Ўзбекистон ўрта мактабларининг 9-синф ўқувчиларининг маълумот изчиллиги қобилиятини ўрганиш учун "Йўриқномалар кетма-кетлиги" тести такомиллаштирилди ва стандартлаштирилди. Тадқиқотда Бухоро, Тошкент ва Фарғона вилоятларидан 15-16 ёшдаги жами 1094 та ўқувчи (540 та ўғил бола ва 554 та қиз бола) қатнашдилар. Натижаларда қиз болаларда маълумот изчиллиги қобилияти ўғил болаларга нисбатан юқорирок намоён бўлиши қайд этилди.

Калит сўзлар: маълумот изчиллиги, йўриқномалар кетма-кетлиги, қобилият, тест, стандартлаштириш, 9-синф, касбга йўналтириш.

Аннотация: Изучение проблем человеческих способностей играет важную роль в научной организации проф. ориентационных работ в школах. Для изучения способностей по упорядочению информации для учащихся 9-классов средних школ Узбекистана был усовершенствован и стандартизирован тест «Последовательность инструкций». В исследовании участвовали всего 1094 учащихся 15-16 лет (540 мальчиков и 554 девочек) из Бухарской, Ташкентской и Ферганской области. Было выявлено, что способность по упорядочению информации проявляется сравнительно выше у девочек, чем у мальчиков.

Ключевые слова: упорядочение информации, последовательность инструкций, способность, тест, стандартизация, 9-класс, профориентация.

Introduction: The study of human abilities is the scientific basis for the proper organization of important activities, such as personnel issues and the career guidance of young people. In our country, the state pays special attention to create the necessary opportunities for realization of intellectual potential for young people. In particular, on September 9, 2019, the Decree of the President of the Republic of Uzbekistan Mirziyoyev Sh. decree number PF-5815 "On the establishment of the Presidential Agency for the Development of Creative and Specialized Schools under the Cabinet of Ministers of the Republic of Uzbekistan" [1] was signed.

Today, the specialized schools were opened for the deep study of exact and natural sciences and carry out Olympiads under the names of our great scientists al-Khwarizmi, Biruni, Mirzo Ulugh Beg, Ibn Sina (Avicenna), al-Farghani (Alfraganus). Therefore, it is important to improve the study of the abilities of schoolchildren in the field of exact and natural sciences on the basis of world experience and put them into practice.

Today, we carry out research to adapt and standardize tests on cognitive abilities (for 9th graders), which are important in mathematics, physics, chemistry and biological sciences. We adapted and standardized tests to determine deductive reasoning [2], inductive reasoning, speed of perception [3], number of facilities [4], fluency of ideas [5], visual memory, speed of closure, flexibility of closure, information ordering, written expressions for the 15-16 year - old pupils of the republic.

Nowadays, as a continuation of research in this area, it is necessary to standardize the specific test which studies ability of information ordering, because it is also required for specialization in the natural sciences.

Literature review: There is a specific history of study information ordering ability. This ability was defined by the French as integration (1951) - "the ability simultaneously to bear in mind and to combine or integrate several conditions, premises, or rules, in order to produce the correct response" [6]. But before that, it was originated in the study of the U.S. Air Force.

Initially information ordering was studied as factor. This factor was named as "integration" by Gilford and Lasey (1944), Lucas and French (1953), and Traub (1970). In the work of Extrom, French, Harman and Dermen (1976), this factor was called "integrative processes" [8].

Thus, abilities have been tried to be systematized by various scientists before. Thurston' [9] and Gilford' [10, 11] works could be as the example of it. In 1984, the American psychologist Fleischmann systematized 52 different abilities in his taxonomy of human performance. This system of abilities was later evaluated as a "Taxonomy of human abilities" [13]. By Fleishman, the abilities were divided into 4 different large groups, but the ability of information ordering was included in the group of cognitive abilities [14]. Fleischman gave the following definition of information ordering ability: "Information ordering is the ability to correctly follow a rule or set of rules specifying how to arrange things or actions in a certain order. The rule or set of rules used must be given. The things or actions to be put in order can include numbers, letters, words, pictures, procedures, sentences and mathematical or logical operations" [14; P25].

The taxonomies created by Fleischmann have been widely used for the last 20 years. Based on it, the Ministry of Labor and Social Protection of USA created a website called The Occupational Information Network (O * NET), which contained detailed information about the professions [15]. The website can provide a lot of information about the professions in which the ability of information ordering was involved. There are the first 15 specializations in which this ability is very necessary (Table 1). The table presents the specializations in descending order of importance in terms of information ordering ability importance.

Table 1. Top 15 Occupations Require High Level of Ability of Information Ordering in USA (from https://www.onetonline.org/find/descriptor/result/1.A.1.b.6)

№	Importance	Code	Occupations
1	78	15-2041.02	Clinical Data Managers
2	78	43-4071.00	File Clerks
3	75	19-2012.00	Physicists
4	75	17-2041.00	Chemical Engineers
5	75	17-2121.01	Marine Engineers
6	75	15-2021.00	Mathematicians
7	75	19-1029.02	Molecular and Cellular Biologists
8	75	17-2199.08	Robotics Engineers
9	75	19-1021.00	Biochemists and Biophysicists
10	75	17-2141.00	Mechanical Engineers
11	75	19-1042.00	Medical Scientists, Except Epidemiologists
12	75	17-2199.07	Photonics Engineers
13	75	17-1011.00	Architects, Except Landscape and Naval
14	75	19-1029.01	Bioinformatics Scientists
15	75	15-2041.01	Biostatisticians

As it can be seen from Table 1, the information ordering ability was very necessary for professions in mathematics, physics, chemistry, and biological sciences. The ability of information ordering was essential for many other specialties to be successful too. Therefore, it was necessary to study the degree of its manifestation in humans.

There were many methods developed by scientists to study the ability of information ordering. One of them was the “Sentence Repetition” method, where the subject was asked to repeat the sentence in the same order as the instructor (Das Nagliery & Kirby, 1994). This test was included in the tests of the Cognitive Assessment System [16; P.44].

There were three types of tests to study information ordering ability recommended by Fleishman: “Ordering”, "Calendar test" and "Following directions". In the test “Ordering”, “subjects were given short lists of events and told to put them into the most reasonable chronological order” [14; P25].

In the "Calendar test" you can ask to select specific dates on the topic, following the complex instructions. In the "Following direction" test, you are asked to identify any point in the letter matrix with the following complex instructions. There were also oral and written forms of the Following direction test. A written-order version was provided by the Educational Testing Service in the United States without the author [17; P.205]. Different views of the tests were created by different authors. The option cited by the Howard Research Testing Service [17] was focused on executing commands.

Despite the fact that for many years there were various tests to determine the ability of information ordering in developed countries, none of them had been adapted and standardized in Uzbekistan. Relying on scientific innovations in the professional orientation (career guidance) of our pupils during the school period required from us to adapt these existing tests and standardize them for different age groups now.

Methodology: Such tests are especially important for 9th graders in secondary schools in Uzbekistan. Because at this period schoolchildren must choose a profession and basing on it, to determine where to continue the education. Therefore, it is necessary to develop adaptation of stimuli material and assessment criteria for 9th form pupils to test the information ordering ability. The participants of our study were 9th class pupils in different schools of Uzbekistan being taught in the Uzbek language .

In all 1,094 (540 boys and 554 girls) schoolchildren participated in our study from secondary and specialized schools of the regions of Bukhara (from Karakul distric 1-SPSS (specialized public secondary school) were 18, 20), Tashkent (Ortachirchik district were 9, 72 SPSS; Ahangaran district were 49; Tashkent district were 8; Nurafshan city were 10; Tashkent city were 35, 111, 125, 149, 172, 195 were SPSS, 200, 202, 273, 277, 288, 292, SNSPSS(specialized to natural sciences public secondary school) and Fergana (Fergana city were 5, 13; Kakand city were 32 SPSS) located in Uzbekistan.

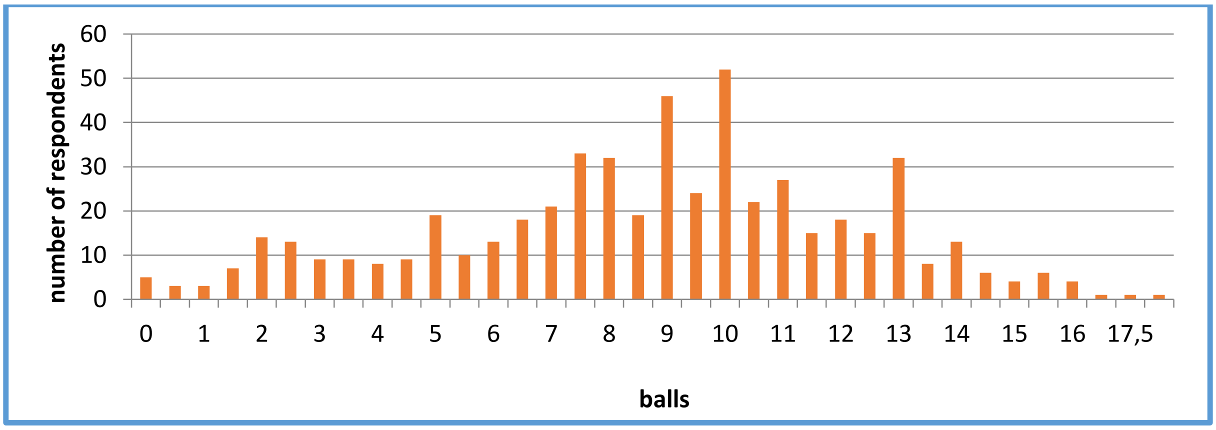
Among many existing tests to study the ability of information ordering the "Following direction" test option [18] approved by the Howard Research Testing Service was chosen. This test has the written instructions. It differs from other tests by the commands and different content, including specific information about the test taker himself, numerical arithmetic operations, drawing and so on. The test was more interesting for teenagers. The various physical movements (punching, folding) with paper to the list of tasks were added. The content of some questions was changed to make it more understandable for our teenagers aged from 15 to 16 years. When 15 tasks were actually numbered in the test their number was increased to 21 and the pilot tests showed that these tasks were insufficient to be done in 5 minute. The tasks from 1 to 19 were assessed by 0.5-1 points and tasks from 20 to 21 by 0.5-2 points. The next instructions were given to complete the test:

FOLLOWING DIRECTIONS TEST

Instructions: You will be given a variety of practical assignments. For example, "Write the number 2 in the right corner of the test sheet" and so on. You need to complete these tasks quickly and correctly. You will be given five minutes to complete this test. Please read the entire test carefully before taking any action. Start the test with the instructor's Start command and stop when the Stop command is given. Try to complete all assignments clearly and accurately within five minutes. Good Luck!

Analasis and results: Scores ranged from 0 to 21 in boys and from 0 to 20 in girls. The distribution of scores in the boys group of the examined respondents was given in histogram 1 and in histogram 2 in the girls.

Histogram 1. Distribution of points in a group of boys on the test "Following directions".



Histogram 2. Distribution of points in a group of girls on the test "Following directions".

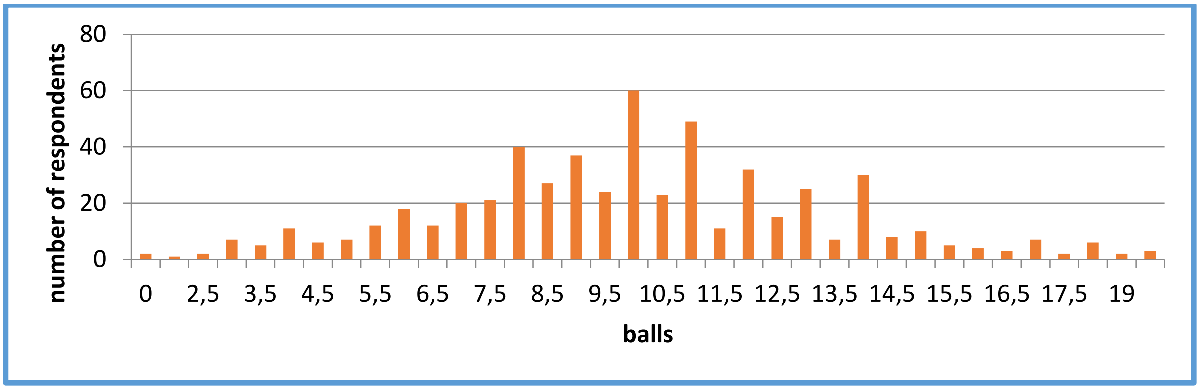


Table 2. Scale of evaluation the test "Following directions" for 9th grade (class) pupils being taught in the Uzbek language.

Estimation and values		Male	Female
Level of Information Ordering ability	Very low	0-3	0-5,5
	Low	3,5-6,5	6-7,5
	Middle	7-11	8-12
	Good	11,5-13	12,5-14
	High	13,5-22	14,5-22
Statistical values	Middle value (mean)	8,69	10,01
	Dispersion, Var (X)	12,86	11,19
	Standard deviation, σ	3,58	3,34
	Respondents number, N	540	554
	M_{age}	15,5	

Discussion: Analyzing the results obtained on the gender basis, it can be noted that the ability of information ordering was higher in girls aged from15 to 16 years than in boys. It was seen at all levels of evaluation criteria. For example, the boys were required to score up to 3 points to be rated “very low” for information ordering ability, in comparison with girls up to 5.5 point. There was also the difference in the average value of the results. In boys it was 8.69, while in girls it was 10.01. It means that girls dominated in performance of the ability. Unfortunately, it was not found the criteria for evaluation adolescents aged from 15 to 16 years for similar tests having created in other countries. Even when there would be such evaluation criteria, it was not permissible to compare them with the results of our study, because our test had its own unique differences in the stimulus material. The test materials required to study the manifestation of the particular ability for different populations which were urgent at that time.

In analysis empirical material some participants had not comprehension of the right and left sides. So, it wasn’t possible to study such features using this test.

Conclusions: The “Following directions” test can be used to study information ordering ability of 9th graders being taught in the Uzbek language. The test enriched the science of psychodiagnostics with one practical test. At the same time, it can serve to scientific organization of vocational guidance in secondary schools. It can enrich the psychology with new knowledge in Uzbekistan. In the next stages of research in this area, we emphasize following recommendations:

1. The developing evaluation criteria of the "Following directions" test for the other age groups of Uzbek population, especially for young generation.
2. To reveal proportion of genetic and supportive environmental influences that play main role in eliciting ability of information ordering.
3. The study of developed countries' experience related to career guidance consulting in the secondary schools.
4. Adaptation and standardization of the tests to examine all other abilities listed in Fleishman's taxonomy of human ability.
5. The enriching web site http://www.kasbtanla.uz/ by information via addressing to web site O*NET as canonical structure of informational resource about occupations.

The author declares no conflict of interest with respect to the authorship or the publication of this article.

Ethical approval: All procedure performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

This article does not contain any studies with animals performed by the author.

Informed consept: Informed consent was obtained from all individual participant included in the study.

REFERENCES

[1]. O'zbekiston Respublikasi vazirlar mahkamasi huzuridagi prezident, ijod va ixtisoslaştirilgan maktablarni rivojlantiriş agentligini tashkil etish to'grisida O'zbekiston Respublikasi Prezidentining 5815-sonli farmoni (On the establishment of the agency for the development of presidential, creative and specialized schools under the Cabinet of Ministers of the Republic of Uzbekistan) Qonun hujjatlari ma'lumotlari milliy вazasi, 10.09.2019 y., 06/19/5815/3717-son (National database of legal documents, 10.09.2019, 06/19/5815/3717)

[2]. Akbarova S.N. Adaptation and standardization of deductive reasoning test for 9th class pupils in Uzbekistan / «Psikhologo-pedagogicheskoye soprovozhdeniye odarennogo rebenka: problemy, napravleniya, podkhody, usloviya» Vserossiyskaya (s mezhdunarodnym uchastiyem) nauchno-prakticheskaya konferentsiya. ("Psychological and pedagogical support of a

gifted child: problems, directions, approaches, conditions" All-Russian (with international participation) scientific and practical conference.) 2020, 9-10-aprel', Tul'skiy Gosudarstvennyy Pedagogicheskiy universitet im. L.N. Tolstogo. (Tula State Pedagogical University named after L.N. Tolstoy.) 2020, April 17, Cheboksary city: Izdatel'skiy dom "Sreda" (Publisshing House «Environment»), P. 52-54.

[3]. Akbarova S.N. (2020, a). Belgi va obyektlarni taqqoslash testini takomillashtirish (Improving the test of "Character and object comparison"). *Materialy respublikanskoy 14-mezhdistsiplinarnoy distantsionnoy onlayn konferentsii na temu "Nauchno-prakticheskiye issledovaniya v Uzbekistane (Materials of the republican 14th interdisciplinary distance online conference on the theme "Scientific and practical research in Uzbekistan").* Part 6. 31 th March. (in Uzbek)

[4]. Akbarova S.N. (2020, b). Standartizatsiya otsenki vychislitel'nykh sposobnostey uchashchikhsya 9-kh klassov v Uzbekistane (Standardization of the assessment of the computational abilities of 9th grade students in Uzbekistan). *Innovatsii v pedagogike i psikhologii. (Innovations in pedagogy and psychology).* (SI), 139-144. (in Uzbek)

[5]. Akbarova S.N. Adaptation and standardization of alternative uses test for 9-th class pupils in Tashkent city // European Journal of Research and Reflection in Educational Science. №7(11), 2019, United Kingdom, P.1-7.

[6]. French, J.W. (1951). The description of aptitude and achievement tests in terms of rotated factors.

[7]. Guilford, J.P., & Lacey, J.I. (1947). Factorial picture of tests and criteria (J.I.Lacey, Collaborator). In J.P.Guilford (Ed.) & J.I.Lacey (Collaborator), Army Air Forces Aviation Psychology Program research reports. Printed Classification tests: Report no 5 (797-850). US Government Printing Office.

[8]. Ekstrom B.K., French J.W., Harman H.H. & Dermen D. Manual for kit of Factor referenced cognitive test. 1976. P.224.

[9]. Thurstone, L.L. (1938). *Primary mental abilities*. Chicago: University of Chicago Press.

[10]. Guilford, J.P. (1956). "The structure of intellect." *Psychological Bulletin*, 53, 267-293.

[11]. Guilford, J.P. (1959). "Three faces of intellect." *American Psychologist*, 14, 469-479.

[12]. Fleishman, E.A., Quaintance, M.K. and Broedling, L.A. (1984). *Taxonomies of Human Performance: The description of human tasks*. Orlando, FL: Academic Press, Inc.

[13]. Fleishman's Taxonomy of Human Ability. (2010). Industrial Organizational Solution. Public safety selection experts. White paper 015.

[14]. Fleishman E.A., and Relly M.E. (1992). Handbook of human abilities: Definitions, measurement, and job task requirements. Bethesda, MD: Management Research Institute.

[15]. National Center for O*NET Development. Overview. *O*NET Resource Center*. Retrieved February 4, 2018, from https://www.onetcenter.org/overview.html

[16]. Cianciolo A.T. & Sternberg R.J. Intelligence: A Brief History. 2008. 184 p.

[17]. Educational Testing Service, Test Collection. The ETS Test Collection Catalog: Achievement tests and measurement devices. Oryx Press, 1993. Michigan University, 272 p.

[18]. Dundes A., Pagter. C.R. Work Hard and You Shall Be Rewarded: Urban Folklore from the Paperwork Empire. Wayne State University Press, 1992. 248 p.

UDC: 159.9.072.5

THE ESSENCE OF THE CONCEPT OF PROFESSIONAL STRESS AND CAUSES OF ITS OCCURRENCE

Mamadiyarova Dilfuza Umirzaqovna
Assistant of the Department of Pedagogy, Psychology, Russian and Uzbek Languages of Samarkand State Medical Institute.
E-mail: dilfuza-mamadiyarova@mail.ru

Аннотация: В статье приводится анализ научной литературы понятия профессиональный стресс и причина его возникновения в деятельности врача общей практики, указывающего на необходимость дальнейших исследований в этой области. Причины профессионального стресса в деятельности врачей общей практики широко освещаются. Выявление причин профессионального стресса в деятельности врача общей практики может стать основой для разработки дополнительных критериев его профилактики.

Ключевые слова: врач общей практики, профессиональный стресс, стрессор, стрессоустойчивость.

Аннотация: мақолада умумий амалиёт шифокори фаолиятидаги касбий стресс тушунчаси ва унинг пайдо бўлиш сабаблари хақида илмий адабиётлар таҳлили келтирилган бўлиб, бу борада келгусида тадқиқотлар ўтказилиши зарурлигини кўрсатади. Касбий стресснинг умумий амалиёт шифокори фаолиятда келиб чиқиш сабаблари ёритилган. Умумий амалиёт шифокорларида касбий стрессни сабабларини аниқлаш уни олдини олиш юзасидан қўшимча мезонлар ишлаб чиқиш учун асос бўлиши мумкин.

Калит сузлар: умумий амалиёт шифокори, касбий стресс, стрессор, стрессга қаршилик.

Abstract: the article analyzes the scientific literature of the concept of professional stress and the reason for its occurrence in the activities of a General practitioner, indicating the need for further research in this area. The causes of professional stress in the work of a General practitioner are widely covered. Identifying the causes of professional stress in the work of a General practitioner can be the basis for developing additional criteria for its prevention.

Key words: general practitioner, occupational stress, stressor, stress resistance.

Introduction. Today, in our Republic, there is an active improvement of the health care system, where a special place is taken by the development of primary health care based on the principles of General (family) practice. At the center of this process are doctors, who largely depend on the effectiveness of this direction as a whole. The most important characteristics of professional activity of these specialists are tension, increased responsibility for decisions made, their consequences, the presence of a wide range of responsibilities, saturation with a variety of communication situations with patients and their family members, characterized by their non-standard and, as a rule, emotional background. In addition, the complexity and specificity of professional tasks that are currently being solved by General practitioners in the field, as well as constant socio-economic changes, cause a significant intensification of their professional activities.

Purpose: to identify the concept of professional stress and the reasons for its occurrence in the activities of a general practitioner.

Literature review: The analysis of the scientific literature on the problem under study shows that today the term professional stress is actively used to explain a wide range of individual States, which, as a rule, arise due to the negative effects of external and internal factors. In this regard, there are a relatively large number of approaches that explain the nature of the phenomenon under study from various points of view. This circumstance is very relevant to the consideration of the essence of the concept of professional stress, as well as the causes of it occurrence in relation to the present study. Thus, according to the opinions of T. R. Baymuratov, A. N. Vankovskaya, A. B. Leonova, T. L. Shabanova, etc., in modern psychological literature, several terms close to the concept under study are used: work stress, organizational stress, etc. Work stress occurs as a result of complications associated with the working environment, i.e. production factors, which are overwhelmingly generated by civilization and scientific and technological progress. Modern professional environment that is artificially created, very different from natural (natural) environment that need a man as a biological creature, and sometimes becomes the cause of many problems among which are the difficulty: the content of the work; the means of work, with physical-chemical and technical conditions of work [4],[6],[19],[33].

Organizational stress occurs as a result of the negative impact of the characteristics of the organization in which the subject of activity works. Negative influence, as a rule, is revealed in the physiological and psychological spheres of the personnel of organizations, which are generated by the characteristics of the organization and organizational processes when performing professional activities. They can be caused by the structure of the organization, organizational processes, features of organization management, social processes in the organization.

In turn, professional stress is most often understood as a negative mental state that is caused by the characteristics and requirements of the profession itself. Among the main causes of such stress can be identified complications: arising in the performance of functional duties by the subject of professional activity, due to the specifics of the relevant profession; due to a low level of satisfaction of the needs and motives of the subject of professional activity; arising in the absence of a role balance between the professional sphere and the personal sphere, role overloads, role insufficiency, unclear role definition, role conflicts, etc. [20],[33].

V. A. Bodrov States that when considering professional stress, it is necessary to take into account the General understanding of the problem of stress, which is studied in modern science by representatives of various schools and directions. If we resort to a meaningful characteristic of stress, we must determine that it is primarily aimed at restoring the body's homeostasis, restoring a permanent state of its internal environment. In fact, the concept of homeostasis contains the meaning of the coexistence of the environment in which the organism is located, and its own internal environment. This state is maintained through complex coordination and regulatory relationships at various levels (behavioral and physiological). The mechanism of homeostasis clearly shows the property of adaptation, adaptation of the organism to changes in the conditions of the external environment in which it exists and with which it co-exists. The main idea in describing the features of stress deployment is that stress is a long-standing morphofunctional mechanism. It was formed at a time when the protection of the body was carried out only from external, physical danger. The occurrence of stress in members of modern society is mainly due to purely social reasons. The problem is that stress, starting at the social level, immediately covers the physiological and psychological levels, which, in turn, dramatically impairs the performance, well-being and professional activity of any person. This leads to a deterioration in the quality of social activity of the individual, thus creating a vicious circle, which a person, relying on the established instructions of life and activity, is no longer able to break. This is why the problem of overloading the modern individual with stressful States is connected. A person stereotypically reacts to the state of threat even when it is not real, but only occurs as a result of the reaction of the human psyche [5].

A.V. Pavlova notes that the problem of professional stress as a separate direction has been particularly intensively developed in psychological science in the last two decades. This is due to the fact that it was found out the negative impact of this phenomenon on the level of professional performance and the state of health of specialists. As a rule, these studies are concerned with mental overloads, psychosomatic disorders, and negative behavioral reactions that occur due to the influence of professional stressors. In the literature devoted to the problem of occupational stress, you can find information about the great importance of studying this problem for the economy of many countries. Since the cost of organizations for medical care of staff reaches an impressive size. This fact significantly encourages managers and researchers to study this problem in order to reduce the psychogenic impact of professional activity on the relevant specialists. As a result of searching for the impact of certain professional situations on the physical and psychological health of a specialist, many theories, models, and approaches to explaining the essence of professional stress have emerged. But, despite their large number, the only concept that could explain the complexity of this rather complex phenomenon has not yet been accepted [24].

The influence of stress on professional results, as evidenced by V. I. Evdokimov's research, depends on various professional situations in which the specialist is located. This can be a busy work schedule, fear of losing your job, the complexity of the task, relationships with management, colleagues, and so on. In General, this determines the nature of the stressor, the situational factor of stress occurrence. A significant factor is also such a factor as the compliance of professional training of a specialist with the professional activity performed, which may result in a change of profession. This factor can be attributed to situational determinants, such as the fact that there is a change of profession in the employee's career. This indicates the importance of certain semantic aspects of professional activity, knowledge, and skills of a specialist, first and foremost, the accounting formula "professions", i.e., the purpose, object and means of labor, the degree of problematic employment situations, socio-psychological and emotional-volitional settings. In addition, the manifestation of professional stress is also associated with the characteristics of self-esteem of specialists, the level of extraversion and neuroticism, characterological features, positive experience of overcoming stressful States, etc. These features can determine the level and manifestations of professional stress. I.e., we are talking about the personal determinants of manifestations of professional stress as a result of internal influences [11].

As O. N. Polyakova notes, today there is no single definition of professional stress. In this regard, the scientific literature uses concepts that are based on different approaches. Thus, among the most popular definitions are the following: the emotional state of the subject mediated by the inability to realize their significant aspirations, taking into account internal personal resources; physiological response to socio-psychological stimuli; neuropsychic overstrain caused by heavy-duty exposure; disturbance of rest that occurs as a reaction to a certain situation or activity, both external and internal; behavioral response to socio-psychological stimuli [26].

According to N. E. Vodopyanova, the occurrence of professional stress is due to the result of a discrepancy between the requirements of the environment and the individual, a discrepancy between what a specific professional situation requires and what a specialist who has a certain level of preparedness can do in this situation. However, the corresponding situation may be stressful for one individual, but not for another. This depends on how much a particular specialist assesses the situation from the position of a threat to themselves. For the same individual, one situation at certain times may be perceived as stressful, and in another case - not cause discomfort. This is due to changes in both the physiological state and the psychological status of the specialist [7].

After a theoretical analysis of the problem of professional stress, S. S. Kuznetsov came to the conclusion that the phenomenon under study is most often understood as a negative mental state that is associated with the characteristics and requirements of professional activity. The author, based on various studies, identifies the following levels of analysis of this condition: the first level, within which problems arise in the performance of functional duties by the corresponding specialist. They may be related to the specifics of a particular professional activity; the second level, where problems arise in the absence of a role balance between the professional and personal spheres. In this aspect, the researcher cites such indicators as role overload, role insufficiency, unclear role definition, role conflicts; the third level, in which the emerging problems are caused by a fairly low level of satisfaction of the need-motivational sphere in the process of performing the relevant functions and emotional attitude to professional activity. In this aspect, the researcher gives such an indicator as job satisfaction / dissatisfaction [17].

According To S. B. Malykh, in modern psychological literature, there is often an understanding of stress as a non-specific reaction of the body in response to increased environmental requirements. In this aspect, requirements are understood as all the effects that lead to changes in the activity of the body. The concept of "non-specific" is due to the fact that the individual's body reacts to any event, usually stereotypically, with the same biochemical changes, and during stress these reactions differ from the norm. The main goal of these changes is to maintain stable operations in conditions of increased requirements, i.e. to successfully adapt. However, this leads to an extreme strain on all the systems of the individual's body. The specificity of mental tension is that it is reflected in activities that are determined by motives. The motivational sphere, interacting with the affective one, causes the appearance of strong emotional experiences, which also play a large role in mental tension. Motivational and emotional components play a special role in the psychological structure of mental tension [21].

According to A. S. Kuznetsov, A. N. Zakatova, and others, in modern psychological science, the concept of stressors refers to any external or internal stimuli that cause excitement or tension in the body. The concept of stressor is used to distinguish the impact of an event from the consequences that were registered in the form of an altered physiological and mental state relative to the norm. To systematize the whole set of stressors in modern studies use multiple criteria approaches, among which are those in which: stressors are distinguished by the level of negative valence, which can be low or high. Stressors are distinguished by the time it takes to readapt (from minutes to years). Depending on the combination of these criteria, the researchers allocated these types of stressors as daily difficulties, i.e. trouble or microstructure; critical life events, i.e. macrostructure; chronic stressors, i.e. diseases[13,18].

Daily difficulties (microstressors) are considered by the authors to be daily stressful life events that cause a violation of well-being. Also under microstressors, daily stressors are understood such episodes of everyday experiences and behavior that bring complications and require unusual adaptation. This category of stressors can include problems that are expressed in dissatisfaction with yourself, your appearance, your health, your environment, the quality of communication, and so on. Under the critical situations (macrostructure) understand situations which, as a rule, meet three basic criteria: they can be clearly localized in time and space, which distinguishes them from chronic stressors; they require qualitative reorganization in the human - environment system, which differs from temporary, transitional adaptation; they are accompanied by stable affective reactions.

In critical life situations, higher energy costs and more time for adaptation are required than is necessary under the action of microstressors.

The main criterion for the concept of chronic stressor is the duration in time of the stressor, i.e. these are events that last for a long time, are constantly repeated and have a high negative impact. This can be both stress in the family, long-term illness, and chronic stress at work, etc. [13], [18].

In this aspect, S. I. Sergeev, based on the results of the analysis of generally accepted classifications of stress, identifies its General characteristics: universal adaptability, i.e. stress is a universal and vital mechanism for adapting the internal environment of a person to the requirements of the external one; polydeterminism, i.e. various factors can be determinants of stress States; individuality, i.e. despite its non-specificity, stress is an individualized phenomenon. These same factors can cause people with different psychological characteristics to have completely different reactions, while various stimuli can be fairly uniformly perceived by different people; the timing of the actualization of stress reactions, i.e., stress phenomena are stretched over time, which explains the fact that its components are implemented at different times. At any given moment, a number of specific characteristics are deployed. Their manifestation may generally coincide in orientation - some of them are on the rise, some are temporarily stabilized, some disappear; integration, i.e., during the deployment of stress reactions, the overall picture of the manifestation of the adaptation syndrome becomes more and more complete. Its development takes place from a poorly systematized combination of various fragmentary States to their development into clearly defined processes. At the same time, adaptive functions are deployed and all body systems are integrated to achieve optimal adaptation. due to the fact that stress is a multi-faceted adaptive mechanism, it works at different levels of human activity, which causes the existence of different types of stress [32].

V. I. Rozov, T. N. Patrakhina, A.V. Pavlova and others analyzing modern research on stress came to the conclusion that there are several areas in which the problem of stress is actively developed: psychophysiological; socio-psychological; individual-psychological; occupational.

Positive in these studies is their relatively narrow specialization, in-depth study of stress in certain areas of human life. However, this approach can also be considered to have a number of disadvantages, such as the lack of integration, generalization, and integrity in the study of stress. In this case, researchers do not take into account the fact that stress, in the modern understanding, enters as a complex phenomenon that is implemented at all levels of the human body and psyche, and scientific abstraction in the study of its individual manifestations, as a rule, causes impoverishment of the overall picture of stress [25, 29].

According to L. N. Artamonov, M. A. Odintsovo, stressors, acting on the receptors, include assessment processes that, depending on individual experience, individual psychological characteristics, are perceived as positive or negative factors. It is due to cognitive processes that stress develops and brings harmful effects or is resolved at the stage of meeting with the stressor and does not cause negative changes. Among the main personality characteristics that play an important role in the development of stress, the authors highlight the following main ones: emotional reactivity - a property of temperament that characterizes the rate of occurrence of emotional arousal. A high level of reactivity increases the risk of occupational stress; neuroticism is a property of temperament that characterizes the rate of occurrence of nervous excitement. High levels of neuroticism increase the risk of occupational stress; endurance - the ability to control and influence events in your own life. High endurance softens the impact of stressors, and consequently increases stress resistance; locus of control – the tendency of a person to explain the occurrence of significant events in their personal life for external reasons or internal, their own efforts. As a rule, professionals with an internal locus of control are more resistant to stress; negative affectivity-a person with a pronounced such characteristic tends to feel unhappy and dissatisfied with life in General. In part, she focuses on all the negative aspects of her own life. A high level of negative affectivity is positively correlated with high indicators of professional stress; self - esteem-reflects the attitude to oneself. The results of research strongly prove that people with a developed sense of self-esteem are more stress-resistant; self-efficacy is the confidence of a professional that he will solve the problem in an appropriate way. Specialists with this quality are more resistant to psychological stress; tolerance to situations of uncertainty - the tendency of an individual to react frustratingly to complex situations. According to research results, low tolerance, i.e. the rapid occurrence of a state of frustration, is positively correlated with a high level of stress; gender characteristics-according to modern research, there are several different data. As a rule, women are more likely to complain about the stressfulness of life than men and experience more of the consequences of stress, such as headaches, decreased appetite, and sleep disorders. However, men are four times more likely to die from cardiovascular diseases. But it is still unknown what exactly determines the response to tension (gender, gender, or the difference in environmental stimuli) [3], [23].

N. V. Samoukina, considering various stress factors, provides the simplest and most consistent classification based on the representation of G. Lazarus. This classification divides stimuli into physical and psychological stressors, both actual and assumed.

Within the framework of a more extended classification, the author identifies stressors that are divided into: uncontrolled, i.e. stressors that are not subordinate to us; controlled, i.e. stressors that can be controlled.

In addition, the researcher emphasizes that the variables that mediate the stress response are of a psychological nature and represent a threat assessment, which is the main factor that triggers psychological stress. Awareness of the threat is the main condition for the occurrence of psychological stress, especially if it concerns the most important values for the individual. Not only the real situation can be perceived as threatening, but also its symbols or imaginary situation, as well as the awareness of the lack of ready-made programs of activity in this situation. Therefore, events can be assessed as stressful, even if they are not. And Vice versa: objectively harmful stimulus, if it is not recognized by the person as such, is not a stressor - it all depends on the subjective assessment. On this basis, the stressor can be characterized as an internal factor that depends on the interpretation of the information available in this situation by the consciousness [30].

G. G. Arakelov, as the main cause of stress, identifies the impact of stimuli that cause anxiety in most people and leads to a number of physiological, psychological and behavioral reactions. In this case, the interpretation of the situation as stressful is largely determined by individual and personal characteristics of the person. The author found that the same situation is perceived by different people as stressful, or as neutral, depending on the presence or absence of specific personal properties. It is personal characteristics that primarily determine the forms of response to stress and the likely negative consequences of stressful States. This can be clearly confirmed by those studies that reveal the relationship between individual character traits and the occurrence of various somatic diseases [2].

S. A. Kleshchenogov considering some of the classification of factors determining the stress condition of the person, gives several examples. So, some researchers refer to the main factors that determine the nature of a person's stress response, self-regulation, sensitivity to stressors, stability, and others associate the occurrence of emotional tension with certain character traits and typological features of the nervous system: low emotional stability; belonging to a weak type of nervous system; low mobility of the main nervous processes; expressed weakness of inhibitory processes; various negative functional реакциями и состояниями после различных заболеваний.

As a result, the author emphasizes on the example of several classifications, the lack of common criteria for selecting factors that determine a person's stress state. At the same time, with all the diversity and heterogeneity of the above-mentioned factors, we can note General trends that, as a rule, mostly reflect the typological features of the nervous system [14].

U. V. Vodopyanov based on the results of his own theoretical analysis notes that anti-stress, emotional stability is directly related to neuroticism and anxiety. The author notes that under conditions of chronic stress, anxiety develops in people with any type of nervous system, i.e. under the influence of emotionally stressful activities, high personal anxiety can become a permanent property. This personal characteristic has a particularly negative effect in various communications, since an anxious person can not create a positive emotional mood, negatively affecting others. It affects the personal tendency to develop stress and such a quality as aggressiveness. In addition, according to the author, in modern research, self-esteem is often associated with the development of stressful States. According to the analysis it was found that the growth of self-esteem in a group of different professionals that reach high scores, is positively correlated with stress, whereas employees with a low skill level is an increase in the propensity to stress. Based on these data, the author concludes that adequate self-esteem increases stress tolerance. The researcher also highlights the relationship between a person's stress tolerance and his locus of control, i.e. with the growth of the internal locus of control, the specialist copes better with the stressors of professional activity [8].

A. B. Leonova, S. I. Sergeev, and others. considering the impact of stress on the physical and psychological state of a person, they state that today various researchers do not have a common opinion on the problem of stress. As a rule, stress is considered as definitely useful or definitely harmful. Also, there are positions regarding borderline States in which stress manifests itself in two ways. At the same time, it is advisable to evaluate different approaches not as contradictory, but as mutually complementary. In addition, the authors note that there are different manifestations of stress: physiological symptoms of active reaction - increase in blood pressure, palpitations, vasoconstriction of the skin surface, physiological manifestations of emotions of rage, anger, behavioral - readiness to attack or active defense; passive form of response - slowing of the heart rate, sometimes increasing work of the gastrointestinal tract, psychological fear, depression, behavioral freezing, avoidance action.

The first type of response is associated with the predominance of human tone of the sympathetic autonomic nervous system, the second - the parasympathetic nervous system. Thus, responses to stress are very diverse [19], [31].

Research conducted by N. V. Evdokimov indicates the ambiguity of the impact of stress on human mental processes. Thus, there is evidence of activation of mental processes, regardless of the stress phase. In particular, there is an improvement in the volume of perception, level of sensations, speed of memorization, stability of attention, speed of thinking, and communicative activity. In some individuals, as a result of stress, integrative or differentiated understanding of information increases. Both types of stress activation are essentially adaptive-protective reactions and are aimed at mastering the situation and achieving control [10]. However, according to research by S. Gremling, S. Auerbach and others, stress negatively affects mental processes. Thus, the authors note a decrease and loss of hearing, speech disorders, Erasure of the memory of past experiences, or even fragmentary amnesia [9].

N. N. Ravochkin notes that stress is a way to achieve (acquire) resistance of the body when exposed to a harmful factor. It relies on various mechanisms, depending on the complexity of the structural and functional organization of the biosystem. The researcher also emphasizes that stress is a form of anticipatory reflection of reality, thanks to which the body moves away from the damaging effect of the stimulus until the changes caused by it become irreversible. In other words, non-specific reactions have a leading character, and this ensures the reliability of the adaptive behavior of the biosystem in rapidly changing conditions of existence. This view is a positive assessment of stress and its place in the life of the body [27].

T. I. Abolina believes that the interpretation of a positive assessment of stress is possible only if it is identified with mental stress. Researchers distinguish these concepts and define stress as a process that always leads to certain mental abnormalities, i.e. stress can usually be characterized as a harmful phenomenon that causes significant harm to the body, and can be the main cause of various diseases [1].

S. S. Rakityanskaya characterizes the stress response of the body to external stimuli as a complex of mental and somatic disorders that develop as a result of significant or repeated emotional stresses that exceed the possibilities of mental adaptation. The most common and common symptoms of stress are headache, stomach pain, chest tightness, low back pain, heaviness, tension at the base of the neck, and chronic constipation. There may be other symptoms: insomnia; decreased performance; inability to fully concentrate; irritability; breakup or complication of relationships with loved ones; lethargy, inertia, General decline in life, etc.

Under the influence of stress, people become depressed, lose sleep, become unsociable, irritable, frivolous, restless, apathetic. In addition to these symptoms, stress is the cause of many somatic diseases. For example, prolonged, stereotypically repeated negative emotions lead to the development of specific bodily disorders - psychosomatic diseases [28].

The analysis of modern research conducted by I. U. Nasledova showed that stress reduces the effectiveness of the immune system by reducing T-lymphocytes. As a result, it is more likely to develop allergic reactions, asthma attacks, and even cancer. In conditions of chronic emotional activity, it is possible to develop prolonged disorders. i.e., stress contributes to many diseases. It is established that occupational stress can cause violations of cardiovascular functions, including persistent arterial hypertension, myocardial infarction, sclerosis of coronary vessels, angina; coronary heart disease. In addition, stress contributes to diseases of the gastrointestinal tract, such as stomach and duodenal ulcer. Stress also increases muscle tension and muscle immobilization, which is considered the main cause of headaches, back pain, neck and shoulder pain. According to the author, all the information about the stress experienced by a person remains in the muscles. Moreover, the daily freezing of emotions, the weight of which settles in the body in the form of areas of muscle tension-painful muscle seals or bodily equivalents of emotions, leads to the gradual formation of a muscle carapace [22].

T. V. Zaichikova believes that stress can really cause a large number of different negative consequences. At the same time, according to the author, many scientists do not clearly attribute stress to a negative or positive phenomenon in a person's life, due to various conditions that determine the nature of stress reactions. According to this approach, stress can be considered both positive and negative for the body of various kinds of reactions. I.e., it is necessary to distinguish between positive and negative stress. Almost any professional activity can cause significant stress without causing any harm. As a rule, a combination of situational overstrain and limited cognitive and emotional capabilities leads to disease [12].

According To I. O. Kotenev, an important parameter for the classification of stress is the time factor. Prolonged exposure to stress is particularly dangerous. For example, during ten or fifteen years of working in extreme conditions, the individual's body wears out as if he had suffered a severe heart attack. It is established that in a chronic stressful situation, there is a violation of mental adaptation, which develops in accordance with four stages, which are considered as successive stages of mental crisis. And, on the contrary, a strong short-term stress activates the specialist, as if shakes it off, strengthening the adaptive potential.

Interesting is the author's typology of stress by gender, i.e. male and female stress. The researcher notes that there is a significant difference between the response to stress in women and men. Thus, women are more economical on a physiological level, but spend more emotional energy. At the same time, the author notes that some studies confirm a higher level of stress tolerance of women. For example, there is evidence that women's sympathetic-adrenal response to stress is less pronounced than men's, i.e. stress tolerance in women is high and their distress is not so noticeable. The author also notes that there are differences at the social level. Thus, women in society, despite significant changes, still bear a double burden-at home and at work, which naturally intensifies stress.

Another factor for identifying types of stress, according to the researcher, is the age criterion. Accordingly, adult and child stress are distinguished. In addition, there is a difference between the perception and response to stress in adulthood and old age. Despite the fact that age is one of the main factors in determining the stress response, in this regard, it has not yet been sufficiently studied [15].

L. V. Kulikov draws attention to the peculiarities of the duration of stress. If short-term stress has a positive effect on the body, mobilizing it, then long-term stress is reflected unfavorably, destroying it. The type of stress also has a significant impact on the nature of the stress response and the likely negative consequences. It is known that psychological stress is much more likely than stress from excessive muscle work (physical stress) to lead to illness. Among the factors that determine the modality of stress-the emotionally positive or negative nature of stress are: the ability to choose; the degree of control over the situation; the ability to predict or prevent adverse consequences [16].

Conclusions and suggestions. Thus, based on the above, it is reasonable to conclude that today, despite the lack of a unified definition of the concept under study, there is an active use of it in various studies. Professional stress is considered as the main generic concept that generalizes a fairly wide range of terms: work stress; labor stress; industrial stress; organizational stress, etc.

They usually indicate the mental States of the individual subject of labor that arise in the course of professional activity, its specific conditions. At the same time, most modern approaches to the study of professional stress are closely related to the psychology of professional health, the effectiveness of performing professional activities, optimizing the management process, interpersonal relationships, establishing proper interaction, and so on.

Within the framework of this research, professional stress is considered appropriate to understand a complex and multidimensional individual phenomenon that reflects a rather tense state of the individual subject of labor in the process of adapting to the professional situation that has arisen, difficulties in carrying out professional activities. In essence, this phenomenon is mainly connected with negative emotional experiences, anxiety, due to discrepancies between the current professional requirements and available personal capabilities of the respective specialist. Ie to date, the main cause of occupational stress includes subjective evaluation is difficult to overcome professional barriers, the interpretation of which is determined by individual psychological characteristics of the subject of work.

Conclusion/Recommendations. The analysis of the scientific literature on the problem under study shows that today, despite the lack of a unified definition of the concept under study, there is an active use of it in various studies.

1) Professional stress should be considered as a basic General concept that summarizes a wide range of terms (work stress, work stress, work stress, organizational stress, etc.).

2) Special attention should be paid to the mental state of the individual subject of labor that occurs in the course of professional activity, its specifics.

3) It Should always be borne in mind that modern approaches to the study of occupational stress are closely related to occupational health psychology, professional performance, optimization of the management process, regulation of interpersonal relationships, building the right relationships, and many others.

References

[1] Abolina T. I. To the problem of psychological stress // Psychology of sports activity. -Kazan University publishing house. - 2001. - P. 123-129.

[2] Arakelov G. G. Stress and its mechanisms / / Vestnik MSU. Ser. Psychology. - 2001. - no. 3. - Pp. 71-78.

[3]Artamonova L. N. Organizational stress in Bank employees / L. N. Artamonova, A. B. Leonova // MSU Bulletin. Series 14. Psychology-2009. - No. 1. Pp. 28-42.

[4] Baimuratov T. R., Enikeeva a.m., Kutdusova E. D., Nasretdinova L. M., Khusayenova A. A. Features of communication of medical workers and patients who have suffered a stroke // Young scientist. - 2019. - №7. - P. 129-131.

[5] Bodrov V. A. Professional stress: occurrence, development and overcoming / V. A. Bodrov. - Moscow: Nauka, 2010. - 162 p.

[6] Vankovsky A. N. Professional stress and functional States. / Ed. Dikaya L. G., Zankovsky A. N.-M.: Nauka, 2012. - 159 p.

[7] Vodopyanova N.E. Professional stress: essence, main causes of occurrence, consequences. - M., 2009. - 98 p.

[8] Vodopyanov U. V. stress in modern conditions. - Moscow: Nauka, 2010. - 140 p.

[9] Gremling S., Auerbach S. Practice on stress management. Saint Petersburg: Piter, 2002. 240 p.

[10] Evdokimov N. V. Influence of stress on human mental processes. // Social psychology and society, 2011, no. 7, Pp. 123-130.

[11] Evdokimov V. I. Stress and professional activity, Moscow, 2011, 123 p.

[12] Zaichikova T. V. Stress in professional activity // Actual problems of psychology, Volume 1.: Social psychology. Management psychology. Organizational psychology. - Kiev: Institute of psychology named after S. Kostyuk APN of Ukraine, 2007. - Part 5. - Pp. 160-165.
[13] Zakatova A. N. slow-acting Stress // New staff. -2010. - No. 6. - 34-38 p. 46
[14] A. Kleshchenogov S. Factors determining the stress state of a man. // Modern psychology. - 2008. - №6. - P. 67-75. 55
[15] Kotenev I. O. Stress in professional activity. - Moscow: AU MVD of Russia, 2004. - 67 p.
[16] Kulikov L. V. Types of labor stress // Psychology of States. Reader / Ed. Prokhorova A.V.-M.: Rech, 2004. - Pp. 128-144.
[17] Kuznetsov S. S. Psychology of professional stress-Moscow: Eksmo, 2006. - 104 p.
[18] Kuznetsov A. S. Signs of stress in human behavior / / Young scientist. - 2019. - No. 51. - Pp. 462-464.
[19] Leonova A. B. Complex strategy of stress analysis: from diagnostics to prevention and correction. Psychological journal, 2004, Vol. 25, Pp. 75-85.
[20] Leonova A. B. Main approaches to the study of professional stress // Bulletin of psychosocial and correctional rehabilitation work. - 2001. - № 11. - P. 2-16.
[21] Malykh S. B. Psychology of stress-M., 2009. - 93 p.
[22] Nasledova I. U. Influence of stress on vital indicators of the body. Kiev, 2008. - 104 p.
[23] Odintsovo M. A. psychology of stress: Textbook and practice for academic undergraduate / M. A. Odintsovo, N. L. Zakharova. - Moscow: yurayt Publishing house, 2016. - 299 p.
[24] Pavlova A.V. the Problem of professional stress // Psychology of personnel management. - 2013. - № 8. - P. 97-105.
[25] Patrakhina T. N., Pavlova A.V. Stress management: the essence of the concept and process / / Young scientist. - 2015. - no. 3. - Pp. 480-484.
[26] Polyakova O. N. Professional stress: causes, consequences, overcoming / O. N. Polyakova. - Saint Petersburg: Rech, 2005. - 137 p.
[27] Ravochkin N. N. Stress as a way to achieve. // Psychology of mental States. - 2012. - №5. - P. 53-60.
[28] Rakityanskaya S. S. On the question of expediency of stress prevention / / Science and education. - 2000. - №1-2. - P. 196-197.
[29] Rozov V. I. personality Characteristics and stress development // Psychological journal, 2006, no. 4, Pp. 110-117.
[30] Samoukina N. V. Psychology of stress, Moscow, 2004, 117 p.

[31] Sergeev S. I. Stress in organizations of the social sphere: causes, prevention, counteraction / S. I. Sergaev / / World of psychology: scientific and methodological journal / Ed. D. I. Feldstein, A. G. Asmolov. - 2002. - №4 October-December 2002. - Pp. 245-251.
[32] Sergeev S. I. Stress and its classification / / World of psychology. - 2008. - № 6. - P. 151-158.
[33] Shabanova T. L. Psychology of professional stress and stress tolerance: Textbook - Saratov, 2014. - 121 p.

UDC: 332.54 (519.862.6)

ALGORITHMIC MODEL OF STUDENT KNOWLEDGE CONTROL

Mukaddas Djumayozovna Zaripova
Termez State University,
Faculty of Physics and Mathematics
Lecturer of the Department of
“Information Technology”
e-mail: nargiz_1974@mail.ru

Аннотация: Ушбу мақолада талабалар билимини назорат қилишнинг турли ноанъанавий усуллари таҳлил қилинган. Шунингдек, ўқув жараёнида билимларни назорат қилишнинг ноанъанавий усулларини қўллаш ҳамда талабалар билим ва кўникмалар даражасини аниқлаш бўйича Термиз давлат университетида олиб борилган тадқиқот натижаларига кўра бир қатор камчиликлар аниқланган бўлиб, мақолада уларни бартараф этишга қаратилган илмий таклиф ва амалий тавсиялар келтирилган.

Калит сўзлар: замонавий усуллар, ички мониторинг, талабалар билими.

Аннотация: В данной статье анализируются различные нетрадиционные методы контроля знаний студентов. Также по результатам исследования, проведенного в Термезском государственном университете по использованию нетрадиционных методов контроля знаний и по определению уровня знаний и умений студентов в образовательном процессе выявлено ряд недостатков, и для устранению этих недостатков в статье были приведены научные предложения и практические рекомендации.

Ключевые слова: современные методы, внутренний мониторинг, знания студентов.

Annotation: This article analyzes various non-traditional methods of students' knowledge control. Also, according to the results of a study conducted at Termez State University on the use of non-traditional methods of knowledge control and to determine the level of students' knowledge and skills in the educational process, a number of shortcomings were identified, and to address these shortcomings, the article provided scientific suggestions and practical recommendations.

Key words: modern methods, internal monitoring, student knowledge.

Introduction: In modern universities it is impossible to ensure the educational process without the use of information technology. In the process of teaching students of various specialties, both technical, economic and humanitarian, an important problem is the verification of students' residual knowledge. Moreover, the test of residual knowledge is relevant not only for full-time education, but also for correspondence and distance learning. As early as 1840, Isaac Pitman, through mail, began to teach shorthand for students in the United Kingdom, thus becoming the pioneer of the first distance education course [2].

Most often, decision-making automation in the field of knowledge assessment is provided by testing tools, and computer testing is most widely used. Also, the relevance of developing knowledge testing tools is determined by the introduction of a unified state exam in the educational process [3].

For technical specialties, there are many algorithms for testing students' knowledge, since here the solution comes down to a specific equation or axiom [4]. For humanitarian disciplines, the problem of testing is especially acute, since the answer to a particular question can be completely different. One of the options for solving such a problem is that the answers to questions in such disciplines should be reduced to certain standard answers, where there are basic keywords that are the "key" to a particular question.

Analysis of Subject Matters: A lot of research has been done on various non-traditional methods of controlling student knowledge. Scientific and practical issues of control over students' knowledge have been widely studied in the scientific works of domestic and foreign economists, including M.B.Chelyshkova, R.T.Sungatulin, L.K.Bobrov and others [9; 10].

Research Methodology: In the research process, various non-traditional methods of controlling student knowledge were analyzed using a wide range of comparison and grouping methods. Also, according to the results of a study conducted at Termez State University on the use of non-traditional methods of knowledge control and to determine the level of students' knowledge and skills in the educational process, a number of shortcomings were identified, and to address these shortcomings, the article provided scientific suggestions and practical recommendations.

Analysis and results: Recently, more and more researchers have turned to objective control of knowledge. As already mentioned, traditional control methods have several disadvantages:

✓ the test score is subjective, because it is determined by the teacher, since many factors can affect this score, which have nothing to do with the level of knowledge of the examinee. For example, the teacher’s personal attitude to the subject, the teacher’s mood, and many others. others;

✓ it is impossible to define clear criteria for assessing knowledge;

✓ routine work with papers by the teacher.

To consider this problem in more detail, we introduce the concept of “task”. It includes all existing forms of control pedagogical materials. One option is to test. “A test is a scientifically based method for measuring the qualities and characteristics of a person of interest”, “a pedagogical test is a system of knowledge of increasing difficulty and a specific form that allows you to qualitatively evaluate the structure and measure the level of knowledge”. A test, almost always, consists of separate test items. The following requirements are imposed on test tasks [5]:

- ✓ the same conditions for the control procedure for all;
- ✓ brevity;
- ✓ a clear criterion for the correctness of this answer;
- ✓ a clear algorithm for determining the final test score.

In, the author, among others, identifies the following advantages of tasks in test form over traditional questions:

- ✓ the logical advantage is that the correctness of the answer to the test task can be defined as “true” or “false” or, in other words, the test task together with the test subject's answer forms a logical statement;
- ✓ the technological advantage follows from the previous one and is expressed in the convenience of automating the process of knowledge control.

In, the author relates to the advantages of testing:

- ✓ the opportunity to evaluate an individual in accordance with the stated goal of the study;
- ✓ providing the possibility of a quantitative assessment of the qualitative parameters of personality;
- ✓ convenience of mathematical processing of results;
- ✓ efficiency in examining a large number of unknown persons;
- ✓ obtaining ratings independent of the subjective attitudes of the person,
- ✓ conducting research;
- ✓ ensuring comparability of information obtained in different ways on different subjects [6].

The main drawback in testing includes the following: Testing the deep understanding of the subject, mastering the thinking style characteristic of this discipline, with the help of tests is difficult, although in principle it is possible. The lack of direct contact with the student, on the one hand, makes control more effective, but, on the other hand, increases the likelihood of random factors influencing the result. For example, it is impossible to control a student’s random errors caused by inattention or misunderstanding of the assignment. However, the rapid development of systems and testing methods allow in most cases to solve these shortcomings.

In conclusion, we can summarize and list the main positive features of the transition from traditional to computer testing:

Economic efficiency. With the transition to computer testing, the load on the teaching staff decreases and an additional classroom fund is not required.

Time saving. Often testing systems are distributed with multimedia or hypertext e-learning tools. Therefore, we can say that the advantage of using computers in education is the interactivity of communication [7; 8].

System flexibility. Computer testing allows you to change both the testing base and conduct a remote dialogue with the test person in real time. Provides much greater opportunities in organizing the quality and availability of testing.

Conclusions and Suggestions: The disadvantages of traditional methods of knowledge control and ways to solve the problem are considered. The main problems and tasks of automated knowledge control, various forms of test tasks, the basic requirements for testing tools, the difficulties of implementing automated testing systems are considered.

1. At the moment, so far, there are no testing tools that would satisfy all the requirements presented to them. Their difficult feasibility lies in the fact that developers have to choose either between ease of assimilation and a wide range of program functions, or between the ability to quickly create tests and the efficiency of their storage. For this purpose, one should abandon standard testing tools and create systems aimed at solving a specific problem. In our case, there is an orientation to questions that can be answered unequivocally.

2. The main positive features of the transition from traditional to computer testing are reviewed and analyzed. Undoubtedly, this transition allows the educational system to develop and is increasingly being applied in all areas of activity: accounting, trade, information technology, logistics, design and work with clients and local authorities. For example, tests of the GAP series (General Abilities Profile) include verbal tests (understanding), numerical tests (data interpretation), and chart tests for logical thinking; ABLE series tests (competent) - emphasize specific business skills, such as business decision analysis, critical information analysis, financial evaluations and legal interpretation. Tests are used mainly to test the ability of graduates in hiring.

List of used literature

[1]. “Strategy of actions for further development of the Republic of Uzbekistan” of the President of the Republic of Uzbekistan Sh. Mirziyoev, Tashkent, “Halq so'zi” newspaper, February 8, 2017, No. 28 (6722).

[2]. Analytical survey Distance Education for the Information Society: Policies, Pedagogy and Professional Development. Moscow 2000, 86 pp., UNESCO Institute for Information Technologies in Education, p.3-6.

[3]. Kadnevsky V.M. History of tests. Monograph. - M.: Public education, 2014. - 464 p.

[4]. Bocharov V.N. Problems of creating and using test tasks in an informatics course // New Information Technologies in University Education. - Novosibirsk Technical University, 2010. - p. 78-80.

[5]. Avanesov V.S. Theoretical basis for the development of tasks in test form: A manual for higher education / research center for quality problems of training specialists, Moscow State Textile Academy named after A.N. Kosygin. - M., 2005. - 95 p.

[6]. Verbitsky A.A., Gridin V.N., Solodovnikov V.I., Solodovnikov I.V. The use of neural networks in the testing task. // Information Technology. - 2017. - No. 9 p. 21-26.

[7]. Information technology in education [Electronic resource]. - Access mode: http://ito.edu.ru/2012/ito/VI/VI-0-9.html, free.

[8]. Information technology in education [Electronic resource]. - Access mode: http://ito.su/2012/ito/VI/VI-0-27.html, free.

[9]. Sungatulin R.T., Bobrov L.K. Computer testing as an element of the distance education system // New information technologies in university education. - Novosibirsk Technical University, 2010. - p. 78–80.

[10]. Chelyshkova M.B. Theory and practice of constructing pedagogical tests: Textbook. - M .: Logos, 2002 .- 432 p.

UDC: 371.

MAIN INDICATORS OF FEATURES OF DEVELOPMENT OF CREATIVE POTENTIAL OF MEDICAL STUDENTS

Yuzlikaev Farit Rafailovich
Doctor of Pedagogical Sciences,
Professor of the Department of
"Pedagogy and Psychology"
TSPU named after Nizami
E-mail: munirakadirova84@gmail.com

Kadirova Munira Rasulovna PhD,
docent Head of the Department of Languages and Educational Technologies, Fergana branch of the Tashkent Medical Academy
E-mail: munirakadirova84@gmail.com

Аннотация: Ушбу мақолада шахснинг ижодий салоҳияти, ижодий салоҳият тушунчасининг мазмуни таълим жараёнида қўлланилиши аниқлаштирилади, бўлажак тиббиёт ходимларини ижодий салоҳиятини ривожлантириш хусусиятларини тавсифловчи асосий кўрсаткичлар,фаол ижодий фаолиятнинг қадриятлари, ижодий қобиляти, таниқли педагог ва психолиг олимларнинг изланишлари ҳақидаги маълумотлар келтириб ўтилган.

Калит сўзлар: ўзини намоён қилиш,салоҳият, креативлик, ижодкорлик, ижодий қобилят, ноодатий, ўзига ҳослик, интеграциялашган шахсий мулк, ўзини – ўзи англаш, шахснинг ўз ўзини белгилаши.

Аннотация: В данной статье даётся определение творческому потенциалу личности, сущности и содержания понятия творческому потенциалу, даются сведения об основных показателях, характеризующих особенностей развития творческого потенциала студентов – медиков, о ценностях, креативности и способностях к активной творческой деятельности, об анализах исследований известных педагогов и психологов.

Ключевые слова: самоактуализация, потенциал, креативность, творческие способности, нестереотипность, оригинальность, интегративное личностное свойство, самореализация, самоопределение личности.

Annotation: This article gives a definition of the creative potential of a person, the essence and content of the concept of creative potential, provides information on the main indicators characterizing the features of the development of the creative

potential of students - physicians, on values, creativity and abilities for active creative activity, on the analysis of studies of famous teachers and psychologists.

Key words: self-actualization, potential, creativity, creativity, non-stereotypical, originality, integrative personal property, self-realization, self-determination of the individual.

Introduction: In the modern developing world, the highest demands are placed on the activities of each person in the most diverse areas of our society. That is why a modern specialist needs today to have the highest possible creative potential in order to successfully solve all kinds of tasks in the context of globalization of society. In connection with this situation, the special role and importance of professional higher education in the formation of creative activity, creative abilities, and, accordingly, the realization of the creative potential of medical students increases. Moreover, a qualitatively new level of the pedagogical process in modern education is impossible without innovative methods with the identification and development of students' creativity.

Literature review: The essence of the creative potential of medical students in our study is considered in the context of an inherent pedagogical phenomenon, which is the desired creative potential of the individual. It should be noted right away that "potential" is a general scientific concept that is widely used in both natural and humanitarian scientific disciplines. The concept of ***"potential"*** comes from the Latin word ***"potentia",*** meaning strength, power, opportunity. Turning to the reference literature, we can find the interpretation of "potential" as follows:

– firstly, as a latent opportunity that is strong enough for manifestation; [13, 150]

– secondly, as a force, source, opportunity, means, stock that can be used to solve a problem, achieve a specific goal; [4, 1048 c]

– thirdly, as the capabilities of an individual, society, state in a certain area. [4, 1048]

The essence and content of the concept of "creative potential of the person" many researchers present from various points of view, such as:

this is a combination of real skills, abilities and capabilities that determine the level of development of the personality itself (L.N. Moskvicheva, G.L.Pikhtovnikov);

- ✓ - This is a socio-psychological attitude towards the not ordinary resolution of any contradictions of objective reality (E.V. Kolesnikova);
- ✓ - this is an integrative personal property, which is expressed in relation to a certain position, orientation or attitude of a person to creative activity (A.M. Matyushkin);
- ✓ - this is a characteristic property of a personality that is able to determine the necessary measure of its capabilities in creative self-realization (M.V. Koposova);

- ✓ - this is a kind of synthetic quality that characterizes the measure of the personality's capabilities in the implementation of creative activity (V.F. Ovchinnikov, B.L. Farberman);
- ✓ This is a synonym for the concepts of "giftedness" and "creativity of a person". These qualities can be considered as a set of potential capabilities of the human person, which are capable of developing, while receiving their practical application in the process of creative development (I.O. Martynyuk and others).

Analysis of the studies of famous teachers and psychologists, such as O.A. Abdulina, [1;] N.N. Azizkhodjaev, [3;] V.I. Andreev, [2;] DB Epiphany, [5;] M.G. Davletshin, [9;] V.N.Druzhinin, [6;] allows us to state that in their works serious attention is paid to issues of both creativity itself and the full development of creative potential, with this considering the creative potential of students as their psychological characteristics.

Research Methodology: Modern literature interprets the content of such a concept as "development of creative potential" from various psychological and pedagogical positions. For example, researcher N.V. Klopova notes that "to develop the creative potential of a person means to create the" I ", to help realize the possibilities, creative abilities in practical activities. In this sense, the development of creative potential is the same as self-actualization of a person, i.e. maximum development of makings and abilities and their implementation in practical matters. Consequently, the development of creative potential is both a process and a result of the development of a personality. "[10; 2 p] In turn, the development of" creative potential of a personality "has a close relationship with the general development of a personality, but it also has its own characteristics. So, for example, in the dictionary of S. I. Ozhegov and N. Yu. Shvedova, development is interpreted "as a process of regular change, transition from one state to another, more perfect; the transition from the old qualitative state to the new, from simple to complex, from lower to higher ". [8; 643 p]

Analysis and results: It should also be noted that creative potential can also appear "as an integrative property of a person, which is a prerequisite and result of creative activity, which determines the orientation, readiness, and ability of a person to self-realization." [6; 97-103 c] Modern psychological and pedagogical literature also allows us to find various options for the definition of the concept of "creative potential of the individual", such as:

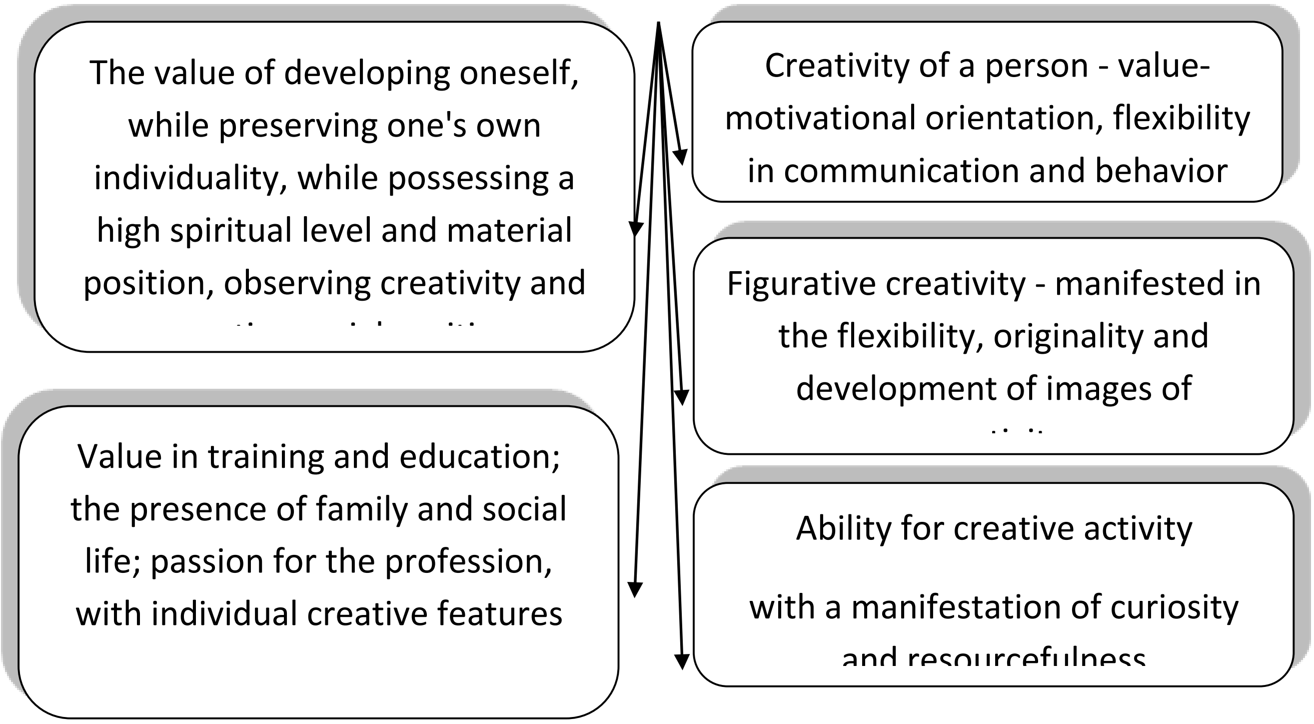
– it is "a high degree of development of thinking, its flexibility, non-stereotype and originality, the ability to quickly change methods of action in accordance with new conditions of activity"; [11; 185 p]

– it is also "opportunities and abilities that are subjective conditions for successful innovative implementation of their activities and behavior"; [7; 207 p]

Researcher N.A. Tokareva, in turn, argues that the basis for the formation of a student's readiness for creative activity should be based on self-determination of personality, creative potential and corresponding creative activity. All this should create a productive process for fulfilling educational tasks for the properties of personal and professionally significant activities, which will inevitably lead to a state of motivational readiness of a person, his emotional-volitional stability, as well as the ability to self-manage, etc. [12; 21p] And as researcher V.I. Andreev confirms, "a creative person is characterized by motivational and creative activity, which is manifested in organic unity with a high level of creative abilities, allowing it to achieve socially and personally significant creative results in one or more types of activity." [2 ; 65- 70 p]

Giving priority to genius in human nature, J. Guildford, in turn, emphasizes that "each person is creative, creative potential is continuously distributed among the entire human race, but geniuses are endowed with this quality to a much greater extent than others." [14; 410-412 p] An analysis of the many existing approaches in relation to the concept of "creative potential of a person" allows us to make a number of generalizing definitions (Scheme 1) concerning a clear understanding of its essence with possible ways of its further development. Using these generalizations, many features of the development of students' creative potential can be characterized.

Scheme 1 Main indicators characterizing the features of the development of students' creative potential



Conclusion: As we can see, in various scientific studies, creative potential appears as a mandatory property and quality of a person, as well as a system of personality abilities. The corresponding systematization of the available theoretical material shows us that the considered creative potential of the individual is a complex formation.

References

[1]. Abdulina O.A. Obshepedagogicheskaya podgotovka uchitelya v sisteme visshego pedagogicheskogo obrazovaniya - M., 1990.
[2]. Andreev V.I. Dialektika vospitaniya i samovospitaniya tvorcheskoy lichnosti: Osnovi pedagogiki tvorchestva - Kazan', 1988. - S. 65-70.
[4]. Azizxodjaeva N.N. Voprosi podgotovki uchitelya v sisteme neprerivnogo pedagogicheskogo obrazovaniya – Tashkent: TGPI, 1995. –64 s.
[5]. Bol'shoy ensiklopedicheskiy slovar'. // pod. red. A.M. Proxorova - M.: Sov. Ens, 1993. - S. 1048.
[6]. Bogoyavlenskaya D.B. Psixologiya tvorcheskix sposobnostey - M., 2002.
[7]. Drujinin V.N. Psixologiya obshix sposobnostey - SPb., 1999. – S. 97-103.
[8]. Kapitonov E.A., Zinchenko G.P., Kapitonov A.E. Korporativnaya kul'tura: teoriya i praktika - M., 2005. – S. 207.
[9] Ojegov S.I. Tolkoviy slovar' rus¬skogo yazika / S. I. Ojegov, N. Yu. Shvedova. 4-e izd., dop. - M., 1999. - S. 643.
[10]. Psixologicheskie aspekti sovershenstvovaniya podgotovki uchitel'skix kadrov v pedvuzax i universitetax v usloviyax neprerivnogo obrazovaniya: Tez.dokl. resp. nauchno-prakticheskoy konf. / Pod red. M.G.Davletshina, G.B.Shaumarova, F.S.Ismailovoy– Tashkent: TGPI, 1991. Ch. I. –124 s.; Ch. II. –225 s.
[11]. Razvitie tvorcheskogo potensiala lich¬nosti cherez sistemu raboti v treninge-seminare po samorazvitiyu / Pod obsh.red. N.P. Anikievoy ; sost. N.V. Klopova-Berdsk, 1998. - S. 2.
[12]. Smolyarchuk I.V., Drobisheva O.A. Osobennosti razvitiya tvorcheskogo potensiala studentov pedagogicheskogo kolledja // Vestnik Tambovskogo universiteta. Seriya Gumanitarnie nauki - Tambov, 2010. Vip. 8 (88). – S. 185.
[13]. Tokareva N.A. Pedagogicheskie usloviya formirovaniya gotovnosti budushego pedagoga k tvorchestvu v professional'noy deyatel'nosti: Avtoref. dis. kand. ped. nauk: 13.00.08 /N.A. Tokareva – Astraxan', 2009. – 21 s.
[14]. Sapok V.A. Tvorchestvo: Filosofskiy aspekt problemi – Kishinev: Shtinisa, 1989. - 150 s.
[15]. Guilford J.P.Some theoretical views on creativity.N. Y. 1967. - P 410-412.

UDC: 371.3.004.73.151

METHODS OF FORMATION AND IDENTIFICATION OF INTELLECTUAL POTENTIAL IN THE FIELD OF INFORMATION TECHNOLOGIES

Murodova Zarina Rashidovna
Assistent of the department of
Information and communication technologies
Bukhara Institute of engineering and technology
E-mail: zarina_muradova_2015@mail.ru

Аннотация. Познание – это совершенно другое понятие, но в целом оно относится к области знаний, прежде всего к индивидуальным характеристикам, связанным с мышлением, памятью, восприятием, вниманием и др.

Ключевые слова: информационные технологии, виртуальная лаборатория, практикум, модельные пакеты, инновация, информация, учебно-методические материалы, средства обучения, мультимедиа.

Annotatsiya. Aql-idrok, bu mutlaqo turlicha aniqlanadigan tushuncha, ammo umuman olganda, u bilim sohasiga, birinchi navbatda fikrlash, xotira, idrok, e'tibor va hokazolar bilan bog'liq bo'lgan individual xususiyatlarga tegishli.

Kalit so'zlar: axborot texnologiyalari, virtual laboratoriya, seminar, modellashtirish paketlari, innovatsiya, axborot, o'quv-uslubiy material, o'quv vositalari, multimedia.

Abstract – Intellect is a concept that is defined quite heterogeneously, but in general terms it refers to individual characteristics related to the field of cognitive, primarily to thinking, memory, perception, attention, etc.

Key words: information technology, virtual laboratory, workshop, modeling packages, innovation, information, educational and methodical material, learning tools, multimedia.

Introduction: A certain level of development of the mental activity of a person is implied, which provides the opportunity to acquire all new knowledge and effectively use them in the course of life, the ability to carry out the process of cognition and to effectively solve problems, in particular when mastering a new circle of life tasks. Intelligence is a relatively stable structure of the individual's mental abilities. In a number of psychological concepts, he is identified:

1) with a system of mental operations;

2) with a style and strategy for solving problems;

3) with the effectiveness of an individual approach to a situation requiring cognitive activity.

Literature review: There are a number of fundamentally different interpretations of intelligence:

1) in the structurally genetic approach of J. Piaget, intelligence is interpreted as the highest way of balancing the subject with the environment, characteristic of universality;

2) in the cognitive approach, intelligence is considered as a set of cognitive operations;

3) in the factor-analytical approach, on the basis of many test indicators, stable intelligence factors are found (C. Spearman, L. Thurstone, X. Eisenck, S. Bart, D. Wexler, F. Vernoy). It is now accepted that general intelligence exists as a universal psychic ability, which can be based on the genetically determined property of the nervous system to process information with a certain speed and accuracy (X. Eysenck). In particular, in psychogenetic studies it was shown that the proportion of genetic factors calculated from the variance of the results of performing intellectual tests is quite large - this indicator has a value from 0.5 to 0.8. In this case, verbal intelligence is especially dependent on genetically. The main criteria by which the development of intelligence is assessed are the depth, generalization and mobility of knowledge, knowledge of the methods of coding, transcoding, integration and generalization of sensory experience at the level of representations and concepts. In the structure of intelligence, the importance of the activity of speech and especially internal speech is great. A special role belongs to observation, operations of abstraction, generalization, and comparison, creating internal conditions for combining diverse information about the world of things and phenomena into a single system of views that determine the moral position of a person, contributing to the formation of its orientation, abilities and character.

Research Methodology: In Western psychology, an understanding of intelligence as a biopsychic adaptation to the circumstances of life is especially widespread. An attempt to study the productive creative components of intelligence was undertaken by representatives of gestalt psychology, who developed the concept of insight. At the beginning of the XX century. Much attention is paid to the study of the relationship between practical and theoretical intelligence, their dependence on the emotional-emotional characteristics of the individual.

There are a number of fundamentally different interpretations of intelligence. In the structural genetic approach of J. Piaget, intelligence is interpreted as the highest way of balancing the subject with the environment, characterized by universality. With the cognitive approach, intelligence is seen as a set of cognitive operations. In the factor-analytical approach, on the basis of a variety of test indicators, stable factors are found (C. Spearman, L. Terstone, H. Aizenck, S. Bart, D. Wexler, F. Vernon)[1]. Eisenck believed that there is a general intellect as a universal ability, which can be based on the genetically determined property of an unequal system to process information with a certain speed and accuracy. In psychogenetic studies, it was shown that the proportion of genetic factors calculated by the variance of the results of performing intellectual tests is quite large, this indicator has a value from 0.5 to 0.8. In this case, the most genetically dependent is verbal intelligence[2].

The concept of I. as a general mental ability is used as a generalization of behavioral characteristics associated with successful adaptation to new life tasks.

R. Sternberg identified 3 forms of intellectual behavior:

1) verbal I. (stock of words, erudition, the ability to understand what was read);

2) the ability to solve problems;

3) practical I. (the ability to achieve goals, etc.)[3].

In the beginning. XX century I. was considered as a level of mental development reached by a certain age, which manifests itself in the formation of cognitive functions, as well as in the degree of assimilation of mental skills and knowledge[4]. At present, a dispositional interpretation of I. as a mental property (ability) is accepted in testology: predispositions to act rationally in a new situation. There is also an operational interpretation of I., going back to A. Bin: I. is “what tests measure”.I. is studied in various psychological disciplines: for example, in general, age, engineering and differential psychology, pathopsychology and neuropsychology, in psychogenetics, etc. Several theoretical approaches to the study of I. and its development can be distinguished. The structural-genetic approach is based on the ideas of J. Piaget, who considered I. as the highest universal way of balancing the subject with the environment. Piaget singled out 4 types of forms of interaction between subject and environment[5]: 1) forms of the lower type, formed by instinct and directly resulting from the anatomical and physiological structure of the body; 2) holistic forms formed by skill and perception; 3) integral irreversible forms of operation formed by figurative (intuitive) preoperative thinking; 4) mobile, reversible forms that can be grouped into various complex complexes formed by the “operational” I. Thurstone developed a multifactorial model of I., according to which there are 7 relatively independent primary intellectual abilities. However, the research of G. Eysenck and others showed that there are close ties between them and when processing the data received by Thurstone himself, a common factor is highlighted[6].

The hierarchical models of S. Bart, D. Wexler and F. Vernon also gained fame, in which intellectual factors are arranged in a hierarchy according to the levels of generalization[7]. The concept of amer is also among the most common. psychologist R. Kettell about 2 types of I. (corresponding to 2 factors allocated to them): “fluid” (fluid) and “crystallized” (cristallized). This concept occupies, as it were, an intermediate position between views on I. as a single common ability and ideas about him as a set of mental abilities. Research of I. at advanced age confirms the In addition, he singled out the ability to divergent thinking (the ability to generate many original and non-standard solutions) as the basis of creativity; the indicated ability is opposed to the ability to convergent thinking, which is revealed in tasks requiring an unambiguous solution, found using learned algorithms[8].

Analysis and results: Today, despite attempts to single out ever new “elementary intellectual abilities,” most researchers agree that general I. exists as a universal psychic ability. According to Eysenck, it is based on the genetically determined property of n. p., determining the speed and accuracy of information processing. In connection with the successes in the development of cybernetics, systems theory, information theory, artificial I., etc., there has been a tendency to understand Today there is no unified scientific theory of intelligence, but there is a kind of fan of conflicting trends from which the most desperate eclectics find it difficult to deduce the vector. To this day, all attempts to enrich the theory come down to expanding the fan, leaving the practical psychologist with a difficult choice: which of the tendencies to prefer in the absence of a single theoretical platform[9].

The scientific development of the problem of intelligence has a very short history and a long background. From time immemorial, the answers to these questions have been sought by thinkers of all times and peoples. However, in their research they relied mainly on their own everyday observations, speculative reasoning, generalizations of everyday experience. For millennia, the task of a detailed scientific study of such subtle matter as the human mind was practically not even posed as insoluble in principle. Only in this century did psychologists venture to approach her. And, I must admit, a lot of success in experimental and theoretical developments, in the production of hypotheses, models and definitions[10]. Which, however, allowed them very close to get away from the vague philosophical maxims of the past and the ingrained worldly ideas. Today there is no unified scientific theory of intelligence, but there is a kind of fan of conflicting trends from which the most desperate eclectics find it difficult to deduce the vector.

Conclusion: To this day, all attempts to enrich the theory come down to expanding the fan, leaving the practical psychologist with a difficult choice: which of the tendencies to prefer in the absence of a single theoretical platform. The first real step from discussing the nature of the mind to its practical research was the creation in 1905 by A. Binet and T. Simon of a set of test problems to assess the level of mental development. In 1916 L. Termen modified the Binet-Simon test, using the concept of intelligence coefficient - IQ introduced three years earlier by V. Stern. Even before reaching a consensus on what is intelligence, psychologists from different countries began to design their own tools for its quantitative measurement. But it soon became apparent that the use of seemingly similar, but somewhat dissimilar tools yields uneven results. This stimulated a lively (albeit somewhat belated) discussion about the subject of measurement. For example, E. Thorndike in an openly behavioral manner reduced intelligence to the ability to operate life experience, that is, an acquired set of stimulus-reactive connections. However, this idea was supported by few. Using factor analysis in the structure of intelligence, different authors identified a different number of basic factors - from 2 to 120. It is easy to guess that this approach was very difficult to diagnose in practice, making it too cumbersome. One of the innovative approaches was the study of so-called creativity, or creative abilities. In a number of experiments, it was found that the ability to solve non-standard, creative problems weakly correlates with the intelligence measured by IQ tests. On this basis, it was suggested that general intelligence (G-factor) and creativity are relatively independent psychological phenomena. To "measure" creativity, a number of original tests were developed, consisting of tasks that required unexpected solutions. However, supporters of the traditional approach continued to insist, quite reasonably (certain correlations were nevertheless revealed) that creativity is nothing more than one of the characteristics of the good old G-factor. Preliminary data confirming this connection were obtained by Vent. The child's successes in school, play and in other situations help him create an idea of himself, and his idea of himself at this stage affects his subsequent performance of activities, etc. in a spiral. In this sense, self-image is a kind of individually self.

References:

[1]. Azarov Yu.P. The art of education: Prince. for the teacher. - 2nd ed. - M., 1989.

[2]. Andreeva G.M. Social Psychology. -M .: Moscow Publishing House. University, 1980, p. 175-298.

[3]. Antsiferova L.I. The principle of the connection of consciousness and activity and the methodology of psychology // Methodological and theoretical problems of psychology. -M .; Science, 1969.

[4]. Muradova F.R., Murodova Z.R. Use of information technologies in education / International Journal of Psychosocial Rehabilitation, UK. -2020.- P. 3110-3116

[5]. Muradova F.R., Kadirova Sh.M. The use of innovative methods in education // Проблемы и перспективы развития образования, Krasnodar. - 2019. P. 62-63.

[6]. Muradova F.R., Kadirov R.J. Игровые технологии один из эффективных способов обучения учащихся на уроках информатики // Вестник магистратуры, Russian. - 2019 , -P. 60-62 .

[7]. Muradova F.R. Game Technology for Science Lessons // Eastern European Scientific Journal, Germany. - 2017. - P. 107-109

[8]. Muradova F.R. Virtual laboratories in teaching and education. ISJ Theoretical & Applied science. Philadelphia, USA. 2020. P. 106-109.

[9]. Murodova Z.R. The formation and definition of the intellectual potential in education. ISJ Theoretical & Applied science. Philadelphia, USA. 2020. P. 113-116.

[10]. Sh. Khamroeva, B. Mengliev. Tag as a linguistic tool // Materials of the VI International Scientific and Practical Conference "Global science and innovations 2019: central asia". VI VOLUME. - Nur Sultan, 2019 .-- p. 81-85

UDC: 373.2.091.3:75

THE ROLE OF VISUAL ART IN DEVELOPING THE CREATIVENESS OF PRE-SCHOOL CHILDREN

Latipova Umida Yusufboyevna
Independent researcher,
Tashkent state pedagogical
Universitiy named after Nizomiy.
E-mail: Bexruzshox482@gmail.com

Annotatsiya: Mazkur ilmiy maqolada maktabgacha yoshdagi bolalar ijodiy faolligining nomoyon bo'lishida, tasviriy faoliyat bilan bog'liqligining nazariy va amaliy masalalariga bag'ishlangan ayrim muammolar ustida mulohaza yuritiladi.Ayni paytda maktabgacha ta'limdagi bolalarning ijodiy faolligini oshirish, ularning temperamenti, pisixo-fiziologik xususiyatlarini hisobga olgan holda, qanchalik darajada qabul qila olishiga qarab vazifalarni taqsimlash hamda o'z vaqtida kerakli yordamni berish orqali ijodiy faolligini rivojlantirish mumkinligi, ijodiy faollik har qanday shaxsning kamol topishida, har qanday sohaning rivojida muhim ahamiyatga ega ekanligi bo'yicha xulosalar qilinadi.

Kalit so'zlar: Ijod, faollik, tasviriy faoliyat, ijodiy faollik, tashxis, qobiliyat, obraz, applikatsiya, pedagog, psixolog, tarbiyachi, sotsial, idrok.

Аннотация: В данной статье рассматриваются некоторые проблемы, связанные с теоретическими и практическими вопросами иллюстративной деятельности дошкольников, их творческой активность.

В то же время можно повысить творческую активность детей в дошкольном образовании, развить их творческую активность, распределяя задания и оказывая своевременную помощь, в зависимости от их способностей, с учетом их темперамента, психофизиологических особенностей, сделаны выводы о том, что творческая активность важна для развития любого человека и развития любой отрасли.

Ключевые слова: Креативность, активность, визуальная деятельность, творческая активность, диагностика, способность, образ, аппликация, педагог, психолог, воспитатель, социал, восприятие.

Abstract: Some problems associated with the theoretical and practical issues of Art in developing creativeness of preschoolers are discussed in this article. At the same time, the possibility of increasing the creative activity of children in preschool education, ways of develop their creativeness, distributing tasks and providing timely assistance for them considering their abilities, taking into account their temperament, psychophysiological features. It concludes that creative activity is important for the development of any person and any branch of social life.

Key words: creativity, activity, the activity of art, creativeness, diagnosis, ability, episodic, image, application, pedagogue, psychologist, educator, social, perception

Introduction: Today the education system is developing steadily in our country, for instance, creativity, facilities for people of special talent and needed opportunities are being created for the development of Art by the government.

The Decree of the President of the Republic of Uzbekistan "On the Establishment of the Academy of Arts of Uzbekistan" of January 23, 1997 has opened a new era in the country to ensure the full realization of creative abilities of the younger generation, and the national system of arts education has been established in our country. In other words, a perfect national system of education of children's creative abilities has been established in our country. It proves its efficiency to train talents in all aspects of the continuous education system. However, there is a natural tendency towards a specific kind of creative activity in each new born child. Therefore, there are opportunities for creativity in any area. It is important to identify the right direction for them. This factor is the leading criterion in realizing the creative potential of a person.

Any form of visual art enables to develop children's intellectual activity, creativity, artistic taste, and other human qualities. It is impossible to form a socially active person without these qualities.

The simplest forms of interest in arts are seen in children of preschool age. However, because of the insufficient social and communicative experience of children, such activities become episodic. However, in the process of accumulating experience, seeking to understand the world, gaining a certain knowledge, creativity begins to make clear sense of them.[10]

This is evident in the creative works by children. In other words, the initial frequent creative activities of preschool children, especially their visual arts, gradually start to gain a sense of meaning and content based on specific rules. The formation of creativity skills is reflected in their training activities.[5]

The activeness is an act of manifestation of practical activity and is one of the factors that help to quickly detect the form, essence, and character of surrounding substance. It is not just a matter of learning the environment, but also the activity that is aimed at displaying the person's individuality.[7]

The clean, careful execution of the work depends not only on the organization but also on the ability to apply pencil and brushwork.

The techniques of drawing include the coordination, clarity, gesture, and freedom of movement and the personality of an individually developing child.[2]

Literature review: Creativity is a form of artistic expression, which is an important factor in the childhood experience and development of a person. Children with diverse forms of imagination and creativity learn to respect national spiritual heritage and culture. The child learns to express his or her feelings through music, theater, visual art, and etc. Creative abilities of Rafael Santi at the age of eight, Michelangelo at the age of ten, I.E. Repin and V.V. Serov at the age of four, V. Surikov at the age of six became noticeable respectively. Igor Grabar once said, "I do not remember how old I was when I started to paint, but I cannot remember the time I did not paint".[3]

Scientific research of A.V. Zaporojets, V.V. Davidov, N.N. Poddyakova has verified that the subject of children's emotional activity is capable of showing children's capacity on particular subjects, interacting with objects and phenomena, and reflecting them in their work in a figurative way. This process is especially noticeable in various types of practice. Conclusions, combined methods of comparison, the ability to find the methods of solving creative problems independently, and the ability to create own action plan is developed further.[8]

Scientists regard the creativity as a human being's high-level knowledge of the natural and social world. It is also important for a person to change himself in the process of creative activity (forms and methods of thinking, personal qualities, and creative personality).

Art is not a new subject of researches. It has always attracted the scientists and experts.

In a broad sense, the creativity is the activity that is intended to create any new, irrefutable, and useful factor. Therefore, the main indication of creativity is its novelty, that is, the novelty of creative activity. In this case, something that is objective and non-existent is created. The process of creation is subjective in itself. Here, the creator's personal individuality appears. Based on this, special peculiarities of the development of creativity is derived from artistic skills such as on specific musical, artistic, fictional indicators, and they are primarily related to the analysis of the activity's product.[6]

Mostly the creative power of a person begins from childhood. At that time ‘the buds of creativity starts to sprout’. The modern practice of pre-school education allows noting that children's abilities are not always fully utilized for the development of creativity. [1]

In addition to using art materials to enhance the creative activity of children of pre-school age, they are introduced with the natural materials such as various leaves, bark of trees, fluff of a poplar, hay, seeds of fruit, seeds, grains, juniper curves, shells, small stones and inform them about harvesting and storing times of the substances.

In the application of natural materials, the educator-pedagogue and parents participate as the main organizers of the activity. It is important to remind the children of pre-school age about the content of the process of using the image-processing technology and the sequence they need to follow. Educators-pedagogues are encouraged to work with the children to help them apply adhesives. However, it is not the job of teachers to do everything for them, but rather teach the methodology they are most likely to perform. Encouraging and directing children to practice independently depicting images requires self-discipline and greater responsibility from the educator-pedagogue.[9]

Research methodology: Following recommendations are referenced for the educator pedagogues.

1. It should be kept in mind that the visualization is an essential part of the teaching and learning process and always interacts with all parts of the program such as drawing, working with clay, and planning of applicative training sessions. That is, introducing them with the nature, music lessons, and so forth. They help you to choose exciting events and proceedings for visual arts activity.

2. All kinds of graphics represent the life in the image, but each one has its own peculiarity. That is, drawing an image - describes objects and events in a flat surface, clay in sizes, application in colors and the silhouette in situation. And each has a peculiar descriptive technique: Drawing uses linear drawings, color by image modes, clay as a tissue, application by cutting paper and putting together separate parts. One of the objectives of the program is to interact with them. For example, children get acquainted with color schemes simultaneously with painting.

3. The relationship between various types of visual arts helps the trainer to identify tasks for painting, clay, and application. For example, it is a good idea to conduct a lesson in applying round shape patterns in a small group, then drawing lessons.

4. Connection between graphic activities can also be based on a particular subject matter. For example, the Russian folk tale "Kolobok" can be chosen as a topic for painting, applying, and using clay by children. Repetition of this kind does not slow down the interest of the subject, because in the course of each activity the children learn new ways and means of the diversity of fairy tale characters. In the correct planning of visual activities, there should be a link between the tasks of the course, the relationships between the topics, and the resultant sequences and knowledge in acquiring new skills. For example, while learning about birds, children learn how to make a bird from the clay, paint a bird on the bush, and cut off a mythical bird from the paper.

5. Likewise, in the planning of visual work, it is important not only to emphasize the

sequence of their types but also to establish and maintain the relationship between each type of workshop. For example, it is important to plan meaningful activity after the drawing and clay activities.

6. We also need to pay close attention to the methods and techniques in planning that we use to train children in visual work. These are indicative and verbal methods. Guidance and verbal method should be mutually shared. That is, the master has to be very careful about planning artistic activities. When a master cares about planning, it is necessary to pay attention to each individual case. This is because the master needs to know how to meet the needs of the program tasks for teaching visual arts and how to prepare for the excellent quality of the work and to work more on the new variety of teaching methods and then acquire a new opportunity to use them to work with children.[4]

Conclusion: The process of understanding, perception, is aimed at raising children's mental and psychological abilities. Cognitive development consists of several steps: Consciousness, Reprocessing, Organizing and Using the Information Properly. The cognitive development process is a series of complementary activities: learning, identifying, imagining, sorting, classifying, and memorizing information. This area of childhood development includes what they think and what they are learning. These aspects play a decisive role in the practice of illustrative activities that are shaped in children’s applicative activities.

Cognitive development in early childhood is characterized by the ability to evaluate the problem of qualifying skills, understanding the rules and concepts, as well as the ability to anticipate opportunities and consequences. Children differ not only by their general knowledge, but also by how they learn, remember, and comprehend. Thus, it is necessary to pay great attention to the way in which the children are trained in the process of teaching. As, each child is different in temperament. Their activeness of act is also varying. Some are quick to engage in activity and do the job properly. Some are slower and less active. Some of them are quick to act but make mistakes. Therefore, it is unreasonable to require the same things all of them. Thus, it is possible to develop their creative activity by increasing the creative activity of children, taking into account their temperament, psycho-physiological characteristics, distribution of tasks and timely treatment. Creative activity is crucial for the development of any person in any sphere of knowledge.

References:

[1].Davydov V.V., Vygotsky L.S. Imagination and creativity in Childhood. The Psychological Essay. In Russian- M.: Education, 1991. p. 93

[2].Davydov V.V. Developing Education: Theoretical Foundations of the Continuity of Preschool and Primary School levels. In Russian

[3].N.N. Gusarava, "The Technique of Isonity for Preschoolers. SP. Childhood Press, 2007, p.129

[4].Kosminskaya V.B. Theory and Methodology of Visual Activity in Kindergarten. In Russian, M.: Education, 1977, p.255

[5].Simonov.P.V The theory of reflection and the psychophysiology of emotions M: Science, 1970, p. 45.

[6].Simonov, P.P. Higher nervous activity of a person. Motivational-emotional aspects of M: Science 1975 p. 122.

[7].Yakovleva, E. L. Development of the creative potential of the personality as a whole of education World of Psychology-1996 -№ 2 from 145-151.

[8] Yakovleva, E.L. Emotional mechanisms of personal and creative development E.L.Yakovleva Questions of Psychology-1997 -№ 4 from 20-27.

[9]. Pedagogy: A training course for creative self-development. - 2nd ed. - Kazan: Center for Innovative Technologies, 2000. - 608 p.

[10]. Babansky Yu.K. Optimization of the educational process: methodological foundations. - M .: Education, 1982. - 192 p.

UDK 371 (075)

FORMATION OF A COMPETENT EDUCATION IN SOLVING PHYSICAL PROBLEMS BY MATHEMATICAL METHODS

Yunusjon Abdiravupovich Khakkulov
Termez State University,
Faculty of Physics and Mathematics
Lecturer of the Department of
“Information Technology”
E-mail: yunusjon1975@inbox.ru

Annotation: This article analyzes acceptable mechanisms based on a competency-based approach to organizing independent educational activities, the practical application of knowledge, and developing the intellectual abilities of university students in an innovative educational environment.

Keywords: mathematics competence, ability, thinking, equations, inequalities, communicative information.

Аннотация: В данной статье анализируются приемлемые механизмы, основывающиеся на компетентностным подходе в организации самостоятельной учебной деятельности, практического применения знаний, в развитии интеллектуальных способностей студентов вузов в условиях инновационной образовательной среды.

Ключевые слова: математика компетентность, умение, мышление, уравнения, неравенства, коммуникативная информация.

Аннотация: Ушбу мақолада инновацион таълим муҳити шароитида олий таълим муассасаси талабаларининг ақлий қобилиятларини ривожлантиришда, мустақил ўқув фаолиятини ташкил этишда, билимларни амалда қўллашда компетенциявий ёндашувга асосланишни мақбул механизмлари таҳлил қилинган.

Калит сўзлар: математик қобилият, қобилият, фикрлаш, тенгламалар, тенгсизликлар, функциялар, коммуникатив маълумотлар.

Introduction: The main type of extracurricular work in mathematics at school is the mathematical circles. Arousing students 'interest in the subject, the circles contribute to the development of mathematical horizons, the creative abilities of students, the development of independent work skills, and thereby improve the quality of students' mathematical training.

The tasks in the circles should invite you to think, observe the search, put forward ideas, express your point of view, to creativity in its different forms, to flight of fantasy.

They certainly contain the following questions: “What is your opinion?”, “What do you think?”, “What will be your proposal?”, “How to explain?”, “Who is right ...?”, “What idea will you put forward?” etc.

It is desirable to have many such and similar tasks and to offer them systematically.

For many children, solving traditional standard mathematical problems is a rather boring task, primarily because these problems often involve simplified idealized systems and situations that are very weakly related to the real world. Their decisions to a small extent help explain the phenomena occurring in the world, understand them, they do not add to the student confidence in the usefulness of their knowledge [2; 3].

Therefore, you can use non-standard problems in mathematical circles. The educational goal in this is not the consolidation of knowledge, but their use for training in certain types of activities necessary to achieve a given goal, required by the condition of the task. In other words, selecting such tasks that teach you to creatively apply knowledge, reflect, analyze situations, think and think.

Analysis of Subject Matters

The main problems of developing students' mental abilities as a result of a competency-based approach, the organization of independent learning activities, the application of knowledge in practice, learning on the basis of innovative approaches are presented in the works of scientists Braverman E.M, Petrakov I.S, Kuznetsov, E.I and others [5; 7].

Research Methodology

The main goal of this article is to develop students' mental abilities as a result of a competency-based approach, organize independent learning activities, apply knowledge in practice, the main problem of learning on the basis of innovative approaches.

Analysis and results

Tasks with partially incorrect information in the condition and search for errors in the solution.

Tasks of this type are taught to raise the question of data reliability. There are many such situations in life, and schoolchildren should be prepared to meet with them [8].

Example One: From marina A to marina B, the motor boat moved uniformly along the river at a speed of 60 km / h, and back from marina B to marina A also uniformly at a speed of 40 km / h. You need to find the average speed of the boat.

The student solving the problem, used the formula

$$V_{cp}=\frac{V_1+V_2}{2}$$

and received a response of 50 km / h. Did the student solve the problem correctly?

If not, find his mistake and give the right solution.

Decision. The problem is solved incorrectly. The student's mistake is that he used the formula that is valid for the case when the time intervals during which the body moved with speeds V_1 and V_2 are equal, i.e. $t_1=t_2$, but there is no such indication in the problem statement.

The correct solution would be:

$$V_{cp}=\frac{2l}{t_1+t_2},$$

where *l* is the distance from *A* to *B*. After expressing *t* through *V*, we get

$$V_{cp}=\frac{2V_1 \cdot V_2}{V_1+V_2},$$

where from

$$V_{cp} = \frac{2 \cdot 60 \text{ km / h} \cdot 40 \text{ km / h}}{(60+40) \text{ km / h}} = 48 \text{ km / h}.$$

There is another important point that you need to pay attention to. In order for these tasks to keep up with the traditional ones and not easily replenish their list, and to fully fulfill their filling function and actively help to implement an active approach to learning, it is necessary to ask students to draw up a plan for their solution and, after completing work, to conduct a reflection of actions.

These measures will help the student in the process of learning to act meaningfully and improve their activities. We give a selection of different developmental tasks, which summarizes the tasks for movement, these problems are encountered in life and schoolchildren should be prepared to meet with them [10].

Tasks that help to master the method of cognition.

Solving this problem, students make discoveries (which, however, are already known to science, but they do not always know about it). These discoveries cause good emotional experiences: the joy of overcoming difficulties, the happiness of creative luck. This type of task is very useful.

Example Two: Now time shows: 7^{15}, after how many minutes does a minute mile reach an hour mile?

To solve this problem, the student must know such concepts as angle, types of angles, protractor, clock hands.

Similar problems can be used as a problem after the topic of angles in geometry.

After passing the task to the student, the teacher must listen to their opinions, allow them to find a solution as much as possible, and this is the purpose of the new pedagogical technology [8; 9].

Let's call it watch geometry. First of all, if we think about the minute mile, the minute mile turns 360^0 per hour (60 minutes) (she turns the clock completely), so she turns $360^0 : 60 = 6^0$ in one minute. The watch is fully rotated in 12 hours (720 minutes), which means that the clock is rotated $360^0 : 720 = 0{,}5^0$ per minute. A student who knows the angles will immediately understand that at 7^{15} hours the angle between the hour and minute miles is $210^0 - (15\cdot6^0) + 15\cdot0{,}5^0 = 127{,}5^0$ When the minute shaft moves, the clockwork also moves. Suppose that after x minutes they fall on each other, therefore at this time $0{,}5^0\cdot x$, the minute shaft rotates $6^0\cdot x$,

where from

$6x = 0{,}5x + 127{,}5^0$; $5{,}5x = 127{,}5^0$; $x = \frac{255}{11} = 23\frac{2}{11}$

After $23\frac{2}{11}$ minutes, they fall on each other.

Conclusions and Suggestions: This article is widely used by school mathematics teachers in solving mathematical and physical problems based on competent teaching.

1. In solving physical and mathematical problems in extracurricular activities using physical formulas and geometric concepts, the ability of a student to study both subjects independently and to connect them with life plays an important role. This requires the experience and pedagogical skills of the teacher. The teacher should improve the cognitive abilities of students throughout the entire educational process, teach them to work independently, correctly explain the conditions of the problem, think correctly, analyze, apply theoretical knowledge in practice.
2. At this stage, it is important that the teacher correctly interprets the problem and connects it with life in the minds of the students.

List of used literature

[1]. "Strategy of actions for further development of the Republic of Uzbekistan" of the President of the Republic of Uzbekistan Sh.Mirziyoev, Tashkent, "Halq so'zi" newspaper, February 8, 2017, No. 28 (6722).

[2]. Braverman E.M., Teaching physics, developing a student // a manual for teachers and methodologists. Moscow. 2003. Association of Physics Teachers, - p 247-253.

[3]. Petrakov I.S., Mathematical circles in grades 8-10 // Book for the teacher. Moscow: Enlightenment, 1987.- p. 49 - 50.

[4]. Bespalko, V.P. System-methodological support of the educational process of training specialists: textbook.-method. allowance / V.P. Bespalko Yu.G. Tatur. - M.: High School, 2015.- 144 p.

[5]. Kuznetsov, A.A. On the concept of content of the educational field "Informatics" in the 12-year school // INFO. - 2000. - № 7.

[6]. Bespalko, V.P. System-methodological support of the educational process of training specialists: textbook-method. allowance / V.P. Bespalko, Yu.G. Tatur. - M.: High School, 2015.- 144 p.

[7]. Kuznetsov A.A. The modern course of computer science: from elements to the system / A.A. Kuznetsov, S.A. Beshenkov, E.A. Rakitina // Computer Science and Education. - 2004. - № 1.

[8]. Kuznetsov A.A. The modern course of computer science: from elements to the system / A.A. Kuznetsov, S.A. Beshenkov, E.A. Rakitina // Computer Science and Education. - 2004. - № 2.

[9]. Petrakov I.S., Mathematical circles in grades 8-10 // Book for the teacher. Moscow: Enlightenment, 1987.- p. 49 - 50.

[10]. Braverman E.M., Teaching physics, developing a student // a manual for teachers and methodologists. Moscow. 2003. Association of Physics Teachers, - p 247-253.

UDC 811.11

FUNCTIONS OF ADJECTIVE ANTONYMS AND ANTONYMICITY OF THE COMPONENTS OF OXYMORONIC COMBINATIONS

Masharipova Nargiza Otaxonovna
PhD student in Philological sciences
Urgench State University
E-mail: narziss_0787@mail.ru

Abstract: The article demonstrates features of adjective antonyms within their functions and the results of semantic analysis of the oxymoronic combinations are given with appropriate examples that show semantic oppositeness.

Key words: antonym, adjective, semantic analysis, oxymoron, oppositeness

Аннотация: Мазкур мақолада сифат антонимларнинг хусусиятлари уларнинг функциялари орқали ёритилган ва оксимороник бирикмаларнинг семантик таҳлил натижалари семантик қарама-қаршиликни кўрсатадиган тегишли мисоллар билан келтирилган.

Калит сўзлар: антоним, сифат, семантик таҳлил, оксюморон, қарама-қаршилик

Аннотация: В статье демонстрируются особенности прилагательных антонимов в их функциях, а результаты семантического анализа оксюморонных комбинаций приводятся на соответствующих примерах, демонстрирующих семантическую противоположность.

Ключевые слова: антоним, прилагательное, семантический анализ, оксюморон, противоположность

Introduction: As it is stated oxymoron is a type of figurative language or a figure of speech in which apparently contradictory terms appear in conjunction and involves the use of two words which appear to contradict one another but when used together make a true and sometimes positive statement. Oxymoron is considered along with other stylistic techniques in stylistics textbooks, which is mentioned in a number of works devoted to the study of the language of the writer, as well as in works related to the study of the epithet. The fact that oxymoron has not been yet studied as closely as, for example, other lexical stylistic devices, epithet, metaphor, suggests wide possibilities for its study. Whereas some controversial issues related to the research of oxymoron may lead to different difficulties.

In most cases, an oxymoron is a combination of two words, usually an adjective and a noun or an adverb and an adjective, which are opposite in meaning. Being opposite in meaning, the components of oxymoronic combinations express antonymic concepts. This antonymicity of the components of oxymoronic combinations is the basis for their creation. An oxymoron can serve as an example of a violation of the usual combination of words, so in most cases it is unexpected and original. The fact is that, despite its unusual nature, an oxymoron does not violate the basis of understanding, the reader perceives it as an original, but understandable combination. The semantic opposite of the components is the main feature of the original oxymoronic combinations. As for the other type of oxymoron combinations- traditional oxymoron combinations, these include phrases that were oxymoron in the hollow, and then, as the result of frequent use, during the course of time, the first component in such oxymoron combinations: lost its subjectological meaning and turned intensively, such as “awfully nice”, “perfectly hideous”. [1]

Literature review: In fiction, oxymorons serve to reveal positive and negative qualities of characters, for instance here is an epic poem “Black Sun” by M.Yusuf:

Menga juda aziz uning siymosi,

Bir qarasam, yo`qdek sira qiyosi.

U bir bag`ridaryo, bir bag`ritoshdir,

U bir quyosh, ammo Qora quyoshdir!

Here in the verse “Black is the sun!” the poet compared lyric character to the sun however in nature the sun is yellow, not black and equally lights the whole universe. And then arises the natural question “Why does poet call the sun “black” and not “yellow” in the epic poem?” if it gives life to all living beings. After analyzing the poem one can conclude that by the word “black” the poet tried to describe negative features of the character and masterly used oxymoron “Black is the sun!” to express a main objective of the given work.

There are also oxymoronic combinations, the components of which are characterized by a semantic opposite, but which often begin to be used in various contexts, such as: “attractively ugly face”, “pleasantly ugly face”, “grown-up child”. Perhaps in the future, the frequent use of such oxymoronic combinations will serve to turn them into traditional oxymoronic combinations, since they will lose surprise and originality. But at present, the semantic opposite of their components continues to be felt and this allows us to attribute such oxymoronic combinations to the original oxymoron.

Research methodology: We use the terms "oxymoron" and "oxymoronic combinations" as synonymous, since an oxymoron is a phrase consisting of two or more words. Being an attributive phrase, an oxymoron phrase has some properties of a word, namely it functions as a unit of nomination and is part of a sentence as a whole, this allows us to talk about the semantic structure of oxymoron. But since, at the same time, despite a certain independence, it is not whole-formal, but explicit is a syntactic union of words that are opposite in meaning, by the semantic structure of oxymoron we understand the relationship between the semantic structures of each component of the oxymoron combination. To study the semantic structure of oxymoron, we use the method of componential analysis, which allows us to identify the relationship between the semes included in the semantic structure of each component of the oxymoron combination, as well as the differences between the semantic types of oxymoronic combinations. The semantic structure of oxymoron, singled out as opposed, based on data from dictionaries, intuition, and surrounding context. [2]

For example: He stayed a long time without moving, living over again those days when he, too had sat long hours watching the clock waiting for the minutes to pass-long hours full of the uncertainty, and of a fierce, *sweet aching* and the slow *delicious agony* of that season came back to trim with its old poignancy. [3] **Comment:** Oxymoron combinations *"sweet aching"* and *"delicious agony"* allow the author to show the spiritual world of his hero, his feeling, mood. The reader, as it were begins to feel the same feeling. The inconsistency of the components of the oxymoronic combinations is felt in the context of the oceanic combination itself, both components are contrasting with each other.

Analysis and Results: As aforementioned oxymorons can be assigned to the most common structural type of oxymoron combinations, the components of which are expressed by adjectives and nouns. The following oxymoron combinations having the structural formula can be attributed to this structural type Add+Us, for instance, *heater sweeting*, *honest swindling*, *kindly severty*, *significant trifle*, *satanic sweetness*, *pleasant wretch*, *cool tenderness*, *calm irritation*, *painful pleasure*, *detestable delight*, *smiless smile*, *grinless grin*, and etc. In Russian *горькая радость, звонкая тишина, громкое молчание, горячий лёд, сладкая боль, правдивая ложь, искренний лжец, кричащая тишина, долгий миг, оригинальная копия* and etc. Also in Russian poems we can come across with oxymorons that aid to form stylistic figure, to illustrate:

Беспокойная ласковость взгляда

И поддельная краска ланит

И убогая роскошь наряда-

Все не в пользу её говорит

As it can be seen that Nekrasov N. A. in his poem called *"Miserable and Elegant"* draws the image of a girl from the countryside. To emphasize the tragedy of her fate, poet uses the phrases of opposite meaning.

Conclusion: It was considered that best way of learning functions of adjectival antonyms with the assistance of antithesis as well as oxymoron. Oxymoron was heart by us many times but we didn't pay attention to these word groups but when we learnt statements we found many different and difficult phrases which mostly used in literature and in historical movies. Oxymoron is mostly like pun when we wanted to transprose our emotions and feelings in order to exaggerate the meaning and used to combine the words which are antonyms to each other.

References:

[1] Arnold I. B. Stilistika sovremennogo angliyskogo yazyka. – Leningrad, 1979. – 155 p.

[2] Afharenko V. Yazyk Hemingueya. Opyt lingvo-stilisticheskogo issledovaniya yazyka pisatelya. – Odessa, DD, 1971. – P. 198

[3] Galsworthy J. The Man of Property, the first volume of The Forsyte Saga, 1906. – P. 26

[4] Galperin I. R. Stylistics. Third Edition. – Moscow: Moscow Vyssaja skola, 1981. – 335 p.

[5] Kuznets M. D., Skrebnev Yu. M. Stilistika angliyskogo yazyka. Posobiye dlya studentov pedagogicheskih institutov. Pod redaktsiey N. N. Amasovoy. – Leningrad, 1960. – 175 p.

[6] Perry W. Royal Standard English Dictionary. Primary Source Edition, I. Thomas & E. T. Andrews, USA, 1788. – 592 p.

[7] Webster M. Webster's New Dictionary of Synonyms, A Dictionary of Discriminated Synonyms with Antonyms and Analogous and Contrasted Words. Springfield, Massachusetts, USA: Merriam-Webster Inc., Publishers, 1984. **–** 909 p.

[8] Perfetti C. A. A study of denotative similarity with restricted word associations. Journal of Verbal Learning and Verbal Behavior, 6, 1967. – P. 788-795.

[9] Whitehurst G. J. Meaning and semantics. In G. J. Whitehurst & B. J. Zimmerman (Eds.), The functions of language and cognition. – New York: Academic Press, 1979.

[10] Murphy M. L. Lexical Meaning. – UK: Cambridge University Press, 2010. – 256 p.

[11] Riemer N. The Semantics of Polysemy. Reading Meaning in English and Warlpiri. Cognitive Linguistics Research. – Berlin: Walter de Gruyter GmbH & Co., 2005. – 487 p.

[12] Cruse D. A. Meaning in language: Introduction to Semantics and Pragmatics. – Oxford: Oxford Univ. Press, 2000.

[13] Winston M. E., Chaffin R., Herrmann D. A Taxonomy of Part-Whole Relations. A Multidisciplinary Journal: Cognitive Science, Volume 11, Issue 4, 1987. – P. 417-444.

[14] Murphy M. L. Semantic Relations and the Lexicon. Antonymy, Synonymy, and Other Paradigms. – UK: Cambridge University Press, 2003. – 292 p.

UDC: 316.74:3811.512.133

STYLISTIC SPECIFICITY OF RELIGIOUS STYLE IN LINGUISTICS

Kushakova Barnokhon Yuldashevna,
Doctor of Philosophy in philological sciences,
Uzbekistan State University of World Languages,
English language faculty – I,
Department of General linguistics
Email: bkushacova@bk.ru

Аннотация. Ушбу мақолада диний услубнинг функционал услуб сифатида хосланиши, унинг асосий сабаблари, омиллари ва шарт-шароитлари хусусида, шунингдек, мақолада диний услуб, унинг ўзига хос хусусиятлари, жамият ҳаётидаги ўрни, функционал хусусиятлари ҳақида сўз юритилади..

Калит сўзлар: дин, тил, диний услуб, функционал услуб, диний тил.

Аннотация. В данной статье рассматривается характеристика в области языкознания религиозного стиля как функционального стиля, его основные причины, факторы и условия,. также отмечается религиозный стиль и его свойства, роль этого стиля в жизни общества, функциональные особенности.

Ключевые слова: религия, язык, религиозный стиль, функциональный стиль, религиозный язык.

Abstract. This article discusses the conditions, reasons and factors of characterization of religious style as a functional style in the field of linguistics. In addition, religious style and its main peculiarities, its importance in the social life, and the functional features of religious style are highlighted in the article.

Key words: religion, language, religious style, functional style, religious language.

Introduction. Between the twentieth and twenty-first centuries, interest in religious literature grew significantly, and many modern members of society — people of different nationalities and professions — began to turn to sacred and religious texts in the hope of finding today's unanswered questions in the holy books. Ancient religious texts, which can be called a monument to human culture, significantly define the worldview and perception of the world by all peoples, the value system, and the image of the universe. Religious texts contain information about the many years of human experience, and at the same time are an invaluable source of knowledge about people's lives, traditions and culture. Religious and sacred texts have at all times been the object of scientific research in various fields of human knowledge, including theologians, philosophers, historians, linguists, psychologists, culturologists, and etc.

Many scholars argue that the concept of sacred text is a separate type of text (V.G.Admoni, N.B.Mechkovskaya, I.A.Kryvelev, T.Brukhardt), in addition, linguistics now distinguishes a special type of text. Religious and sacred texts are also recorded as religious writings related to religious laws and traditions, as well as a separate type of text that reflects the living spiritual culture of the people. It is not possible to create a sacred text without following formal requirements and rules.

This type of text is considered sacred not only because its subject is religious-enlightenment, but also because the text is written without deviating from the rules of religious style. The form of the sacred text “reflects the spiritual manifestations of a particular religion, traditions are passed down from ancestors to generations with sacred patterns. [3, 6-7].

The sanctification of vocabulary represents the necessity of accepting each character that comes in the book in its own way. In this regard, the well-known linguist N. B. Mechkovskaya admits that "not only God himself, but also the word and the name written by him are sacred" [13, 310]. The sacred text contains important factors such as its reflection of the psyche of the religious scholar, its need to express the religious image of the world, its inner peace, its ability to influence the listener or reader. In the holy books of different religions, the word of God, his address to the prophet and his people is expressed differently. "The author and his religious position also play an important role in revealing the sanctity of the text" [12, 149-150].

Literature review. Linguists were attracted by the stylistic and genre features of the religious style, and a number of scientific works devoted to the subject began to appear. On the religious functional style peculiar to the church in Russian linguistics [Golberg I.M., 2002; Rastorgueva M.B., 2005; Xudyakova E.S., 2009; Bugaeva I.V. 2010; Zvezdin D.A., 2012; Itskovich T.V. 2016; V.A.Mishlanov, 2008; O.A.Krylova, 2000; S.G.Makarova, O.A.Proxvatilova; 2006] conducted dissertation research work.

Russian linguists have not yet come to a conclusion in naming this type of functional style. From the point of view of the internal form proposed by M.N. Kozhina, O.A. Krylova and L.P. Krysin, the term “church-specific religion”, which is more accurately classified than the use of the term “religious style”, became more popular, with the exception of non-Christian religion [7].

The religious-enlightenment style was born as a synonym for the “church-specific religious style” and therefore occurs in previously published works, narrowing the functional scope of the term to the size of the speech genre [12].

A.O. Velijanina, V.V. Filatova propose to use this term in the form of "God-style" and "confessional style" as a synonym for the church-specific religious style, religious-enlightenment style, and O.A. Krylova as a religious-cultural functional style.

O.A. Krylova more precisely states that the religious style of the church is a functional diversity of the modern Russian language, which serves the field of church-religious social activity and is associated with the religious form of social consciousness [9, 612].

The Slovak linguist J. Mistrik (1992), while studying the biblical texts, spoke about the religious style. Russian linguist L.P. Krysin drew attention to the stylistic features of spiritual speech. Over the decades, studies have emerged that study the stylistic features of language used in the religious field [16, 7]. The name of the style has been called by several names, such as religious-enlightenment style, church-specific religious style, religious style. In traditional Homeland and European linguistics, “language styles are divided into scientific, journalistic, formal, artistic, oral, and religious types,” writes M.N. Kojina [8, 146-153]. From the results of A.K. Gadomsky's research we can observe that "religious style is a method based on the literary language of the nation and the language of a particular religion" [5, 21-36].

Research Methodology. Authors of religious texts must have a religious career and prestige, be in tune with the psyche of a religious scholar to the extent that they have the desired impact on the listener or reader, and his or her style of speech and vocabulary must meet the requirements of religious science. Religious traditions define the form and content of specific religious vocabulary. Linguist D.S. Likhachev writes that this condition disappears along with the event that the word itself expresses, and considers that there is no compassion or goodness in language either because it is not present in life [10, 5]. One of the main features of literary language is that any developed language embodies forms that can serve in any field of human activity. Without this opportunity, there will be restrictions on the communication of its owners in any language.

According to their functions in serving a particular field, linguists distinguish five functional styles: scientific style, formal style, journalistic style, artistic style, and conversational style. In social life, many people returned to religious beliefs in the late twentieth century, while at the same time creating a new communicative-religious form of interaction. This was observed in all the allied republics after the collapse of the Soviet government. The place and role of religion in the formation of literary language cannot be denied. Linguists, on the other hand, focused on the diversity associated with the functional styles of modern literary language and discovered a new functional style, the religious style. I.V.Burdin emphasizes that in Russian there is a boundary between the church-religious style and the main functional styles, and in this the styles should not be confused [2, 397]. Russian linguist N.B. Mechkovskaya described the process as "requiring more eloquent speech than usual to appeal to the divine forces."

According to P.M. Bitsilli, "each national language develops in the form of another" higher language "that serves itself in a classical way" [4.99-100]. A.A. Shakhmatov agrees with this opinion that “our language is slowly Russified, it originated from the church-specific language, but not from the Russian language, which changed under the influence of the church" [4, 99-100]. Kachenovsky and A number of well-known linguists, such as A.A. Kotlyarevsky, support it.

Apparently, in a religious style, there is a connection between the expressiveness and richness of the spoken language and its ability to find its way into the hearts of the listeners. Adherence to the norms of literary language signifies the preacher's speech culture. At the same time, bright and figurative speech is created using lexical and stylistic means. Meeting such requirements plays an important role in the development of the individual style of the preacher. At the same time, the quality of intelligibility of the imam's speech is required, as his full propaganda of scientific and foreign words must be understandable to the general public of the religion.

The religious style is markedly different from all other forms: it is based on convincing the reader of the existence of a Supreme Being who affects man, his life, his activity, his consciousness. This type of persuasion is neither the result of logical analysis nor practical application, but the result that the importance of trust and prestige is higher than all other forms [1, 245-250]. For many years, the phrase "religious language" has been used both narrowly (in religious ceremonies) and broadly (in all ceremonies for communication in the sphere of religious life). As the religious style and the study of its language gradually developed, its special place in the system of literary language became even more vivid.

Analysis And Results. As for the specificity of the religious style in terms of genre, just like other existing functional methods, it can be divided into small groups: 1) religious style, which is the most archaic form and is almost unchanged, it includes religious rites: worship, religious holidays, ceremonies, and other similar words; 2) religious-preaching style, the task of this genre is to explain events: includes words such as imam, lecture, narration, etc.; 3) religious-enlightenment style, focused on simplified enlightenment and educational purposes in the religious field, includes films, cartoons, pamphlets and others.

In conclusion, the religious style can act as an independent functional style. Religion is one of the constant issues of socio-research that meets the essence of human needs in all spheres and spheres of human, group, social life, the boundaries of time and space. This phenomenon, which embodies such qualities as nobility, fidelity, loyalty, good morals, strength, devotion, has been a problem that has attracted sages and thinkers from different times and different cultures since ancient times. As a social phenomenon, religiosity has been studied in various disciplines of socio-humanitarian knowledge, in particular by disciplines such as psychology, sociology, social and cultural anthropology. For example, it is known that the use of the modern Uzbek language is changing in the world community, as well as under the influence of socio-cultural and political processes in Uzbekistan.

At the same time, a number of words that have become obsolete in the Uzbek language or are considered to be an inactive layer of the dictionary, defined as religious words, have been actively used. Over the years, the spiritual values, cultural traditions that had been oppressed by the historical period, began to re-emerge in the society. Recently, religious vocabulary has been used to express standard language models in publicist texts published in the modern media.

E.V. Kakorina, a researcher of modern Russian language, lists the following cases of the use of religious lexicon in mass-communicative texts today: the intensification of the use of religious linguisms in their own sense; the use of religious lingvemas in a figurative sense; the revival of obsolete metaphors and the creation of new metaphorical symbols [6, 72].

Conclusion. There are a number of reasons from the ideological system of the Soviet period for the limited restriction of religious vocabulary. Today, however, due to social democratization, such language units have become much more active, and even the demand of society has required them to be more widely used in the media or in everyday life. Sociologists have observed that there are four types of motivating factors that cause a person to turn to religion: social environment influences (family, cultural, professional, etc.); the collapse of the inner state of man, or the search for the meaning of life; crisis of external circumstances; unusual circumstances.

As a result of our research we can draw the following conclusions:
a) religious language, in particular, the growing need for the creation and importance of religious texts, the demand for religious texts, created the basis for the development of religious language in society; b) the increase in the importance of religious texts is explained by their ability to express the thinking, culture, worldview of the people, etc.; c) the specificity of religious language, religious text is determined by: the specificity of lexical units, the limited scope of their use, the nature of holiness, the nature of expressing the linguistic image of the world, adherence to the norms of literary language, etc. g) creation of a basis for the recognition and development of religious style as a functional method (emergence of scientific works, social conditions and other factors).

The list of used literature

[1]. Abramov YU.F., Popov P.L. O razgranichenii religioznogo i nauchnogo stiley myshleniya. – 2012. – № 2. – S. 245–250.
[2]. Burdin I.V. Trudnosti perevoda tserkovno-religioznoy leksiki pri rabote nad literaturovedcheskoy stat'yey, Nauchnyy al'manakh 2016, № 1-3(15), ss.396-399.
[3]. Burkkhardt T. Sakral'noye iskusstvo Vostoka i Zapada: printsipy i metody. / Per. s angl. N.P. Lokman. – M., 1999.

[4]. Vomperskiy V.P. Vzglyady P.M. Bitsilli na istoriyu russkogo literaturnogo yazyka // Filologicheskiy sbornik: K100-letiyu so dnya rozhdeniya V.V. Vinogradova. – M., 1995. – S. 99–100.
[5]. Gadomskiy A.K. Stilisticheskiy podkhod k izucheniyu religioznogo yazyka [Tekst] / A.K. Gadomskiy // Stil. – №7. – Belgrad, 2008. – S. 21–36.
[6]. Kakorina Ye.V., 1996, transformatsiya leksicheskoy semantiki sochetayemosti (na materiale gazet). Russkiy yazyk kontsa KHKH stoletiya (1985–1995), M., s. 72. 8. [8]
[7]. Kozhina M.N., Duskayeva L.R., Salimovskiy V.A. Stilistika russkogo yazyka: uchebnik. Izd-ye 3-ye. M.: Flinta; Nauka, 2008. 464.
[8]. Kozhina M.N. Klassifikatsiya i vnutrennyaya differentsiatsiya funktsional'nykh stiley.– M., 2006. – S. 146–153.
[9]. Krylova O.A. Sushchestvuyet li tserkovno-religioznyy funktsional'nyy stil' v sovremennom rus. literaturnom yazyke?//Kul'turno-rechevaya situatsiya v sovr. Rossii. – Yekaterinburg: Ural'skiy gos. un-t, 2000. – S. 107–117.
[10]. Likhachev D.S. «YA zhivu s oshchushcheniyem rasstavaniya. // Komsomol'skaya pravda. 1996. 5 marta. S. 5.
[11]. Mechkovskaya N.B. Sotsial'naya lingvistika: posobiye dlya studentov umanit. vuzov i uchashchikhsya litseyev. 2-ye izd., ispr. M.: Aspekt Press, 1996. – 207s.
[12]. Rastorguyeva M.B. Rechevoy zhanr tserkovno-religioznoy propovedi: avtoref. diss. … k. filol. n. Voronezh, 2005. 26 s.
[13]. Tarasova S.G. Tipologiya religioznosti v sovremennoy Belarusi,– Minsk: BGU, 2018. – s. 78.

UDK: 811.512.133 (043.5

HYPERO-HYPONYMIC TAXONOMY IN LINGUISTIC TERMINOLOGY

Irmatov Ikhtiyor Rizakulovich
Gulistan State University
The faculty of philology.
The department of the Uzbek language and literature
Doctor of Philosophy in Philology (PhD)
Email: ermatov_7070@mail.ru

Аннотация. Мазкур мақола ўзбек тилшунослиги муаммоларига, хусусан, ўзбек тилишунослиги терминларининг лексикографик масалаларига алоҳида эьтибор қаратади. Тадқиқотнинг мақсади ўзбек тили тилшунослиги луғатларида гипер-гипоник тузилмаларни таҳлил қилиш асосида терминологик таксономиянинг ўзига хос хусусиятларини тадқиқ этишдан иборат. Тадқиқотнинг мақсадини амалга оширишда қуйидаги вазифалар белгиланган: сўз ва термин ўртасидаги муносабатларни ёритишда адабиётларни таҳлил қилиш, мавжуд назарияларга танқидий муносабат билдириш; сўз ва термин ўртасидаги муносабатларни ёритиш; ўзбек тили тилшунослик терминологиясида гиперо-гипонимик таксономия хусусиятларини ёритиш. Тадқиқотда қуйидаги илмий таҳлил методларидан фойдаланилган: лингвистик тавсифлаш, систем, статистик, контекстуал таҳлил усуллари. Тадқиқот мавзусига доир илмий адабиётларни таҳлил қилишда лингвистик таҳлил усулидан фойдаланилган. Гипоним ва гипероним ўртасидаги муносабатларни ёритишда систем таҳлил усули қўлланилган. Статистик таҳлил ўзбек тили изоҳли луғатларда тилшунослик терминларининг ўрин олиши, акс этиш хусусиятларини ўрганишда кенг фойдаланилган. Тадқиқот натижалари қуйидаги илмий ва амалий хулоса ва тавсияларни ишлаб чиқиш имконини берди: терминологик таксономия тизим ичидаги атамаларни тартибга солишга ва маъноларни изоҳлашга ҳамда уларни умумий луғат таркибига киритишга ёрдам беради. Хусусан, ўзбек тилшунослигида сўз ва термин ўртасидаги алоқадорлик масалалари, тилшунослик терминларининг ўзига хос хусусиятлари каби масалалар ўз долзарблигига эга; ўзбек тили изоҳли луғатида тилшунослик терминларининг ўрин эгаллаши, акс этиши қуйидаги усулларда намоён бўлди: ўзбек тилининг халқнинг кундалик ҳаётида муҳим ўрин эгаллаши, ўзбек тилининг тараққий этиши билан тилшунослик терминларининг оммалашиши ва нейтрал тус олиши.

Калит сўзлар: термин, гипоним, гипероним, гиперо-гипонимик таксономия, табиий таксономия, сунъий таксономия.

Аннотация. В данной статье особое внимание уделяется проблемам узбекской лингвистики, в частности, лексикографическим вопросам узбекских лингвистических терминов. Целью исследования является изучение особенностей терминологической таксономии на основе анализа гипергипонических структур в словарях узбекской лингвистики. Для достижения цели исследования определены следующие задачи: анализ литературы по освещению взаимосвязи между словом и термином, критический подход к существующим теориям; выделение связи между словом и термином; освещение особенностей гипер-гипонимической таксономии в узбекской лингвистической терминологии. В исследовании использовались следующие методы научного анализа: лингвистическое описание, системный, статистический, контекстный анализ. Метод лингвистического анализа был использован при анализе научной литературы по теме исследования. Метод систематического анализа был использован для освещения связи между гипонимом и гиперонимом. Статистический анализ широко используется при изучении места лингвистических терминов в узбекских словарях. Результаты исследования позволили разработать следующие научные и практические выводы и рекомендации: Терминологическая таксономия помогает упорядочить термины в системе, интерпретировать их значения и включить их в общий словарь. В частности, в узбекской лингвистике актуальны такие вопросы, как связь между словами и терминами, особенности языковых терминов; Место лингвистических терминов в узбекском словаре отражается следующим образом: узбекский язык играет важную роль в повседневной жизни людей, развитии узбекского языка, популярности языковых терминов и их нейтральности.

Ключевые слова: термин, гипоним, гипероним, гиперогипонимная таксономия, естественная таксономия, искусственная таксономия.

Abstract. This article pays special attention to the problems of Uzbek linguistics, in particular, the lexicographic issues of Uzbek linguistic terms. The purpose of the study is to study the peculiarities of terminological taxonomy based on the analysis of hyper-hyponic structures in the dictionaries of Uzbek linguistics. In realizing the purpose of the research, the following tasks are identified: analysis of the literature in the coverage of the relationship between word and term, a critical approach to existing theories; highlighting the relationship between word and term; coverage of features of hypero-hyponymic taxonomy in Uzbek linguistic terminology. The following scientific analysis methods were used in the research: linguistic description, system, statistical, contextual analysis methods. The method of linguistic analysis was used in the analysis of the scientific literature on the research topic. The system analysis method was used to illuminate the relationship between hyponym and hyperonym.

Statistical analysis has been widely used in the study of the place of linguistic terms in the Uzbek dictionaries. The results of the research allowed to develop the following scientific and practical conclusions and recommendations: Terminological taxonomy helps to organize the terms within the system and to interpret their meanings and to include them in the general dictionary. In particular, in Uzbek linguistics, issues such as the relationship between words and terms, the peculiarities of linguistic terms are relevant; The role of linguistic terms in the Uzbek dictionary is reflected in the following ways: the Uzbek language plays an important role in the daily life of the people, the development of the Uzbek language, the popularity of linguistic terms and their neutrality.

Keywords: term, hyponym, hyperonym, hypero-hyponymic taxonomy, natural taxonomy, artificial taxonomy.

Introduction. In the world of linguistics, the emergence, formation, stages of development of national languages have been studied in various aspects. Terms, which are the main tool of any scientific research, their linguistic nature, sources of origin, methods of construction, types according to the structure of terms, ways to eliminate synonyms and doublets in them, the relationship of terms and concepts have also become one of the main issues in linguistics.

Anthropocentric study of the emergence of linguistic terminology in world linguistics and its formation as a separate terminological layer, research on the regulation of terms based on the degree to which they express the linguistic concept. In this sense, one of the urgent tasks of linguistics is the emergence of new terms with the development of linguistics, identifying the causes of synonymy, polysemy and variability in terms, revealing the impact of assimilation terms on the national terminological system, drawing clear conclusions about the formation of complex terms. Achieving independent national development of Uzbekistan has had a positive impact on all spheres of society, in particular, on the restoration of national and cultural values. The enrichment and development of the lexicon of the Uzbek language was also associated with the opportunities created by independence. At the same time, a number of studies aimed at determining the Turkic nature of our language have been conducted in Uzbek linguistics. Uzbek linguists have done a lot of work on the regulation of terminology, the interpretation of various terms in the Uzbek language, the development of methods for creating Uzbek terms. However, with the development of linguistics, problems arise in its terminology that also need to be studied. One of such issues is the definition of hypero-hyponymic and economonymic relations in terminology on the example of Uzbek linguistic terms.

Literature review. Although the relationship between lexical-semantic groups in Uzbek linguistics has been studied as an object of study, the hypero-hyponymic relations in the system of terminology have not been sufficiently studied. In particular,

R. Safarova's dissertation "Hyponymy in the Uzbek language" defended in 1990 [1, 25]. and the 1996 pamphlet Types of Lexical Semantic Relation [2, 46]. The first work in this direction in the Uzbek language is a monograph. In addition, "Lexical microsystem and its research methods" co-authored by H. Nematov, E. Begmatov, R. Rasulov (Theses of systemic lexicology) [3, 6]; A.Nurmanov's "On the features of linguistic signs" published in 1992 [4, 56]; "Fundamentals of systemic lexicology of the Uzbek language", co-authored by H. Nematov, R. Rasulov [5, 128]; The works “Modern Uzbek literary language” [6, 83-87] co-authored by A.Berdialiev and R.Khidirov are devoted to this issue of language. The object of research is A.Khojiev's "Explanatory Dictionary of Linguistic Terms" consisting of more than 1,700 words and phrases [7, 168] and "Linguistic Terms" consisting of about 1,500 words and phrases co-authored by N.Makhkamov and I.Ermatov. Annotated Dictionary”[8, 144].

Research methodology. The object of research is the explanatory dictionaries of the Uzbek language and the Uzbek linguistic terms in the explanatory dictionaries of linguistic terms. The following scientific analysis methods were used in the research: linguistic description, system, statistical, contextual analysis methods. The method of linguistic analysis was used in the analysis of the scientific literature on the research topic. The system analysis method was used to illuminate the relationship between hyponym and hyperonym. Statistical analysis has been widely used in the study of the place of linguistic terms in the Uzbek dictionaries.

Results and discussion. One type of systematic interaction of units of lexical-semantic level of language is hyponimy (general - special relations, general, suffixes, hyper-hyponymic, taxonomic relations). Given the different views on the state of these relationships in the lexical system of language, we turn to the conclusion that a very common, confirmed by many studies, hyper-hyponymic relationship refers to a number of the most important common links of lexical units. Hyponymy, based on logical and semantic connections, is the basic connection that forms the lexical structure of a language, the hierarchical structure of individual semantic fields (groups) and the lexical system of a language as a whole.

Taxonomy (Greek taxis - location, series and honor - law) is a theoretical and practical branch of taxonomy that classifies organisms. This term was coined by the Swedish scientist O. Recommended by Decandol (1813). Taxonomy is sometimes used as a synonym for systematics and classification, but taxonomy is usually a science that studies the diversity of organisms and their interactions, while taxonomy is the study of the principles, methods, and laws of classification. The main task of taxonomy is to create a rational doctrine of taxonomic categories and their hierarchy, which allows to produce a natural classification of organisms [9, 58].

In linguistics, there is no strict distinction between taxonomy and taxonomy. Systematics is usually included in the content of the concept of taxonomy of systematization of the studied objects. Taxonomy includes a classification that reflects the hierarchical organization of a system of objects. This is reflected in the hierarchy of taxonomic levels (categories) associated with the ratio of consecutive additions from the lowest to the highest level in the taxonomic structure. Each level in a taxonomy corresponds to a class of objects characterized by a certain degree of generalization. For example, according to the traditional classification, the sounds p, b, t, d, k, g belong to the class of consonant sounds, which in turn belong to the more general class of noisy sounds, while the latter belong to the macroclasses of consonants. An example of this is a special hierarchical taxonomy built on a basis called modal (by the method of formation) based on phonetic symbols. The use of local features provides a different taxonomy. For example, in A.Martin's phonetic taxonomy, the main taxi of modal taxonomy is given as a series and is called a series of local, i.e. taxonomies at the place of formation [10, 260]. Linguistic taxonomy is usually constructed as an intersection of several taxonomies, i.e., as a multidimensional classification.

There are 2 types of taxonomy: the type that is naturally derived from the analysis of the properties of objects, and the artificial (logical) type, which is based on a single logical principle. Both types of taxonomy are used in linguistics. An example of natural taxonomy is the genealogical classification of languages. An example of an artificial taxonomy is a typological classification. The same taxonomy can be natural in some cases and artificial in others. The taxonomy of parts of speech in the ancient Alexandrian school (Dionysius of Thrace) was a natural taxonomy [11, 256]. The transfer of the old grammatical model to other languages artificially changed this taxonomy. Natural taxonomy provides a single grouping of objects as a more rigid rule.

Typology is a branch of linguistics that deals with the explanation of the most general laws that are not related to the common origin or interaction of different languages. Typology seeks to identify phenomena that can occur in different languages. If a particular phenomenon is defined in a representative group of languages, it is considered a typological law applicable to the language.

Typological analysis can be carried out at the level of sound (phonetic and phonological typology), word (morphological typology), sentences (syntactic typology) and supersyntactic structures (text or discourse typology).

Taxonomy exists simultaneously in three types of relationships, namely hyperonym (gender-type), hyponym (gender-specific), and hyponym-like (species-specific). The study of lexical-semantic groups and functional-semantic areas of language vocabulary confirms the lack of strict consistency and structure in the manifestation of hyper-hyponymic relations. As noted in scientific typologies, terminological systems of various fields of knowledge, hyper-hyponimia is a common phenomenon that expands and systematizes professional concepts.

Based on general and specific logical relationships, lexical hyponymy reflects the laws of thinking "organically combined with a specific tendency to think" [12, 66]. Similar two-way thinking determines the ability of each word to be purified by a common lexical unit on the one hand, and less general, concretized on the other. General lexicon allows us to define the property of relativity (nonlinear) as one of the leading features of hyponymy. As an element of taxonomic relations, it can appear in the form of both hyponym orhyperonym. Each level of the group, the subgroup, corresponds to their common term - this makes it possible to distinguish between classes and subclasses of lexical units in series.

Inclusive resistance is a specific semantic structure that is able to create a sequence that is divided into subgroups that are included in the definition of a higher level. Such rows create a structural hierarchical lexical tree, which is characterized by the gradual introduction of its declining branches and the lack of units that form branches of generalization and filling at different levels [13, 3-7].

Helps to create an adequate classification of the general and species phenomena surrounding the identified reality: the existence of terms combined with special characters means the existence of terms associated with species. The presence of special characters, in turn, is determined by the presence of general terms - elements of the terminological system are associated with hyponymic relationships. A distinctive feature of terminological taxonomy is that each upper class is formed by a small number of units of great significance. Since the concept he expresses as the basis of the lexical meaning of a term does not exist separately from the system of concepts formed as a result of professionally oriented thinking in a particular field of activity, their logic can be used as a basis for classifying terms in determining the structure of field terminology.

The study of linguistic terminology reveals the interrelationship of individual elements of a terminological system with many other elements of the original type. The development of each hyper-hyponymic block, which is multi-and multi-stage in the system of terms, actually indicates the level of complexity of the reflected areas: the more complex and well-studied the area, the greater the degree of generalization and, accordingly, the levels in groups.

Gender and species relations in terminology are closely related to the definition of a strictly defined thing that occurs as a result of the relationship of terms within a particular system, which is formed in the process of scientific research. Implemented, but a number of independent characters, can be expressed as a combination of characters as the difference of the species in the definition [14, 52-53].

Because of the existence of a classification type of relationship, the terminological units ensure that the strict hierarchy of the relevant conceptual field is interrelated. Hyponims are subject to the same hyperonym with a less extensive denotative-spiritual basis. The main component of the associations is the subjective relationship to each other and is hyponymic. For example: subordinate communication (hyperonym) - adhesion, management, adaptation; word combination (hyperonym) - verb compound, equine compound; speech style (hyperonym) - speech style, journalistic style, scientific style, formal style, artistic style; speech organs (hyperonym) - lungs, larynx, vocal cords, oral cavity, tongue, upper and lower lip, upper and lower teeth, nasal cavity. The above hyponyms include semantics that indicate the essence of the communication of words, the nature of the relationship of word groups in the combination of words, the use of specific methods of speech when speaking. The terms listed at the same structural-semantic level are specific features of the language.

Linguistic sources distinguish between formal-semantic, in fact, semantic hyponymic compounds. It can be seen from the examples that most linguistic terms, for example, are combined with formal-semantic hyponymic relations and are often represented by adjectives or nouns. Thus, structuralityis manifested not only at the level of logical-conceptual correlation (systematic relationship), but also at the level of linguistic and word formation: quality levels - simple level, comparative level, accrual level, subtraction level, or, horse - cognate horse, nickname horse. These specific expressions are quality levels, horse-related hyponyms. The tokens of these terms (token in English) are semantically related only. Because they have a common element - adjectives denoting quality levels, horses, and formally expressed differential horses are joint hyponyms.

In linguistic terminology, although there are not many examples of this, it refers to word relations. Here
1) "words naming an object, an event";
2) "words denoting the sign of things".
Let's look at the meanings of these names:
horse - 1) "names things, events, beings"; 2) "summarizes, shows individually";
quality - 1) "means the sign of things"; 2) "shows the degree of the sign of things".
A structural analysis of the meanings of these terms shows that in their semantics there is an integral (general) sema “name and symbol of the thing” and the existence of subdivisions of differential types. This allows us to conclude that they have an internal relationship and that they have a semantic nature.

Conclusion. The following conclusions can be drawn from the study:
a) Hyperonyms and hyponyms may be in a synonymous relationship. As A.A. Bragin points out, the synonymization of common and species names is a natural and typical phenomenon for the speech process [15, 58-59]. For example, suffix, affix, suffix. In special texts one can observe a change in the meanings of hyperonym and hyponym. We observe the same situation in terminology;

b) Units classified in terminological taxonomies form multi-stage paradigms with intersecting compounds. The term is a hyponym of one industry and a hyperonym of another, confirming the structural nature of gender-species relations within a particular semantic nest of these terminological units;

c) in terminological systems, hyponyms perform the most important semantic functions inherent through the methods of generalization and definition. Terminological taxonomy helps to organize the terms within the system and to interpret the meanings and to include them in the general vocabulary.

References:

[1] Safarova R. Giponimiya v uzbekskom yazyke. AKD. – Toshkent, 1990. – 25 s.

[2] Safarova R. Leksik semantik munosabatning turlari. – T.: O'qituvci, 1996. – 48 b.

[3] Ne'matov H., Begmatov E., Rasulov R. va b. Leksik mikrosistema va uning tadqiq metodikasi. (Sistem leksikologiya tezislari) O'TA, 1989, №6.

[4] Nurmonov A. Lisoniy belgi xususiyatlari haqida. – Andijon. 1992. – B. 56.

[5] Ne'matov H., Rasulov R. O'zbek tili sistem leksikologiyasi asoslari. – T., "O'qituvci" nashriyoti, 1995. – 128 b.

[6] Berdialiev A., Xidirov R. Hozirgi O'zbek adabiy tili. – Xujand: Rahim Jalil, 2013. – B. 83-87.

[7] Hojiev A. Tilshunoslik terminlarning izohli lug`ati. –T.: O'zbekiston milliy enciklopediyasi, 2002. – 168 в.

[8] Mahkamov N., Ermatov I. Tilshunoslik terminlarining izohli lug'ati. – T.: Fan, 2013. – 144 b.

[9] O'zbekiston Millij Enciklopediyasi (T harfi). – Toshkent, "O'zbekiston milliy enciklopediyasi" Davlat ilmij nashrijoti, www.ziyouz.com kutubxonasi. – B. 58.

[10] Martin A. Princip ekonomi v foneticeskix izmenenijax (Problemy diaxroniceskoy fonologii). – M.: Izd. Inostrannoy literatury, 1960. – 260 s.

[11] Irisqulov M.T. Tilshunoslikkakirish. – T.: O'qituvci, 1992. – 256 b.

[12] Kuznecova E.V. Leksikologijarusskogo yazyka. – M., 1989. – S. 66.

[13] SHvedovaN.Ju. Teoreticeskie rezultaty, polucennye v rabote nad «Russkim semanticeskim slovarem» // Voprosy yazykoznaniya. – 1999. – №1. – S. 3-7.

[14] Arutjunova N.D. Funkcionalnye tipy yazykovoy metafory // Izv. AN SSSR. SLJa. T. 37. – M., 1978. – S. 52-53.

[15] Bragina A.A. Sinonimiceskie otnosheniya v leksike i slovarnyx statyax // Sovremennaja russkaya leksikografiya: Sb. statey / Otv. red. V.N. Sergeev. – L.: Nauka, 1981. – S. 58-59.

UDK: 1751

THE FORMATION OF A NEW TYPE OF COMMUNICATION IN THE INTERNET

Javokhir Kozimjon ugli Komilov
English language teacher Department of "Mathematics, natural and general ciences", "Electronics and electrotechnics" Faculty Kokand branch of Tashkent state technical university
E-mail: jewel5@mail.ru

Аннотация: Берилган мақолада, ҳозирги кунда кўпчилик инсонлар томонидан фойдаланиладиган, интернетнинг янгича мулоқот воситаси сифатида шаклланиши, инсонлар ўзаро алоқаларининг интернет сабабли ўзгариши ва фойдаланувчилар орасида ахборот алмашинувининг янги турлари пайдо бўлаётгани ҳақида сўз юритилади. Айниқса, ёшлар ўртасида кенг фойдаланилаётган, хабарларда сўзларнинг қисқартирилиб ёзилиши, график белгиларнинг ишлатилиш ҳолатлари, алифбо тизимларининг кулайлик жиҳатлари ва виртуал мулоқотнинг бошқа замонавий ҳолатлари сўровномалар асосида таҳлил қилинган.

Калит сўзлар: прагматик ҳолатлар, киберфазо, видео мулоқот, овозли хабар, қисқартма сўзлар, график белгилар, алифбо тизими.

Аннотация: В статье обсуждается появление Интернета как нового средства общения, используемого многими людьми сегодня, изменения в человеческом взаимодействии из-за Интернета и создание новых типов обмена информацией между пользователями. Сокращения, использование графических символов, удобство алфавитных систем и другие современные формы виртуального общения, которые широко используются в настоящее время, особенно среди молодежи, были проанализированы на основе опросов.

Ключевые слова: прагматические ситуации, киберпространство, видеосвязь, голосовое сообщение, сокращения, графические символы, алфавитная система.

Abstract: The article discusses the emergence of the Internet as a new means of communication used by many people today, changes in human interactions due to the Internet, and the creation of new types of information exchange between users. Abbreviations, the use of graphic symbols, the convenience of alphabetic systems, and

other modern forms of virtual communication, which are widely used currently, especially among young people, were analyzed on the basis of surveys.

Keywords: pragmatic situations, cyberspace, video communication, voice message, abbreviations, graphic symbols, alphabetic system.

Introduction. We all know that language is a dynamic phenomenon and it is constantly changing. The advent of the Internet and the rapid development of electronic communication have led to the emergence of a new type of language. This has led to drastic changes in the language used in the international network. The electronic state of communication has given rise to new ways of communication. The features of the spoken language were reflected in the form of graphic symbols used in e-mail. As a result, it is likely that new type of communication will be created due to the exchange of electronic information in near future.

The Internet has penetrated almost all areas of human activity, such as shopping, communication, economic control, education, and politics in recent years. As an information and communication platform, the Internet has played an important role in our daily lives. The latest media, alongside other media, has significantly changed our communicative behaviors. Computers, in particular, play a key role in this. Internet users know that a variety of texts can be found in it: artistic and scientific texts, all possible types of text available in the media. There is particular interest of the connection between people on the Internet and the different types of websites. A means of communication called electronic language has aroused great linguistic interest among scholars.

Literature review. Nowadays, electronic communication is considered as an important means of language. It covers every stage of human life, as well as targeted learning and language learning. English is the most widely spoken language in the world due to its innovative, globalized, media and commercial use. Therefore, there has been an increase in the number of English speakers worldwide. The use of the Internet and computer technology has had a significant impact on the change and use of languages, and a new area of linguistics, called electronic discourse, has emerged [1, 135].

Many authors are always ready to acknowledge the benefits of the Internet, such as its achievements, communicative features, and social use [10, 31]. However, when it comes to the downsides of the international network, their tone will change a bit. Sociologists, political commentators, or economists may be concerned about the negative aspects of the Internet, such as the misappropriation of intellectual property rights, the openness of private life, and the insecurity of slander and crime. On the other hand, linguists, are puzzled by the fact that the Internet has become a common language for all, resulting in the disappearance of individual languages.

Of course, the emergence and use of new communication technology is nothing new to us. Around the beginning of the twentieth century, when society began to struggle with the political consequences of telegraph, telephone, and radio technologies, a number of problems arose in controlling them. There were speculations that the telegraph could ruin the family and promote crime, that the telephone could disrupt society, and that television could be a source of negative propaganda. The ease of publication has led to an increase in the number of reviews and copies of many religious books, and there has been a debate over the use of local languages in the religious environment. As we listened to the radio broadcasts, the criteria of the speaker's pronunciation, the clarity of the voice, the use of local dialects became one of the main objects of information exchange [5, 2].

In the 1960s, the Internet developed in the US as a network of experiences that encompassed military, federal, regional, higher education, business, and personal users. It is now the largest international network in the world, with more than 100 million users connected in 2000, providing ever-expanding services and allowing unprecedented people to communicate with each other via email. Virtual discussion groups were formed, and digital pages on any topic were provided. Functional information such as e-procurement, commercial information, advertising and posters, poems and movie scripts, TV shows and other similar entertaining creative works have become available [5, 2].

People who are unfamiliar with the mechanisms of virtual communication and are familiar with the habits of face-to-face communication believe that there is no similarity between speech and Internet communication. An example of a comparison of two different dialogues is the online chat circles and the slow pace of writing in the conversation, the need for responsiveness in face-to-face communication. Pragmatic situations such as communicative effectiveness, blacklisting or restrictions, emotional signs or abbreviations, the relative reduction of online communication, the lack of formality and boundaries in it, the publication of web pages, emails and other mechanisms, easily replaced by a printed alternative. This is an example of the differences between online communication and face-to-face communication.

In this regard, the Internet has become popular, especially among the younger generation, who grew up in the computer age, and therefore we cannot distinguish the technical features from it. Virtual society only exists through mass use of the keyboard. User identification is created by using language and typography. In such technical processes, physical presence is not taken into account. On the other hand, relationships, are formed without restrictions in real life, such as pre-existing physical presence between participants: age, gender, race, skin color, facial expressions, facial expressions, and clothing. Interlocutors can also learn about each other from the text they write. However, this information can be quite the opposite, as people express their antonyms in written speech. Interestingly, the ability of the interlocutors to express emotions graphically and to simulate speech-phonology (through phonetic spelling) undoubtedly creates a social conflict created by gestures and linguistics [2, 24].

The results show that people who share information in English prefer to shorten words when communicating when using electronic discourse. Although abbreviations should be used in electronic data exchange, they seem to be universal. Its frequency and its appearance vary depending on many factors, such as language, exposure to electronic speech, and sitting where the language is used [1, 143].

Linguists are puzzled by the impact of this system on existing languages. The Internet is such a general information network that it contains all kinds of means of communication. For example, radio, television, telephone communications and print sources are also reflected in it [10, 31]. Due to the spread of the Internet, the following terms began to be widely used among users [2, 23-24]:

- Cyberspace - a universal information network;
- Netizens - all people who use online communication;
- Webies - regular users;
- Newbies - new Internet users;
- Netspeak - a language used within the network.

It is widely believed that Internet discourse is a language vandalism that lacks grammar and spelling and leads to illiteracy. However, the language of the internet is designed for people with different qualities and thinking and is not checked by editors or publishers. In this case, the language change will also affect people who have never used the internet or who regularly use abbreviations such as AWHF (are we having fun?), TMOT (trust me on this). Therefore, unlike the library, the internet is a world of interactive and dynamic communication.

Research Methodology. The analysis of Internet texts and research on the range of words used by users in the interaction were conducted on the basis of a survey. The survey involved 84 number of first and second-year students studying at the Kokand branch of the Tashkent State Technical University. The first survey, which asked students what method they would use to send messages to each other online, was conducted in early March 2020. In particular, participants should choose one of the most commonly used forms of information exchange, a combination of punctuation, word shortening, graphic symbols, voice or video communication. The next survey has been conducted via Telegram social messenger in May of this year, and students should choose the writing system that is most convenient for them (Arabic, Chinese, Cyrillic, Latin).

Analysis and results. According to the preliminary results of the survey, the use of punctuation in the exchange of information is 10%, the reduction of words in messages is 35%, the use of graphic symbols is 25%, the ability to communicate with each other by voice is 25%, or the use of video communication forms is 5%.

If we analyze the above percentages, we can see the least number of cases of using video communications. In contrast, the percentage of abbreviated words was higher than the rest. Also, communicating through voice or graphic symbols shows the same result.

According to the results of the next survey of 84 students, 3 (4%) of them prefer the Chinese script, 7 (6%) students prefer the Arabic script. The number of applicants who prefer to exchange ideas in the Cyrillic alphabet shows 18 (21%), and the number of requests that they found it convenient to communicate in Latin script is 57 (68%).

The results show that most students who use Uzbek as a language of communication find the Arabic and Chinese scripts to be difficult to communicate on the Internet. On the other hand, those who prefer the Cyrillic alphabet, have an average index, and we can see that the exchange of information on the basis of this graph is also approved by a number of users. However, according to most students, out of the 4 different writing systems given, it turns out that the Latin alphabet is a set of priority characters.

Conclusion. Thus, no force can hinder current social and technical development, and the Internet is a shining result of such development and achievements. Despite the contradictions and contradictions, people, especially teachers and psychologists, should do everything possible to teach the younger generation the traditional norms of behavior and speech. In this way, the next generation will be able to use the letters and display the sentences more easily. Any type of communication will need to be used to make it easier for the learner to master the spelling rules or for the successful communication of the interlocutors, even if it is harmful. From a linguistic point of view, you need to know when and where to use virtual communication. We need to keep in mind that our means of communication are not living beings, but from a psychological point of view, the regular use of computer technology can lead to a change in human behavior. As a result, communication may not be successful. This is because it is difficult for the sender or recipient of a written message to fully express their opinion in the text of the Internet, as in face-to-face communication. However, the number of Internet users who prefer such communication is growing. In the process, word abbreviations have become popular and convenient for people. In particular, the fact that most users exchange ideas or have a conversation based on Latin script contributes to the success of the conversation.

References:

[1] AbuSa'aleek A. O., Internet Linguistics: A Linguistic Analysis of Electronic Discourse as a New Variety of Language, International Journal of English Linguistics; Vol. 5, No. 1; 2015. – pp. 135-143.

[2] Ani Nazaryan, Aleksandr Gridchin. The influence of Internet on Language and "Email Stress", Law and Politics Vol. 4, No1, 2006. – pp. 23-27.

[3] Brown G., Yule G. Discourse analysis. Cambridge, UK: Cambridge University Press, 1983. – p. 67.

[4] Cook V., Bassetti B., Vaid J., Writing Systems Research: A new journal for a developing field, Oxford University Press, 2009.- p. 2.

[5] Crystal David, Language and the Internet, Cambridge University Press, 2004.- pp. 2-15.

[6] Crystal David, Txting: The gr8 db8. Oxford: Oxford University Press, 2008. – pp. 13-62.

[7] Danet B., Herring S.C.,The Multilingual Internet, 2007. – pp. 163-232.

[8] Holt R., Dialogue on the Internet: Language, Civic Identity, and Computer Mediated Communication. Westport, Conn.: Praeger, 2004. – p. 12.

[9] Kenenbaev E. T., Changing the Interaction of Non-Verbal and Verbal Means of Communication in a Social Internet Network, "Foreign Languages in Uzbekistan", 2020, No 2 (31), 80 – 90.

[10] Kushakova B. Y., Sociolinguistic analysis of functional development of the language (on the material of Uzbek) // Abstract of the dissertation, Fergana, 2019.-p. 31.

[11] Thurlow C., Brown A. Generation txt? The sociolinguistics of young people's text-messaging. Seattle, USA: University of Washington, 2003. – pp. 1-27.

UDC: 81'373.45

ACTIVATION WAYS OF BORROWED WORDS EXPRESSING RELIGIOUS CONCEPTS IN UZBEK MODERN LANGUAGE

Kuziev Umidjon Yandashalievich
PhD., senior lecturer, Namangan State University
Philology faculty, Uzbek language
and literature department.
E-mail: fellow-257@mail.ru

Annotatsiya: O‘zbek tilidagi o‘zlashma so‘zlarning ijtimoiy hamda madaniy ildizlarini ochib berishda diniy tushuncha bilan bog‘liq qatlamni tahlil qilish muhim ahamiyatga ega. Maqolada mazkur guruhdagi o‘zlashma so‘zlar semantik o‘zgarishiga ko‘ra tasniflanadi, bu qatlamdagi so‘zlarning faollashuv omillari va usullari o‘zbek tilining izohli lug‘atlari vositasida tahlil qilinadi.

Kalit so‘zlar: o‘zlashma so‘z, baynalmilal so‘zlar, diniy leksika, semantik o‘zgarish, tasavvuf, sotsiolekt, jargon.

Abstract: It is important to analyze the lexical layer related to religious concept in revealing the social and cultural roots of borrowings in Uzbek language. In this article, the words in this group are classified according to the semantic change, the factors and methods of activation of the words in the group are analyzed using explanatory dictionaries of the Uzbek language.

Keywords: borrowed word, international words, religious lexicon, semantic change, mysticism, sociolect, jargon.

Аннотация: Важно проанализировать лексический слой, связанный с религии, для выявления социальных и культурных корней заимствований на узбекском языке. В данной статье слова в этой группе классифицируются в соответствии с семантическими изменениями, факторы и способы активации слов в группе анализируются с использованием толковых словарей узбекского языка.

Ключевые слова: заимствованное слово, интернационалные слова, религиозная лексика, семантические изменения, мистицизм, социолект, жаргон.

Introduction: Borrowed words have a significant contribution to the lexical layer of any language. A significant part of them are international words (internationalisms). They are mainly related to scientific terminology. An important feature of international words is that it occurs in at least three languages, not in terms of time and conditions of acquisition, is not related to the original (origin) in the host language, and does not belong to a particular region (area) [16]. The fact that international words are non-relative interlinguistic events distinguishes them from common Turkish words. This is because the occurrence of common Turkish words in several related languages is due to the common genetic source. International words have a synchronous character, which is the lexical richness of all languages in the world.

Borrowed words serve as a valuable material in shaping the lexicon as a sociolinguistic system. Word acquisition from a foreign language takes place under the influence of all social and historical factors (time and conditions of acquisition, semantic features and functions of acquired words). As long as language is a social phenomenon, it must fully and timely meet the needs of society as it serves society [11].

The analysis of the layer related to religious concept is important in revealing the social and cultural roots of borrowings in Uzbek language.

Literature review: In Uzbek linguistics, the issue of borrowings was first addressed in Mahmud Kashgari's "Devonu lugatit turk" and Alisher Navoi's "Muhokamat ul-lugatayn", in which the words assimilated into the Turkic language and views on their use were reflected to some extent. Since the middle of the twentieth century, the study of the structure of the Uzbek language on a lexicographic basis has become widespread. In some of these studies, word acquisition was conducted on general issues of the modern Uzbek language, while in others the issue of direct word acquisition itself was covered. In particular, the study of Arabic phrases and izaphets in the Uzbek language began in the 1940s.

The first achievements in this direction were reflected in the dissertation of F.Abdullaev [1], while the phonetic, morphological, syntactic and lexical-semantic features of Uzbek words E.Begmatov [5], [6], A.Rustamov [20], J.Hamdamov [21], B.Bafoev [4], N.Gulamova [9], O. Antonova [2], N.Kodirova [10]; ways of development of Uzbek lexicon, etymological structure, study of linguistic, sociolinguistic and lexicographic features of Uzbek words and international words A.Borovkov [7], V.Reshetov [19], A.Borovsky [8], M.Mirzaev, K.Yusupov, T.Rakhmonov, U. Kuziev [15], B. Kushokova [17], Yu. Khodjiev [22]. For many years, due to the socio-political and ideological views of the country, the use of religious vocabulary has become one of the words with limited scope [12].

Research methods: We used the methods of classification, description, contrast, comparison, component and contextual analysis, semantic-stylistic and sociolinguistic analysis to illuminate the research topic.

The main part: Words expressing religious concepts in the Uzbek language can be divided into the following groups according to the scope of meaning:

1. Arabic adjectives denoting a pure religious concept: *din* (religon), *shariat* (sharia), *mulla* (mullah), *Ka'ba* (Kaaba), *zaifa* (woman), *janoza* (funeral), *faqih*, *totemism*, *pop* (priest in christianity), *kohin* (priest in Zoroastrism), etc.

2. Words expressing a religious concept and later adopted in other fields: *masala* (issue, problem), *voiz* (preacher), *qori* (a person who memorizes the Qur'an), etc.

3. Words that come in through other fields and now serve to express a religious concept.

Arabic words denoting a pure religious concept. In a group representing a purely religious concept, we include words whose semantic valence requires only lexemes belonging to that group. For example, *kholiq (the creator), kareem (the Noble), azeez (the Great)* etc. – partially explain the attributes (names) belonging to Allah; *lain* – the attributes of Satan; *karomat* (the saint of prophecy), *mo'jiza* (the miracle), *me'roj* (the ascension of the prophet to the Arsh), *vahiy* (revelation), and the *mawlid* – connected to the 'Prophet'.

Here are some examples:

The word 'zakaat' means "according to the Shari'ah, a wealthy Muslim gives alms to the widows and the poor in the amount of one-fortieth of his wealth and income (during fasting)" [23:II,125]. But in religious states, especially in the Central Asian khanates, the same word was also used to describe the type of tax. The word entered the Uzbek language as a concept of Islamic law and has survived as historical-religious term.

'Bid'at' (Heresy) - "reform of religious beliefs, anti-religious innovation, something that came after the religion" - "irrelevant reform of religious beliefs, anti-religious innovation, something that appeared later in the religion" [23:I,110]. It is also used in the discourse to mean "novelty": "Where did this heresy come from?" Alpomish.

2. At the time some of the words were mastered, they expressed a religious concept and later began to be used in other fields as well.

'Baraka' – "Blessing, a gift from God, a gift", "Abundance (mainly about bounties)", "Benefits", "Double cocoon, double fruit, etc." – "Abundance of something (mainly treats, crops) more than expected "," Allah's share, blessing; donation "," benefit from something or action; fruitful", " double twig, double twisted cotton, twin fruit" [23:I,95]. It is clear that while over time, some semantics of words are activated, while inactivity is observed in the use of some semantics.

The word Voiz (preacher) is mainly distinguished by the fact that it means 'orator, preacher in a religious sense' [23:I,466] and is directly related to the group of words that express religious concepts. The word 'va'zxon', which is synonymous with sermon, also means "selling a dry word".

Juz (juzv) was originally used to denote "one-thirtieth of the Qur'an," but is more commonly used to mean "part, share, contribution" [23:II,111]. For example, as part of a book: Parts of Sheikh Muhammad Sadiq's books are referred to as juz: 1st juz, 2nd juz. The participle is used to mean "part of an object."

3. The metaphorical expression of the essence of mysticism has led to the inclusion of many everyday words in the lexicon. ‘Jandah’ – "dervish and potter's old, torn, ragged clothes" [23: II, 71]. In addition to the religious meaning of derived from mysticism. The word entered the religious lexicon under the influence of a mystical current.

In particular, the word ‘do‘st’ (friend) is actually “each of two or more people whose views, language, activities are close, connected by solidarity, harmony; comrade” [23: I, 678]. The word is also used in the conjunction of ‘qiyomatli do‘st’ (friends, which rescue each other in doomsday), as a form of addressing Allah in mysticism.

‘Ma’rifat’ (Enlightenment) is “education aimed at raising people's awareness and culture; Enlightenment”, means “knowledge, science”, “acquaintance” and “one of the stages (status) in mysticism that every Sufi goes through to achieve spiritual maturity”[23.II, 567].

The weakening of the religious semantics of words is also related to the lexicon of socially limited strata – jargons and their subsequent impact on literary language.

Jargon is a «language that is sometimes used for cryptographic purposes", consisting of voluntary, selected, modified, and mixed elements of one or more natural languages, and distinguishing between other language groups by a particular social group (mainly in verbal speech) [2, 149]. The reasons for the separation of the social group are to exalt themselves (eg palace jargon), to dissolve other members of society in the process of communication and disclosure. Usually, words and phrases that are commonly used are «self-explanatory», and in some cases, they are used in a figurative sense [14].

Conclusion. Based on the above, the following conclusions can be drawn:

1) Acquiring new words has two important aspects for the nation that possesses its own language and position in social hierarchy:

– the language as a social phenomenon has to meet all the demands of the society on time. Acquiring words require less time than other tactics. Integration of the nation possessing its language is eased. As well as, adopted terms from other languages have their unique features thanks to their local identity. 2) Currently, forming new words due to internal opportunities is becoming less effective than borrowing. This continual process may lead to the devastation of the instinct of fight for life and regress of alive language’s development in every sense of this word [13].

2) borrowings expressing a religious concept have additional semantics in the colloquial language, which is related to literature and jargon;

3) The role of mystical literature was also important in the later introduction of words into religious lexicon.

4) based on explanatory dictionaries in describing the semantic structure and changes of assimilations creates some conveniences.

References:

[1] Abdullaev F. Arabizmy v uzbekskom yazike: Diss ... kand. filol. nauk. – Tashkent, 1945.

[2] Antonova O. P. Semantika uzbekskix zaimstvovaniy russkoyazychnyx xudojestvennyx proizvedeniyax pisateley Uzbekistana: Diss... kand. filol. nauk. – Tashkent, 1998.

[3] Ateistik entsiklopedik lug'at. – Toshkent: O'zSE Bosh redaksiyasi, 1988. – P.84.

[4] Bafoev B. Leksika proizvedeniy Alishera Navoi. Leksiko-semanticheskie, staticheskie i tematicheskaya issledovaniya: Diss… kand. filol. nauk.– Toshkent, 1989.

[5] Begmatov E. Hozirgi o'zbek adabiy tilining leksik qatlamlari. – Toshkent, 1989.

[6] Begmatov E. Sobstvennyy plast leksiki sovremennogo literaturnogo yazqka: Diss... dokt. filol. nauk.– Tashkent, 1988.

[7] Borovkov A.K. Izmeneniya v oblasti uzbekskoy leksiki i novqy alfavit. – Izv. Uzb. Filiala AN SSSR, № 2, 1940

[8] Borovskiy A.K. Uzbekskiy literaturnyy yazyk v period 1905-1917 gg. – Tashkent, 1940.

[9] Gulyamova N. Russkie leksicheskie zaimstvovaniya v uzbekskom yazike. – Tashkent: Fan, 1985.

[10] Kodirova N. Semantiko-stilisticheskiy analiz zaimstvovaniy v uzbekskom i russkom yazikax v noveyshiy period 1991-2001 gg. (na materiale gazet i ustnoy rechi): Diss... kand. filol. nauk. – Tashkent, 2001.

[11] Kurbonov A., Darvishov I., Kuziev U. Normalization Procedures of Borrowings in Uzbek Language // International Journal of Psychosocial Rehabilitation, Vol. 24, Issue 04, 2020. – Pp.7352-7359

[12] Kushakova B.Y. Religious Lexis in Socio-Religious procedures and the Use of Religious Style // GIS Business ISSN: 1430-3663 Vol-15-Issue-4-April-2020. – pp.967-975.

[13] Kuziev U. The issue of borrowings and language purity / Sbornik materialov IV mezhdunarodnaya nauchno-prakticheskoy internet-konferentsii «Tendentsii i perspektivy razvitiya nauki i obrazovaniya v usloviyax globalizatsii». Issue 4. May 30-31, 2015. – Ukraine, g. pereyaslav-Khmelnitskiy, 2015. – p. 261-263.

[14] Kuziev U.I. (2017). About sociolects and their place in glossaries (in example Uzbek language and dictionaries). Scientific studies: theory, methodology and practice, 281-286. Cheboksary: SCC "Interactive plus", LLC.

[15] Qopziyev U.Ya. O'zbek tilidagi izohli lug'atlarda o'zlashma so'zlar tadqiqi: PhD dissertatsiyasi – Fargpona, 2018.
[16] Kuznetsova E.V. Leksikologiya russkogo yazika. – Moskva: Visshaya shkola, 1989. – P.145.
[17] Kushokova B. Y. Sociolinguistic analysis of functional development of language (on the example of Uzbek language): PhD dissertation– Fergana, 2019.
[18] Rahmatullayev Sh. Hozirgi adabiy o'zbek tili. – Toshkent: Universitet, 2006.
[19] Reshetov V.V. Leksicheskiy sostav sovremennoy uzbekskoy pressi. – V kn.: Problemi yazika. I. –Tashkent, 1934.
[20] Rustamov A. Fonetiko-morfologicheskie osobennosti yazika A.Navoi: Diss… dokt. filol. nauk. – Tashkent, 1966.
[21] Xamdamov J. Iz istorii russkogo yazika v obogaopenie leksiki uzbekskogo yazike (vtoraya polovina XIX veka): Avtoref. diss... kand. filol. nauk. – Tashkent, 1963.
[22] Xodjiev Yu.N. Semantic-structural, conceptual and lexicographic features of noun units expressing the spiritual qualities of the person in the epic "Alpomish": PhD dissertation– Tashkent, 2020.
[23] O'zbek tilining izohli lug'ati. 5 jildli. – Tashkent: O'zbekiston milliy ensiklopediyasi, 2006-2008.

UDK: 398.221

SPECIFIC FEATURES OF LANGUAGE INTERFERENCE IN CONTRASTIVE LINGUISTICS

Zokirov Mukhtorali Turdalievich
Candidate of Philological Sciences,
Associate professor, Department of Linguistics,
Faculty of Filology, Ferghana State University,
E-mail: mukhtar63@mail.ru

Zokirova Sokhiba Mukhtoralievna
PhD in Philolagical sciences, Senior Lecturer,
Department of Primary education methodology
Faculty of Preschool and Primary Education,
Fergana State University
E-mail: sohiba.zokirova@mail.ru

Annotatsiya: Muallif maqolada dunyo tilshunosligining rivojlanib borayotgan sohalardan biri bo'lgan, kontrastiv tilshunoslik muammolarini keltirib o'tadi. Maqolada interferensiya tushunchasi, kontrastiv tilshunoslikning muhim tadqiqot obyektlaridan biri sifatida tahlil qilinadi. Tadqiqotni qiyosiy o'rganishda ona tilining o'rganilayotgan tilga ta'siri lingvistik interferensiyaning asosiy mazmuni sifatida e'tirof etiladi.

Kalit so'zlar: tilni o'zlashtirish, tillararo interferensiya, ikkitillik, ko'ptillik, ona tili, chet til.

Аннотация: В статье автор освещает проблемы контрастной лингвистики, одной из растущих областей в мировой лингвистике. В статье феномен интерференции анализируется как один из важнейших объектов исследования контрастивной лингвистики. Основное содержание языкового вмешательства, такого как влияние родного языка на усваиваемый язык и влияние иностранного языка на родной язык, характеризуется сравнительным изучением исследования.

Ключевые слова: овладение языком, межъязыковое вмешательство, двуязычие, многоязычие, родной язык, иностранный язык.

Abstract: In this article, the author highlights the problems of contrastive linguistics, one of the developing areas in world linguistics. In the article, phenomenon of the interference is analyzed as one of the most important research objects of contrastive linguistics. Main content of linguistic interference, such as, influence of native language on acquired language and impact of foreign language on native language characterized in comparative study of the research.

Keywords: language acquisition, interlingual interference, bilingualism, polylingualism, native language, foreign language.

Introduction. Today, contrastive method is widely used not only in the field of language theory, but also in applied research. As a result of the expansion of work in the field of contrastive linguistics, the tasks assigned to them are also increasing. Most linguists understand the comparative study of languages under the concept of contrasting linguistics in terms of linguodidactic purposes. Therefore, they believe that the task of contrastive linguistics is to show the differences between acquired foreign language and the native language, to identify sources of interference, to explain typical errors, to identify important aspects of the foreign language for learners. Linguists and psychologists have taken the term interference to mean a negative effect, like a language barrier. Underlying the manifestation of any linguistic interference is psychological-speech interference, because any "deviations" in the norms of one language under the influence of another language are observed in the speech of individuals who utilize this language.

Literature review. The term "interference", was originally used in physics, biology, psychology, and firstly introduced into linguistics by German scientist, I. Epstein. The content was specified with the works of U. Weinreich, in the field of linguistics [5.7-42]. Language interference related to and are the result of the interaction of skills and innovations in any human activity. Therefore, E.M. Vereshchagin considers that these two phenomena are identical in the ontological plan because the native language influenced the usage of foreign words [6.17]. However, in the textbook "Psychology", edited by A. A. Smirnov and A. N. Leontev, these phenomena differ as follows:

“The positive effect of acquired skills on acquiring a new activity is called transference. The negative effect of an old skill on the acquisition of a new skill is called interference.”[12] Many linguists have contributed to the development of interference theory. However, it cannot be said that all the problems of linguistic interference among different language have been solved. One of the main problems in this regard is to determine the nature of this interlingual interference. Linguistic and psychological definitions of interlingual interference are given in several scientific literature.

It can be said that in all the sources, the views are not mutually exclusive. For example, E. Haugen interprets interference as a linguistic confusion, in which it is known that one linguistic unit has become an element of two systems at the same time. Under the term interference, L.I. Barannikova understands changes in the structure or structural elements of one language under the influence of another language. In addition, there is a broad and narrow understanding of interference in the scientific literature. Weinreich's following description of interference is still widely accepted in science. He understands that "cases of voluntary deviation from the norms of language as a result of knowing several languages in bilingual speech [5.44]" is interference, while M.T. Zakirov considers that "interference is the result of involuntary transfer of language skills to the acquired second language" [8.92]

In psychology, the term “interference” refers to the incorporation of one action component into another action structure on the basis of one skill and competence. Interference is recorded only when the causal action, skill, and competency can be contrasted based on sustainability criteria. Because interference is a complex phenomenon, it is studied by a number of related disciplines, so the classification of interference patterns is based on its various features (source, field of application, degree of consideration of distinctive features in native language by polylinguist, form of interference manifestation, its communicative sensitivity, etc.) [2.4 -23].

In accordance with the listed features, the scientific literature distinguishes the following types of interference: depending on the source of formation, the interference can be interlingual and within a single language.

The first is that the learner of another language, distracted by the general features and characteristics of the languages with which language user communicates, thinks so of all the features of those languages and implies the process of fully translating the communication behavior in native language into a foreign language. For example, Russian language learners are based on misconceptions based on the similarity of different verb forms: the phrase of “Я рукоплескаю” is used instead of “Я рукоплещу” (based on the “таскать – таскаю” pattern);

According to N.V. Bagramova, the issues considered at the speech stage of interference are different from the issues of interference in language. While the understanding of second language elements in speech is a primary factor, the phonetic, grammatical, semantic, stylistic interference of other language elements for the language is in focus [1]. U.K. Yusupov also distinguishes interference from this point of view. He showed interlingual interference, which manifests itself in the form of deviation from the norm of language, formed on the basis of the consequences of interlingual interference, and interlingual interference, which manifests itself in the form of silence in speech [15.103].

Linguistic interference occurs at all levels of the language system. Accordingly, it is divided into phonetic, lexical-semantic, morphological, syntactic types [8.64]; types of communicative-relevant and communicative-irrelevant interference are specified separately [9.9-15]. Deviations from the norm of the second language, which do not interfere with mutual understanding, belong to communicative-irrelevant interference. Interference is communicative-relevant if retreats in speech seriously complicate his comprehension or make it completely incomprehensible; interference differs from syntagmatic and pragmatic point of view. The concept of syntagmatic and pragmatic factors was first applied by W. Weinreich to phonetic interference. The first refers to sounds that are linked to a specific speech chain.

The second is related to the relationship between the sounds in the model, i.e., the sounds that can occur at a particular point in the speech chain. Of particular importance for this case is the thesis of L.G. Fomichenko, who considered prosodic interference as a violation of the prosodic conformities of acquired foreign language [13]. A.E. Karlinsky also proposes to classify interference in connection with the specificity of the speech activity of a multilingual person [9.9-15]. Given that a person's speech activity has the characteristics of two mental mechanisms - speech (coding) and comprehension (decoding) - it is necessary to distinguish between expressive and impressive interference associated with the creation of speech in a foreign language. Linguists propose to divide it into regressive interference and progressive interference depending on the direction of interlingual interference.

Research Methodology. The method of comparative learning of languages is widely used in the process of teaching foreign language. In this process, the practical knowledge of the structure and grammar of the native language and its ability and relative automation can have both positive and negative effects. In the study of a foreign language, the effect of native language skills is called interference.

Linguistic interference occurs when acquired language does not have or partially exists in native language, when the same language events are expressed in different ways, when the two languages have different, contrasting characters.

Analysis and results. According to the analysis of interlingual interference, in Russian language there are phonemes [s] and [ts], in Uzbek there is only a pure Uzbek phoneme [s]. Therefore, the following mistakes can be made in the speech of Uzbeks: not distinguishing between the words свет-light, цвет-colour, рассвет-morning and расцвет-blossom. In English the phonemes [w] and [v] are different, while in Uzbek there is only one [v] phoneme. This may cause the following English words to be indistinguishable: wine - vine - wail - veil (a net that is held with a hat and covers the face). In the Russian language of Uzbeks there are many cases of inconsistency between incomplete and complete type (я экзамен не сдала, я экзамен не сдавала), mistakes in the use of prefixes (в факультете, в стадионе), in verb control (испугался от него). They are all interpreted in relation to the influence of native language. For example, “gruppada, fakultetda, stadionda; undan qo’rqdi”.

In all these cases, the phenomenon of interlingual interference occurs in the direction of NL → FL (native language affects acquired foreign language). But conversely, regressive interference can also occur in FL → NL. For example, a child learning Russian can use “o’rnida gullarni o’tirg’izaylik” instead of “gullarni o’tqizaylik” or “soatni kiyamiz” instead of “soatni taqamiz” in his native language.

Summarizing both forms of interference, we give the following examples. It is known that in Uzbek language, the participle form is not determined by the plural form of the possessive. Therefore, subject can come in the form of a plural, and predicate can come in the form of a unit. For example, “itlar akkilladi; bu yil yomg’ir ko’p yog’di”. This leads to mistakes in Russian speech of Uzbeks: собаки лает, в этом году часта шел дожди. Here, the form is NL → FL. At the same time under the influence of the Russian language has a plural form, and the coordination of the predicate is observed. This is also reflected in the Uzbek speech, i.e. FL → NL. For example, "itlar akkilladilar; bu yil yomg'irlar ko'p yog'dilar".

Conclusion. Hence, the analysis of mistakes caused by interference shows that in the process of teaching a second language it is necessary to take into account not only the differences between languages, but also the difficulties arising from the features of the studied language system. In the process of using another language in a speech situation, the main factor in the formation of interference is the usage by the person of the native language or the first foreign language that is closest to him to one degree or another. The phenomenon of interference can occur at any level of language - graphic, phonetic, lexical, word formation, morphological, syntactic. One of the important factors in the presence of interference is the degree to which a person has language competence.

In the process of research, it has been observed that strong language interference phenomena are clearly manifested in the speech of individuals with low level of foreign language proficiency. The interference phenomenon takes the form of the interaction of the native language, the first foreign language, the second foreign language, and so on. In the process of speaking any other language, the activity of the human brain is tuned to a system of relations that is opposite to it, in contrast to the usual system of manifestations of relations in which native language takes the lead.

References:

[1] Bagramova N.V. Lingvodidakticheskie osnovy obucheniya vtoromu inostrannomu yazyku: ucheb.posobie. SPb.: Izd-vo RGPU im. A.I. Gertsena, 2005. 221 s.

[2] Barannikova L.I. Problema interferentsii i voprosy vzaimodeystviya yazykov // Voprosy metodiki prepodavaniya inostrannyx yazykov v svyazi s problemoy yazykovoy interferentsii. Saratov, 1966. – S. 4-23.

[3] Barannikova L.I. Suhnost interferentsii i spetsifika ee proyavleniya / Problema dvuyazychiya i mnogoyazychiya. – M., 1972. – S. 88-98.

[4] Blyagoz Z. U. Kontaktirovanie russkogo i rodnogo yazykov v usloviyax dvuyazychiya: Uchebnoe posobie. – Rostov-na-Donu, 1976. 76 s.

[5] Vaynrayx U. Odnoyazychie i mnogoyazychie // Zarubejnaya lingvistika. – M., 2002. – S. 7-42.

[6] Verehagin E.M. K probleme raznosistemnoy prinadlejnosti leksem pri bilingvizme: avtoref. dis. ... kand. filol. nauk. M., 1966. 26 s.

[7] Zalevskaya A.A., Medvedeva I.L. Psixolingvisticheskie problemy uchebnogo dvuyazychiya. Tver: Tver. gos. un-t, 2002. 194 s.

[8] Zokirov M.T. Lingvistik interferentsiya va uning o'zbek-tojik bilingvizmida namoyon bo'lishi. Fil.f.n. ilmiy darajasini olish uchun taqdim etilgan dissertatsiya. T., 2007.

[9] Karlinskiy A.E. Tipologiya rechevoy interferentsii // Zarubejnoe yazykoznanie i literatura. – Alma-Ata, 1972. Vo'p. 2. – S. 9-16.

[10] Minyar-Beloruchev R.K. Obshaya teoriya perevoda i ustnyy perevod. M.: Voenizdat, 1980. – 237 s.

[11] Mixaylovskaya N.G. Voprosy tipologii interferentnyx yavleniy v russkoy rechi bilingva. Metody sopostovitelnogo izucheniya yazykov. – M.: Nauka, 1988. – 94 s.

[12] Psixologiya: uchebnik / pod red. A.A. Smirnova [i dr.]. M.:Uchpedgiz, 1962. 559 s.

[13] Fomichenko L.G. Kognitivnye osnovy prosodicheskoy interferentsii. Volgograd: Izd-vo VolGU, 2005. 300 s.

[14] Shcherba L.V. O ponyatii smesheniya yazykov // Izbrannye raboty po yazykoznaniyu i fonetike. L., 1958. S. 40-53.

[15] Yusupov U.K. Teoreticheskie osnovy sopostavitelnoy lingvistiki. T.: Fan, 2007. 126 s.

UDK: 17.51

ARTICLE ANALYSIS AND WRITER'S INFORMATION

Mardonova Lobar Umaralievna
Termez branch of
TSPU named after Nizami,
Faculty of Pedagogy
Lecturer of the Department
of “Primary Education”
E-mail: lobarmardonova309@gmail.com

Annotation: The article discusses the role and importance of linguistic tools in artistic interpretation of images. Well-known scholars and literary scholars have come to the conclusion that the literary skills of the writer are based on historical principles.

Keywords: homeland, love, space, time, writing, fiction, authority, patriotism, modesty, image, emir, linguistic.

Аннотация: В статье рассматриваются роль и значение лингвистических инструментов в художественной интерпретации изображений. Известные ученые и литературоведы пришли к выводу, что литературные навыки писателя основаны на исторических принципах.

Ключевые слова: родина, любовь, пространство, время, письменность, художественная литература, авторитет, патриотизм, скромность, образ, эмир, лингвист.

Аннотация: Ушбу мақолада лисоний воситаларнинг образлар бадиий талқинидаги ўрни ва аҳамияти ҳақида фикр юритилган. Шунингдек, таниқли адабиётшунос олимлар ва бадиий адабиётнинг азалий мезонларига таянилган ҳолда ёзувчи маҳорати, тарихийлик принципларига амал қилиш намуналари тўғрисида хулосалар келтирилган.

Калит сўзлар: ватан, муҳаббат, макон, замон, ёзма, бадиий, салтанат, юртпарвар, камтар, образ, амир, лисоний.

Introduction: The life and political activity of Amir Temur have always fascinated the creators of fiction. In oral and written literature, the artistic image of Amir Temur has been interpreted from different angles and continues to this day. After the independence of our country, there are great opportunities for the full coverage of the image of Amir Temur. One-sided views have been eliminated, tendencies have been put to an end, and the historical reality of the period in which the Sahibkiran lived has been restored. B.Akhmedov's novel-chronicle "Amir Temur", A.Aripov's dramatic epic "Sahibqiron" and many other works were published. Among them is the tetralogy "The Great Kingdom" by the People's Writer of Uzbekistan Muhammad Ali. In this great epic, which consists of four books, the great political activity of Amir Temur is reflected with high artistic skill, strictly adhering to the principles of history. Each novel of the tetralogy is named after the four sons of Amir Temur. expression of values, high human qualities demonstrated the power of the writer’s pen, the power of the artistic range [2; 3].

Analysis of Subject Matters: “In each of these works, the reader gets acquainted with the fate, fortune, love, dreams, character, in short, the image of the Temurids. These heroes and characters unite and unite the image of Amir Temur throughout the epic, ”said academician B. Nazarov [3; 4].

Research Methodology: The research draws conclusions about the skills of the writer, examples of adherence to the principles of history, based on the age-old criteria of well-known literary scholars and fiction.

Analysis and results: The first book of the tetralogy was called Jahongir Mirzo. The image of Amir Temur's eldest son is mentioned in the process of depicting the events of the 1370s, when he conquered Movarounnahr. At this time he was a brave young man, who was with his father in battle, and who did not spare the enemy. Amir Hussein, who demanded compensation and sent back the best horses in his herd, which he had sent as compensation to Amir Temur, expressed his intention to marry Sevinchbek, the daughter of the Khorezm ruler. Then Amir Temur looked at his son Jahongir Mirzo. He senses that there has been a subtle change in him, that he is excited when he hears the name of the Prince. He then immediately finds the capital needed by Amir Hussein to go to the sovchi and sends it to the Solisaroy.

In the historical work, the chronotope of space and time, the conformity of the artistic textures to the principles of historicity are important. The author of the tetralogy thoroughly studied the materials of Amir Temur and his period, compared the descriptions of historical events in different works and wrapped them in artistic garments that corresponded to the historical reality. The author's ability to fully express the spirit of the period in which he lived in the interpretation of images and characters shows that he had a great creative experience in creating a historical work. Not only Amir Temur, Jahongir Mirzo, but also the amirs surrounding them, their comrades, friends and enemies, the spirit of the time blows in the image, each of them skillfully used the possibilities of artistic criteria in the description of their peculiarities, good and bad aspects, virtues and shortcomings. Linguistic means and elements serve in the creation of portraits, in the individualization of the speech of the characters, in convincingly proving the psycho-analytical basis of the conflict of characters. The writer skillfully used this opportunity in the novel "Jahongir Mirzo" [6; 7].

In creating a portrait, the subtle meanings, analogies and allegories of our language bring to life the unique image of each character in the eyes of the reader. For example, "... Amir Musa, who is of medium height, with fish-like eyes, about forty"

[8], uses the word "understood" in vain, and his instability in faith is understood through the speech of the character.

In the individualization of the speech of the characters, the writer was able to create beautiful artistic plates as a result of his effective use of linguistic possibilities. During the visit of Sayyid Baraka, the piri murshid of Sahibkiran, Amir Temur showed his respect and devotion to the pir as follows:

"Care, pirim! Care a thousand times! They opened the seven gates of generosity and generosity with their unconditional words to Tilla! His eloquent words captivated my heart ... I feel like the sun rising on the seven heavens, so I have attained the blessings of Your Majesty. Sincere intentions and pure desires are a great gift of Allah to the fireplace, and I accept it from the bottom of my heart! "[5]

The linguistic feature of Sahibkiran's speech, which is not used today, is that he is a mature intellectual of his time, and how humble and respectful he is in the eyes of the leader of the scholars is not a fierce ruler who conquers him in the eyes of the reader. but also embodies as a nationalist, patriotic person with high human qualities.

Literary scholar Damin Turaev, in his study of Uzbek tetralogy, compares the novel's peculiarities and successes with many historical works in the study of the authenticity of artistic interpretations, and tries to justify how skillfully the writer used them. Indeed, despite the fact that the first novel of the tetralogy was called "Jahongir Mirzo", in the center of the plot of the novel was the love affair of the eldest son with the princess of Khorezmshah Sevinchbeka-Khanzoda, the socio-political life of Amir Temur's first independent state , the main leitmotif of the work is exaggerated in the image of the loyal commanders, soldiers, emirs, representatives of the common people, their zeal for freedom and prosperity of the Motherland, who accompanied the master in the battles for the great goal.

"In the novel, the image of Ahi Jabbor, an ordinary warrior who fights for goodness and virtue, not for wealth and career, is vividly portrayed as a symbol of national intelligence and spiritual purity. Ah Jabbor can be called the invention of the writer. This image also helps to reveal the qualities of Jahongir Mirzo's character, "said critic D.Turaev.

A number of other images in the novel also served to reveal a certain aspect of the image of Amir Temur. Amir Temur's patriotism, will and perseverance are the main factors in the relations between the emirs and the armies. expressed. These are revealed in the gradual development of the series of images, through the speeches of the characters. At the same time, the attractiveness of our language and its linguistic possibilities were endless.

The image of nature is important in every play if it is used in its place. In his novel Navoi, Oybek vividly depicts the Gavharshodbegim mausoleum in Herat, making you feel as if you are standing in front of this great architectural miracle. In "Boburnoma"

Babur passionately depicts the landscapes of spring, all the beauty and grace in it, they are vividly reflected in your eyes. Such an image of nature is often found in the tetralogy of the "Great Empire". The writer does not bring them in vain, but they also serve to reveal the spiritual world of the heroes, certain aspects of their character. Here is one of the images:

“The Boyyo district, where Temurbek's army landed, was one of the picturesque meadows of Turan. Spring invaded the sleepy valleys with its vast expanse of green grass. The smell of spring began to waft from the box of the Nature Attorney. From the refreshing breath, the ground turned green, and on the beautiful hills in the distance, one and a half tulips "caught". The floor is decorated for the holiday. In the breeze blowing from the mountains, it was no longer the chilling cold of the black winter, but the pleasant distant breath of the bright summer that lay ahead, more pleasing and pleasing ”[8; 9].

Conclusions and Suggestions: This scene corresponds to the mood of Amir Temur at that time:

1. The fact that the Sahibkiran is extremely thoughtful in all matters, constantly consults with the rulers around him, and adheres to the scales of justice in assessing the friend and the enemy assures the reader. The artistic interpretation is fully consistent with the historical reality. The writer's artistic skill is inspired by the details of the events described in the historical works, the synthesis of artistic texture, creative laboratory helps to deepen and accurately understand the essence of historical reality. After all, this is the function of fiction. Historical works created by Nizamiddin Shami and Sharafiddin Ali Yazdi chronicle the events of Amir Temur's life and political activity. If the creator of a work of art incorporates them directly into the work, it will have no value. In the novel Humoyun and Akbar, Pirimqul Kadyrov dressed a small commentary on Babur's illness in Humoyunnoma in such a way that Babur's willingness to give his life for his child and Sheikh-ul-Islam's greed for wealth shook the reader's heart. In the novel "Jahongir Mirzo" Muhammad Ali skillfully uses historical facts, creates beautiful artistic landscapes.

2. In the conversation with Amir Joku Barlos about the betrayal of the rulers of Herat, their inability to stand on one word, the depth of Amir Temur's thoughts, the quality of an objective assessment of each event was demonstrated. The subject of the conversation is the letter of the governor of Herat Malik Hussein inviting Amir Temur to Sarakhs. When Malik Hussein's uncle Malik Fakhriddin told Amir Temur that Amir Navruz, who had sought refuge with him, had been captured and executed in Gozankhan, Amir Joku Barlos and the Crown Prince Jahangir Mirza, who was always with him, were astonished. Malik Hussein's father, Malik Ghiyosiddin, was so unproven and treacherous that Amir Cholpon first made big promises to the star and

his son Jilovkhan, then beheaded both of them and sent them to Sultan Abu Said, emphasizing that the betrayal was in their blood.

3. In each of the novels of the tetralogy "Great Empire" the writer was able to demonstrate high artistic skills in the linguistic-artistic interpretation of images and characters, demonstrated the beauty and charm of our native language.

List of used literature

[1]. “Strategy of actions for further development of the Republic of Uzbekistan” of the President of the Republic of Uzbekistan Sh. Mirziyoev, Tashkent, “Halq so'zi” newspaper, February 8, 2017, No. 28 (6722).

[2]. Nazarov B. The Living Work, Muhammad Ali, The Great Kingdom, The Epic, The First Book, Jahongir Mirzo, Sharq Publishing and Printing Joint-Stock Company General Editorial Office, Tashkent, 2014 Page 8

[3]. Muhammad Ali, The Great Empire, The Epic, The First Book, Jahongir Mirzo, Publishing and Printing Joint-Stock Company “SHARQ” General Editorial Office, Tashkent, 2014. Page 21

[4]. Turaev Damin, Uzbek tetralogy, Tashkent, 2017. Page 33

[5]. Muhammad Ali, The Great Empire, Epopeya, The first book, Jahongir Mirzo, “SHARQ” Publishing and Printing Joint-Stock Company General Editorial Office, Tashkent, 2014. Page 34

[6]. Nazarov B. The Living Work, Muhammad Ali, The Great Kingdom, The Epic, The First Book, Jahongir Mirzo, Sharq Publishing and Printing Joint-Stock Company General Editorial Office, Tashkent, 2014 Page 23

[7]. Muhammad Ali, The Great Empire, The Epic, The First Book, Jahongir Mirzo, Publishing and Printing Joint-Stock Company “SHARQ” General Editorial Office, Tashkent, 2014. Page 45

[8]. Turaev Damin, Uzbek tetralogy, Tashkent, 2017. Page 38

[9]. Muhammad Ali, The Great Empire, Epopeya, The first book, Jahongir Mirzo, “SHARQ” Publishing and Printing Joint-Stock Company General Editorial Office, Tashkent, 2014. Page 65

[10]. Muhammad Ali, The Great Empire, The Epic, The First Book, Jahongir Mirzo, Publishing and Printing Joint-Stock Company “SHARQ” General Editorial Office, Tashkent, 2014. Page 17

UDC:383.6/.8:681.24

RELATION OF LEXICAL-SEMANTIC STRUCTURE OF VERBS TO RESULTABILITY

Mukhayyo Hasanovna Davlatova
Lecturer, English Language Department
Bukhara State Medical Institute
E-mail: Hasanova_D@mail.ru

Abstract – The lexical system and its subdivisions are the lexical levels that are separated at this stage into two major groups - independent and non-independent words. This division is based on privacy, and the sign of opposition is "spiritual and functional independence." In lexicology, language is studied as a system of lexical richness, because this richness is not a simple, mechanical sum of words and phrases, but a system of units and elements.

Key words: lexical system, independent and non-independent words, lexicology, system of lexical richness, words and phrases, syntagmatic features.

Аннотация - Лексическая система и ее подразделения - это лексические уровни, которые на данном этапе разделены на две основные группы - независимые и независимые слова. Это разделение основано на неприкосновенности частной жизни, и признаком оппозиции является «духовная и функциональная независимость». В лексикологии язык изучается как система лексического богатства, потому что это богатство - не простая механическая сумма слов и фраз, а система единиц и элементов.

Ключевые слова: лексическая система, независимые и несамостоятельные слова, лексикология, система лексического богатства, слова и фразы, синтагматические признаки.

Annotatsiya - leksik tizim va uning bo'linmalari leksik darajalar bo'lib, ular ushbu bosqichda ikkita asosiy guruhga - mustaqil va nomustaqil so'zlarga bo'linadi. Ushbu bo'linish shaxsiy hayotga asoslangan va qarshilikning belgisi "ma'naviy va funktsional mustaqillik"dir. Leksikologiyada til leksik boylik tizimi sifatida o'rganiladi, chunki bu boylik so'zlar va iboralarning oddiy mexanik yig'indisi emas, balki birlik va elementlar tizimidir.

Kalit so'zlar: leksik tizim, mustaqil va mustaqil bo'lmagan so'zlar, leksikologiya, leksik boylik tizimi, so'zlar va iboralar, sintagmatik belgilar.

Introduction: Words and elements in lexicology are in the "textile" and "cellular" relations of a whole "organism": the relationship between the expressive and semantic aspects of words, the whole and part relations between the lexical meaning and its semantics, this is evidenced by the paradigmatic and syntagmatic features of word meanings. Given that the basic unit of this system is the word, lexicology also deals with issues directly related to the word itself: the essence of the word as a linguistic unit, word structure (plans of expression and content, semantic structure), lexical meaning and methodological semantics, lexical meaning and etymology, lexical meaning development, udual and occasional meanings.

Literature review: L.A. Novikov also states that when there is a difficulty in the analysis of lexemes in the order of the lexical system, it is possible to compare it with another system and draw a certain conclusion on the basis of similarities between them[1]. In constructing a lexical system, it is practical to take into account the similarities (analogies) between phonology and semantics. At an international symposium in Magdeburg in 1964, he considered highlighting such similarities between phonology and semantics[2]. It was argued that phonology should define a system of semantic meanings as well as a system of sounds. It is pointed out that the lexical-semantic analysis is somewhat improved by the study of the phonological level and the transfer of the system of concepts to the lexical system[3].

Research Methodology: Lexical antonym is the grouping of lexemes based on their conflicting meanings. Like white and black, thick and thin. The phenomenon of anthropomorphism occurs mainly within the lexical units of a word group[4]. In the adjectives:

a) according to the sign of volume: big and small, high and low,

b) according to the sign of temperature: hot and cold;

c) by age: young and old;

g) character - according to characteristics; generous and stingy, brave and cowardly, wise and foolish[5];

d) according to the sign of the shape: straight and curved,

e) according to the sign of taste: like bitter and sweet[5].

The phenomenon of anatomy is also common within the lexicons of time, state, quantity, purpose:

a) night and tomorrow, before and after (according to the sign of time),

b) fast and slow, barely and easily (according to the sign of the state)[6],

c) more and less, more and less (according to the sign of quantity),

d) intentionally and unintentionally, in vain and in vain (according to purpose and meaning) and so on[7].

The affiliation of such lexicons to the category of quality and form has become somewhat controversial in recent years. In nouns:

a) in sign nouns: wealth and poverty, bravery and cowardice,

b) in opposite names: east and west, south and north[8];

c) in the names of the seasons: summer and winter, autumn and spring,

g) in the names denoting the opposite sides of the day: night and day, morning and evening[9].

In verbs:

a) in verbs expressing the meanings of opposite actions: to go and come, to enter and leave[24];

b) in verbs of adjective or form: such as expand and contract, increase and decrease, slow down and accelerate[10].

Sometimes the adjective form of a verb can enter into an antonymic relationship with a lexeme in the adjective group: read and uneducated, uneducated and educated[11]. The phenomenon of anatomy is common in the adjective category, nouns and verbs are somewhat less common, and diamonds and numbers do not (except in some contextual cases)[12].

Analysis and results: Contextual antonym is the incorporation of non-contradictory lexemes into an antonymic relationship by the speaker or author within a particular context[13]. This can be seen in the following verse: Sugar melts like white salt, but one dissolves salt and one dissolves sugar. The phenomenon of omonimia [14]. Lexical homonymy is the phenomenon of equality in the expression plan (pronunciation and spelling) of lexemes. For example, grass ("fire") - grass ("grass"), belts ("hard, leather belt") - belt ("a deep place where water flows from rivers and mountains" ") such as[15]. The lexical-semantic field and the lexical-semantic group are not the same lexical-semantic system. Opposite area from a group is a system of formations that are heterogeneous in nature by the nature of the relationship between their constituent elements (LSG, synonym series, etc.)[16]. According to A.A.Ufimtseva said, “the lexical meanings of individual words in lexical-semantic fields are combined on the basis of at least one common semaphore, the mechanism of combining lexical meanings of words that are the same in lexical-semantic groups and belong to a part of speech[17]. That is, they are distinguished by a certain generality of their grammatical meanings ("subject" for nouns, "sign" for adjectives, "action" or "state" for verbs, etc.)[18].

A specific lexical combination is a series of synonyms. It should be noted that a group, a subgroup, and a number of synonyms differ for a variety of reasons. It is enough to have one common semantic feature in their meaning to group words[19]. The size of the lexical combination depends on which character or semaphore is chosen as the whole unit[20]. A practical way to establish synonymous relationships is the technique of substituting one word for another in the context[21]. Therefore, a synonymous series can include lexemes that belong to different lexical and semantic groups and are located in the intersection zone of lines, subgroups, lexical and semantic groups.

Hence, the concept of field is understood as “a set of linguistic units combined with the generality of content (sometimes the responsibility of formal indicators) and reflecting the conceptual, reasonable, or functional similarity of defined events”[22]. The lexical-semantic field and the lexical-semantic group are not the same lexical-semantic system. A field, unlike a group, is a system of formations that are heterogeneous in nature by the nature of the relationship between their constituent elements (LSG, synonym series, etc.)[23].

Conclusion: First of all, the lexical system plays an important role in the study of lexicology. Newly created or newly learned lexemes from other languages can become meaningful words over time under the influence of various linguistic and non-linguistic factors. Famous nouns are also conditionally added to the list of monosemantic lexemes.

Secondly, the lexical, phonetic and grammatical levels of a language are also interrelated: phonetic units make a word dependent, morphemes form artificial words, the possibilities of conjugation of words, their properties as a methodological tool to their lexical and grammatical meanings and relies on methodological semantics. This requires that lexicology be related to phonetics, morphemes, word formation, grammar, and stylistics.

In conclusion, the lexical system and its subdivisions are the lexical levels that are separated at this stage into two major groups of words - independent and non-independent. This division is based on privacy, and the sign of opposition is "spiritual and functional independence".

References:

[1]. Davlatova Mukhayyo Lingvocognitive and Semantic features of result structures in English and Uzbek languages. International Scientific Conference, Sheffield United Kingdom Science and Civilization Volume 12, 07 February, 2020.-P. No.:83-86

[2]. Sh.Shoabdurahmonov and others. Modern Uzbek literary language. Tashkent, 1980.

[3]. Collective authors. Lexicology of the Uzbek language. Tashkent, 1981.

[4]. Hojiev A. Explanatory dictionary of linguistic terms. Tashkent, 1985.

[5]. Tursunov U. and others. Modern Uzbek literary language. Tashkent, 1992.

[6]. M.H.Davlatova Structural-semantic model of Aspective. Pedagogical skills №1-son 01.02.2020 P.104-108

[7]. Sh.Safarov.Semantics.Tashkent, 2013

[8]. Davlatova M.H. Aspectual variability of information culture in the history of the English language.-International Journal of Integrated Education, Volume3, Issue III,March 2020.-P.34-38

[9]. Davlatova M.H. Variability of Aspectual Meanings in English.-European Journal of Research and Reflection in Educational Science, Volume.7 No.12.2019.-P.778-780

[10]. Davlatova M.H. An Integrative history of Aspectual meanings.-JournalNX-A Multidisciplinary Peer Reviewed Journal, Volume6, ISSUE 4, Apr.-2020.-P.17-22
[11]. Ziyayeva D. A. Verbs of speech activity in the newspapers. ISJ Theoretical & Applied Science, Issue 04 Volume 84.April 30.2020.-P. 1005-1008.
[12]. Yunusova G.A. General Virtues of Umar Khayyam's philosophical views.-International Scientific Journal of Theoretical and Applied Science, Volume: 85, Issue 05.28.05.2020.-P.328-332
[13]. Sadullaev Denis Bakhtiyorovich Concerning the history, formulation and interpretation of the conversion's issue in english language. International Journal on Integrated Education. 3, 3 (Mar. 2020), 95-97.
[14]. Ruzieva M.K. The role of Robert Burns's works in the literature of the enlightenment period // International Engineering journal for research & development // Vol. 5 Issue 3, April 2020.-P.6-14
[15]. Kurban B.Shadmanov, Mukhayyo H.Davlatova, Sanam N.Ostonova, AzimaT. Radjabova,English Renaissance:Transformation of Philosophy understanding as a Factor of Information Culture Development of the Epoch.The American scholarly journal Cross-Cultural Studies: Education and Science (CCS&ES),Volume-5,Issue I,March 2020.-P.61-68
[16]. M.Davlatova. Resultive Constructions in the English language of the English Nation formation period. Евразийский Союз Учёных № 10(67)/ 2019.С.-70-73
[17]. Fattoyeva Z.R.The Influence of Music on Pronunciation. .-JournalNX-A Multidisciplinary Peer Reviewed Journal, Volume6, ISSUE 4, Apr.-2020.-P. No.: 8-12
[18]. Abdullayeva.N.I.Students portrait and its features in English literature.-JournalNX-A Multidisciplinary Peer Reviewed Journal, Volume6, ISSUE 4, Apr.-2020.-P.13-16
[19]. Sulaymonova.D.A. Methods of Increasing the lexical Competence of Students of Technical Higher Educatoion Institutions in the study of Russian language. .-JournalNX-A Multidisciplinary Peer Reviewed Jounal, Volume6, ISSUE 4, Apr.-2020.-P. No.: 26-30
[20]. Sulaymonova D.H. Advantages of Role Play Method in Teaching Speaking in ESL classes. .-JournalNX-A Multidisciplinary Peer Reviewed Jounal, Volume6, ISSUE 4, Apr.-2020.-P. No.: 31-33
[21]. M.X.Davlatova.The role of Songs in learning English.-Journal.Molodoy Uchyonniy, 10(90).2015.P.1145-1147
[22]. Shadmanov K. Formation of a new integral world outlook and English Renaissance philosophy of language: problems of comprehension of semiotic reality//Cross-Cultural Studies: Education and Science (CCS&ES), vol.4, Issue 11, June 2019, pp.72-81.

[23]. A.T.Radjabova. Studying names of Uzbek Dishes as parts of lexeme. ISSN 2308-4804. Science and world. 2016. № 9 (37). Vol. II. Page 61-62.
[24]. Akhmedova.M.B. Typological Aspects of Adequate Translation Methods of "Spirituality" Nominative Units into English. - Psychosocial Rehabilitation journal. Volume 24, Issue 3, UK, 2020.-P. 386-393

UDC: 8.80. 81.811.811.58.811.581.

INFLUENCE OF SUPERSEGMENT DOMINANTS ON THE PHONOVARIATION OF A WORD IN DIVERSIFIED LANGUAGES (ON THE MATERIAL OF CHINESE, RUSSIAN AND UZBEK LANGUAGES)

Nurmukhamedova Mukaddas Abdufattox qizi,
Lecturer, Uzbekistan State University of World Languages, Philology Faculty, Theory and practice of Chinese language Department
Email: mukaddasnur@gmail.com

Аннотация: В данной статье рассматриваются возможные в китайской фонетике суперсегментные просодические элементы и их роль в фонологической системе языка, а также проводиться сопоставительный анализ между флективными и агглютинативными языками с помощью примеров. Между тем, выражены различия тонов в китайском языке, а также явление ударения в русском и узбекском языках. Данные примеры являются основным источником для понимания китайской речи.

Ключевые слова: просодия, тон, ударение, интонация, фонетика, флективные языки, агглютинативные языки, суперсегментные просодические элементы.

Аннотация: Мазкур мақолада хитой тили фонетикасида мавжуд бўлган суперсегмент просодик элементларнинг тил фонетикасидаги ўрни атрофлича тасвирланиб, флектив ва агглютинатив тиллар билан taққосланиб мисоллар орқали тўлиқ очиб берилади. Шу қаторда хитой тилида мавжуд бўлган тонлар ва рус, ўзбек тилларидаги урғу ҳодисасининг тиллар фонетик тизимидаги ўрни мисоллар орқали ифодаланган. Берилган мисоллар хитой тили фонетикасини тушунишда асосий манбаа кўринишида ифодаланган.

Калит сўзлар: просодия, тон, урғу, интонация, фонетика, флектив тиллар, агглютинатив тиллар, суперсегмент просодик элементлар.

Annotation: This article examines the definition of the term “supersegment prosodic elements” in the phonetics of Chinese language and reveals the comparison between fusional and agglutinative languages. The article gives of the current understanding of supersegment prosodic elements in the comparing languages. The examples are useful for exploring a potential ways of understanding phonetic system of Chinese language.

Key words: prosodia, tone, sillable, intonation, phonetics, fusional language, agglutinative language, supersegment prosodic elements.

Introduction: As you know, any speech activity is accompanied with phonetic features of a particular language. In linguistics, the study of phonetic units and their features is engaged in such a branch of science as phonetics. Sounding speech is the main form of speech communication, is an integral part of the functioning of the modern language and a sign of verbal languages. For verbal expression of thoughts, a person uses a special system of signs, known as sounds, letters, morphemes, syllables, words and sentences [1; 251-253].

Abstract. The role of the sign is to represent, in the process of communication, an object, phenomenon or action with the help of symbolic units that help the word to act in the human mind as a substitute for the object. So, for example, when pronouncing a particular lexeme in the human mind, an image of the called object is formed, for example, *хлеб, банан, яблоко, рыба*, while if the pronunciation is distorted, the person is difficult to understand, for example, *сóбака, позволите= позвоните* [2; 215-224].

In addition to the basic phonetic units, in the sound system of the language there are segment and super-segment units of speech. Segment units are the sounds of speech that are arranged in a speech stream one after another in a linear sequence. Segmental phonology is closely related to segments of the speech chain resulting from sequential division. Super-segment units, in turn, are a series of phonetic units that manifest themselves in the form of stress and intonation. In the flow of speech, super-segment units cannot function separately from segment units, that is, they are directly connected and are realized only in sound combinations, overlapping sounds and forming the structure of speech segments [3; 169].

In agglutinative and inflectional languages (e.g. Uzbek and Russian), words and morphemes consist of phonemes, i.e. from the sounds of a language endowed with a meaning-distinguishing function. The phonemes of each language form a certain system, according to which they are all opposed to each other. Speakers of a given language distinguish (by ear) different words or different forms of the same word, because they are different (to one degree or another) in their phonemic composition.

Usually, in the phonetic systems of many modern languages, the minimum phonetic unit is sound. Sound as the shortest unit corresponds to the abstract linguistic concept of a phoneme, which is the central concept of phonology. Sounds in the process of speech are used not in isolation, but in close connection with other sounds, forming together with them sound complexes or segments (parts) of various sizes, attributes and purposes.

In Chinese, unlike the Uzbek and Russian languages, the most minimal meaning-distinguishing and meaning-forming unit is a syllable. The sound stream, or speech, splits into minimal units, which we call syllables. The structure of the syllable in

Chinese is markedly different from the structure of the Russian language. In Russian, a syllable can consist of a different number of sounds (и, ли, лить, слить, скрыть, всхрап, всплеск). In Chinese, the number of sounds in a syllable does not exceed four (yi, lu, mai, huan) [4; 1280].

In Russian and Uzbek languages, we express the message, exclamation and various emotional coloring of words with the help of intonation, i.e. raising or lowering the height of one or more syllables. No matter what timbre a particular word is pronounced, the meaning will not change. In Chinese, a syllable can be pronounced in four different ways, with four different melodies, or intonations, called tones.

Literature review: In his writings V.A. Bogoroditsky, Skripnik Y.N., Smolenskaya T.M., Solovyova N.N., V.M. Solntsev., Rumyantsev M.K., Aleksakhin A.N., Zadoenko T.P., Xu Shizhun., Zhang Tiaohua, Hu Yushu, Shcherbak A.M., Zlatoustova L.V., Potapova R.K., Trunin -Donskoy V.N., Bondarko L.V. and others systematically studied the specifics of the phonetic - phonological system of various languages, segment and suprasegmental units, such as tone, stress and intonation.

Scientists such as L.V. Shcherba, E.D. Polivanov, A.A. and E.N. Dragunovs, V.B. Kasevich, E.A. Bryzgunova, M.K. Rumyantsev, E.B. Trofimova, A.M. Kubarich studied theoretical issues related to the organization of the phonetic-phonological level, segment phonology of the Chinese language and other languages of Southeast Asia.

Numerous works by linguists, sinologists, psychologists, culturologists, etc. (V.A. Bogoroditsky, Y.N. Skripnik, T.) are devoted to the study of the functioning of the Chinese language as an isolated, but at the same time, language of international communication. M. Smolenskaya, N.N. Solovyova, V.M. Solntsev, M.K. Rumyantsev, A.N. Aleksakhin, T.P. Zadoenko, Xu Shizhun, Zhang Tiaohua, Hu Yuishu, L.V. Zlatoustova, R .K. Potapova, V.N. Trunin-Donskoy, L.V. Bondarko, V.V. Potapova, V.B. Kasevich and others). [5; 5].

In Chinese, according to the research in this dissertation, we came to the conclusion that phono-variants of Chinese words need to be understood as a phenomenon of homonymy. By definition, A.A. Khamatova, mainly distinguish four points of view in determining the phenomenon of homonymy.

According to the first point of view, homonyms are words that have an identical phonetic shell, but different etymological meaning, regardless of the graphic spelling. This point of view is supported by many philologists, like V.V. Vinogradov, O.S. Akhmanova, L.A. Bulakhovsky, M.E. Galkina-Fudoruk, S.I. Kanonich, S. Balli and others. The second group of linguists are of the opinion that words that have the phonetic composition of the syllable are identical, and the meaning is different, the spelling must also be the same. The third group of linguists refers to homonyms words that are identical in sound, but differ in meaning and spelling. [1; 48]. However, it mainly uses the opinion put forward by the first group of linguists, according to which homonyms are equally sounding words.

Homonyms in Chinese are words that have the same sound and different meanings. However, the tone is not taken into account.
Despite this, this point of view is not completely accurate, since the minimal phonetic unit in the Chinese language as a morpheme or word is not a separate sound (phoneme), but a tinted syllable, i.e. syllabema. [6; 136].

Since the tone in the Chinese language is an integral part of the phonetic shell of the word and plays a meaningful role, homonyms in the Chinese language are words that are identical in sound and in tone distribution, and sometimes have a different hieroglyphic designation. Hence the conclusion that homonyms in Chinese are words that are identical in sound (including tone), but have different meanings regardless of the hieroglyphic spelling. For example: 花 huā-flower- 花 huā-spend;吉利 jílì-happy 及 力 jílì-with all his might. [7; 7-8].

The methodological basis of the scientific article was the work of several famous scientists, such as L.V. Shcherba, R.I. Avanesov, N.S. Trubetskoy, R.O. Jacobson, A.M. Kubarich, V.I. Gorelov, N.A. Speshnev etc.
In their studies, Lew Yue Hua, Pan Wen Yu, Young Ji Jou, V.A. Bogoroditsky, Ya.N. Skripnik, T.M. Smolenskaya, N.N. Solovyova, V.M. Solntsev, M.K. Rumyantsev, A.N. Aleksakhin, T.P. Zadoenko, Xu Shizhong., Zhang Tiaohua, Hu Yushu, A.M. Shcherbak, L.V. Zlatoustova, R.K. Potapova, V.N. Trunin-Donskoy, L.V. Bondarko et al. Systematically studied the specifics of the phonetic-phonological system of various languages, segment and suprasegmental units, in particular tone, stress and intonation [8; 24].

Wan Fusyan, Yang Tiange, Lu Shusyan, Wu Jihui, L.V. Shcherba, E.D. Polivanov, A.A. and E.N. Dragunovs, V.B. Kasevich, E.A. Bryzgunova, M.K. Rumyantsev, E.B. Trofimova, A.M. Kubarich, M. Iriskulov, A.A. Abduazizov, E.R. Kilichev, I. Rasulov, A. Shomaksudov, A.A. Khaidarov, Z.M. Kobilova and others were engaged in the study of theoretical issues related to the organization of the phonetic-phonological level, segment phonology of the Chinese language and other languages of Southeast Asia.

Nevertheless, the problem of a comparative study of prosodic dominant units in multisystem languages, their meaning-distinguishing properties and their influence on the phono process was not the subject of a special study.

Research methodology. Research methods are a comprehensive examination of the object of study from a phonetic-phonological position. The following were used in the work: a descriptive method (for analyzing the representation of prosodic dominants in comparable languages and an analysis of their characteristics), a method for directed sampling of monosyllabic and two-syllable lexemes of Chinese, Russian, and Uzbek languages, a comparative method (for identifying general and specific characteristics of prosodic dominant units in Chinese, Russian and Uzbek languages), the method of stylistic analysis (to determine the stylistic characteristics of the phono-variants of the studied units) [9; 169].

The originality of communication in a foreign language is also determined by the specifics of the phonetic systems of the native language. So, for example, in the Russian language, donation can fall on any word of the word, it is able to fulfill a meaningful function and shift when changing (movable), measure. For example, вода´ - во´ду, стены´ - сте´ны, за´мок - замо´к.

In the Uzbek language, as well as in other Turkish languages, donation is fixed and falls on the next syllable. However, there are words and syllable forms, in which deletion can also be found on other syllables. The power on the last syllable is found in the two major parts of speech, as well as in the single root words in combination with single morphemes. For example, qilmo´q, quruvchi´, ketga´n, mexri´m, oftobi´. In three-syllable and more words, consisting of a root or a base in combination with unary morphemes, together with the removal of the last syllable - the most strong one can be more weak. For example, ko'chirmo`q, tahlamo`q, bodomzo`r. In Chinese, this role is performed by the one who is fixed and also acts to distinguish words. The Chinese language is an isolated language and refers to the blue - Tibetan family of languages. There are many kinds of names, which differ between each other in four tones, which gives rise to some difficulties in learning a given language. Each tone is for a separate meaning. For example, ma (1) 妈, ma (2) 麻, ma (3) 马, ma (4) 骂.

Conclusion. Chinese language - it is arranged in such a way that the super-segment level in it is closely connected with the segment one much more closely than in other languages of the world, such as, for example, Russian and Uzbek. Tone - a super-segment unit that performs a meaning-distinguishing function in Chinese - can only be implemented in a unit of the segment level - the syllable. At the same time, the syllable itself, without taking into account tonal differences - syllabem - has no semantic content

As noted above, the Chinese language, unlike other language families, is distinguished by the presence of a tone system in its composition. It is also built on syllables, i.e. one word can consist of one or several syllables, and each syllable of a whole word, in turn, is characterized by one or another tone, which, as indicated above, is called an etymological tone.

Tone - a melodic voice pattern, which is characterized by a change in pitch. Each syllable of the Chinese language includes a final. Finals, depending on the meaning of the word, can vary in their pronunciation in five different tones. Consequently, the meaning of the syllable may vary depending on the tone in which it is pronounced (see table 1). [10; 98].

Table 1. Changing the meaning of the Chinese syllable depending on the tone

妈	mā	мать
麻	má	конопля
马	mǎ	лошадь
犸	mà	мамонт
安	ān	спокойный, тихий
俺	ǎn	мы, наш
岸	àn	берег
八	bā	восемь
拔	bá	выдергивать
把	bǎ	держать, схватить
爸	bà	отец
歌	gē	песня
革	gé	кожа
合	gě	100 мл.
各	gè	каждый

According to studies in the field of prosodic dominants in the Chinese language, we came to the conclusion that phono-variants of Chinese words should be understood as a phenomenon of homonymy.

Reference

[1] Kubarich, A.M. Issledovanie relevantnix supersegmentnix yedinis dlya raznostrukturnix yazikoiv / A.M. Kubarich // Mir nauki, kulturi, obrazovaniya. Gorno-Altaysk. 2014. No.3. (46) s. 251-253.
[2] Aleksaxin A.N. Prinsipi sarvneniya fonologicheskoy strukturi slova russkogo I kitayskogo yazikov / A.A Aleksaxin // Vestnik MGIMO Universiteta. 2014. – No.3. – s. 215-224.
[3] O. N. Korotkov, “Russian colloquial speech”, M., 1968, p.148.
[4] Kitaysko-russkiy slovar / Pod red. Sya Junyi – M.: Veche – 2005. – s. 1280.
[5] M.A. Nurmukhamedova. Comparative studies of prosodic dominant agents in Chinese, Russian and Uzbek: mag. Diss. - Tashkent. 2018 . — p. 5

[6] A.A. Dragunov. “The grammatical system of modern Chinese spoken language", L., 1962, p.136".
[7] A.A. Khamatova. Homonymy in modern Chinese - M., 2006., p. 7-8
[8] M.A. Nurmukhamedova. Comparative studies of prosodic dominant agents in Chinese, Russian and Uzbek: mag. Diss. - Tashkent. 2018 . — p. 24
[9] Kubarich A. M. Super segment segments of the Chinese language: diss ... cand. filol. sciences. - Biysk, 2016 .— p.169.
[10] M.A. Nurmukhamedova. Comparative studies of prosodic dominant agents in Chinese, Russian and Uzbek: mag. Diss. - Tashkent. 2018 . — p. 98.

UDC: 316.74:3811.512.133

CATEGORY OF GENRE IN SACRED TEXTS

Turakhonova Badia Omonillayevna
Uzbekistan State University of World Languages
The English language faculty -I
Teaching English methodology department
E-mail: bturaxonova@gmail.com

Abstract. The author introduces criteria for genre percipience, such as the communicative goal, the degree to which the utterance affects the addressee, and sacredness. Inside the genre buildings, the author proposes to distinguish texts by thematic content, style and composition.

Noting the close connection between style and genre, the researcher suggests understanding the religious language "as a system of genres, many of which coincide with the secular language genres or are the progenitors of secular language genres."

Key words: preaching, category of integrity, subsystem, profane, proto-genre, Canonical, divine service, frame.

Аннотация. В последние несколько лет осмысление такой сложной проблемы, как систематизация жанров религиозного стиля, активизировалось.

Автор вводит критерии восприятия жанра, такие как коммуникативная цель, степень влияния высказываний на адресата и сакральность. Внутри жанровых построек автор предлагает различать тексты по тематическому содержанию, стилю и композиции.

Отмечая тесную связь между стилем и жанром, исследователь предлагает понимать религиозный язык «как систему жанров, многие из которых совпадают с жанрами светского языка или являются прародителями жанров светского языка».

Ключевые слова: проповедь, категория целостности, подсистема, профан, прото-жанр, каноническое, богослужение, фрейм.

Annotatsiya. So'nggi yillarda diniy uslublar janrlarini tizimlashtirish kabi murakkab muammoni tushunishga intilish yanada kuchaydi.

Shuningdek, muallif kommunikativ maqsad, aytilgan so'z adresga ta'sir ko'rsatadigan daraja va muqaddaslik kabi janrlarni farqlash mezonlari bilan tanishtiradi. Muallif janrli qurilmalar ichida matnlarni tematik tarkib, uslub va kompozitsiyalar bo'yicha ajratishni taklif qiladi.

Uslub va janrning o'zaro bog'liqligini ta'kidlab, tadqiqotchi diniy tilni "dunyoviy til janrlariga to'g'ri keladigan yoki dunyoviy til janrlarining avlodlari bo'lgan janrlar tizimi sifatida" tushunishni taklif qiladi.

Kalit so'zlar: voizlik, yaxlitlik kategoriyasi, quyi tizim, nomaqbul, proto-janr, kanonik, ilohiy xizmat, ramka.

Introduction. Written and oral texts of various genres are created in the framework of non-official activities in the official business, scientific, journalistic, scientific, artistic, and everyday spheres. The relevant texts combine the features of two functional styles. Confessional mass media (newspapers, magazines, radio, television, Internet) are active; a scientific style is functioning with its own system of sub-styles (academic, scientific, educational, popular science); developing artistic creativity of various genres.

One of the grounds for classifying genres in a religious functional style is the addressee category. Researchers have already noted the bi-directionality of religious communication [3, 225], when God and man participate in the dialogue. We consider it possible to single out the following types of religious communication: a person turns to God; God addresses man; the person turns to the person.

Religious style is represented by a set of genres-textotypes that have a functional community and, at the same time, differ in the purpose of communication and the characteristics of the communicative situation. In the religious genre, preaching is one of the most prominent representative genres, the study of which in linguistics is relevant [11, 160].

Literature review. A text understood as a sequence of symbolic units united by a semantic connection is indisputably characterized by the presence of such global text categories as integrity (integrity) and connectedness [Arutyunova 1971; Leontiev 1976; Buchbinder, Rozanov 1975; Galperin 1977, 1981; Sevbo 1969; Yuganov 1987; Sorokin 1982; Kanter, Ovechkina 1984; Nikolaeva 1978; Syntax of the 1979 text; Karimova 1985; Kupina 1983; Maydanova 1984; Romanovskaya 1992; Loseva 1990; Murzin, Stern 1991; Milevskaya 2006], moreover, “the coherence and integrity of the text are somewhat opposed, but at the same time they presuppose each other” [Murzin, Stern 1991, p. eleven]. Many researchers believe that an indispensable condition for the integrity of the text is thematic coherence, that the integrity of the text is thematic in nature, determined by the unity of the speaker’s intention, whose explication is the theme of the text. As A.I. Novikov notes, “The topic as a convoluted and generalized representation of the content is the end result of the process of comprehension. It is a comprehensible and explicit intention of the author, implemented in words and decoded based on meaning.

It is after identifying the topic that completes the process of forming the integral structure of the content, the role and function of each element of the text finally becomes clear ”[8, 112].

The category of integrity in the text has a psycholinguistic nature and is provided by various means of connectedness: phonetic, grammatical, semantic, communicative, allowing the implementation of different types of connectivity. As A.A. Leontiev notes, “the essence of the phenomenon of integrity is psycholinguistic, it is rooted in the unity of the communicative intention of the speaker (s) and in the hierarchy of semantic predicates. In this regard, it is possible to define a whole text as a text that, when moving from one successive stage of compression to another, deeper, each time retains semantic identity, losing marginal elements ” [6, 47].

Research methodology. The basis for the allocation of genres in this genre subsystem is the needs of profane members of religious communication, which are based on the subject-activity principle. In Orthodox theology, there are three goals of prayer, understood in the broad sense of the word as conversation, dialogue with God: request (with repentance), thanks, and praise. The order of prayers is determined, in particular, by the fact that prayings of prayers will not be heard without prior.

All genres of religious communication included in the subsystem of the proto-praying – praying are correlated with these three goals. Analysis of various genres shows that each of them contains all three goals, but the dominance of one of them or the nature of their combination forms a certain genre. Accordingly, the categories of place (church / not church), time (Divine services / non Divine services) and the number of worshipers (collective / personal prayer) are involved.

In modern reality, proto-genre cannot exist as something integral, it exists as a set of genres. In turn, the genres that form this subsystem are divided into subgenres for various reasons. Let us name the following grounds for the subgenre division of the genre of prayer itself.

The division of prayer into social and personal, the basis of which is the correspondence of the praying text to the catholic spirit of the Church, allows us to propose the following classification:

1. Public, church prayers take place during worship; the clergyman is an obligatory participant in communication; the texts are canonical, exist in writing, during the service they are read or sung from a book or by heart. For public prayer - Liturgy, evening, prayer service, requiem, lithium, etc. - a combination of genres of various intentions is characteristic. Public prayer is a communicative event correlated with a complex of genres.

2. Prayers are personal, private, uttered in addition to public divine service (we note that during public worship it is forbidden to engage in personal prayer), they are uttered by a layman without an intermediary, a clergyman, and often have a free form that is not fixed canonically. Relative to the event, prayers are distinguished: before and after some deed (eating, teaching, the beginning of any good deed, reading of holy books).

The leading basis for distinguishing subgenres of prayer is pragmatic: thanksgiving, laudatory, intercessory, repentant prayers. Deductive subgenre articulation is often multi-level. So, prayings, in turn, are divided into groups depending on the specific needs of the person. Here is just a list of prayers for healing from bodily ailments: for patience with illnesses and misfortunes; from various ailments and diseases; from headaches; breast diseases; eye diseases; Toothache heart disease, etc.

The second type includes genres in which God refers to a person, personally, as happens in the proto-text, or through an intermediary - a clergyman, as happens during a service. Such genres form a sub-system that has the genetic basis of the proto-genre of preaching. This sub-system combines genres whose main goal is the dissemination of religious truths. The periphery of the subsystem includes hybrid genres of the novel, story, article, devoted to the explanation of the religious worldview.

Analysis and results. The division of the sermon into genres is due to the peculiarities of the communicative situation (place, time, goals, number of participants).

The genres that make up the subsystem of the proto-genre of preaching are divided into sub-genres depending on a number of style-forming factors, including the purpose, theme, addressee, addressee, and form of speech.

For example, this is the systematics of the message genre:

1. Purpose: informational, didactic and epidemic messages;
2. Theme: messages for the holidays of the church year circle, significant events in the life of the Church, state, person;
3. Addressee: “intra-church” “extra-church” messages;
4. Addressee: single and group.

The third type includes genres in which a person addresses a person, while both participants in communication are in the profane world. This subsystem is formed by genres that originated from a living proto-genre, the purpose of which is to give the reader a model of behavior, to show the path of salvation, deification. The subsystem includes the genres of life itself, biography, autobiography, as well as the genres of the novel, novel, essay, if they are dedicated to the image of a person who is a carrier of religious values.

V.V. Odintsov defined the text as a complex structure of variously related categories of content (themes and content itself) and form (composition and language), drawing attention to the fact that stylistic analysis should reveal the nature of “content”, i.e. text structures [Odintsov 1980, p. 35]. In linguistics of the text, the concept of composition is linked to the processes of dividing the text continuum into informative segments, grouped into informative blocks, and combining information within each segment and block; as well as between blocks in a textual whole [Valgina 2003]. In other words, a composition is a grouping of content elements according to a certain pattern that creates a “frame on which the text rests” [9, 178].

It is significant that in modern text linguistics the idea of V.V. Vinogradov on composition as “dynamically developing content” [2, 116]. The dynamic approach to composition is very close to the communicative approach that was originally characteristic of rhetoric, in accordance with which the composition of a speech work is defined as the structure, relationship, relative arrangement of parts. By means of which the addressee controls the attention of the addressee.

Within the categorical-textual concept, the category of composition is also closely related to the category of topics. If the topic is a generalized subject of discussion, the semantic core of the text, its generalized content [7, 47], then composition is "this is a form of expression and development of the topic" [5, 68], a method of structuring it.

The term sacred and profane make up the opposition. Situational issues are distinguished by a special ratio of sacred and profane components, as well as a special function (compositional).

The considered logical classification of topics allows us to put forward a hypothesis about the varying degrees of importance of particular subject topics (the subject-sacred topic is, of course, the most significant in content, and profane and systematic — pragmatically and organizationally), as well as general thematic relationships: the whole subject the subject is subject to a single spiritual theme, the main and obligatory in the text of any sermon.

Conclusion

1. In general, differences in genres (textotypes) are characterized not only by stylistic, but also by constructive differences. The differences of text types within one functional style are determined primarily by constructive and stylistic techniques, methods of processing and presentation of content.
2. The genre can be defined as the type of speech product distinguished within the framework of a particular functional style, characterized by the unity of the constructive principle, the peculiarity of the compositional organization of the material and the stylistic structures used.
3. One of the problems of the genre system of religious style, noticed by linguists, relates to the classification of some genres at once in two areas: secular and religious.
4. The genre as a stable, objective education is being transformed depending on the sphere of explication, acquiring or losing some optional features while maintaining genre-forming features, and the above applies both to individual genres and their system: The genre system is stable on each stage of its development, but the balance of genres is constantly disturbed from the outside and restored on a new basis.
5. Genre systems no less than the style as a whole depend on extralinguistic factors (the sphere of public consciousness, the sphere of activity). Speech brings to the forefront the study of the extralinguistic foundations of human speech activity. A

change in the extralinguistic situation leads to a transformation of the genre system.

Modern religious communication is a complex multidirectional process taking place both in the liturgical sphere, traditional for this phenomenon, and, due to changed extralinguistic conditions (the development of scientific and technological progress: the Internet, mobile telephony), in the non-service sphere.

The communicative-pragmatic approach is directly related to the text, since the analysis of various communication conditions, the conditions for the generation of statements is in a certain way connected with the nature of the generated text, its linguistic features and genre.

References:

[1]. Valgina N.S. Teoriya teksta / N.S. Valgina. Moskva: Logos, 2003. 280 s.

[2]. Vinogradov V.V. Stilistika. Teoriya poeticheskoy rechi. Poetika / V.V. Vinogradov. Moskva: Izdatel'stvo AN SSSR, 1963. 255 s.

[3]. Voytak M. Proyavleniye standartizatsii v vyskazyvaniyakh religiozno-go stilya (na materiale liturgicheskoy molitvy) / M.Voytak // Tekst: stereotip i tvorchestvo. Perm': Permskiy gosudarstvennyy universitet, 1998. S. 214-230.

[4]. Kayda L.G. Stilistika teksta: ot teorii kompozitsii - k dekodirova-niyu / L.G. Kayda. Moskva: Flinta, 2004. 208 s.

[5]. Kling V.I. Kompozitsionno-tematicheskiy aspekt obzornoy nauchnoy sta¬t'i // Tekst v funktsional'no-stilevom aspekte. Moskva, 1988. S. 66-73.

[6]. Leont'yev A.A. Priznaki svyaznosti i tsel'nosti teksta / A.A. Leont'yev // Smyslovoye vospriyatiye rechevogo soobshcheniya (v usloviya massovoy kommunika¬tsii). Moskva, 1976. S. 46-47.

[7]. Moskal'skaya O.I. Kompozitsionnaya struktura mikroteksta // Sb. nauch. tr. MGPIIYA im. M. Toreza. Moskva, 1978. Vyp. 125. S. 46-50.

[8]. Novikov A.I. Semantika teksta i yeye formalizatsiya. Moskva: 1983, Nauka,215 s.

[9]. Odintsov V.V. Stilistika teksta / V.V. Odintsov. Moskva: KomKniga, 1980. 1264 s.

[10]. Odintsov V.V. Funktsional'nyye tipy russkoy rechi. Moskva: Vysshaya shkola, 1982. S. 130-218.

[11]. Salimovskiy V.A. Zhanry rechi v funktsional'no-stilisticheskom osveshchenii (nauchnyy akademicheskiy tekst) / V.A. Salimovskiy. Perm': Izdatel'¬stvo Permskogo universiteta, 2002. 236 s.

UDK: 17.51

ON THE WAY TO ENDING THE CONFLICT BETWEEN FATHER AND CHILD

Yoqubov Sharif
Termez State University,
Faculty of Pedagogy
Associate Professor of the
Chair “Primary Education”
E-mail: sharif.yoqubov@mail.ru

Annotation: The appointment of Badi al-Zaman as the ruler of Balkh after the Battle of Hissar, and at the same time the execution of Mumin Mirza, showed that there will inevitably be bloody clashes between father and son. The article analyzes the letter of A. Navoi to Badi al-Zaman and describes their meeting to convince him to make peace with his father, in order to mitigate this situation. It is also narrated that the tricks and deceit of provocateurs in the palace, despite these efforts, led to the beginning of bloody clashes and the collapse of the country.

Keywords: Balkh government, Gissar war.

Аннотация: Назначение Бади-аз-Замана правителем Балха после Гиссарской битвы, и в то же время казнь Мумин Мирзы, показало, что неизбежно будут кровавые столкновения между отцом и сыном. В статье анализируется письмо А. Навои Бади-аз-Заману и описывается их встреча, чтобы убедить его помириться с отцом, с целью смягчения этой ситуации. Также повествуется, что уловки и обманы провокаторов во дворце, несмотря на эти усилия, привели к началу кровавых столкновений и распаду страны.

Ключевые слова: Правительство Балха, Гиссарская война.

Аннотация: Ҳисор урушидан кейин Балх ҳокимлигига Бадиуззамоннинг тайинланиши, бу орада Мўмин Мирзанинг қатл этилиши ота-бола ўртасида муқаррар қонли тўқнашувлар бўлишини кўрсатди. Мақолада А.Навоийнинг ушбу ҳолатни юмшатиш мақсадида Бадиуззамонга ёзган хати таҳлил этилади ва у билан учрашиб, отаси билан ярашишга кўндириши ёритилади. Шунингдек, саройдаги иғвогарларнинг ҳийла ва найранглари ушбу саъй ҳаракатларга қарамасдан қонли тўқнашувларнинг бошланишига ва мамлакатнинг пораканда бўлишига олиб келиши баён этилади.

Калит сўзлар: Балх ҳокимлиги, Ҳисор уруши.

Introduction: (Munshoat - letter 54) In the second half of the nineties of the fifteenth century, conflicting events reigned in the goverment of Hussein Boykaro. At the first meeting held after the end of the Gissar war in 1497, Hussein Boykaro freed his eldest son Badiuzzaman from the governorship of Astrobod and appointed him governor of Balkh province. The governorship of Astrobod was handed over to

Muzaffar Mirza. Badiuzzaman did not like these events. There was a conflict between father and son. Events developed in such a way that the Father and the Son began to prepare for a military confrontation. It is A. to prevent this loss, to save the people from genocidal wars. Navoi did a lot of work. The conflict between Hussein Boykaro and his son Badiuzzaman put the country in a difficult position. The father did everything in his power to ease the tension between the children. When the princes approached, he met them face to face and eased the situation. Sometimes when he was away, he sent letters and influenced them. A. In most of Navoi's letters, we see that he was in constant contact with Hussein Boykaro. When he was far away, he would warn the king by writing down the thoughts that ruled in his heart. Among such letters, the 54th letter of the poet from the work "Munshoat" is especially noteworthy. This letter is one of Navoi's most disturbing letters to Badiuzzaman. In 1497, an unfortunate situation arose between Hussein Boykaro and Badiuzzaman. The father began to act against the son, the son against the father. At that time Badiuzzaman was in Balkh. He sent a letter explaining the situation in the country and trying to help the prince understand the truth. As he writes the letter, he begins his thoughts from a distance, then states his views one by one and urges Badiuzzaman to make a correct assessment of the events of life.

Analysis of Subject Matters

It first cites the views of the prophets and great scholars, especially Solomon (a.v.s.), about respecting father and mother. He states that "The power of the father is absolute, the consent of the mother is marsum" (our traditions). Adib Ahmad's words about endless respect and appreciation of parents [1].

Although A. Navoi wrote a number of beautiful poems about the honor and dignity of parents, he does not quote his own in the letter. He quotes a poem by Adib Ahmad, who became famous in the Muslim world. This is also one of the key factors in influencing the listener and justifying their opinion. Even when the father sins, he tells him to respect him, to explain to him his place. Ozari Buttarash, the father of Ibrahim Khalilullah, Yusuf a.v.s. with his father James a.v.s., Noah a.v.s. gives an example of the events between him and his son Hom. His father substantiates his opinion by mentioning that his face was black because he did not respect Noah a.v.s. [2].

Research Methodology: The article analyzes A.Navoi's letter to Badiuzzaman in such a situation and describes how he met him and persuaded him to reconcile with his father. But the provocateurs in the palace use cunning to describe the beginning of bloody clashes and the country's disintegration.

Analysis and results

In the following lines of the letter, Badiuzzaman gives an analysis of life events. Initially, Navoi states that he was kind to the prince, glorified him in his works with special sections and themes, and gave advice. Then Badiuzzaman cites one by one the mistakes he made. First of all, it shows that Badiuzzaman was confiscating state-owned property without consultation or questioning. When you need to do so, counseling tells you to consult. Elsewhere, he severely reprimands Badiuzzaman. This incident makes one think more deeply. The prince strongly condemned his actions, saying that he had previously divided the country of Iraq to his relatives when he was governor of Astrobod. He strongly condemns Iraq, saying it is inappropriate to act in advance when it has not yet been captured. "There's still nothing like this kind of pictures, it's obvious - it's a pity for you," he said. Badiuzzaman's behavior was probably due to his strong belief in himself and his father's military might. The power of a state like Iraq was not so great in the face of a powerful country like Khorasan, which on one side borders the ancient Gissari Shodmon and Kunduz, and on the other side borders Iraq and Azerbaijan. Believing this, the prince did the wrong thing beforehand. It was arbitrary. "However, the planned military operations should have been kept secret and the enemy should not have been aware of it," he said. Badiuzzaman disobeyed the military rule and alerted the Iraqi rulers. Neighboring Iraq, on the western border of Khorasan, has threatened Astrobod, a strategically important state in the west of Hussein Bayqara's state. This threat intensified in the second half of the 1980s. Hussein Boykaro felt it and for some time with his close friend A. in order to strengthen the western regions of the country. He sent Navoi to rule Astrobod. Amir Alisher did the job perfectly. However, summarizing his views on Iraq, he wrote to the king: In one of his letters, A. Although Navoi went to Astrobod and established good relations with the Iraqi ruler, Suton Yaqubbek, he insisted on paying special attention to the country and following it. A. After Navoi's return to Herat in 1488, the former ruler Amir Moghul was again appointed governor of Astrobod [3]. However, after some time, when it became known that Hussein had acted against Bayqara, he appointed his eldest son Badiuzzaman to this position. Amir Moghul fled to Iraq. Sultan Yaqubbek gave him a place among his emirs. These events show that the poet's opinion is well-founded. The newly appointed governor of Astrobod strengthened the western borders of the country, and governed the province well.

Each ruler sought to expand his country. Hussein Boykaro was not far from the same idea. He had planned to annex Hissari Shodmon and Kunduz in Iraq and the eastern part of his country on the western border. In particular, the governor of Astrobod agreed with Badiuzzaman on this issue, made certain actions, and gathered a large army. With some news coming from Iraq, he was thinking of doing this. But another subtlety of the matter was that Badiuzzaman's rapid growth was unpopular with some members of Hussein Boykaro's family. In particular, Mirza's beloved wife Khadijabegim and some of the amirs and beys in the palace ignited a spark of envy in their impure hearts. Trying to raise the status of her son Muzaffar Mirza, Khadijabegim will do her best and feminine delicacy to appoint her to the throne. Hussein repeatedly mentions this in some of Boykaro's mental states. A number of officials in the palace were also involved in the affair, trying to influence the king. As a result of their influence, Hussein Boykaro decided to put Muzaffar Mirza in one of the important points of the country. For some reason, the army sent to Astrobod was stopped, and in the early winter months of 1496, the army began to march towards Gissari Shodmon, as for many years the rulers of Gissari Shodmon, in the east of the country, were attacking Balkh and its environs. Due to this, Hussein Boykaro strengthened the eastern border of the country [4].

Hisori attacked Shodmon and Kunduz to establish their rule. During the winter, he came to Termez and prepared to cross Jaihun. In Termez, Sultan Masud, the ruler of Gissari Shodmon, blindly watched the river. The two armies ambushed each other. Badiuzzaman from Astrobod had also arrived with his army. Leaving the invasion of Iraq, the prince was not pleased with his father's march on ancient Hissar. Muzaffar Mirza, who was sent to Khatlon province in accordance with the general plan of hostilities, occupied these lands without encountering enemy resistance. Badiuzzaman, who was sent to the city of Kunduz on the left bank of the Amu Darya, preferred a trench battle to an attack on an enemy stronghold. He went with Khusravshah inside the castle - he came and started his work. When Badiuzzaman came to this country with his army, he was not active, because he was aware of the corruption in the palace. It is possible that Muzaffar Hussain, who started the war against Hisori Shodmon, appointed Muzaffar Hussein Mirza as his ruler after taking the land, placed his two sons on the two important borders of the country, and enjoyed the peace of the country of Khorasan. However, Hussein Bayqara's military efforts in the spring of 1496-1497 against Hisori Shodmon (now the territory of Surkhandarya was also under his control) did not yield results. The war ended with a truce of non-war and friendly relations.

Sultan Masud's sister married Bekabegim, the daughter of Khonzodabegim from Termez, to Hussein Boykaro's son Haydar. The wedding ceremony began. The two warring parties came together to celebrate the visal wedding of the two young men. In turn, Hussein Boykaro also decided to give one of his daughters to Sultan Mas'ud. At first glance, the country's eastern border has been strengthened. But then a terrible thing happened at the first meeting. Muzaffar Mirza was appointed governor of Astrobod on the western border of the country, and Badiuzzaman Mirza of Balkh province. The incident dealt a severe blow to Badiuzzaman, who had ruled Astrobod for a number of years and fell in love with it. The prince did not like the transfer of the land to Muzaffar Mirza at a time when the king was marching on Hisori Shodmon and Badiuzzaman was being driven away from Astrobod with his army. Because of this incident, a dispute arose between the father and the child. Because when Badiuzzaman's eldest son, Momin Mirza, was circumcised, the king had given him Astrobod as a gift. Badiuzzaman did not accept his father's decision. There were dramatic incidents between the father and the child. In the end, both sides prepared for a pointless war. Sultan Badiuzzaman also sent a letter to his father's enemies, conveying his decision to them. In a letter to his son Mumin Mirza, who was in Astrobod, he instructed him not to surrender the city, to gather troops and prepare for hostilities. At that time, Sultan Badiuzzaman wrote to his father, "If you do not send a man to Astrobod, I will not give it to you." But Navoi says these sentences also need to be more polite. A. In the next lines of the letter, Navoi states that Badiuzzaman's prayer sermon did not bless his father, Hussein Boykaro, and that he removed his father's name from his banner, stating that it was better not to do so. Despite the fact that his father, Hussein Boykaro, is the fourth generation, he says that every Friday he teaches a sermon in the name of his great grandfather Amir Temur. "What can come to Mirza (Husayn Bayqara) except prayer?" The letter refers to the consequences of historical figures who went against their fathers, in particular, that Abdulatif Mirza went against his father and killed his father Buzrukvori and his subsequent fate. Husayn Bayqara's love for Badiuzzaman, his respect for him and his careful treatment of him, prompted the prince to come to class and not to go against his father [5; 6].

These events were closely followed by the provocateurs in the palace, who did their best to intensify the conflict between father and son. He persuaded the king to raise his sword against his rebellious son Baduzzaman. Among them was Z.M., who said, "She was sensible, and Vale was a foolish and greedy woman." Khadijabegim, valued by Babur, was also a major force. These forces would interfere with the relationship between the father and the son by hiding from each other. Only A. Only righteous people near the king, such as Navoi, would persuade them to turn back from this path, to prevent an impending catastrophe. Therefore, Navoi writes in the letter that he served Hussein Boykaro and his children impartially, did his best to strengthen the kingdom. He urges the prince to turn back from this path, to reconcile with his father, emphasizing that Badiuzzaman himself was a witness to what he had done along the way. When he burns his soul in the face of such a catastrophe, he grieves deeply, saying that the skirts of others will not burn. At that time, dark clouds were hovering over the Khorasan state, and the poet, who felt responsible for preventing the impending loss, wrote these few words without hesitation. At the end of the letter, he states that he wrote it not on behalf of someone, especially Hussein Boykaro, but with his own instinct, and that he was doing his duty to the people.

Conclusions and Suggestions: Of course, Badiuzzaman read Master Navoi's letter and rubbed it in his eyes. He feels that everything written in it is true. But the escalation of the conflict encourages him to raise his sword against his father. Ambassadors sent by Hussein Boykaro cannot alleviate the situation.

1. As the situation worsened, A. Navoi, in consultation with the king, rode to Badiuzzaman. Using all his skills, he persuaded the prince to turn back from this path.

But the dark forces in the palace did not rest in peace. Navoi successfully completed the work in Balkh, as mentioned above. ". He wrote a letter to him (commandant) of Balkh, and when Badiuzzaman went to the outskirts of the city, he closed the gates of the fortress and sent a written order not to let him into the city. The letter fell into the hands of Badiuzzaman. As a result, a terrible war broke out between father and son. This senseless war claimed the lives of many innocent people. "As a result, the sons of Hussein Boykaro, who had reached the old age, revolted against their father Buzrukvorla, thanks to the support and support of their supporters. The country was in a state of disarray. Alisher Navoi also tried to soften the conflict in the country as much as he could.

References

[1]. V.Abdullaev. Navoi in Samarkand. -T .: "G. Gulom", 1968. 62 p.

[2]. A.Navoiy. "Munshoat" Tashkent: Ghafur Ghulam Fiction Publishing House, Volume 13, page 126.

[3]. A.Navoiy. The above work, Page 130.

[4]. Sh.Sirojiddinov. A.Navoiy. Comparative-typological, textological analysis. Tashkent: 2011. Page 123.

[5]. V.Zohidov. The heart of the great poet's work - Tashkent: "Uzbekistan" 1970. 80 p.

[6]. Z.M.Bobur. "Boburnoma" Tashkent: Publishing House of the Academy of Sciences of the Uzbek SSR, 1960. Page 91.

[7]. Izzat Sultan. Navoi's heart book. Ghafur Ghulam Publishing House of Fiction - Tashkent: 1969.

[8]. A.Navoiy. Encyclopedic Dictionary. 1-2 vols. Sharq Publishing and Printing Joint-Stock Company Editor-in-Chief-Tashkent: 2016.

[9]. A.Navoiy. "Munshoat". Tashkent: Ghafur Ghulam Publishing House of Fiction, Volume 13, Page 158.

[10]. A.Navoiy. Encyclopedic Dictionary. 1-2 vols. Publishing and Printing Joint-Stock Company Editor-in-Chief-Tashkent: 2016. Page 146.

UDK: 658.334.012(575.1)

THEORETICAL FOUNDATIONS OF DEVELOPMENT DIGITAL ECONOMY

Sherzodbek Ruzmetov, Associate Professor,
Head of the "Economics" Department,
Urgench State University.
E-mail: r_sherzod2004@mail.ru

Inomjon Yusubov
PhD student, "Economics" Department,
Urgench State University,
E-mail: Inomjon_y@mail.ru

Annotatsiys: Ushbu maqolada raqamli iqtisodiyot tarixi, zamonaviy dunyoda elektron tijoratning ahamiyati, O'zbekiston iqtisodiyotiga elektron tijoratning joriy etilishi, YIMda IT ulushi, elektron tijorat modellari turlari, raqamli iqtisodiyot tarkibiy qismlari ko'rib chiqilgan va tavsiyalar berilgan.

Kalit so'zlar: Raqamli iqtisodiyot, elektron tijorat, elektron hukumat, elektron imzo, YaIM (yalpi ichki mahsulot), IT, elektron aloqa, inson kapitali, elektron biznes infratuzilmasi, dasturiy ta'minot, raqamli tarmoqlar.

Аннотация: В данной статье рассматриваются история цифровой экономики, значение электронной коммерции в современном мире, внедрение электронной коммерции в экономику Узбекистана, доля ИТ в ВВП, типы моделей электронной коммерции, компоненты цифровой экономики и даны рекомендации.

Ключевые слова: цифровая экономика, электронная коммерция, электронное правительство, электронная подпись, ВВП (валовой внутренний продукт), информационные технологии, электронная связь, человеческий капитал, инфраструктура электронного бизнеса, программное обеспечение, цифровые сети.

Abstract: This article discusses the history of the digital economy, the importance of e-commerce in the modern world, the introduction of e-commerce in the economy of Uzbekistan, the share of IT in GDP, types of e-commerce models, components of the digital economy and recommendations.

Key words: Digital economy, e-commerce, e-government, e-signature, GDP (Gross domestic product), IT, e-communication, human capital, e-business infrastructure, software, digital networks.

Introduction. Today, the country is implementing consistent measures to develop the digital economy. In particular, the President of the Republic of Uzbekistan Shavkat Mirziyoyev signed a decree "On the development of the digital economy on September 2, 2018, in order to create conditions for the accelerated development of the digital economy, further improving the public administration system, expanding its accessibility and supporting modern infrastructure". "On the establishment of a support fund", PP -3927 was approved , which defines the following tasks:

- attracting and consolidating investor funds for the implementation of public-private partnership projects in the field of digital economy development, including the introduction of blockchain technologies ;

- the development of the digital economy in the context of public-private partnerships, including the implementation of the most promising and strategically important projects in the field of crypto assets and crypto - currency activities, as well as training in the development and implementation of blockchain technologies . conducting other events and activities;

- support youth initiatives, especially for the further development of the digital economy, including through the introduction of technology blokchain and creation of platforms for the turnover of crypto - currency;

- Providing technical assistance in establishing cooperation with leading foreign and international organizations in the field of turnover of crypto assets and blockchain technology , including with the involvement of highly qualified foreign specialists. [1]

The term "digital economy" was first mentioned in Japan by a Japanese professor and research economist during the recession of the 1990s. In the West, this term was defined in 1995 in the book of Don Tepkott "Digital Economy: Promises and Dangers in the Age of Network Intelligence." This was one of the first books that talked about how the Internet can transform our business. [2]

Material and methods. Induction, deduction, analogy, comparative, economic analysis.

Discussion. In particular, the rapid development of the Internet from 2000 to 2010 and the revolution in information and communication systems had an impact on the economy and, consequently, led to the development of a digital economy. These include the Internet, the creation of many modern devices (tablets, laptops, smartphones, etc.), the creation of new digital models (cloud computing, digital platforms, digital services), the dissemination of big data through accelerated data transfer, including data analysis and the adoption of algorithmic decisions and the emergence of new automation technologies and robotics.

According to Thomas Mesenburg , three key components of the digital economy can be distinguished:

- e-business infrastructure (hardware, software, telecommunications, networks, human capital, etc.);

- electronic business (how a business works, any process performed through computer networks);

- E-commerce (transfer of goods, for example, when a book is sold online). [3]

Hicks , as an integral part of the digital economy, involves:

“Products: the production of consumer goods in the field of ICT, such as computer technology and digital telecommunications”

The production of additional ICT products (such as automated computers for the production of computers) and the search for materials (chips, motherboards, hard drives, DVDs, etc.).

- Software: development of packaged and customized software development, marketing and so on. D .

- Infrastructure: basic telecommunication and network services with added value "development and operation of network infrastructure"

- Services: professional services not intended for other categories of services, such as consulting, training and technical

Ak Retail : sale, resale and distribution of ICT products, software, infrastructure and similar services.

- Content: production and distribution of data content , including the processing and digitization of information. [4]

First of all, from the time of the digital economy to the present day, we can observe the rapid growth of the economies of many countries as a result of the acceleration of global trade operations. Of course, there are political, economic and other factors that influence the achievement of this goal, but the impact of technological changes on this development will remain significant. In 2010, this figure was $ 1,700, or less than 3% of GDP. In 2013, e-commerce totaled $ 16.2 trillion, with more than 21% of global GDP and $ 19.1 trillion in 2015, or 22.5% of the global economy. It also accounts for three quarters of global e-commerce, including the United States, Britain, Japan and China. In developing countries, the growth of the digital economy is 15–25% per year. [4]

Table 1. **Traditional and new methods of specific socio-economic processes**

Example	Traditional method	New method
Selling or buying Textbooks	Visiting book store	Buying from seller or publisher sites

Subscribing to Classes	Going to the registration office of the class where the class is located.	becoming a member of the site
Taking a photo	Buying movies, use the camera, take pictures, take pictures and take pictures	Using a digital Camera
Standing in line	Personally go to the office and organization	Online Queue
Payment for the total ety Transport	Payment in cash or metal coins	Metro and electronic Cards
Payment for Products	You go to the store, pick up the right products, pay and leave	Online shopping
Providing commercial photos	you use newspapers, catalogs or magazines	You can use special programs (applications) and sites.

The development of the digital economy was influenced by various technologies, and today the introduction of "Electronic Signature", "E-Commerce" and "E-Government" in our country has necessitated the introduction and widespread use of information technology in our lives. Currently, ICT in our country is in the process of evolutionary development. E-commerce, which is vital for the country's economy, that is, the introduction of e-commerce in economic sectors, will also increase the share of services and CT in GDP.

Given that e-commerce is global in nature, it has a number of challenges than e-commerce at the national level. These include differences in tax systems, customs duties and banking when introducing e-commerce at the international level. Nevertheless, it is important to keep in mind that e-commerce will have a positive impact on economic po st page of Ana. This is evidenced by the fact that Uzbekistan is showing a growing interest in goods manufactured in Uzbekistan and has a worldwide reputation.

Depending on the participants in e-commerce, e-commerce is divided into the following main business models: B2B (business to business) - B2S (business to customer) - B2S (business to customer) - V2G (business to customer) Business to government) - C2C (Client-client) - Interpersonal relations, G2C (Client Management) - State and private person. It should be noted that although most of the electronic commerce in Uzbekistan is successfully implemented using the C2C model, attention is also paid to other models. [5]

The benefits of this new economy are high: digital networks and communication infrastructure develop strategies, interact, build partnerships, look for brand information and use the information provided. It provides a global platform for opportunities.

The digital economy accelerates economic growth, increases capital and labor efficiency, reduces transactions and facilitates access to costs and global markets.

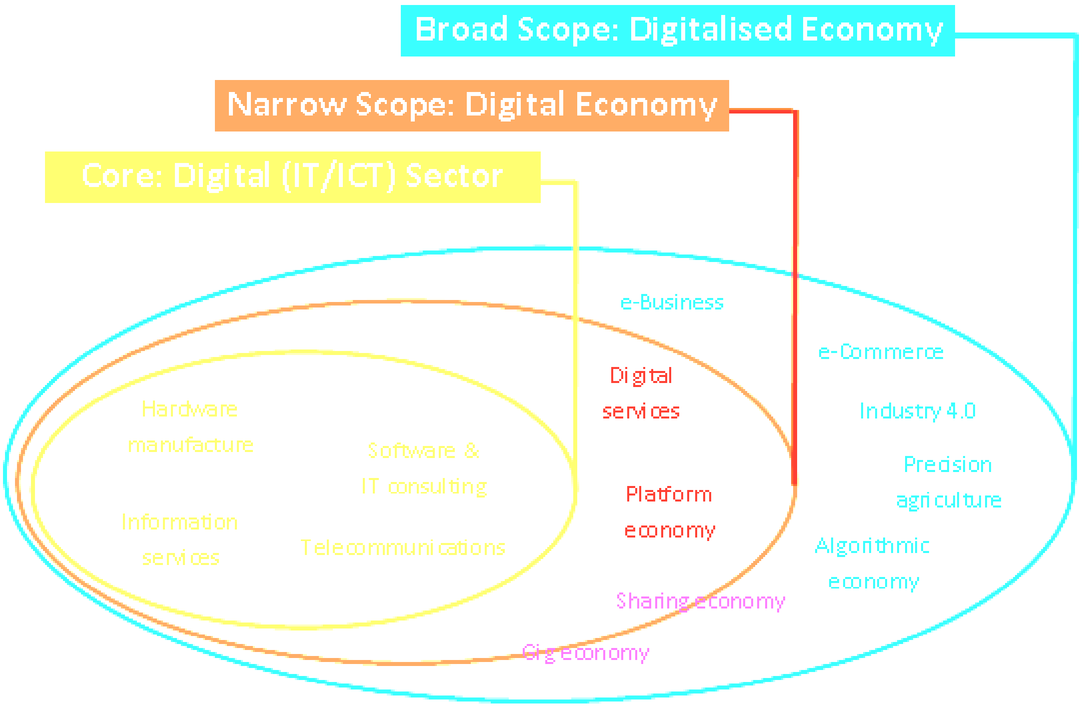


Diagram 1. The overall economic system of the digital economy

Based on the foregoing, the digital economy is closely linked to economic growth. In general, when it comes to the digital economy, it is interpreted as a network of economic activity, commercial operations and professional interaction based on information and communication technologies (ICT) around the world. Economic and political commitments, combined with technological innovation, foster growth and ultimately make up the largest share of the global economy.

Results. In general, with the support of economic and political factors for the development of the digital economy, technological innovation has a huge impact. At the same time, it will also affect improving the quality of Internet services in the country, raising public awareness about ICTs and expanding access to technical means. Therefore, it is necessary to constantly work to improve the computer literacy of the population, familiarizing it with the benefits of e-commerce. As a result, create the necessary conditions for e-commerce, provide e-commerce specialists and provide entrepreneurs and businessmen with a wide range of opportunities for their use, demonstrating to them the advantages and advantages of this field. Training to use them at various seminars or providing services to individual employees involved in these activities, the development of separate laws on electronic commerce, including laws protecting the rights of consumers and manufacturers, requires availability . E five conditions are part of the digital economy in the field of information technology and is interpreted as a new type of economy.

Conclusion. The development of the digital economy of the Republic of Uzbekistan opens new directions in the field of information technology, electronic document management, and in many other areas. The development of the World Wide Web and high-quality communications has led to a growing focus on digital technology. For the development of the digital economy, it is important, first of all, to improve the Internet and technological literacy of the population living in cities and regions. Also, the digitization of the processes taking place in the leading sectors and industries of the economy will help reduce corruption in the regions. That is why it is safe to say that the digital economy is a major source to fight corruption. Because everything is stored in numbers, in memory, the information is displayed clearly and quickly. This will help the economy to expand legal resources, pay taxes on time and correctly, allocate funds to the social sphere, and so on. Furthermore, the digital economy will also raise the living standards of humanity.

Whether it is a large business activity or a small business, in this process they can be considered equal. They have a chance to be given the same opportunities. Adherence to state regulations ensures that the average consumer receives a modern, quality product or service. This means that for the development of the digital economy, the state must create equal conditions for all, laws, market rules, contracts must be transparent, laws must be based on market demand, and consumers must be free. Our conclusion is that digitalization of the economy will reduce costs associated with the production of services and goods, improve the quality of manufactured goods and products, increase volume quality and competitiveness, and save time.

References

[1]. Decree of the President of the Republic of Uzbekistan “On the establishment of the Fund for the Promotion of the Development of the Digital Economy”. - Tashkent, September 2, 2018, no.

[2]. O‘zbekiston Respublikasi Prezidenti Shavkat Mirziyoyevning Oliy Majlisga Murojaatnomasi. Manba: www.president.uz

[3]. “Don Tapscott Biography”. Received October, 24, 2013

[4]. Mesenburg, T.L. The measurement of the digital economy. US Census Bureau, 2001.

[5]. Definition, conceptualization and measurement of the digital economy Rumana Bukht & Richard Heeks, 2017, p.16.

[6]. Yurasov M. E-commerce. - M.: Peter, 2003.

[7]. S.S.Gulomov, Blockchain technologies in the digital economy. Tashkent: TFI, "Economy and Finance" Publishing House, 2019

[8]. Chohan, Usman W., Some Precepts of the Digital Economy (January 1, 2020). Critical Blockchain Research Initiative (CBRI) Working Papers, 2020. Available at SSRN: https://ssrn.com/abstract=3512353.

[9]. Official website of the State Committee of the Republic of Uzbekistan on statistics. Source: www.stat.uz

[10] www.worldbank.org

UDC: 338.48

ANALYSIS OF ORGANIZATIONAL AND ECONOMIC INDICATORS OF TOURISM DEVELOPMENT IN THE ARAL SEA REGION

Matyakubov Umidjon Raximovich
Doctorate of Urgench State University
E-mail: umidjan.mat@mail.ru

Аннотация: Ушбу мақолада мамлакатимизнинг Оролбўйи минтақаси ҳисобланган Қорақалпоғистон Республикаси ва Хоразм вилоятида туризмни ривожлантиришнинг ташкилий-иқтисодий кўрсаткичлари статистик маълумотлар асосида таҳлил қилинган. Тадқиқотда Ўзбекистон Республикаси Президентнинг қарор ва фармонлари ҳамда мамлакатимиз олимларининг ишларидан фойдаланилди. Шунингдек, муаллиф томонидан Оролбўйи минтақасида туризмни ривожлантириш бўйича тавсиялар берилган.

Калит сўзлар: туризм, туризм хизматлари, ички туризм, хорижий турист, Оролбўйи минтақаси

Резюме: В данной статье индикаторы организационный-экономического развития туристической отрасли в Республике Каракалпакстан и Хорезмской области, считающимися регионами Приаралья, проанализировано на основе статистических данных. В процессе исследования были использованы приказы и указы Президента и Правительства, а также работы ученых нашей страны. Также автор дает рекомендации по развитию туризма в Приаральском регионе.

Ключевые слова: туризм, туристические услуги, внутренний туризм, иностранные туристы, Приаральский регион.

Abstract: This article analyzes the organizational and economic indicators of tourism development in the Republic of Karakalpakstan and Khorezm region, which are the Aral Sea region of the country, on the basis of statistical data. Decrees of the President of the Republic of Uzbekistan as well as the researches of scientists of our country were used in research. The author also provides recommendations for the development of tourism in the Aral Sea region.

Key words: tourism, tourism services, domestic tourism, foreign tourist, Aral Sea region

Introduction: Today, the tourism industry is one of the leading sectors of the rapidly developing world economy and servis as an important source of income at the micro and macro levels. Tourism also creates additional jobs for each country and region, accelerates the development of road infrastructure and hospitality, stimulates the production of all types of means of transport and helps preserve national culture and crafts.

As a result of comprehensive reforms carried out in Uzbekistan in recent years to develop the tourism industry, the number of foreign tourists visiting our country in 2018 reached 5.3 million and in 2019, this figure exceeded 6.7 million. By the end of 2019, the total number of hotels and similar accommodation facilities operating in the country amounted to 1188, the number of tourist organizations - 1482. Also in 2018, the country's exports of tourism services amounted to 1040.9 million US dollars, while in 2019 this figure amounted to 1313 million US dollars [1].

There is no doubt that the ancient cities of Uzbekistan, such as Samarkand, Bukhara, Khiva and Shakhrisabz, located at the crossroads of the Great Silk Road have great tourism potential as of they have a unique natural and charming nature, national customs and traditions, and most importantly, a hospitable people. Today, a total of 7,476 objects of cultural heritage are under state protection in the country, of which 4,308 are archeological monuments, 2,079 are architectural monuments, 694 are art monuments and 395 are landmarks [2].

The unique geographical location, historical, cultural and architectural monuments, flora and fauna, as well as the tourist potential of each region of the country increase the flow of foreign and domestic tourists year by year. In particular, recent 3-4 years, the Aral Sea region of our country remains one of the most visited destinations by tourists. The Aral Sea region of Uzbekistan includes the Republic of Karakalpakstan and Khorezm regions.

The Republic of Karakalpakstan is located in the northwest of the country, in the southern part of the Aral Sea, with a total land area of 166.6 thousand square kilometers. It ranks first among the regions of the Republic of Uzbekistan in terms of the size of its territory. More than 80% of the Republic's land area is desert. Due to the drying up of the Aral Sea, the region is decided as an ecological crisis zone. The population of the Republic of Karakalpakstan is 1889.8 thousand people (October 1, 2019), 49% live in cities and 51% in rural areas[3].

The Khorezm region is located in the north-west of Uzbekistan, on the left bank of the lower reaches of the Amu Darya, bordered by the Republic of Karakalpakstan in the north and north-east, Turkmenistan in the south and south-west, Bukhara region in the south-east. Khorezm region covers an area of 6.1 thousand square kilometres. The populationof Khorezm region is 1889.8 thousand people (January 01, 2019), 32,8% live in cities and 67,2 % in rural areas [4].

This paper analyzes the development trends of tourism in the Aral Sea region (Republic of Karakalpakstan and Khorezm region) on the basis of statistics dates. At present, the state is carrying out large-scale work for the socio-economic development of the Aral Sea region. In particular, a number of decisions and decrees of the President and the Cabinet of Ministers have been adopted to accelerate the development of tourism in the region. On the basis of these decisions and decrees, targeted programs for the development of tourism potential of the Republic of Karakalpakstan and Khorezm region are being adopted and put into practice. One of the most actual issues today is the analysis of the work done in the field of tourism in the Aral Sea region and the development of recommendations on possible priorities for future development.

Literature review: The issues of tourism development in the Republic of Karakalpakstan and Khorezm region of the Aral Sea region have been studied and researched by many scientists. In particular, S.Salaev, A.Alimov, J.Saukhanov [5,6,7] studied the factors and features of tourism infrastructure development, the potential and prospects for the development of ecotourism, the strengths and weaknesses of tourism in the Republic of Karakalpakstan and U. Kamaletdinov [8] studied the possibilities of creating tourist clusters in the Aral Sea region.

Also, one of the tourist centers of the Aral Sea region is Khorezm region. Trends in the development of tourism in Khorezm region in the period up to 2016 have been analyzed by many economists. In particular, U.Matyakubov [9,10,11] conducted research on the main directions and prospects for increasing the efficiency of tourism, opportunities for the development of ecological and rural tourism in the region. B.Ollanazarov [12] studied strategies and priorities to increase investment activity in Khorezm region and researcher D. Bekchanov[13] conducted research on the competitiveness and sustainable development of tourist destinations in Khorezm region, made proposals to increase the attractiveness of the tourism industry to investors by increasing the income of tourism destination and its enterprises, as well as reducing their risk.

In recent years, researches on the development of tourism potential of Khorezm region is increasing. In particular, a lot of researches has been done to improve the transport infrastructure of the region in tourism [14]. Also, I.Abdullaev, D.Khudoyberganov, U.Matyakubov [15,16, 17] studied the role and importance of the tourism industry in the regional economy, the tourist potential of the region, realisation of tourist products in the region through advertising and social networks. Researchers A.Palvaniyazov and M.Matniyazov [18,19] studied the opportunities for the development of recreation and leisure facilities in the region, as well as historical and cultural monuments of the Khorezm region. Moreover, U.Matyakubov [20] described the specifics of the development of ecological, cultural, historical, pilgrimage, rural and thematic tourism in the Republic of Karakalpakstan and Khorezm region, which is the Aral Sea region.

Although the above-mentioned authors conducted researches on the subject, the organizational and economic indicators of tourism development in the Republic of

Karakalpakstan and Khorezm region were not analyzed in detail. This, in turn, means that research on this topic is one of the most pressing issues today.

Methodology: The study used literature in the field tourism, data from the State Statistics Committee of the Republic of Uzbekistan and data from the the State Committee of the Republic of Uzbekistan for tourism development. In the research process to study economic events and processes were used learning methods such as - observation, generalization, grouping, logical and comparative analysis, abstract logical thinking, comparative and statistical analysis.

Analysis and results: Extensive work is being carried out in the Aral Sea region (Republic of Karakalpakstan and Khorezm region) to further develop the tourism industry, attract more foreign and domestic tourists to the region, improve the quality and scope of tourism services, train qualified personnel for the industry.

In particular, in Khorezm region in 2010 the number of hotels and similar accommodation facilities was 24, the number of beds was 1300. By 2019, the number of hotels and similar accommodation facilities was 47, almost doubling compared to 2010. In addition, the number of beds in hotels and similar accommodation facilities in 2019 amounted to 2,646 and which means that the increase was more than 2 times compared to 2010. In the Republic of Karakalpakstan in 2010 the number of hotels and similar accommodation facilities was 32, the number of beds was 500. By 2019, the number of hotels and similar accommodation facilities was 47, an increase of almost 1.5 times compared to 2010. Also, by 2019, the number of beds in hotels and similar accommodation facilities was 1,310, which is 2.6 times more than in 2010 (Figure №1).

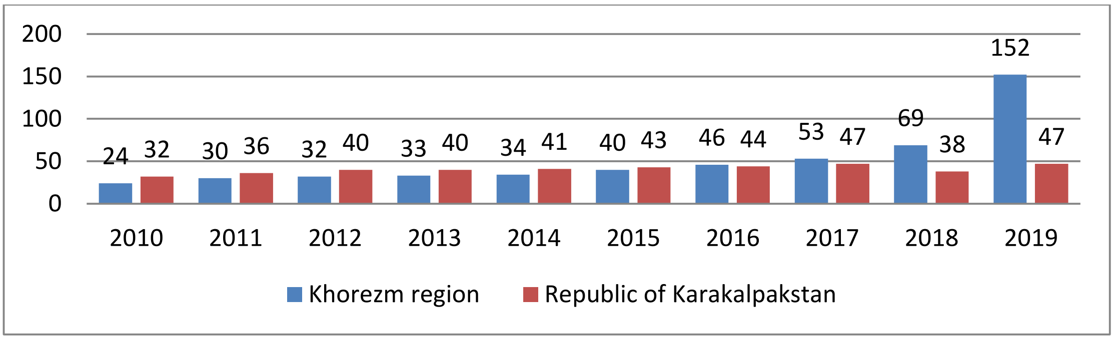


Figure №1.Changes in hotel and accommodation facilities in the Aral Sea region in 2010-2019[1]

In 2019, only in Khorezm region 87 accommodation facilities with 874 rooms and 2,034 beds were launched.

Also, the number of tour operators operating in Khorezm region in 2015 amounted to 3, while in 2019 this figure was 58 and increased almost 20 times compared to 2015. Similarly, in the Republic of Karakalpakstan in 2015 the number of tourist organizations was 5, in 2019 this figure was 26 and increased by more than 5 times compared to 2015 (Figure №2).

[1] Author's calculations based on the data of the State Committee of the Republic of Uzbekistan for tourism development

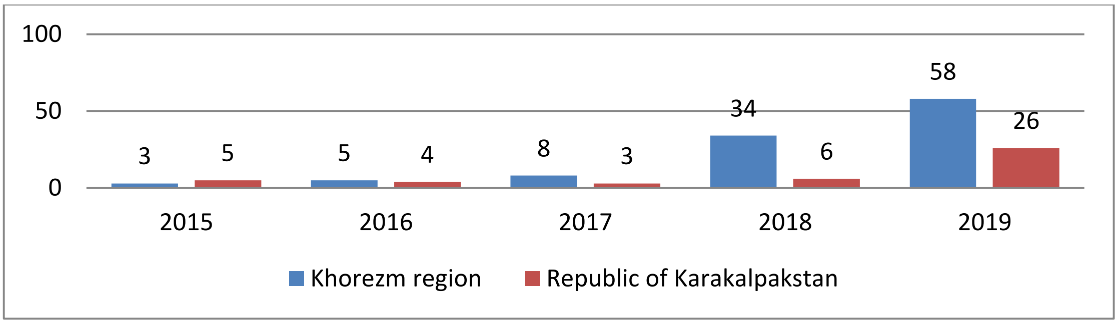


Figure №2. Changes in the number of tour operators operating in the Aral Sea region in 2015-2019[2]

In 2019, 20 new tour operators were launched in the Republic of Karakalpakstan and 24 in Khorezm region.

In Khorezm region in 2017, the number of transportes belonging to the modern tourist class was a total of 21, and in 2018 this figure was 34. By 2019, the number of modern tourist transportes in the region amounted to 133, an increase of 5.8 times compared to 2017 and 3.6 times compared to 2018. In 2017 the number of modern tourist transportes in the Republic of Karakalpakstan was 2, in 2018 this figure was 17 and in 2019 this number reached 53, an increase of 8.5 times compared to 2017 and an increase of 31.1 times compared to 2018 (Figure №3).

In 2019, a total of 107 modern tourist class transports (18 buses, 83 minibuses and 6 electric cars with total with 1,920 seats) were delivered to Khorezm region and put into operation.

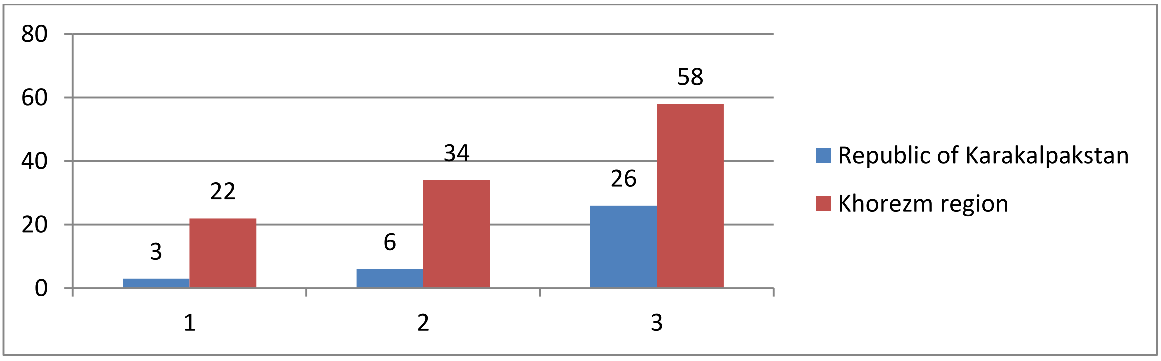


Figure №3. Changes in the number of modern tourist class transports in the Aral Sea region in 2017-2019[3]

In Khorezm region, in 2017, a total of 89 certified tour guides were operating, in 2018 this number was 103, and currently 114 tour guides in the region are serving tourists. In the Republic of Karakalpakstan, a total of 15 tour guides with certificates

[2] Author's calculations based on the data of the State Committee of the Republic of Uzbekistan for Tourism Development
[3] Author's calculations based on the data of the Department of tourism development of the Republic of Karakalpakstan and the Department of tourism development of Khorezm region

were in operation in 2017, while in 2018 there were 16 tour guides, and today there are 17 tour guides in the Republic (Figure №4).

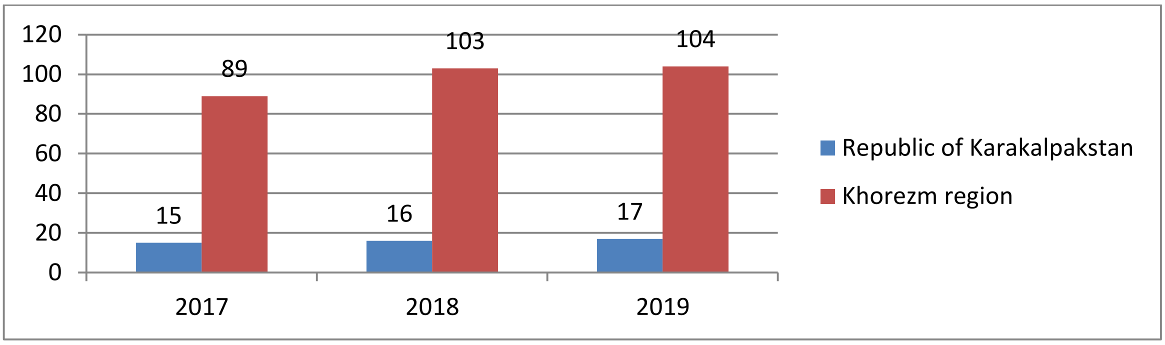


Figure №4. Changes in the number of tour guides operating in the Aral Sea region in 2017-2019[4]

In Khorezm region, 41% of guides are English translators, while 30% translate into Russian, 9% into French, 11% into German, 1% into Italian, 3% into Turkish, 1% into Spanish, 3% into Korean, and 1% into Japanese.

The Aral Sea region is rich cultural heritage objects. In particular, in Khorezm region their number is 259, including 17 archeological sites, 154 architectural objects, 80 art monuments, 2 museums and 6 sightseeings. The Republic of Karakalpakstan has a total of 291 objects of cultural heritage, including 131 archeological sites, 24 architectural objects, 91 monumental objects, 4 museums and 45 sightseeings (Figure №5)

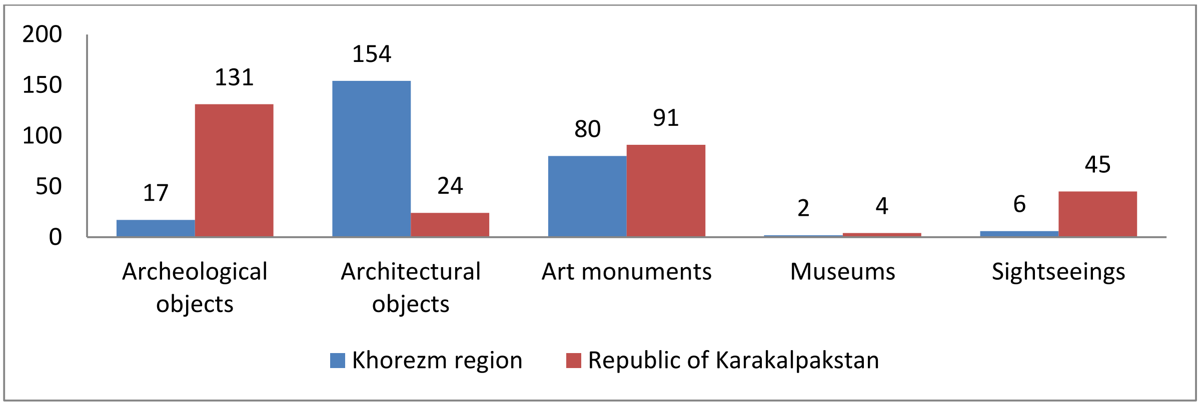


Figure №5. Number of cultural heritage objects of the Aral Sea region[5]

In Khorezm region in 2018, 14 objects of cultural heritage were reconstructed and in 2019 numbers of reconstructed objects of cultural heritage reached 39.

As a result of the ongoing reforms in the field of tourism in our country in recent years, the flow of foreign tourists visiting the Aral Sea region is growing year by year. In particular, a total of 49,100 tourists visited Khorezm region in 2010, of which 37,000 were foreign and 12,100 were domestic tourists. In 2019, a total of 2,646,597 tourists

[4] Author's calculations based on the data of the state committee of the Republic of Uzbekistan for tourism development
[5] Author's calculations based on the data of the state committee of the Republic of Uzbekistan for tourism development

visited, including 420,828 foreign and 2,225,769 domestic tourists. In 2019, compared to 2010, the number of foreign tourists visiting Khorezm region increased by 11 times, and the number of domestic tourists increased by 184 times. (Table №1).

We can see from Table 1 that since 2016, the flow of domestic tourists in the region has increased sharply, and the flow of foreign tourists has grown faster than in previous years. One of the main reasons for this can be explained by the adoption of the Decree of the President of the Republic of Uzbekistan dated December 2, 2016 "On measures to ensure the rapid development of tourism in the Republic of Uzbekistan" [21]. According to the Decree, tourism is considered as a strategic sector of the country's economy, which can be explained by the growing attention to its rapid development.

Table №1

Dynamics of change in the number of tourists visiting Khorezm region in 2010-2019[6]

Years	Foreign tourists	Domestic tourists	Total
2010	37 000	12 100	49100
2011	38 300	16 700	55,000
2012	47 400	16 200	63,600
2013	53 300	20 000	73300
2014	46 200	21500	67700
2015	40 600	22 800	63400
2016	46 614	708 229	754843
2017	60 600	1 100 000	1160600
2018	123 210	530 455	1653665
2019	420 828	2 225 769	2646597

In 2019, Khorezm region was visited by a total of 154 foreign countries tourists, compared to the same period last year (136), an additional 18 foreign countries tourists visited the region, which means that the geography of tourists visiting the region has expanded.

In addition, the Republic of Karakalpakstan was visited by a total of 11,500 tourists in 2015, including 5,100 foreign and 6,400 domestic tourists. Also in 2019, a total of 46,386 tourists visited, including 21,399 foreign and 24,987 domestic tourists. Over the past 5 years, as a result of the development of tourism infrastructure, ie the opening of new tourist routes, the increase in the number of hotels and similar accommodation and etc., in 2019 the number of foreign tourists visiting the Republic of Karakalpakstan increased by 4.2 times and the number of domestic tourists increased

[6] Author's calculations based on the data of the Department of tourism development of Khorezm region

almost 4 times compared to 2015 (Table №2).

Table №2

Dynamics of change in the number of tourists visiting the Republic of Karakalpakstan in 2010-2019[7]

Years	Foreign tourists	Domestic tourists	Total
2015	5100	6400	11500
2016	6271	7064	14335
2017	8246	7439	15785
2018	15274	28204	43478
2019	21399	24987	46386

An increase in the influx of foreign and domestic tourists into the Aral Sea region directly contributes to the development of a service economy in the Republic of Karakalpakstan and the Khorezm region. In the course of our research, we can see that the volume of services provided to tourists in the region is growing year by year. In particular, the total volume of services provided to foreign and domestic tourists in Khorezm region in 2010 amounted to 3300 million UZS, in 2019 - 58 600 million UZS, which shows that the total volume of services provided increased by almost 18 times compared to 2010. Similarly, the total volume of services provided to foreign and domestic tourists in the Republic of Karakalpakstan in 2010 amounted to 230 million UZS, in 2019 - 5 776 million UZS, which shows that the total volume of services provided increased 25 times compared to 2010. (Figure №6)

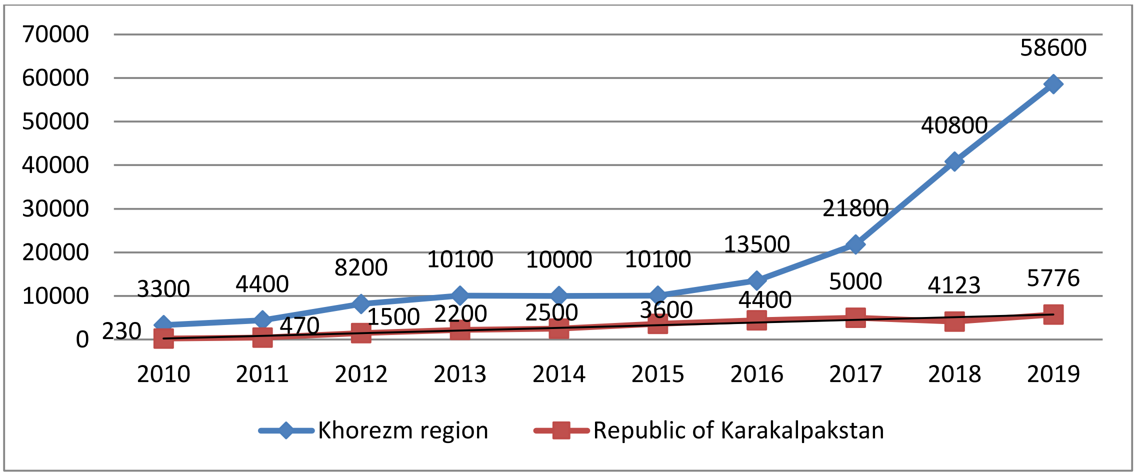


Figure №6. The volume of services provided to foreign and domestic tourists in the Aral Sea region in 2010-2019[8] (million UZS)

[7] Author's calculations based on the data of the Department of tourism development of the Republic of Karakalpakstan
[8] Author's calculations based on the data of the Statistical Department of the Republic of Karakalpakstan and Khorezm region.

Also, in 2019, staying period of foreign tourists in the Republic of Karakalpakstan was increased from 1.7 to 2.8 days, and the amount of money spent by tourists increased from an average of $ 250 to $ 400.

The rapid development of tourism in the Aral Sea region plays an important role in the employment of the local population. In particular, in Khorezm region in 2019, a total of 10,133 people are employed in the field of tourism, including 984 people in hotels and similar accommodation facilities, 201 people in tourism organizations, 153 people in transport organizations, 434 people in restaurants, also there are 432 entrepreneurs and 3,129 craftsmen working in the territory of the State Museum-Reserve "Ichan Qala".

In 2019, a total of 4,052 people are employed in the tourism industry in the Republic of Karakalpakstan, including 205 people in hotels and similar accommodation facilities, 31 people in tourism organizations, 60 people in transport organizations, 350 people in restaurants and 1,420 craftsmen.

Conclusions and recommendations: The research shows that the analysis of the development of tourism in the Aral Sea region is one of the most pressing issues today. Studying the current state and analysis of tourism development on the basis of statistics plays an important role on effective use of the tourism potential of the Aral Sea region, attracting more local and foreign tourists, improving the tourism infrastructure, increasing the share of tourism services in GRP and on solving other similar problems on mentioned sector. Based on the above analysis, we have made the following recommendations for the development of tourism in the Aral Sea region:

Firstly, analysis of the tourism industry in the Aral Sea region as well as the study of its current state should be carried out through in-depth scientific research. Therefore, it is necessary to study and analyze the state of development of tourism in the region with the participation of professors and researchers of tourism departments of local universities, local and foreign experts in the field of tourism as well as with the participation of the Department of Tourism Development of the Republic of Karakalpakstan and the Department of Tourism Development of Khorezm region, the Department of Statistics of the Republic of Karakalpakstan and the Department of Statistics of Khorezm region. The implementation of such an analysis will serve as a basis for the strategic development of tourism in the region.

Secondly, in order to extend the stay of tourists in the Aral Sea region, it is necessary to accelerate the construction of modern entertainment infrastructure and hotel complexes in cooperation with potential In the implementation of such projects, it is necessary for the government to allocate land plots to investors, provide them with tax and customs privileges and preferences. As a result of these projects, the number of tourists visiting the region will increase and the problem of lack of space in existing hotels will be solved;

Thirdly, it is expedient to open branches of major tour operators of foreign countries in the Aral Sea region as well as opening branches of major tour operators of the region in foreign countries**.** As a result of this mutually beneficial cooperation, the tourism potential of the Aral Sea region will be widely promoted abroad through the creation of infrastructure, and the opportunities of the tourism market will be explored and tourism routes will be developed;

Fourth, it is necessary to increase the number of guide translators working in Spanish, Italian, Japanese and Chinese in Khorezm region, as well as the number of tour operators operating in the Republic of Karakalpakstan.

Fifth, in order to improve the quality of services provided to local and foreign tourists in the Aral Sea region, we need to organize regular training and professional developing of translators, hotel staff, restaurant staff, taxi drivers and other staff who provide services to tourists;

Reference:

[1]. Statistical data of the State Committee of the Republic of Uzbekistan for tourism development. https://uzbektourism.uz

[2]. Jumaeva Sh.B (2020) Prospects for the development of pilgrimage tourism in Uzbekistan // From the materials of the international scientific-practical conference "Problems of effective use of natural and ethnographic resources in the development of tourism in Uzbekistan" - Samarkand, 2019, papers 33-36.

[3]. Data of the Statistical Department of the Republic of Karakalpakstan: http://www.qrstat.uz

[4]. Data of the Statistical Department of the Khorezm region: http://www.xorazmstat.uz

[5]. Salaev S.K, Alimov A.K Development of tourism infrastructure in the Republic of Karakalpakstan. Journal of Economics and Education / 2017 №2

[6]. Alimov A.K Objective needs and socio-economic significance of the development of environmental tourism in the Republic of Karakalpakstan // Bulletin of KSDU. – №4. 2015.

[7]. Alimov A.K., Saukhanov Zh.K. Strengths and weaknesses of the tourism sector in the Republic of Karakalpakstan // Proceedings of the international scientific-practical conference. - Samarkand. 2014

[8]. Kamaletdinov U. Opportunities for creating a tourist cluster in the Aral Sea region. BIZNES-EXPERT. 06/07/2018.

[9]. Matyakubov U.R "Prospects and main directions of increasing the efficiency of tourism, taking into account the environmental situation." Candidate's dissertation. SamESI, 2011. 156 p.

[10]. Matyakubov U.R Prospects for the development of ecotourism in Khorezm region. Scientific electronic journal "Economy and Innovative Technologies". №5, September-October, 2017.

[11]. Matyakubov U.R Opportunities for the development of tourism in rural areas of Khorezm region. Scientific electronic journal "Economy and Innovative Technologies". №2, March-April, 2018.

[12]. Ollanazarov B.D Strategies and priorities for increasing investment activity in the field of tourism services. Author's abstract of the dissertation for the degree of Doctor of Philosophy (PhD) in Economics. SamESI, 2019. 58 p.

[13]. Bekchanov D.Y Innovative approaches in financing investment projects in tourist destinations. Scientific electronic journal "Economics and innovative technologies". №5, September-October, 2018

[14]. Xodjaniyozov E.S. Analysis of Tourism Potential and Transport Infrastructure of Khorezm Region, Uzbekistan. Tourism Education Studies and Practice, 2018, 5(1). published in the Slovak Republic

[15]. Abdullayev I.S., Allayarov.S.F. The role of tourism industry in the economy of regions // Materials of the Republican scientific conference on "Priorities for the integrated development of tourism in the regions in 2017-2021." Urgench -November 24, 2018. 3 p.

[16]. Khudoyberganov D., Urinova D. Opportunities to increase the tourism potential of Khorezm region // Materials of the Republican scientific conference on "Priorities for the integrated development of tourism in the regions in 2017-2021." Urgench -November 24, 2018. 17 p.

[17]. Matyakubov U, Kushaeva.S. Social media and advertising for tourism development in Khorezm region // Materials of the Republican scientific conference on "Priorities for the integrated development of tourism in the regions in 2017-2021." Urgench -November 24, 2018. 53 p.

[18]. Palvaniyozov A., Koklanov Sh. Opportunities for recreation and leisure facilities in Khorezm region // Materials of the Republican scientific conference on "Priorities for the integrated development of tourism in the regions in 2017-2021." Urgench -November 24, 2018. 88 p.

[19]. Matniyozov M. Importance of ancient historical and cultural monuments in Khorezm region in tourism infrastructure // Materials of the Republican scientific conference on "Priorities for the integrated development of tourism in the regions in 2017-2021." Urgench -November 24, 2018. 94 p.

[20]. Matyakubov U.R Peculiarities of tourism development in the Aral Sea region. Service scientific-practical journal. №3, 2019 105 p.

UDC: 330.342.2.

FOUNDER OF THE FORMATION OF AN INNOVATIVE ECONOMY IN THE REGION

Ruzmetov Davron Ibrogimovich,
"Economics" Department,
Intern-researcher, Urgench State University.
E-mail:ejournal.urdu@gmail.com

“Be a candle that for so many years, burning, gives people light.
You strive for knowledge, your path is great,
Don't waste a day - that's the point."
Abdurahman Jami

Аннотация. Мақолада етук ўзбек олими, иқтисодиёт фанлари доктори, профессор Бахтияр Рузметовни ҳаёти, илмий, илмий-педагогик ва жамоатчилик ишларидаги фаолияти ёритилган. Унинг минтақада инновацион иқтисодиётни шакллантириш, ҳудудларни комплекс ижтимоий-иқтисодий ривожлантириш соҳасидаги тадқиқотларига баҳо берилган.

Аннотация. В статье рассматривается биографическая научно-педагогическая и общественная деятельность видного узбекского ученого, доктора экономических наук, профессора Бахтияра Рузметова. Дана оценка его вкладу в формирования инновационной экономики и комплексному развитию региона.

Abstract. The article examines the biographical scientific, pedagogical and social activities of a prominent Uzbek scientist, Doctor of Economics, Professor Bakhtiyar Ruzmetov. An assessment of its contribution to the formation of an innovative economy and the integrated development of the region is given.

Калит сўзлар. Комплекс ривожланиш, инновацион иқтисодиёт, минтақа, рақамли иқтисодиёт, иқтисодий интеграция, иқтисодий-экологик ривожланиш,

рақобатбардошлик афзалликлари, тармоқлараро кластерлар, туристик рекреация, модернизация, илмий кенгаш.

Ключевые слова. Комплексное развития, инновационная экономика, регион, цифровоя экономика, экономическая интеграция региона, эколого-экономическое развития, конкурентные преимущества, межотраслевые кластеры, туристическая рекреация, модернизация, научный совет.

Keywords. Comprehensive development, innovative economy, region, digital economy, economic integration of the region, ecological and economic development, competitive advantages, intersectoral clusters, tourist recreation, modernization, scientific council.

Introduction: From ancient times in Uzbekistan, a person who taught you his work and profession, put his soul, knowledge, skills in you and helped you find a worthy place in life is called Ustoz. That is why I gave this name to an article dedicated to a wonderful person, a member of the editorial board of our electronic journal, Bakhtiyar Ruzmetov.

Bahtiyar Ruzmetov is an outstanding Uzbek scientist, mathematician, economist, Doctor of economics, Professor, member of the New York Academy of Science in the USA, international expert in regional economics.

On the 2nd of September 2010 Bahtiyar Ruzmetov will celebrate his 60 year anniversary and 40 years of scientific and educational work. It is a time for summing up and rethinking of the completed tasks and achievements and a time for setting up new goals and objectives for the years to come.

Research methodology: In this article induction, deduction, analogy, comparative, observation, comparison research methods are used.

Analysis and results: Bahtiyar Ruzmetov has chosen a difficult, thorny, but noble path of a scientist, mathematician and teacher. This was not a random selection. He was born in a family of a teacher. His father – Khudayberganov Ruzmet – was a teacher and the head of a rural school for more than 40 years. His life doctrine was based on honesty, hard work and loyalty to his ideas and job. This doctrine has also shaped the character and perception of life of his son, Bahtiyor Ruzmetov, who has further mastered his character at Samarkand State University, post-graduate (Ph.D) studies at the Institute of Cybernetics under the Academy of Sciences of Uzbekistan. A major impact on personal development of Bahtiyor Ruzmetov came also from a scientific laboratory “Optimization of the processes of mining and enrichment of minerals” headed by the Doctor of technical sciences, Professor Tabakman Iosif Borisovich, a man of high professionalism, and highly respected and recognized by scientific communities of CIS countries, USA, and Canada.

On the 29th of March, 1978, Bahtiyar Ruzmetov has successfully defended his PhD thesis on “Optimal operational planning in the system with multi-aggregate complexes” (at the example of an open-cut mine with rail road communication) under supervision of Professor Tabakman. After the defense he has worked in the laboratory as a junior and later as a senior scientist. It was this laboratory, which has shaped scientific specialization of Bahtiyor Ruzmetov.

During his post-graduate studies Bahtiyar Ruzmetov has classified optimization objectives of multi-aggregate complexes; has elaborated economic-mathematical model of operational planning of mining activities, including subsystems ‘excavator’-‘transportation’-‘enrichment factory’; has developed a method to solve one class of non-linear objectives based on linearization of model restrictions; has fulfilled his method of optimization of operational planning of mining activities and developed a package of applied computer programs. His methods were introduced into practice at Almalyk and Navoi mining and processing factories, which function until present days.

Love for Khorezm, its history, culture and science made Ruzmetov contribute to regional development and convince director of the Uzbek scientific production center “Cybernetics”, academician Kabulov to establish in Khorezm in 1979 a regional department of the specialized research and design office of the Republican Automated Control System under the leadership of a young scientist B. Ruzmetov.

B.Ruzmetov managed to unite a group of like-minded scientists and gifted young people. The group has elaborated territorial “Automated payments system for telephone subscribers in the Khorezm region”. A small group has produced 2 PhD holders and 4 regional managers. Active and creative style, talent and managerial skills helped Ruzmetov to contribute to the development of the regional scientific community and were noticed by the regional administration. In 1980 he was nominated as a head of Scientific and Educational Department of the regional Party Committee (ObKom Partii). In a short time he managed to help develop scientific research activities at institutes and other educational organizations in the region, and was at the same time teaching at Khorezm State Pedagogic Institute.

Due to his proactive work and scientific competence, Ruzmetov was then promoted to become the head of the lecturing team, and later the head of the department. All this time Ruzmetov was interested in investigating development prospective of the regional industrial sectors and the ecologically degraded areas, as well reforms in the territorial management system.

Research of the problems of regional economy helped him to meet a prominent Uzbek economist, Doctor of economics, Professor Rustam Yangiboevich Dosumov, who later became his scientific supervisor in pursue of the Doctor's degree.

The first result of their mutual cooperation was Ruzmetov's first monograph entitled: 'The program of stabilization of the regional economy: experience, problems, efficiency', published in 1993 by the Publishing house 'Fan'. The monograph described scientific and methodological, socio-economic, ecological, and technical aspects of industrial development under the transitional conditions to the market economy in the Khorezm region of Uzbekistan. The monograph also described the elaboration of anti-crisis program on the examples from other CIS countries, China, and other developed countries.

In 1997 B.Ruzmetov has established at the economic faculty of Urgench State University a new "Management and marketing" department. In one year after this he has successfully defended his Doctoral thesis entitled "Complex regional development in the light of deepening of economic reforms (at the example of the Khorezm region of Uzbekistan). In 2000 he was nominated by the rector of Urgench State University academician A.S.Sadullaev to become the Dean of economic faculty. Concurrently he started to work closely on methodological aspects and conditions of regional economy and theory of regional management. By this he laid the foundation for regional economic school in Khorezm.

In a short time Ruzmetov has contributed to the research of the problems of regional development. As a result he has prepared reports to the regional and republican administrations, monographs, and textbooks.

His analysis and conclusions were incorporated in several Decrees and Programs of the Cabinet of Ministers of Uzbekistan, like the Decree from 13^{th} of May, 1999 “On the program for deepening of market oriented reforms and speeding up of socio-economic development of the Khorezm region for the period 1999-2001”. The implementation of this program has influenced development process of the region.

In 2002 publishing house “Fan” has published his next monograph entitled “Regional economics: experience, problems, efficiency of complex development”. This monograph listed methodology, essence, prerequisites and scientific concepts for the complex development of the region in conditions of market liberalization. Here complex development of industrial forces of the region was identified as a process of consequent changes in the shares of different sectors of economy given the social division of labor and economic integration of the region to the industrial community in the rest of the country for satisfying the growing demand from the population and markets.

His ideas, methodological basis for regional development are used in scientific work of his students. Industry, agro-processing, regional markets, market infrastructure, finance and credits are among the topics his students are working at, are conducting research, and are writing dissertations.

Ruzmetov is a member of examination committee (for regional economics) at the Uzbek National University and Tashkent Finance Institute.

Since 1999 he coordinates the Center of Science and Technology attached to the regional Khokimiyat and the State Committee for Science and Technology (in 2009 renamed to the regional center for innovations and transfer of technology). During these years about 10 innovative projects have been implemented and 3 patents received in the field of processing of industrial waste in the region; implementation of new technology in agro-processing industry; and development in conditions of financial crisis in the world.

In the same year as part of the delegation from the State Committee for Science and Technology of Uzbekistan he visited India for the courses conducted by NIRD (National Institute of Rural Development). He visited 3 states and 6 cities in India, where he participated at scientific meetings and educational events and gave lectures on the regional economy of Uzbekistan and deepening of economic reforms and liberalization of economy, modernization of the country and shared his publications and scientific research results. At the end of this mission he prepared a report on how to use the experience from India for elaboration of soft ware and computer programs in the agricultural sector.

His scientific experience was enriched by the trips to Germany (in 2000 and 2004) and to Kazakhstan (in 1999, 2003, 2006). In Germany he visited Center for Development Research (ZEF) at Bonn University for discussing and conceptualizing of the project "Economic and ecological restructuring of the land and water use in the Khorezm region" planned for the years 2000-2012.

In collaboration with the scientists from Bonn University he organized implementation of the economic block of the aforementioned project. In the framework of this project many of his students conducted their master studies and furthermore, 2 of them received PhD degrees.

The main research results of collaboration with the project were summarized in 2006 in a report "Analysis of farm enterprises and agricultural markets in the region Khorezm (Uzbekistan)", broadcasted via internet (http://www.khorezm.uni_bonn.de/).

The project is coming to its final phase. Ruzmetov plans to revise and assess the acquired results and to identify their impact on the regional economy via supporting more master and PhD students.

In 2001 Professor Ruzmetov was granted a membership of the New York Academy of Sciences in the USA. It was noted that Ruzmetov is among outstanding scientists from 150 countries of the world, who "…devote their lives to the development and support of science and engineering, and also to the implementation of scientific research results into life for the sake of humanity". The American Biographical Institute has included his biography into volume 10 of the eleventh edition of "International guide of prominent leaders".

Presently prof Ruzmetov is a member of the editing board of the regional newspaper "Khorezm Truth" and scientific journal "Reports of the Khorezm Mamun Academy".

Ruzmetov manages to combine his scientific and educational work with the proactive public work. He was elected delegate of the regional delegate commission of Khorezm (1990-1999, 2004-2009, 2009-2014). He participates in discussions of legislative bills (draft laws) of Oliy Majlis and is an active member of the Khorezm region Senate commission.

In 2003 actively participated in establishment of the regional political parties, in particular of the new Liberal-Democratic Party of Uzbekistan (UzLiDep).

In 2004 he was asked to coordinate the newly established regional information and analytics center of the Institute for Studies of Civil Society, which aims at the analysis of the main factors influencing the formation of the basis of civil society in Uzbekistan. Among other activities this center conducts scientific and applied conferences, seminars, round table discussions.

As a member and coordinator of various commissions B.Ruzmetov participates in implementation of tasks aiming at formulation of scientific concepts; writes various reports on socio-economic development of the region; propagates the books of the President of Uzbekistan I.A.Karimov; contributes to the implementation of Decrees of the Cabinet of Ministers, regional Delegates Committee, Khokim of the Khorezm region.

His knowledge, independent thinking, firm decision making and keeping his line of argumentation are among the characteristics, which Ruzmetov thinks are needed to the person, devoting his life to science and administration work.

Ruzmetov has received many diplomas and breastplate "15 years of independence of Uzbekistan" for his scientific, educational, and civil experience achievements. Ruzmetov is distinguished for his broad range of interests, great scientific erudition in economics, history, political science. His kind attitude and philanthropy attracted and continue to attract young scientists. During his educational work Ruzmetov has consulted 5 PhD holders and many PhD students. He provided support to “other” students as well, sharing his knowledge with everybody who was in need. Many of his students and colleagues are still grateful to Ruzmetov, among which are: S.Salaev, M.Matkarimov, U.Matyakubov, Sh.Ibragimova and others.

At the edge of turning 60, Ruzmetov continues to devote much of his time to prepare highly qualified cadres. He currently supervises 5 PhD students at Urgench State University and 2 PhD students and Bukhara State University.

Ruzmetov is a good family man. His wife, Dilorom Khadjievna, is an honorable math teacher. His son, Sherzodbek, is also an economist, PhD in economics. Ruzmetov is a grandfather of 3 grandchildren. He is also fond of history, poetry, music, gardening and football.

Due to the energy, professionalism and proactive life principles, Ruzmetov is recognized and respected by the scientific community of the region and is celebrating his 60ies anniversary full of new ideas and plans.

Friends, colleagues and students admire his energetic and hard-working life style, his ability to achieve the goals and wish him to live many more prosperous and fruitful years and wish him to stay healthy and active.

Conclusion: Under his leadership, a scientific school on regional economics has been created and is successfully operating, the main directions for the formation of the innovative economy of the region, the digitalization of its sectors have been developed.

He has published more than 300 articles in various publications in the USA, Germany, India, Russia and other countries, 10 monographs, 5 textbooks and teaching aids for bachelors, masters, college students.

For the first time in the world, a complex-valued econometric model of the regional economic system has been created, which is highly appreciated in the scientific circles of Russia, the USA, Germany, and is used in the development of forecast indicators for the development of the regional economy.

According to the results of the applied research grant under his leadership, "Development of a scientific basis for inter-sectoral textile clusters in the region" in 2015-2017, 42 cotton-textile clusters were created in Uzbekistan in all regions of the country, their number is increasing every year.

He has developed organizational and economic mechanisms for creating strategic small business zones, coworking centers in the regions.

With his active participation, the following has been developed and implemented:

Strategy of socio-economic development of the Khorezm region for the period up to 2030;

Strategy for innovative development of the region for 2019-2021;

Strategy for increasing the tourism potential of the Khorezm region and the city of Khiva until 2030.

More than 10 supporting doctoral students (PhD), free researchers from universities in Tashkent, Samarkand, Bukhara, Termez, Nukus, Urgench and other regions are conducting research under his supervision.

REFERENCES:

[1] Ruzmetov B. Programma stabilizasii regional'noy ekonomiki: opit, problemi, effektivnost'. Monografiya. – T., 1993.

[2] Ruzmetov B. Regional'naya ekonomika. – T.: Fan, 2002. [3] Ruzmetov B. and others. Cost calculation. Textbook. - T., 2006.

[4] Ruzmetov B., Rahimov Z., Rudenko I. Analysis of farm enterprises and agricultural market in the region Khorezm (Uzbekistan). Uzbekistan, 2006.

[5] Ruzmetov B. 60 year. The way of scientist. – T. 2010.

[6] Ruzmetov B. Optimizasionnie zadachi mnogoagregatnix kompleksov. – T.: Fan, 2009.

[7] Ruzmetov B. Nauchnie osnovi organizasii upravleniya regional'noy ekonomikoy. – T.: Fan, 2012.

[8] Ruzmetov B. i dr. Ekologo-ekonomicheskie aspekti povisheniya konkurentosposobnosti regiona v usloviyax modernizasii nasional'noy ekonomiki // Kollektivnaya monografiya. – T.: Iqtisodiyot, 2014.

[9] Ruzmetov B. i dr. Ustoychivoe i intensivnoe razvitie sel'skogo xozyaystva regiona na osnove innovasionnix razrabotok // Kollektivnaya monografiya. – T.: Iqtisodiyot, 2015.

[10] Ruzmetov B., Ruzmetov Sh., Bakhtiyarov Sh. Regional characteristics of the development of pilgrimage tourism in Uzbekistan and in the main points of the great silk road. // Journal of Critical Reviews ISSN-2394-5125, Vol 7, Issue 12, 2020. https://www.jrc.com.

[11] Ruzmetov B., Matyakubova D., Ibadullaev D. Strategic directions of sustainable development of the agricultural sector of regions of Uzbekistan. // Journal of Critical Reviews ISSN-2394-5125, Vol 7, Issue 1, 2020. https://www.jrc.com.

[12] Ruzmetov B., Ruzmetov Sh., Bakhtiyarov Sh. Factors for the development of innovation and investment processes in increasing the tourist potential of Khorezm region. // Proceedings of the international scientific-practical conference “Prospects for the development of innovation and investment processes in tourism.” - Samarkand, June 3, 2020.

UDC:69.05(575.123)

THE IMPORTANCE OF A FAVORABLE INVESTMENT CLIMATE FOR THE CONSISTENT IMPLEMENTATION OF STRUCTURAL CHANGES IN THE REGIONAL ECONOMY

Abdurahmanov Mukhtorali Abduvoxidovich
Senior lecturer, Department of Landscape Horticulture and Gardening, Namangan engineering-technological institute.
E-mail: bduraxmanovmuhtorali1968@gmail.com

Abstract: It is required that investment processes should be aimed at enhancing the competitiveness of the region's economy and increasing the productivity of certain enterprises. Because of the continuing impact of the global financial crisis, the region needs to ensure high GDP growth and other economic indicators, mainly due to significant structural changes and improved production efficiency.

Key words: modernization, investment process, territory, sector specificity, Investment climate, labor force, employment, foreign capital, economic potential, investment attractiveness, construction industry, urbanization, regional construction complex, state program.

Аннотация: Требуется, чтобы инвестиционные процессы были направлены на повышение конкурентоспособности экономики региона и повышение производительности отдельных предприятий. Из-за продолжающегося воздействия мирового финансового кризиса региону необходимо обеспечить высокий рост ВВП и другие экономические показатели, главным образом из-за значительных структурных изменений и повышения эффективности производства.

Ключевые слова: модернизация, инвестиционный процесс, территория, отраслевая специфика, инвестиционный климат, рабочая сила, занятость, иностранный капитал, экономический потенциал, инвестиционная привлекательность, строительная отрасль, урбанизация, региональный строительный комплекс, государственная программа.

Annotatsiya: Investitsion jarayonlar mintaqaviy iqtisodiyotning raqobatdoshligini oshirishga va alohida korxonalarning mahsuldorligini oshirishga yo'naltirilishi talab etiladi. Jahon moliyaviy-iqtisodiy inqirozining ta'siri davom etayotganligi sababli, mintaqada asosan tarkibiy o'zgarishlar va ishlab chiqarish samaradorligining oshishi tufayli YaIMning yuqori o'sishini va boshqa iqtisodiy ko'rsatkichlarni ta'minlash zarur.

Kalit so'zlar : modernizatsya, investitsiya jarayoni, hudud, sanoatning o'ziga xos xususiyati, investitsiya muhiti, ishchi kuchi, bandlik, chet el kapitali, iqtisodiy salohiyat, investitsion jozibadorlik, qurilish industriyasi, urbanizatsiya, mintaqaviy qurilish kompeksi, davlat dasturi

Introduction. It is known that modernization of the economy relies primarily on investment processes and requires large investment resources. In this regard, Uzbekistan pays special attention to the efficient and harmonious use of internal and external sources of investment financing, as well as comprehensive support for investment activities of business entities and entrepreneurs. Implementation of significant measures to expand real investment in various sectors of the economy in all regions of the country has been yielding positive results.

Local investment processes should be aimed at improving the competitiveness of the region's economy and improving the efficiency of production at specific enterprises [6]. Because of the continuing impact of the global financial crisis, the region needs to ensure high GDP growth and other economic indicators, mainly due to significant structural changes and improved production efficiency. In this context, the economic strategy in the region involves not only the long-term objectives but also the means and ways to achieve those goals. Among them is the transfer of production on the basis of modern technologies and the continuous improvement of its efficiency. It should be noted that during the economic modernization, structural changes are also accelerating, which requires a new approach to investment activity. This approach is based on the following rules:

- activation of the investment process, directing investment resources to the priority areas of economic development;
- full involvement of enterprises, organizations and population in the investment process and their use to maintain the accelerated economic and social development of the country;
- more favorable investment climate for foreign capital inflow.

Research methodology: In this article induction, deduction, analogy, comparative, economic analysis, observation, comparison research methods are used.

Analysis and results. It is well known that attracting and financing investments is a complex process. Therefore, the financial system plays an important role in implementing the investment process [5]. The financial system is the main set of services in the modern market economy. Financial stability of the banking system will be particularly important. At present, the financial and credit system in our country is emerging as the main and stable means of working with entrepreneurs. Further strengthening of this system will play an important role in facilitating rapid development of production modernization. On the other hand, the rapid conversion of financial assets through the banking system and the distribution of risks through the insurance system will help maintain and increase the amount of financial savings. With the development of the financial market and the use of financial instruments, economic entities will be able to take risks and accumulate savings. Thus, the development of a stable and sound financial system will enhance internal investment opportunities and ensure economic growth (Table 1.1)

Structure of investments into fixed assets by sources of financing (% of total)

1.1-table

Funding sources	2014 year	2015 year	2016 year	2017 year	2018 year
Own means of enterprises and population	57,6	56,2	54,4	47,3	42,0
Funds received	42,4	43,8	45,6	52,7	58,0
from them:					
state budget	4,2	4,2	4,3	4,8	4,5
bank loans and other borrowed funds	10,4	11,0	10,8	12,6	17,8
foreign investments and loans	18,5	18,5	20,7	23,8	24,3

The table shows that in the structure of sources of financing in 2018 the total volume of investments was 4.5%, foreign investments 24.3%, enterprises and population 42.0%.

On the whole, the analysis of macroeconomic indicators shows that today, despite the gradual implementation of the Strategy of Action on the five priority directions of development of the Republic of Uzbekistan in 2017-2021, Uzbekistan is in the group of countries with huge foreign investments. Undoubtedly, creation of a favorable investment climate for consistent implementation of investment projects and programs and structural reforms in the country, aimed at long-term strategic goals.

Effective use of real investments depends to a large extent on the financial soundness of the economic processes in the enterprises they implement. Assessment of the expected efficiency of investment investments using modern methods of financial management, regular monitoring of the investment process ensures the rational use of resources. Widespread introduction of corporate governance principles will facilitate the integration of interests of various economic entities in the process.

At the macro and micro level, investment will depend on the country's economic policy, legislation, the development of investment infrastructure, the level and the economic status of the country[10]. An important feature of the economic reforms being implemented in Uzbekistan is the consistent continuation of efforts to improve access to business and improve the business environment. In particular, a number of laws and legislative acts adopted in recent years have played a significant role in establishing strict procedures for the prevention of illegal interference by law enforcement, regulatory and administrative bodies in business activities and increasing the responsibility of the heads and officials of these agencies.

A scientific analysis of the factors contributing to the development of investment activity is required. This analysis will allow you to choose the best way to allocate funds and determine investment policies for each region in the future. It is important not only to increase investment, but also to choose the right directions and structures in order to achieve economic growth. For investment, first of all, it is necessary to select such types of production and enterprises, which should be able to quickly recover costs and provide high economic and technological effect.

Favorable investment climate is the key factor for consistent structural reforms in the country and its regions. Investment climate is a set of economic, political, regulatory, social and other conditions that influence investment processes [8]. This environment is primarily determined by the following economic factors: natural resources, including mineral resources, labor force and average wages, economic situation and employment, internal market capacity, and opportunities to sell goods on the foreign market, credit system, level of taxation, development of production and social infrastructure, government policy on foreign capital, preferential conditions for it, environmental situation, etc. Creating a favorable investment climate after Uzbekistan gained independence has been one of the central issues of its economic policy. The economic development of the regions is closely linked to the investment processes in the regions. Because the current economic development results from past investments, future results will depend on the volume, structure and rationality of the investments of the current period. In this context, the tasks outlined in the Action Plan of the Republic of Uzbekistan's Development Strategy of the Republic of Uzbekistan for 2017 - 2021 are aimed at consistent implementation and activation of investment processes.

Investment processes are aimed at improving the competitiveness of the national economy, increasing the efficiency of production in the regions and enterprises. The reason is that currently the GDP is growing at a high rate and high macroeconomic indicators need to be ensured mainly by significant structural changes and improved production efficiency. The economic strategy in the region, in addition to long-term goals, also includes the means and ways to achieve those goals. Among them is the continuous improvement of production efficiency. At the same time, the investment climate in the region plays an important role in encouraging the desire for efficiency [9]. Without investment, it is impossible to develop competition without increasing production, and without competition, the desire for efficiency declines.

Measures are being taken to strengthen the economic potential of the regions, to meet the needs of the population for material and material benefits. Their quality content is aimed at improving the investment climate. For these purposes, the Resolution of the Cabinet of Ministers "On the Program of modernization of industry and production of Namangan region for 2009-2012", "On the program of development of small business, entrepreneurship and home-based labor in Namangan region for 2009-2012" and the Presidential Decree No. PP-2439 of November 24, 2015 "On the Development Program of the Namangan Province for 2016-2019", the Decree of the Cabinet of Ministers "On Measures for Further Improvement of Namangan Infrastructure". Adoption of other resolutions on the Program of measures for the development of infrastructure in the region serve as a basis for further intensification of investment processes and improvement of the investment climate in Namangan region.

The construction industry develops in a common investment climate, in combination with all other sectors and sectors of the economy. Improvement of the investment climate means that favorable conditions for domestic and foreign investors are created in the economy, which can be achieved through the use of a number of factors (Figure 1.1).

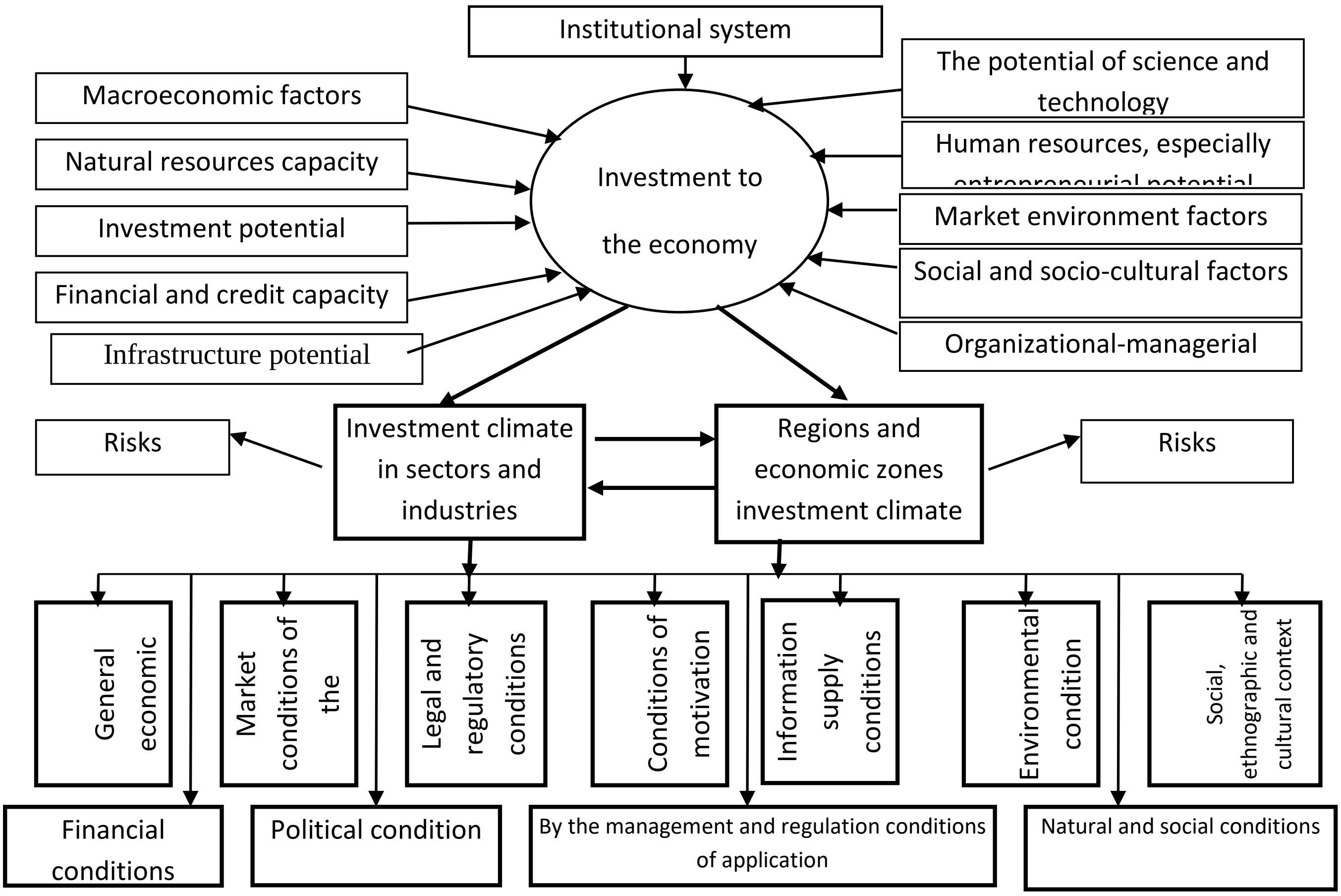


Figure 1.1. Investment climate and the factors that shape investment attractiveness.

In turn, investment attractiveness of the country increases as a result of measures aimed at strengthening construction processes and represents an increase in investment. Thus, the development of the construction industry cannot be imagined without an increase in investment. The construction industry is based on investments and is a unique infrastructure to maintain production continuity.

From the material point of view, the created investment climate and investment priorities require high quality building construction [7]. The aim is to strengthen the country's industrial potential, to create favorable living conditions for the population, to make our country one of the most developed countries in the world.

It also assumes that the material conditions for investing are satisfactory. One of the key areas in Namangan region is the energy supply. The 900 MW Thermal Power Station, built in Turakurgan district, is one of the investment projects to mitigate such traffic. Commissioning of the thermal power station will provide full access to electricity and industrial facilities in the Ferghana Valley. The project cost is more than US $ 1 billion 195 million and is implemented by Japanese consortium Mitsubishi Corporation and Mitsubishi Hitachi Power Systems. The project is financed by the Japan International Cooperation Agency (JICA), the Fund for Reconstruction and Development of Uzbekistan and Uzbekenergo. It is well known that investments in the real economy usually involve large-scale construction activities, that is, the demand for construction services. In other words, exactly the conditions for the construction will be indirect. The program envisages $ 2.8 billion projects for integrated development of Namangan region. According to it, more than 1,400 investment projects will be implemented in 2019-2020 and $ 1.1 billion of foreign investments will be attracted. As a result, 39,000 permanent jobs will be created.

For the improvement of the regional centers the additional 20 billion soums was allocated to each district, and 2 billion additional funds were allocated to villages and mahallas included in the program "Obod village" and "Obod mahalla". In 2018, 14 7-storey low-rise apartments with 588 apartments were built and commissioned. In Namangan, 80 hectares of land were allocated to a small industrial zone, where more than 7,000 new jobs were created. Now a new type of urban planning is being established in Namangan with Russian specialists [1].

The processes taking place in the region are an integral part of the regional processes. In particular, ensuring timely implementation of investment projects financed by international financial institutions in Uzbekistan, including:

- Attracting World Bank loans for 27 projects in 2016-2020;
- Attracting Asian Development Bank loans for 20 projects in 2017-2019.
- It was planned to expand cooperation between the Republic of Uzbekistan and the Islamic Development Bank during 2017-2019 through the development of investment projects that aim to attract at least $ 1 billion in IDB loans.

It is planned to implement 649 investment projects totaling $ 40 billion in 2017-2021 to implement the action strategies.

Foreign government agencies (China Export-Import Bank, Korea Export-Import Bank, EDSG Fund, Japanese International Cooperation Agency (LSA), Korea International Cooperation Agency (KOICA) The ability to attract concessional loans and grants from the GIZ, the Swiss Agency for Development and Cooperation (FDI), the French Development Agency (FTA), the European Commission for Cooperation, etc.

In 2018, 18 interstate visits were made and $ 50 billion worth of investment agreements were reached. Currently, 456 projects worth 23 billion US dollars are being implemented in the country at the expense of foreign investments [2].

As a result of measures aimed at reinforcing investment processes, the volume of investments is increasing year by year. This can be seen from the total investment in 2018 alone. According to the figures, in 2018 there were US $ 9 billion 700 million of investments, which is 13.6% more than in 2009.

About 72% of these investments were directed to the establishment of industrial enterprises, including about 38% for the purchase of equipment and advanced technologies. The share of foreign investments and loans in the total volume of investments made up 28.8%, foreign direct investments - more than $ 2 billion 400 million.

In the Address of the President of the Republic of Uzbekistan on the Priorities of the Country's Development in 2019, the Step-by-Step Implementation of the Strategy of Action on the Five Priorities for the Development of the Republic of Uzbekistan in 2017-2021, ensures that they are being implemented. In particular, 3.8 trillion soums will be allocated from the national budget to finance construction of affordable housing by means of commercial banks in 2018, 1 527.6 billion soums for “Obod village” and “Obod mahalla” programs, and 500 billion soums for our youth. Besides, about 300 billion soums were allocated to the newly established Public Fund for “Support of Women and Families”. Implementation of “Obod village” and “Obod mahalla” programs at the expense of local budgets, city and village improvement, construction, reconstruction and repair of preschool educational institutions, social and economic development of the territories, as well as the Council of Ministers of the Republic of Karakalpakstan, regions and Tashkent. About 4.5 trillion soums were directed to creation of territorial funds to stimulate creation of new jobs under khokimiyats.

It is known that in the framework of the State program "Year of active entrepreneurship, innovative ideas and technologies support" in 2018, 76 thousand projects for 21 trillion soums and 1 billion dollars were implemented. Significant progress has been made in industry, agriculture, capital construction, transport and communications, services and services. As a result of the measures taken, the total real incomes of the population compared to 2017 increased by 12%. Within the framework of such programs as “Every family is a businessman” and “Youth is our future”, some 2 trillion soums have been allocated and more than 2,600 business projects have been implemented at the local level. About 3 trillion sums were allocated for construction and improvement of “Obod village” and “Obod mahalla” programs. As a result of the ongoing construction, 416 villages have acquired a modern look.

In the last three years, 104,000 low-rise homes have been built and commissioned, including 63,000 in rural areas and 41,000 in urban areas to provide residents with affordable housing. According to estimates by international organizations, 145,000 apartments are to be built in Uzbekistan every year to meet the needs of the population. This will require about 30 trillion soums a year [3].

In 2019 more than 4 trillion sums were allocated for the implementation of “Obod village” and “Obod mahalla”programs. However, according to the President of the country, the level of urbanization of our country is 35.5%, and this figure may decline in the near future if the necessary measures are not taken. Therefore, the State Program on increasing the level of urbanization of the population by 60% by 2030 has been elaborated and it is necessary to focus on the comprehensive development of not only the capital and provincial centers, but first of all the towns and villages in the regions. It was emphasized that it is necessary to gradually move from standard housing construction programs in rural areas to multi-storey apartment buildings in cities and villages. Engineering and communication infrastructure should also be developed in close connection with housing construction programs. In order to fulfill these tasks, the development of the construction industry is required. By the end of 2018, Namangan region utilized 5882.0 billion soums of capital investments from all sources, which is 150.8% more than in 2017.

Out of this, 130.1 billion soums were allocated to the state budget and 681.0 billion sums. soums of enterprises and organizations, 111,2 bln. Off-budget funds, 1,133.4 billion soums of foreign investments, 416.8 billion soums sum of bank credits, 779,0 bln. UZS, including private individuals and UZS 5.5 billion soums were spent on children's sports. The volume of work performed by contractors in the reporting period amounted to 1917.7 billion soums, which is 4.5% more than in 2017. The area in 2018 will be 1078.9 thousand sq. M. settlements were put into operation. In 2018, 272.8 km of drinking water and 6.6 km of natural gas networks were laid. It is also planned to allocate $ 29.1 billion from the Fund for Reconstruction, Major repairs and new construction of educational and healthcare facilities. soums, 19 schools with 6120 students were commissioned. Three facilities were commissioned at the expense of the Children's Sports Development Fund.

Investment expenditure in the country for 2019 is planned in the amount of 11.9 trillion soums. These funds were used to implement strategically important projects identified by the decisions of the President and the Government of the Republic of Uzbekistan, including programs for the development and reconstruction of drinking water supply, water facilities, transport and communications infrastructure, and educational and medical facilities. It is planned to allocate about 3 trillion sums for the opening of credit lines to banks participating in financing affordable housing programs. By 2020, Uzshahr Invest Invest and Qishloq Qurilish Invest engineering companies will continue to build 4,250 homes in cities and 8,000 in rural areas [4].

In 2019, the village of Obod will receive $ 312,024 million from all sources of funding under the Program. In the reporting period, 264 005 million soums were spent on construction and repair works. 8,662 individual houses are required to repair and renovate their homes. To date, the construction and repair works in 6 869 apartments have been completed. At the same time, it is planned to renovate 4 apartment buildings and spend 139 million soums. Of these, 226 million soums have been spent and 3 apartment buildings are being repaired and repaired.

Investments in Fixed Capital by Economic Type of Construction (bln. UZS)

Table 1.2

Regions	**2014 year**	**2015 year**	**2016 year**	**2017 year**	**2018 year**	**Changes in 2018 versus 2014**
The Republic of Uzbekistan	808,3	1057,1	932,1	1427,7	2550,6	1742,3
The Republic of Karakalpakstan	33,6	111,7	155,1	192,1	136,1	102.5
regions:						
Andijan	24,3	41,8	32,1	35,6	80,8	56,5
Bukhara	109,4	97,8	158,8	69,4	334,4	225,0
Jizzakh	30,8	36,7	21,2	63,4	88,4	57,6
Kashkadarya	75,9	79,0	73,9	156,3	125,6	49,7
Navoi	15,3	30,6	18,0	34,6	69,9	54,6
Namangan	12,9	38,2	21,7	36,9	120,6	107,7
Samarkand	30,7	47,1	34,9	54,6	104,9	74,2
Surkhandarya	35,6	48,7	52,8	140,0	380,9	345,3

Syrdarya river	18,9	16,6	19,3	19,2	65,2	46,3
Tashkent	85,6	154,0	28,3	60,9	144,1	58,5
Fergana	64,2	97,5	85,4	161,5	198,1	133,9
Khorezm	54,3	57,5	28,3	45,7	63,7	9,4
Tashkent	216,8	199,9	202,3	357,5	637,9	421,1

As can be seen from the table above, the volume of investments into fixed capital in the Republic of Uzbekistan by type of economic activity in 2014 amounted to 808.3 billion. UZS, 1057.1 bln. UZS 932,1 bln. UZS 1427.7 billion in 2017 UZS 2550.6 billion by 2018 soums. This is indicative of an increased volume of construction contract work in the regions, an increase in the commissioning of new production facilities in the area of small business and private entrepreneurship, and the creation of new jobs for the population.

Conclusion and Suggestions. The research shows that there is a high rate of expansion in the regions as well. This, in turn, indicates the development of the bases of development processes in the regions. Based on the above results, we think it is advisable to do the following in the regions:

- improving the investment climate, creating favorable conditions for investors;

- scientific analysis of the factors contributing to the development of investment activity;

1. development of regional investment programs
2. Increased industrial construction in investment costs;
3. Investments in science-intensive industries in urbanized regions

References:

[1] Supporting the innovative ideas of the next generation of entrepreneurs should be continuous. President of the Republic of Uzbekistan Sh.Mirziyoev

visit to the region. The Truth of Namangan March 2, 2019 №18 (19534)

[2] Decree of the President of the Republic of Uzbekistan on the State Program on Implementation of the Strategy of Action on the Five Priorities of Development of the Republic of Uzbekistan in the Year of Active Investment and Social Development for 2017-2021. Public Speech, January 18, 2019, No. 12 (7242).

[3] Measures will be taken to implement the new housing construction system. Meeting of the Cabinet of Ministers chaired by the President of the Republic of Uzbekistan Sh. Public Speech, November 23, 2019, No. 243 (7473).

[4] Measures will be taken to implement the new housing construction system. Meeting of the Cabinet of Ministers chaired by the President of the Republic of Uzbekistan Sh. Public Speech, November 23, 2019, No. 243 (7473).

[5] A. V Vakhabov, Sh.Kh. Khajibakiev, N.G. Muminov Foreign investment. Tashkent, Finance 2010.-324 p.

[6] Soliev A., Yanchuk S. Distribution of productive forces and polarized economic development Republic of Uzbekistan. Toshkent, National University of Uzbekistan named after M. Ulugbek 2005.-173 p.

[7] Sadikov A. M Mechanisms of social economic development and regulation of the regions of Uzbekistan..: -T.: 2006

[8] Chernov. V.A. Investment strategy. Textbook.-M .: FNITI-DANA, 2003 ..

[9] A. V Vakhabov, Sh.Kh. Khajibakiev, N. G. Muminov Foreign investment. Tashkent, Finance 2010.-324 p.

[10] Gofurov. A. Fundamentals of Regional Economics. Fergana 2006

UDC: 330.48

STRATEGIC DIRECTIONS OF TOURISM DEVELOPMENT IN SURKHANDARYA REGION

Bakhtiyar Ruzmetov,
Doctor of Economic Sciences, professor,
"Economics" Department,
Urgench State University.
E-mail: baxtar50@mail.ru

Nodira Panjieva,
Lecturer, "Tourism and
Hotel management" Department,
Termez State University.
E-mail: 13031975PNN@mail.ru

Annotatsiya: Maqolada Surxondaryo viloyatida turizmning iqtisodiyotni strategik tarmog'i sifatida mavjud imkoniyatlari tahlil qilingan va asosiy tendensiylari yoritilgan.

Kalit so'zlar: Ilova, xizmatlar, turizm, strategik sektor, piligram turizm, ekoturizm, diversifikatsiya, ustuvorlik, savdo, omil.

Аннотация: В статье анализируются возможности развития туризма в стратегическом секторе экономики Сурхандарьинской области и выделяются основные тенденции.

Ключевые слова: Заявка, услуги, туризм, стратегический сектор, пилиграмный туризм, экотуризм, диверсификация, приоритет, торговля, фактор.

Abstract: The article analyzes opportunities for tourism into a strategic sector of the economy in Surkhandarya region and outlines key trends.

Key words: Application, services, tourism, strategic sector, piligram tourism, eco-tourism, diversification, priority, trade,factor.

Introduction: In his Address to the Oliy Majlis on January 24, 2020, the President of the Republic of Uzbekistan Shavkat Mirziyoev said: "... the transformation of tourism into a strategic sector of the economy will remain a priority for us. One of the most important tasks of the government is to increase the number of tourists visiting our country to 7.5 million. It is known that a number of influential foreign media included Uzbekistan in the list of countries recommended for travel in 2020 [1].

There are also 374 historical, cultural, artistic, architectural monuments and unique archeological excavations in Surkhandarya region for the development of tourism. The natural beauty of the region, charming waterfalls, mineral water and healing mountain salts create favorable conditions for the development of agro-eco, mountain and medical tourism. The unique customs and traditions of this ancient country, national handicrafts are also of great interest to the world.

In particular, the shrines with a rich history in the region, the holy shrines play an important role in introducing pilgrimage tourism in the region and expanding the flow of not only local but also foreign tourists. In this regard, the "road map" for the development of pilgrimage tourism, developed in the framework of the tasks set out in the Action Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021, serves to carry out this work at a new stage [2].

Literature review: Gaga Declaration on Tourism first defined tourism in 1989 and made it clear that measures should be taken as part of a comprehensive development plan for the country, including priority areas such as agriculture, industry, education and social security. Thus, like other socio-economic activities, tourism was officially recognized as a sector and was emphasized by the state [6].

Tourism is a fast-growing industry compared to other industries. Although this sector can be developed without requiring a large investment for our country, other sectors, including air, rail, road transport, catering and retail outlets, hotels, where tourism is developing. If there are facilities, it will be possible to develop tourism. The country's booming tourism industry is a key factor for future growth. Because one of the important ways to achieve socio-economic development is directly related to the effective use of the tourism potential of our country [8].

Effective use of tourism potential will be based on modern types of new tourism to be established in the region in the future. In particular, in the coming years in the region will be organized such tours as cultural-historical, archeological, ecological, pilgrimage, gastronomic, youth, cultural-entertainment, sports, business, travel, agro, family, adventure, extreme, children's and rural tourism. is constantly evolving. These opportunities, in turn, open up a new perspective on the concept of tourism potential and its socio-economic content.

Tourism resources consist of a set of observable objects or events related to the purpose of tourism and the natural-climatic, socio-cultural, historical, architectural, scientific and service potential that can meet human needs in the tourism process [7].

Research methodology: In this article induction, deduction, analogy, comparative, economic analysis, observation, comparison research methods are used.

Analysis and results: It is also necessary to accelerate the development of pilgrimage and medical tourism, which has great potential. There are more than 8200 cultural heritage sites in the country, and only 500 of them are included in tourist routes” [12]. To implement the tasks set in circulation in the Surkhandarya region, the main factors and problems of the development of the services sector in the region were studied. The most important of them are the disproportionate development of transport services, the insufficient development of modern types of communication and information services, the high share of informal activities in the service sector, especially in the field of trade and public catering, the insufficient use of resources for tourism and recreation, the uneven distribution of services, and regional differences. The analysis shows that the Surkhandarya region has huge untapped opportunities and potential for the development of the service sector (Table1).

Table 1

The potential for the development of services in the Surkhandarya region [14]

Towns and districts	Trade and General nutrition	Transportation and logistics	Communication and information	Banking and finance	Tourism and Hotel Management	Daily services	Repair of cars and other technical items
Termez city	high	high	high	high	high	high	high
Angor	middle	high	below average potential	below average potential	below average potential	high	high
Baysun	below average potential	middle	below average potential	below average potential	high	middle	below average potential
Denov	high	high	below average potential	middle	high	high	high
Jarkurgan	middle	middle	below average potential	below average potential	below average potential	below average potential	below average potential
Kizirik	middle	below average potential	below average potential	below average potential	below average potential	below average potential	below average potential
Kumkur-gan	below average potential	high	below average potential	below average potential	below average potential	averageh igh	below average potential

Muzrabot	below average potential	below average potential	below average potential	below average potential	middle	averageh igh	below average potential
Oltinsoy	below average potential	below average potential	below average potential	below average potential	below average potential	averageh igh	below average potential
Sariosiyo	middle	middle	below average potential	middle	high	below average potential	below average potential
Termez district	below average potential	high	below average potential	middle	high	middle	
Uzun	below average potential	middle	below average potential	below average potential	below average potential	below average potential	high
Sherobod	below average potential	below average potential	below average potential	below average potential	high	averageh igh	below average potential
Shurchi	middle	below average potential	below average potential	middle	below average potential	below average potential	below average potential

The study showed that the region has the following advantages compared to other regions of the country in the development of services:

- a wealth of natural and recreational factors, a specific subtropical climate, mineral, water, biological resources;

- there are many historical monuments for the development of tourism, including: “Imam Hakimat-Termizi” in Termez district. The mausoleums of Kyrgyzstan, Sultan Saodat, Qoqildorota and the monuments of Dalvarzintepa, the mausoleum of Minor in the Dzharkurgon district, the mausoleum of Imam at-Termizi in the Sherabad district and Teshiktosh gori in Boisun district and;

- availability of recreational facilities in the area: Omonhona in the Boysun district, Khojaipok in the Oltinsoy district, Urim Bulok in the Sherabad district and the sanatoriums Sangardak and Khonjiza in Sariosi district;

- the passage of international, national and regional roads and railways through the region will become the basis for the development of transport services and other services (camping, gas stations, gas stations, retail outlets and public catering facilities);

- traditions and experience of local residents in the field of trade and public catering;
- borders of the region with neighboring countries, opportunities for the development of international trade;
- craft development in some areas of the region (Denau, Termez, Shurchi).

Based on the identified potential, opportunities and priorities in the region, the main goal of the development of the services sector in the region is the further development of traditional types of services and the creation of new types. Based on this goal, the strategic directions of development of the services sector in the region are:

- further development of pilgrimage tourism, gastronomic tourism, ecotourism and excursion services;
- development of new types of transport services;
- development of services related to the creation of industrial and agricultural clusters;
- approximation of areas with low level of coblast service with an average.

Based on the analysis and competitive advantages of the services sector in the region, it was possible to determine the main strategic directions for the development of the industry in cities and regions of the region. The main attention is paid to increasing the demand of the population for services, the potential ofregions, growth points defined in the strategy (creation of industrial clusters, creation of small industrial zones, etc.), the existing potential for the development of tourism and all types of services.

To achieve the main goal and implement long-term strategic directions, it is planned to develop the following main types of services:

- the development of traditional types and the creation of new ones as a result of diversification of the service sector using existing potential and advantages;
- assessment of the tourism potential of the region, development of new areas of tourism, assessment of the density of roads and railways, diversification of transport services.

Looking at the prospects for the development of tourism services, the unique natural, ecological, resource potential of the region, the unique cultural and historical heritage of the region, we can develop tourism services, which is a new direction for the region. 293 archaeological sites of cultural heritage were identified in the region, covering the period from the ancient Stone and Bronze Ages to the 19th century. In addition, there are 27 architectural monuments from the first century AD to the XIX century.

The Museum of Archeology, the only one in Central Asia, was opened in Termez on April 2, 2002, on the day of the celebration of the 2500th anniversary of the city of

Termez. The museum fund has more than 27,000 exhibits of material and spiritual culture, including a collection of archeology, numismatics, painting, sculpture, paintings, household items. In 9 rooms of the museum everything is represented - from stone tools of the Stone Age found in the territory of the Surkhandarya region, to the unique works of great artists. They are arranged in chronological order (covering the period from 100 thousand years BC to the beginning of the modern twentieth century).

The scientific library and museum archive contain more than 16,000 unique books, periodicals and archival documents. There are unique, valuable manuscripts and lithographic publications in Arabic, Persian and European languages.

In addition, there are great opportunities for the development of pilgrimage tourism in Termez, Sherabad, Oltinsoy, Sariosioy, Boysun and Dzharkurgon districts of the region, including the mausoleums of “Kyrgyz”, “Sultan Saodat”, “Hakimat-Termizi”, “Kokildor ota Dalvarzintepa, Minor Mausoleum in the Dzharkurgon District, the Imam Iso-at-Termizi Mausoleum in the Sherabad District and the Teshiktosh Temple in the Boysun District, it is advisable to develop tourist services in these areas.

Table 2.

Opportunities for the development of pilgrim tourism in the Surkhandarya region [14]

№	Name of tourist attractions	Built period
1.	Al-Hakim al-Termizi	IX-XV centuries
2.	Zul-kifl	XI-XII centuries
3.	Stumbling-room	XVI centuries
4.	Kyrgyz	IX-X centuries
5.	Sultan-Saodat complex	XVII century
6.	Otaulla Sayyid Vaqqas	XI century
7.	Abu Isa al-Termizi	X-XI centuries
8.	Said Father	XVI century
9.	Sufi God	1713 year
10.	Jarqurghon Tower	XII century
11.	Ok Astana bobo	X-XI centuries
12.	Alexander Bridge	XVI century
13.	Denau Castle	XVI century
14.	Muzrabot ota	XV century

15.	An old maple tree	XI century

In addition, in several areas of the region there are recreation and entertainment facilities that allow the development of medicine, gastronomy, ecotourism. For example, tourism services can be expanded at Omonhona in Boysun District, Khudzhaipok in Oltinsoy District, Urim Bulok in Sherabad District, and Sangardak and Khonjiza Resorts in Sariosiyo District.

In the future, it is advisable to organize the following new areas of tourism development in the region:

- first direction (Boysun): Termez-Sherabad-Boysun-Termez district: (Hakim-on-Thermisi memorial complex - IX-XI century, archaeological site of Fayoz-Tep - I-II century. Also in the Sherabad region: Imam Isa-at- The Termizi complex, the village of Dzharkuron.In addition, the iron gate (III century BC), Machai and Teshiktash caves, historical complexes Khoja Kuchkaron, Poyon Kurgan, Kurganzar (Boysun district);

- second direction (Muzrabod): Termez-Muzrabod-Termez district (Hakim-on-Termizi memorial complex, archaeological site of Fayoz-Tepa, Kyrgyz fortress, Kohildor Ota room, Sultan-Saodat memorial complex (Termez district). Also Kampir-tepa archaeological site. Snot tepa, Kuchuktepa (Muzrabod district);

- third direction (Denau): Termez-Dzharkurgon-Denau-Termez (Hakim-on-Termezi memorial complex, archaeological site of Fayoz-Tepa. Also Dzharkurgon tower, Khaytabadtepa (Dzharkurgon district), Iskandar bridge (Shurchin district), Sayd Otalik (Denay district), Sufi cave Olloyor (Oltinsoy district).

The region also has sufficient potential for the development of ecotourism, the main areas of which are the Sangardak fall in the Sariosiyo region, Boysun forestry, the front part (zone) of the Surkhan nature reserve.

In addition, you can go rafting on rubber boats towards the Topalang River in the Sariosiyo region, hiking in the mountainous areas of Boysun, Sherabad, Denau and Sariosiyo to create a recreation area along the Uchkizil reservoir in Termez region.

Further development of tourism services in the region requires solving a number of issues at the local and national levels.

Given the inadequate use of unique cultural and historical heritage sites, recreational resources and nature in the region and the lack of knowledge of such unique potential by foreign tour operators, local authorities and relevant organizations should regularly publish information on the tourism potential of the region, develop new tourist routes, hand out booklets and maps of where abouts to tourists historical monuments.

Relevant organizations at the regional and national levels are required to carry out timely and regular repairs of cultural heritage and architecture.

The implementation of the proposed areas will lead to the transformation of tourism in the region into a strategic sector of the economy, increase the number of tourists, create new jobs, increase the welfare of the population.

Conclusion: The flow of tourists to the region is growing. It is necessary to further increase the flow of tourists and improve the quality of tourist routes and services that serve to ensure that they spend more time in the region, while introducing new types of exotic tourism. It is expedient to improve the condition of tourist facilities and strengthen their material and technical base. These measures will significantly increase the tourist potential of ancient cities of world importance located in the region. This is due to the fact that the state has adopted regulatory documents for the effective implementation of new directions in this area.

Based on the above, the following measures should be taken for the strategic development of tourism in Surkhandarya region:

- construction of modern accommodation for tourists on the basis of national forms in the existing natural beauty corners;

- expanding the attraction of foreign and domestic investors in the field of tourism and hotel business;

- organization of open tourist zones in historical sites and increase of small hotels on the basis of national traditions;

- expanding special opportunities for tourism and hotel businesses in tax benefits.

References:

[1] Address by the President of the Republic of Uzbekistan, Sh.M.Mirziyoev to the Oliy Majlis on 24 January 2020. // People's Word newspaper, 24 January, 2020 year.

[2] Decree of the President of the Republic of Uzbekistan №4947 of February 7, 2017 "on the strategy of action for the further development of the Republic of Uzbekistan"

[3] Sh.Mirziyoev. Critical analysis, definitely discipline and personal responsibility should be the daily rule of each leader. - T.: Uzbekistan, 2017.

[4] David Weaver (Author), Laura Lawton.Tourism Management/ 1th ed. USA, Willey 2013.

[5] Bogolyubov V.S. i dr. Ekonomika turizma: Uchebnoe posobie. – M.: Akademiya, 2005. - 92 s.

[6] Tuxliev I.S., Qudratov G.H., Pardaev M.Q. Tourism planning. Textbook. - T.: Economics and Finance, 2010. - 7-8 p.

[7] Tuxliyev I.S., Hayitboyev R., Safarov B.Sh., Tursunova G.R. Basics of tourism. Textbook. - Tashkent, 2014. - 48 p.

[8] Professors. Edited by M.K.Pardayev and H.N.Musayev. Development of services and tourism: problems and their solutions. Monograph. - T., 2008. - 87 p.

[9] Ruzmetov B. Regional economy. - Tashkent: Fan, 2002.

[10] Turaev B.X. Turistsko-rekrasionniy potensial Samarkandskoy oblasti. // Rinok, den'gi i kredit. – T., 2004. -№10. - 51-54 s.

[11] Annual statistical collection of the Republic of Uzbekistan. - T.: 2015. // www.stat.uz

UDC: 339.972

A NEED FOR MIGRATION POLICY IN UZBEKISTAN: A BRIEF EXPLANATION.

Chulliev Tulkin Mekhmonkulovich
PhD student at «World Economy and International Economic Relations» department, «International Economic Relations» faculty, University of World Economy and Diplomacy
Email: tchulliyev@gmail.com

Аннотация: Ўзбекистон Республикаси миграцион сиёсатини оптималлаштириш ҳозирги шароитда айниқса жуда муҳим. Бунинг учун, энг аввало, миграцион сиёсатда иштирок этувчи институтлар фаолияти йўналишларини ўрганиш зарур. Мақолада Ўзбекистон миграцион сиёсатини шакллантирувчи ва ижро этувчи акторлар орқали шаклланадиган миграцион сиёсат архитектураси ўрганилган.

Калит сўзлар: миграцион сиёсат, миграция, мигрантлар.

Аннотация: Оптимизация миграционной политики Республики Узбекистан особенно важна в современных реалиях. Для этого, прежде всего, необходимо изучить деятельность институтов, занимающихся миграционной политикой. В статье рассматривается архитектура миграционной политики, которая формируется за счет субъектов, формирующих и реализующих миграционную политику Узбекистана.

Ключевые слова: миграционная политика, миграция, мигранты.

Abstract: Optimization of the migration policy of the Republic of Uzbekistan is especially important in the current realities. To do this, first of all, it is necessary to study the activities of the institutions involved in the migration policy. The article examines the architecture of migration policy, which is formed through the actors that develop and implement the migration policy of Uzbekistan.

Keywords: migration policy, migration, migrants.

Introduction: Contemporary trends in international migration are becoming more and more important for governments in the modern world. What is the reason for this, how to analyze international migration through the prism of modern legislation, how this concept affects the socio-economic and demographic development of countries, what is the migration policy of governments in the context of globalization? Such issues are not only of scientific and theoretical importance but also of great practical value. Because finding the right answers to these questions can be a great catalyst for the development of not only individual countries, but also the world economy as a whole.

Uzbekistan is also an integral part of such processes. When we study several official sources, we can see that between 1 million and 3 million citizens of Uzbekistan live abroad for various purposes. It is essential to point out that most of them are migrants. According to the United Nations Department of Economic and Social Affairs (UN DESA), in 2019, more than 1 million citizens of Uzbekistan live abroad [1]. The State Statistics Committee of the Republic of Uzbekistan reported that 174,832 citizens left the country in 2018. These numbers were about 126,000 as of January-September 2019. Immigrants increased from 160,103 in the 9 months of 2018 to 117,617 in the respective period of 2019. Also, in 2018, the economically active population was more than 14.5 million [2]. According to the Agency for External Labor Migration under the Ministry of Employment and Labor Relations of the Republic of Uzbekistan, in the first eight months of 2019, about 2.6 million to 3 million migrants worked abroad [3]. Besides, according to the Russian Federal Security Service, in the first half of 2019, 918 thousand Uzbek citizens came to Russia to work [4]. It is worth noting that the role of remittances in the economy is also rising. Considering these, the need for an efficient migration policy is becoming more acute in Uzbekistan.

Literature review: The migration processes and migration policies of relevant countries have been studied by several scholars. In particular, E. Ravenstein [5] was one of the first to develop a general approach to this phenomenon, while J. Hicks, S. Stauffer, J. Zipf, E. Lee developed classical theories of migration [6,7,8,9].

Uzbek scholars such as B. Islamov, R. Ubaydullaeva, D. Rasulova, L. Maksakova, Z. Kadirova and others also researched the issues closely related to these processes, namely demography, employment, remittances, and labor market [10,11,12,13,14].

Research methodology: Theoretical and practical analysis, observation, deduction and induction, comparison and contrasting, expert evaluation, and other methods are used in the study. The World Bank and the State Committee of the Republic of Uzbekistan on Statistics are taken as a primary source of data.

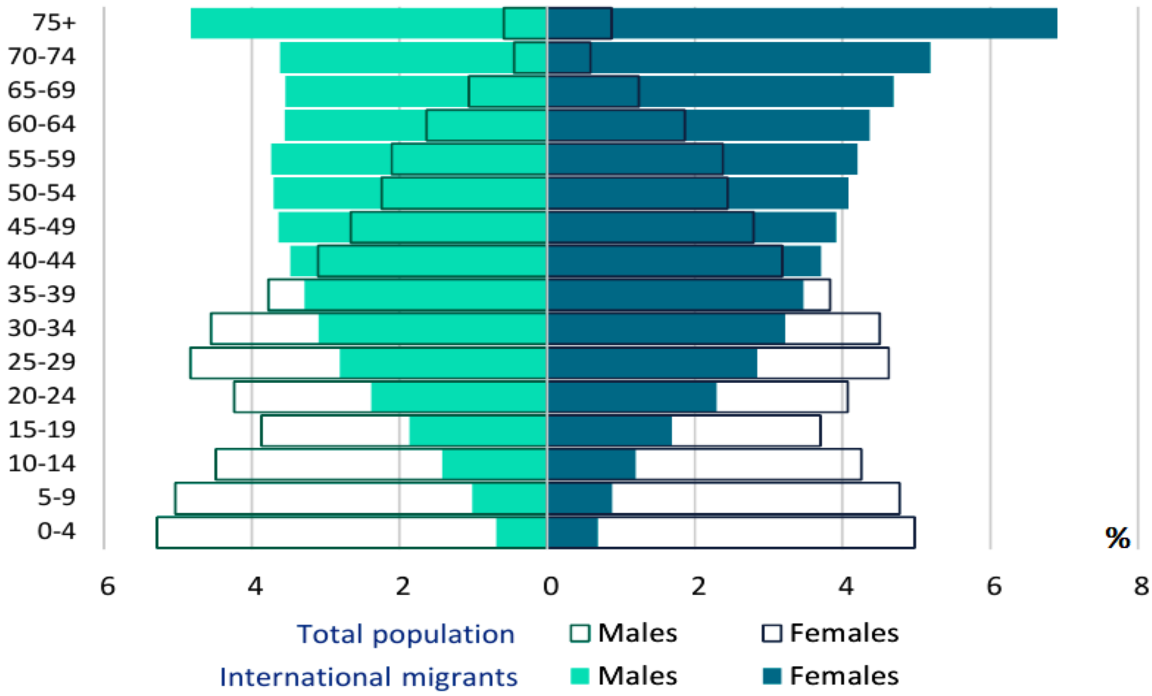
Analysis and results: It is an inevitable fact that the role of migration processes is becoming vital for Uzbekistan today. This can be explained by the fact that the absolute numbers of migrants are decreasing whereas the share of the remittances in the country’s GDP is increasing. A more thorough look at the data provided by UN DESA reveals that for Uzbekistan both the number of migrants and their share in the total population is declining during the period from 1990 to 2019. Also, the share of women in total migrants is falling and the average age of migrants is rising (Table 1).

Table 1. International migrant stock for Uzbekistan during 1990-2019 [1].

Indicator	1990	1995	2000	2005	2010	2015	2019
International migrants, thous.	1 653,0	1 512,6	1 406,5	1 329,9	1 220,1	1 170,9	1 168,4
International migrants as a share of total population, %	8,1	6,6	5,7	5,0	4,3	3,8	3,5
Refugees, thous.	-	2,6	39,6	44,5	0,3	0,1	0,0
Refugees as a share of international migrants, %	-	0,2	2,8	3,3	0,0	0,0	0,0
Females among international migrants, %	56,2	56,5	56,9	55,7	54,2	53,4	53,4
Median age of international migrants, years	46,4	46,4	49,2	50,4	51,7	52,4	51,6
International migrants by age group, %							
0-19	13,5	13,6	11,5	10,8	10,0	9,5	9,4
20-64	63,5	63,4	63,1	62,5	62,0	61,2	61,8
65+	23,0	23,0	25,4	26,7	28,0	29,3	28,8

The demographic classification of Uzbek migrants is also noteworthy. It is interesting to indicate that, firstly, there is a clear inverse relationship between the age of the total population and the age of migrants, and secondly, the largest group of migrants is over 75 years old (Figure 1).

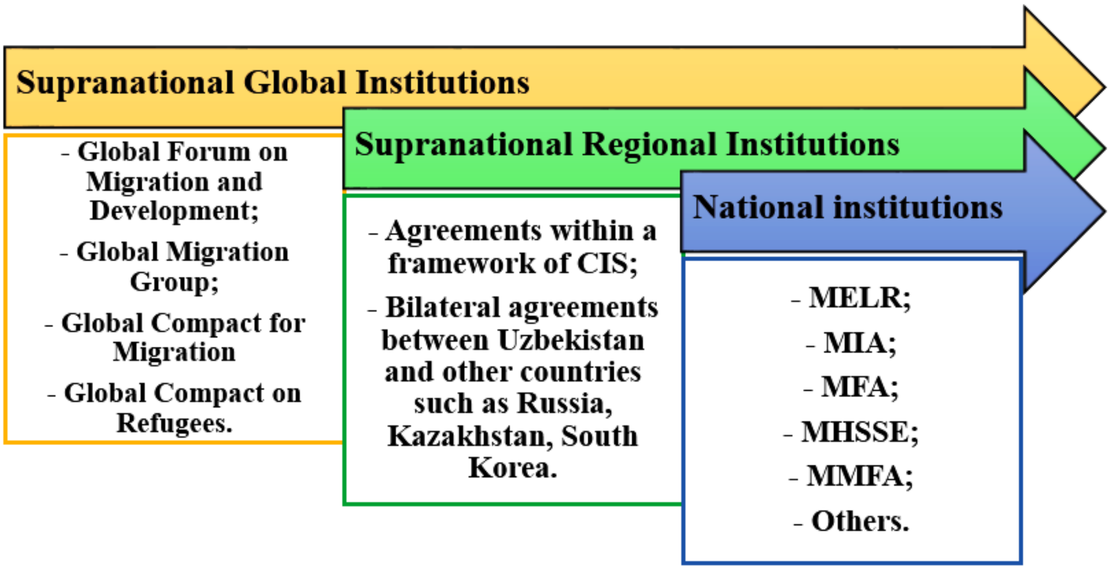
Figure 1. Demographic classification of international migrants [1].



Another important (or even disturbing) issue related to migration processes in Uzbekistan is the role of remittances in the economy is growing. Particularly, in 2018, the share of this indicator in GDP exceeded 15%. According to the Central Bank's report "Balance of payments, international investment position and external debt of the Republic of Uzbekistan", in the first 9 months of 2019, the volume of remittances from abroad to individuals – residents of the country equaled to $4.5 billion and increased by 16.4% compared to the corresponding period of 2018 [15]. Most of these funds are remittances sent by Uzbek migrant workers to their families and remittances from relatives living abroad.

These factors make the need for the migration policy in Uzbekistan even more urgent. Therefore, the country must develop an efficient migration policy which reflects the past experience and the current realities. The main question to be answered during the development of such policy is that what kind of actors, both international and local, should be studied thoroughly during the process and which of them must be chosen as primary and secondary participants of the migration policy? To answer this question, we developed a diagram that reflects the migration policy of Uzbekistan (Figure 2).

Figure 2. The architecture of Uzbekistan's migration policy.



Notes.

CIS – Commonwealth of Independent States;
MELR – Ministry of Employment and Labor Relations of the Rep. Uzb.;
MIA – Ministry of Internal Affairs of the Rep. Uzb.;
MFA – Ministry of Foreign Affairs of the Rep. Uzb.;
MHSSE – Ministry of Higher and Secondary Specialized Education of the Rep. Uzb.;
MMFA – Ministry of Mahalla and Family Affairs of the Rep. Uzb.

All processes related to migration in the world are managed directly and indirectly through institutions established by the UN. The Global Forum on Migration and Development (GFMD) and the Global Migration Group (GMG) are the key institutions in migration management that are regulated by the UN.

Established in 2017 GFMD supports transparent analysis of the multifaceted aspects, opportunities, and problems of international migration, helping countries to apply the best practices in the field at the national, regional, and global levels. It ensures the cooperation of countries focusing on practical results.

In 2006, another key institution – the Global Migration Group – was established at the initiative of the UN Secretary-General. This group brings together high-level institutions with direct and indirect links to international migration. GMG was established to replace the Geneva Migration Group, founded in 2003, and includes 22 institutions such as the International Organization for Migration (IOM), International Labor Organization (ILO), UN High Commissioner for Refugees (UNHCR), UN High Commissioner for Human Rights (OHCHR), and UN Development Program (UNDP) that are part of the United Nations. Notably, the main task of the UN is to regularly optimize the relations between these institutions.

In addition to the global institutions listed above, two other major agreements have a direct impact on Uzbekistan’s migration policy. These are the Global Compact for Migration (GCM) and the Global Compact on Refugees (GCR). The first agreement is executed by IOM, the latter is by UNHCR.

Regional institutions also play an important role in the implementation of the migration policy of Uzbekistan. One of the biggest actors in the region is CIS with its legal framework. Namely, within this framework “Agreement on cooperation in the field of labor migration and social protection of migrant workers” dated April 15, 1994, is the most important document concerning the migrants and migration processes. Another important document that can be interpreted as a supranational regional institution is an Agreement between the government of the Republic of Uzbekistan and the government of the Russian Federation “On the mutual establishment of representative offices of the competent authorities in the field of migration”, adopted on April 5, 2017. Besides, other bilateral documents such as an agreement between Uzbekistan and Kazakhstan, between Uzbekistan and South Korea, and others also regulate and shape the migration policy of Uzbekistan.

In the architecture of the migration policy of Uzbekistan national institutions play the most important part, they execute the migration policy. The main national institutions are the Ministry of Employment and Labor Relations, Ministry of Internal Affairs, Ministry of Internal Affairs, Ministry of Higher and Secondary Specialized Education, Ministry of Mahalla and Family Affairs, and others (including the private recruitment agencies). However, the results of our analysis and research show that most of the problems related to migration in Uzbekistan are connected with legal issues. In particular, the condition of execution of international regulations aimed at ensuring the rights of migrants is unsatisfactory. It is also worth noting that the migration policy of Uzbekistan is carried out in a fragmented manner by several independent institutions.

Conclusion: To conclude, we have to assert that Uzbekistan's migration policy is not a static phenomenon. It is always in the process of development, just like a living organism. Moreover, the role of several external and internal influences is strong in the genesis and evolution of this phenomenon, as discussed above. Also, while some actors have remained important since the formation of the process, some new actors are strengthening their positions in further optimizing this process. However, the general suggestion is that the regulation and coordination of migration policy must be done by a single institution. In our opinion, it is vital to make this policy more efficient. Furthermore, the experience of other countries must also be studied thoroughly to further understand the nature of the migration processes as a whole and the migration policy in particular.

References:

[1] United Nations, DESA. Population Division (2019). *International Migrant Stock 2019 (United Nations database, POP/DB/MIG/Stock/Rev.2019).* https://www.un.org/en/development/desa/population/migration/data/estimates2/estimates19.asp.

[2] The State Committee of the Republic of Uzbekistan on Statistics. (2019). *Open Data. Demography/Labor Market*. https://stat.uz/en/open-data.

[3] REVIEW.UZ. (2019). *The number of labor migrants from Uzbekistan reached 2.6 million [in Russian]*. https://review.uz/ru/post/chislo-trudoviyx-migrantov-iz-uzbekistana-sostavlyaet-26-millionov-chelovek.

[4] RBC. (2019). *Uzbekistan has become the main official supplier of labor [in Russian]*. https://www.rbc.ru/newspaper/2019/08/19/5d5560979a7947af4fa8a883.

[5] Ravenstein, E. (1885). *The Laws of Migration. Journal of Statistical Society of London.* Vol.48, No.2. pp. 167-235.

[6] Hicks, J. (1932). *The Theory of Wages.* London.

[7] Stouffer, S. (1940). *Intervening opportunities: a theory relating mobility and distance.* American Sociological Review. Vol.5, iss.6. pp. 845-867.

[8] Zipf, G. (1946). *The P1*P2/D Hypothesis: On the Intercity Movement of Persons.* American Sociological Review. 11(6). pp. 677-686.

[9] Lee, E. (1966). *A Theory of Migration.* Demography (Journal). Vol.3, No.1. pp. 47-57.

[10] Islamov, B. (1998). *Socio-economic aspects of migration processes in the independent states of Central Asia [in Russian]*. Journal of Slavic Research Center. Vol.16. pp. 184-206.

[11] Ubaydullaeva, R., Ata-Mirzaev, O., Umarova, N. (2006). *Demographic processes and employment in Uzbekistan [in Uzbek]*. Study Guide. T.

[12] Rasulova, D. (2010). *Theoretical foundations of the development of labor migration [in Uzbek]*. T.

[13] Maksakova, L. (2011). *Labor migration of the population of Uzbekistan [in Russian]*. Society and Economics. №1

[14] Qodirova, Z. (2016). *Integration of Uzbekistan to the international labor market in the context of globalization [in Uzbek]*. T.: IQTISODIYOT.

UDC:397.4/.7:871.32

TOURISM IN UZBEKISTAN AND THE WORLD: THE EFFECT OF THE CORONAVIRUS PANDEMY ON INTERNAL AND EXTERNAL TOURISM

Sayfulloyev Oybek Olimovich
Head of the Department of Commercialization of Scientific and Innovative Developments of Bukhara State University
E-mail: sayfulloev@gmail.com

Abstract – This article discusses the impact of the pandemic on tourism around the world and in Uzbekistan. The travel and tourism industry is one of the largest industries in the world. Tourism stimulates economic growth, provides employment, creates new jobs, stimulates the development of the social sphere. The tourism industry plays a significant role in the economies of countries. According to the World Tourism Organization, exports of tourism services are the third largest in the world economy after the chemical and fuel industries.

Key words: tourism industry, economies of countries, economic growth, tourism stimulates, social sphere, exports of tourism services.

Аннотация – ушбу мақолада пандемиянинг бутун жахон ва Ўзбекистон туризмига таьсирлари ҳақида фикр юритилган. Саёҳат ва туризм саноати дунёда энг йирик саноат тармоқларидан бири ҳисобланади. Туризм иқтисодий ўсиш учун стимул беради, аҳолини иш билан таъминлайди, янги иш ўринларини яратади, ижтимоий соҳа ривожига туртки беради. Туризм саноати давлатлар иқтисодиётида салмоқли ҳиссани эгаллайди. Бутунжаҳон туризм ташкилоти маълумотларига кўра, туризм хизматлари экспорти дунё иқтисодиётида ўз ўрнига кўра кимё ва ёқилғи саноатидан кейин учинчи ўринни эгаллайди.

Калит сўзлар: туризм индустрияси, мамлакатлар иқтисодиёти, иқтисодий ўсиш, туризмни рағбатлантириш, ижтимоий соҳа, туризм хизматларининг экспорти.

Аннотация - В этой статье обсуждается влияние пандемии на туризм по всему миру и в Узбекистане. Индустрия путешествий и туризма является одной из крупнейших отраслей в мире. Туризм стимулирует экономический рост, обеспечивает занятость, создает новые рабочие места, стимулирует развитие социальной сферы. Индустрия туризма играет значительную роль в экономике стран. По данным Всемирной туристической организации, экспорт

туристических услуг является третьим по величине в мировой экономике после химической и топливной промышленности.

Ключевые слова: индустрия туризма, экономики стран, экономический рост, стимулирование туризма, социальная сфера, экспорт туристических услуг.

Introduction: The export turnover of tourism services in the XXI century has exceeded the turnover of the automotive and food industries. In countries such as Cambodia, Belize, St. Lucia, Croatia, Cape Verde, Fiji, Vanuatu, Seychelles, exports of tourism services account for 14% to 30% of the country's gross domestic product (GDP). In the Maldives, the figure is 30-40%.

In contrast to these countries, in Uzbekistan, where the tourism sector is underdeveloped, in 2019, exports of tourism services will account for 2.2% of GDP. However, in recent years, the tourism industry in Uzbekistan has made a big leap.

Literature review: According to the State Committee for Tourism Development, the number of tourists visiting the country in 2019 increased by 26.2% compared to 2018 and amounted to 6,748.0 thousand people. Exports of tourism services increased by 26.1% to 1,313.0 million. USD. [4] In 2019, according to the World Tourism Organization (UNWTO), Uzbekistan was recognized as one of the fastest growing tourist destinations, ranking 4th in the world after Myanmar, Puerto Rico and Iran [1]. Of course, this information is enough to understand the hidden potential of tourism in Uzbekistan.

Indeed, the development trends of recent years have made the tourism industry an attractive sector for investors. The state support of investments in the tourism sector in Uzbekistan has also played an important role in ensuring this attractiveness. In 2019, in accordance with the Regulation No. 433, approved by the Cabinet of Ministers of the Republic of Uzbekistan, great opportunities were provided for investors wishing to invest in the tourism industry.

Research Methodology: According to the enactment, 40.0 million soums will be allocated from the state budget for each room of the newly built 3-star hotels. (number of rooms not less than 50), 65.0 mln. soums for each room of 4-star hotels. UZS (not less than 100 rooms)[2]. These funds are given on a non-refundable basis and provide an opportunity for the investor to recoup part of the amount spent. As a result, in 2019 alone, a total of 277 new hotels were built and launched in the country.

Based on the positive trends of 2019, the entities engaged in tourism in our country have formed their own business plans, taking into account the growth of tourist flows by at least 25% for 2020, and began to act accordingly. The newly built hotels offered highly qualified personnel. They did not spare funds for advertising services. But the coronavirus pandemic, which began to spread around the world in 2020, ensured that these business plans remained only a theory[3].

The tourism industry around the world felt the impact of the spread of coronavirus infection first and foremost. Under the unfavorable epidemiological situation, the development of the tourism business was under serious threat. In the first months of the pandemic, the demand for all tourist destinations in the world decreased by 20-25%. And after many states closed their borders completely, that demand dropped to almost zero. According to the World Tourism Organization, the global tourism industry is expected to reach almost $ 1.2 trillion by 2020 due to the pandemic. U.S. dollars in damage. More than 100 million people working in this industry are at risk of unemployment[4].

These problems are not uncommon for the tourism industry of Uzbekistan. As a result of the pandemic, hotels, cafes and restaurants, as well as businesses providing transport services were severely damaged. These businesses were unable to cover their expenses and were forced to take vacations. These cases created a risk of losing experienced and qualified personnel. Individuals providing guide-interpreter services were unemployed in these circumstances. In general, the demand for this industry was high even before the pandemic. Also, the majority of tourists who visit Uzbekistan frequently and have a numerical advantage are older tourists. Older people are the best tourists. They usually move as a group and make more purchases. Under the influence of the coronavirus pandemic, the ability of this tourist layer to travel is at risk. Because older people are more likely to get coronavirus. Acting as a group increases the risk of contracting the virus[5].

In these difficult circumstances, there are several questions waiting to be answered by representatives of the tourism industry around the world. How will the tourism industry change during and after the pandemic? Can people travel again? Will the tourism industry lose or retain its investment appeal? How long will it take for the tourism industry to return to its 2019 level? Is tourism completely helpless in the face of a pandemic? These questions are currently on the agenda. The answers to these questions will determine the future of the tourism industry.

The world today is slowly adapting to operating in a pandemic environment. People are gaining the skills to work remotely. In turn, the countries of the world are gradually opening up to tourists. And people are planning their holidays, albeit with insecurity. The countries are preparing mutually interesting proposals to attract this layer and gradually revive the tourism industry. Below we have compiled a set of interesting benefits offered to tourists by countries around the world.

Mexico

In the Mexican resort city of Cancun, hotels have started operating. The city government is offering a number of great bonuses to tourists so that the hotels are not left empty. Those who travel to this resort town with children do not have to pay for them at the hotel. Tourists can also get discounts on hotel accommodation costs[1].

Tourists can stay at the hotel for two days free of charge after two days of paid overnight expenses. These discounts also apply to car rental service. If this experience proves itself, other regions of the country will begin to revive the tourism industry in the same way.

Greece

Airports in Greece began accepting tourists on June 15. Airports were opened primarily for 29 European countries. In Greece, tourists who fall ill during the holidays are provided with free medicines and medical care. These services are also available in Egypt and Cyprus[2].

Portugal

The government of the Portuguese island of Madeira is offering free corona virus testing to all tourists flying to the island. The testing process has already been developed by the regional health department.

Luxembourg

In Luxembourg, 700.0 thousand vouchers are offered to tourists for hotel expenses. These vouchers will be distributed to residents of the country as well as visitors from neighboring countries. The vouchers cost 50 euros and can only be used for hotel accommodation[3].

Uzbekistan

Uzbekistan is introducing a sanitary-epidemiological security system "Uzbekistan - safe travel guaranteed", which will become a kind of "airbag" for foreign tourists. According to him, if foreign tourists become infected with the coronavirus during a trip to Uzbekistan, they will be compensated in the amount of 3,0 thousand US dollars [4]. But sooner or later the pandemic will end. The world will get out of quarantine, restore ties and lift travel restrictions.

Analysis and results: What will tourism be like after that. The general assumptions and assumptions can be as follows:

- The tourism industry always recovers very quickly after crises.

It may be very strange, but historical experience shows that tourism has recovered very quickly after the crises. One of the most horrific conflicts in human history, World War I, has strangely given impetus to the development of tourism. During the war, millions of people from the front sent various postcards and photos to their families. After getting acquainted with the magic photos, people wanted to see these places with their own eyes after the war. All this has led to an increase in the number of tourists. These interests were supported by the gradual introduction of paid leave in the labor relations of European countries[5].

During the Great Recession, which began in the United States in 1929, luxury hotels in Europe, adapted for the reception of American aristocrats, were destroyed. Demand for cheap camping has increased. Seaside resorts offering summer vacations have begun to open. These resorts have attracted wealthy tourists who are accustomed to spending their winter holidays in hot climates.

The global financial and economic situation in 2008 also gave some impetus to the development of tourism. The economical tour packages that began to emerge after the crisis attracted a large number of tourists [6].

- People want to travel more than before after being forced to sit at home for longer periods of time.

Experts believe that people who are forced to sit in their apartments long and hard after quarantine want to travel immediately. With the opening of borders, there will be a huge delayed demand in the tourism industry. But a very topical question may arise. Can people's travel needs be met by their economic levels?

- Due to economic problems, the demand for cheap species is growing.

Prolonged quarantine has a negative impact on people's savings. In this case, the savings are reduced or completely depleted. Therefore, tourists try to save the duration of the trip and use cheaper tours[7].

- Fear formed as a complication of the pandemic will lead to a change in tourist destinations.

After the pandemic, the popularity of ecological routes, forest trips and similar recreational routes will increase.

The above represents the sum of our perceptions and assumptions about the global tourism industry after the pandemic. What changes does the tourism industry of Uzbekistan expect after the pandemic? Of course, given some of the risks involved, the following assumptions can be made.

- The pandemic will stimulate the development of domestic tourism.

The need for rest is always maintained as long as a person is active. Taking advantage of this need, Uzbekistan can open new horizons for domestic tourism. This will require a lot of work to adapt the tourism services sector to domestic tourism. Generally, locals rarely use tourism services. The cost of tourism services also plays a key role[8].

For example, a 1-week vacation in Bostanlyk or Zaamin can be more expensive than a 1-week vacation in Antalya or Thailand. The growth of domestic tourism cannot exceed the growth of income. Therefore, studying the market situation, it would be expedient if the providers of tourism services offer economical types.

- For the development of tourism, the issue of a 5-day working week should be on the agenda.

In this case, the State Committee for Tourism Development should make a proposal as a promoter of the 5-day working week. The 6-day work week, which is currently available in many organizations, allows residents to travel on consecutive weekends that are only given on holidays or public holidays. Sudden transition to a 5-

day work week is likely to be a painful transition. In the initial stage, the practice of assigning only a specific week of the month as a 5-day work week can be used. Of course, this would have given an unprecedented impetus to the development of domestic tourism.

- In Uzbekistan, a pandemic can change the direction of tourism from historical monuments to ecotourism.

In the initial stage, tourists try to stay away from places where people gather in groups. This in itself leads to the popularity of eco-friendly and automotive tourism destinations among tourists. Tourists feel relatively safe in the bosom of nature or in their own cars[9].

- After the pandemic, Uzbekistan will have to compete with other countries in the region for the flow of tourists.

Uzbekistan can easily compete with the countries of the region in terms of its tourism potential. They, in turn, are actively promoting their tourism services on the world market.

- We need incentives for the development of domestic tourism.

Under the conditions of the pandemic, the flow of tourists from abroad will undoubtedly decrease. But it should be noted that the desire to travel around the country is not high. Of course, it should be noted that the role of propaganda and advocacy work is great. However, when the issue of support was financial, the effect was immediate. Under quarantine conditions, it is natural that people's financial opportunities prevent them from traveling. With this in mind, it would be good if the State Committee for Tourism Development offered discounted tour packages. Given that students are now on vacation, it would make sense to develop appropriate travel packages for them and to set up advocacy work properly. The government can also establish a system of distribution of vouchers for tourist services, studying the world experience, and distribute them in cooperation with trade unions and communities. We set the value of the vouchers at approximately $ 10 and initially raised $ 1.0 million. we propose to put the vouchers into practice. Vouchers can be used for overnight hotel expenses. 10 mln. The amount in US dollars would be an indirect contribution of the government to the development of domestic tourism[10].

Conclusion: First of all, the global tourism industry is experiencing a state of deep shock due to the pandemic. According to analysts, 1 job created in the tourism sector will lead to the creation of 5 jobs in related industries. Losses in the tourism sector pose serious risks in related areas as well. Secondly, government support for this sector is now more important than ever. In turn, representatives of the tourism industry should be prepared for the changes that will occur after the pandemic. Of course, tourism will change after the pandemic. Obviously, we should not immediately expect the active development of inbound and outbound tourism. As mentioned above, after crises, people have always traveled more. In conclusion, if we approach in an optimistic spirit, the tourism industry will reach the level of 2019 in the next 2-3 years. Representatives of the industry are faced with the task of re-occupying the markets, which were left without owners during the pandemic.

References:

[1]. Resolution of the President of the Republic of Uzbekistan "On measures to accelerate the development of the tourism industry" dated January 5, 2019 No PP-4095. https://lex.uz/docs/4141452

[2]. Q.A. Usmonov, I.T. Jumaniyazov. Electronic scientific journal "Finance and Banking". Article "State budget revenues in the context of a pandemic: losses and measures." No. 3 of 2020. - 27 p.

[3]. TDIU. "The use of modern marketing concepts in increasing the competitiveness of national goods." Republican scientific-practical conference. Article "Prospects for the development of ecotourism in Uzbekistan." November 27, 2018. - 57 p.

[4]. http://cloud.uzbektourism.uz/uzbektourism/downloads/files/Book-curved.pdf

[5]. https://m.kun.uz/news/2020/06/20/Uzbekistan-coronavirus-infected-tourists-claim-for-compensation-in-the-count-of-thousand-dollars

[6]. https://ria.ru/20180412/1518506451.html

[7]. https://www.atorus.ru/news/press-centre/new/50372.html

[8]. https://www.interfax.ru/world/707637

[9]. https://www.interfax.ru/world/703736

[10]. https://34travel.me/post/turizm-vo-vremya-pandemii

UDC: 334.722(575.1):336.64

STATE SUPPORT FOR SMALL BUSINESS AND PRIVATE ENTREPRENEURSHIP IN UZBEKISTAN

Yuldashev Kodirjon Mamadjanovich,
Associate Professors of the Department of Organization and Economics of Industrial Production, Namangan engineering-technological institute.
E-mail: qodirjonaka@mail.ru

Shermatov Abdulakhad Abdukholisovich,
Associate Professors of the Department of Organization and Economics of Industrial Production, Namangan engineering-technological institute.
E-mail: abduraxmonovmuxtorali1968@gmail.com

Annotatsiya. Мақолада мамлакатимиз миллий иқтисодиётида кичик бизнес ва хусусий тадбиркорликни тутган ўрни ва уни давлат томонидан қўллаб-қувватлаш масалалариёритилган.

Шунингдек, мақолада янги ташкил этилган кичик бизнес ва хусусий тадбиркорлик субъектлари, уларнинг тармоқлар бўйича ялпи ички маҳсулотдаги улуши таҳлил қилинган.

Калит сўзлар: кичик бизнес, тадбиркорлик, давлат, молиялаштириш, саноат, давлат-хусусий шерикчилиги, фирма, улуш, омбутсмен.

Аннотация. В данной статье рассматривается роль малого бизнеса и частного предпринимательство и вопросы его государственной поддержки.

А также, в статье анализ новой создаваемые субъекты малого бизнеса и частного предпринимательство и иных доля в ВВП.

Ключевые слова. малый бизнеса, предпринимательство, государство, финансирование, стратегия, государственно-частного партнерства, фирма, доля, омбудсмен.

Abstract. This article examines the role of small business and private entrepreneurship and issues of its state support.

And also, the article analyzes the newly created subjects of small business and private entrepreneurship and other share in GDP.

Keywords: small business, entrepreneurship, government, financing, strategy, GDP, industry, public-private partnerships, company, share, ombudsman.

Introduction. One of the directions of deepening economic reforms in Uzbekistan is the development of small business and private entrepreneurship. The leading role of small business and private entrepreneurship in the national economy will ultimately contribute to the employment of a significant part of the workforce to increase the country's GDP. The action strategy in five priority areas of the development of the Republic of Uzbekistan for 2017-2021 is aimed at reducing the state's involvement in the economy, further strengthening its prestige and protecting private property rights, as well as continuing institutional and structural reforms aimed at developing small business and private entrepreneurship.

The creation of a legal framework for the development of small business and private entrepreneurship in the national economy, including the availability of relevant legislation. The use of tax incentives, the introduction of soft loans and the provision of legal protection clearly reflected in the activities of small enterprises. The creation of a representative (business ombudsman) in the country to protect the rights and legitimate interests of business entities under the President of the Republic of Uzbekistan played an important role in the development of their activities.

The Ombudsman (from the other Scandinavian umbop - “authority”, “to charge”) is a government official charged with overseeing the justice and interests of certain groups of citizens in the activities of executive bodies and officials in a number of countries [8].

Currently, the ombudsman institution exists in more than 50 countries with various forms of government: the presidential republic (Finland, France, USA), the parliamentary republic (Switzerland, Austria, Germany), the constitutional monarchy (Denmark, Norway, Sweden, Spain, Australia, the Netherlands, United Kingdom, Canada). [1]. State support for small business and private entrepreneurship reflected in a sharp increase in the share of small business and private entrepreneurship in the country's GDP.

Consider the share of newly created small enterprises and microforms in 2017 by type of economic activity, measures to comprehensively support and stimulate small businesses and private entrepreneurship, and create favorable conditions for their activities. In January-December 2017, more than 38,200 small enterprises were created (this is 122% more compared to the same period last year). The largest number of small enterprises was in the industrial sector (27% of the total), trade (21%), agriculture, forestry and fishing (13%) and construction (10%).

Research methodology. In this article induction, deduction, analogy, comparative, economic analysis, observation, comparison research methods are used.

Analysis and results. In January-December 2018, more than 48,900 small enterprises and micro-firms created (excluding farms and dekhkan farms) (an increase of 28.2% year on year). The largest number of small enterprises and micro-firms live in trade (23.9%), industry (23.0%), construction (13.0%), agriculture, forestry and fisheries (11%), accommodation and food services (8%), transportation and storage (4.3%).

Information on newly created small enterprises and micro-firms by type of economic activity. (In units)[9]

Table 1

Sectors	2017	2018
Agriculture, forestry and fisheries	5144	5586
Industry	10182	11262
Construction	3788	6360
Sales	7891	11713
Transportation and storage	1830	2107
Accommodation and catering services	3353	3891
Information and communication	1001	1228
Health and social services	858	1154
Other services	4120	5621
TOTAL	38167	48922

The number of small enterprises and micro-firms in the Namangan region amounted to 2353 in 2017 compared to 2709 in 2018.

Consider the main indicators of the activities of small business and private entrepreneurship in 2017-2018. [11].

Table 2

Indicators	Units	2017 y.	2018 y.	Difference (+,-)
Operating small enterprises and micro firms	In units	229666	262930	33464
Newly created small enterprises and micro firms	In units	38167	48922	10755
GDP	%	63,6	59,4	-4,2
Industry	%	41,2	34,7	-6,5
Agriculture, forestry and fisheries	%	98,1	98,1	0,0
Investment	%	34,8	34,9	0,1
Construction	%	66,2	66,6	0,4
Sales	%	88,3	86,3	-2,0
Services	%	58,4	55,2	-3,2
Freight transportation	%	54,2	54,4	0,2
Cargo turnover	%	77,7	79,6	1,9

[9] The table prepared by the author according to the State Statistics Committee of the Republic of Uzbekistan.

Passenger traffic	%	90,1	90,8	0,7
Passenger turnover	%	94,7	95,2	0,5
Export	%	22,0	26,5	4,5
Import	%	53,6	55,8	2,2

The table shows that in 2018 the number of recruits is 33,264 more than last year. Their share in the country's GDP in 2018 is 59.4%, which is 4.2 points less than in the previous year. The decline in GDP is due to an increase in the share of large enterprises. In the regions, the largest share of small enterprises in gross regional product was Jizzakh (84.3%), Samarkand (80.0%), Bukhara (79.8%), Surkhandarya (79.4%) and Namangan (79.0%) regions.

The share of small business by type of economic activity by region in 2018 (%).[10].

Table 3

Regions	Industry	Construction	Services	Investment
Republic of Karakalpakstan	18,7	84,6	57,5	21,7
Andijan	19,8	96,4	71,7	53,8
Bukhara	41,1	82,6	72,7	25,5
Jizzakh	64,4	93,7	67,9	40,4
Kashkadarya	21,4	82,7	70,2	11,3
Navoi	16,1	70,7	62,0	14,7
Namangan	68,5	93,2	69,5	30,2
Samarkand	51,1	98,3	73,6	54,0
Surkhandarya	47,1	78,3	73,2	31,6
Syrdarya	52,1	92,5	63,3	48,3
Tashkent	23,5	76,5	73,8	40,1
Ferghana	35,8	90,4	72,8	52,6
Khorezm	31,7	88,4	68,4	50,2
Tashkent	72,9	72,0	50,0	52,3
Republic of Uzbekistan	**34,7**	**66,6**	**55,2**	**34,9**

The table shows that in 2018 in the construction and services sector there was an increase in the types of economic activity of small enterprises. In the regions, the share of industry in the city of Tashkent amounted to 72.9%, Namangan - 68.5%, Jizzakh region - 64.4%. In the construction sector, such as Samarkand (98.3%), Andijan (96.4%), Jizzakh (93.7%), Namangan (93.2%), Tashkent (73.8%) and Samarkand (73 %). 6%) in Surkhandarya (73.2%), Ferghana (72.8%) regions and investments in

Samarkand (54.0%), Andijan (53.8%) and Ferghana (52.6%) regions. Despite these positive results, the potential of small businesses not fully utilized.

Significant financial resources are necessary to ensure the development of small business and private entrepreneurship and its sustainable development. Financing and financial support for small business and private entrepreneurship in Uzbekistan is becoming an urgent problem in the context of economic modernization. Small and private business in our country faces certain difficulties in financing its activities. Small enterprises and private enterprises that lack internal resources forced to attract financial resources from outside. Under what conditions and at what price these financial resources will directly affect the future income of small businesses and private entrepreneurship.

Therefore, financing the development of small business and private entrepreneurship should be an important factor in ensuring its financial prosperity. This is especially important given the limited financial resources. In the context of the Anti-crisis program, financial aspects of the development of small business and private entrepreneurship are of particular importance. This, in turn, requires in-depth specialized research on the organization and improvement of financial support for small businesses and private entrepreneurship. An important factor in the development of small business and private entrepreneurship is the problem of financing this sector. The positive role of this problem will increase the role of private sector entities in the sustainable development of the country's economy. The development of public-private partnerships is also important, thanks to the introduction of the mechanism of public-private partnerships opportunities to solve existing problems in the social sphere will expand.

In particular, thanks to the introduction of the mechanism of public-private partnerships in preschool education, organizations of preschool education are rapidly developing. This will create pure competition in the education system and improve the quality of education.

Although the pace of development of small business and private entrepreneurship in recent years has been stable, the scale of these enterprises is small. In most cases, these enterprises faced with a lack of financial resources to expand production, although they occupy a prominent place in the market. This problem, in our opinion, is associated with a general lack of financial resources in the country, on the other hand, that private sector entrepreneurs are often not involved in the financial market, as well as underdeveloped and underdeveloped financial markets in the country.

Small and private businesses often face a number of difficulties due to a lack of start-up capital. In our opinion, legal entities and individuals, as well as local authorities provide legal guarantees. Collateral, deduction, guarantee, prepayment can also be used to attract start-up capital. At the same time, a business entity can use its property, including property and property rights, as well as an insurance policy for the risk of default on a loan to which it is entitled.

In accordance with a number of legislative acts adopted in the country, various benefits and preferences provided to small businesses and private entrepreneurships, and the system of soft loans was simplified.

Conclusions and Suggestions. In our opinion, it is impossible to ensure the development of private entrepreneurship, including the effectiveness of its financing, without addressing key organizational and legal issues that impede the development of the private sector. [12]. To solve these problems, we offer:

1. It is necessary to create a special independent group of experts and expert groups that will strengthen the economic status of the state through the development of the private sector, coordinate the activities of private business, limit government intervention and adopt comprehensive legislative and regulatory acts to increase the effectiveness of private enterprise. it is necessary to ensure their continuity;

2. Sources of financing an effective mechanism for the development of the private sector should be:

a) profit (mainly retained earnings) of enterprises operating in the private sector; b) depreciation for private sector enterprises;

c) an increase in the share of sustainable liabilities of private sector enterprises; d) savings in private sector enterprises;

e) internal economic reserves of private sector enterprises;

f) funds received from the issuance of securities by private sector enterprises; g) loans from commercial banks and other credit unions;

h) state budget funds (centralized funds aimed at solving socio-economic problems of national importance and financial resources allocated for investment purposes);

i) funds received in various forms (loans, credits, etc.) from international (including financial) organizations and foreign investors;

j) sponsorship or other funds provided free of charge it can be seen from the foregoing that the structure of those who should use financial resources as an effective mechanism for financing the development of the private sector can be quite diverse in practice. In this regard, an economic entity operating in the private sector should not determine their priority. Rather, it is important to strive to maximize their use at the same time. Only then will effective financing for private sector development make sense;

3. Sources of financing, in general, from public investment resources in determining the prospects for effective financing of private sector development, foreign investment, investment resources of business entities in the private sector; personal, borrowed or borrowed resources; at the level of state and republican entities,

as well as at the level of business entities in the private sector; external and internal sources, risky and risk-free sources, It is also important to recognize the inflow of capital and inventories. Without the full implementation of this, it is impossible to determine the prospects for effective financing of private sector development in the country. Precisely because it helps determine the optimal structure for financing private sector development;

4. The main sources of financing in the private sector are the own funds of business entities operating in this sector, loans from commercial banks and foreign direct investment. The problem here is that you should prioritize which of these sources is the most effective and which most likely meets the needs of a market economy. The problem is that it is impossible to answer exactly one of the above questions, as many people think. The solution to this problem is directly related to the specific conditions existing in the private sector, with what tasks are assigned to it and the terms that they must fulfill. With this in mind, it is advisable to take into account the advantages and disadvantages of each source of financing, and then decide which source of financing to use in a particular context;

In our opinion, the mechanism for effective financing of private sector development should meet the following criteria:

a) the mechanism being created should be an alternative to the existing mechanism for financing the private sector;

b) this mechanism should be based on mechanisms that are justified in the private sector;

c) it is desirable that the mechanism for effective financing of private sector development coincides with the potential of the republic at this stage of development;
d) this mechanism should serve the interests of the private sector;

e) it should include appropriate guarantees from the state.

The implementation of an effective mechanism for financing the private sector based on these principles, in our opinion, will create more and more new opportunities for the development of the private sector, helping them reduce risks[10]. In our opinion, this mechanism should include the central government of the country, relevant government bodies, the Private Sector Development Corporation of the Republic of Uzbekistan, the Credit Guarantee Corporation, relevant financial institutions and the private sector;The implementation of such measures will contribute to the further development of the private sector in the country and the improvement of living standards.

References:

[1]Supporting the innovative ideas of the next generation of entrepreneurs should be continuous. President of the Republic of Uzbekistan Sh.Mirziyoevvisit to the region. The Truth of Namangan March 2, 2019 №18 (19534)

[2]Decree of the President of the Republic of Uzbekistan on the State Program on Implementation of the Strategy of Action on the Five Priorities of Development of the Republic of Uzbekistan in the Year of Active Investment and Social Development for 2017-2021. Public Speech, January 18, 2019, No. 12 (7242).

[3]Measures will be taken to implement the new housing construction system. Meeting of the Cabinet of Ministers chaired by the President of the Republic of Uzbekistan Sh. Public Speech, November 23, 2019, No. 243 (7473).

[4]Measures will be taken to implement the new housing construction system. Meeting of the Cabinet of Ministers chaired by the President of the Republic of Uzbekistan Sh. Public Speech, November 23, 2019, No. 243 (7473).

[5]A. V Vakhabov, Sh.Kh. Khajibakiev, N.G. Muminov Foreign investment. Tashkent, Finance 2010.-324 p.

[6]Scientific and methodological booklet on the study of the Strategy of Action in five priority areas of development of the Republic of Uzbekistan for 2017-2021. Page 241.

[7]The table was prepared by the author according to the State Statistics Committee of the Republic of Uzbekistan.

[8]Ombudsman. https: //ru.Wikipedia.org/

[9] Yuldashev K, Xolmirzaev A Osushestvlenie realizasii mexanizma chastnogo partnerstva v Uzbekistane. “Molodoy uchyonniy” № 51(289)str -435.

[10] Saidboev Sh.,Yuldashev K. Bank xatarlari. Namangan nashriyoti, 56-65 bet.

[11] O‘zbekiston sanoati. 2014-2017 yillarda. Statistik to‘plam. Toshkent, 2018 y.16-bet.

[12] Yuldashev K. “O‘zbekiston Respublikasida xususiy sektor taraqqiyotiningmoliyaviy muammolari va ularni hal etish yo‘nalishlari” avtoreferat. Toshkent 2010 y.

UDC: 621.983.044

IMPROVING THE PERFORMANCE OF SHAFT PARTS IN ROLLING EQUIPMENT

Tadjibaev Rasul Karimovich,
PhD. Associate professor,
Departments of technology
machine building and automation,
Ferghana Polytechnic Institute.
E-mail: rasul1955@mail.ru

Karimjonov Ibroximjon Akramjonovich,
Assistant, Departments of applied mechanics,
Ferghana Polytechnic Institute.
E-mailkarimzhonov89@mail.ru

Pazliddinov Jumaniyoz Maxmitovich,
Engineer, "EVRAAZIYA TAPO-Disc" LLC
E-mail: pazliddinov@gmail.com

Annotatsiya: Ishlab chiqarilayotgan mahsulotni sifati va mehnat unumdorligini oshirish bugungi kundagi dolzarb masalalaridan biri hisoblanadi. "Evraziya-TAPO-Disk" qo'shma korxonasida Gollandiyaning "Fontein" firmasini "GRR-628" valsovkalash jihozidagi roliklarni valga mahkamlovchi gaykani konstruksiyasini o'zgartirish yo'li bilan valni resursini va mehnat unumdorligini oshishiga, shu bilan birga sifatli disklarni ishlab chiqarilishiga erishilgan.

Kalit so'zlar: vallar, roliklar, gayka, konstruksiya, o'zgartirish, valsovkalash, sifat, unumdorlik.

Аннотация: Повышение качества продукции и производительности труда является одной из самых актуальных проблем. На совместном предприятии по производству дисков колес «ЕВРАЗИЯ-ТАПО-Диск», изменив конструкцию гайки на вальцовочном станке фирмы Fontein GRR-628, добились увеличения ресурса и производительности труда, а также выпустили качественные диски.

Ключевые слова: ролик, прокатная машина, деталь, конструкция, изменение, прокатка, качество, эффективность, производство.

Abstract: Improving the quality of products and labor productivity is one of the most pressing issues today. At the "Evraziya-TAPO-Disk" joint venture, the Dutch

company Fontein has increased the resource and productivity of the shaft by changing the design of the roller on the GRR-628 rolling mill, as well as achieved producing discs of top quality.

Key words: Roller, rolling machine, detail, construction, change, Rolling, quality, effectiveness, production.

Intraduction: The Uzbek-Swiss-British joint venture Eurasia TAPO Disk is one of the companies with extensive experience and reputation in the automotive disk industry. The company was launched in 1998 and originally produced only 3-disc car discs for Tico, Damas, and Nexia cars manufactured at the Asaka Automobile Plant. Later, in order to increase the number of articles of automobile disks, to export the products and to meet the requirements of the domestic market, the management and technical staff of the enterprise improved some technological processes and carried out a number of organizational work. In particular, the company has been operating for 22 years, during which time it has launched the production of 67-item discs of various sizes (from 12 to 15). To date, it has produced more than 15 million car discs.

The manufacture of car discs in the enterprise involves several stages. Each stage is very important because an error in one stage does not affect the next stage. One of such important stages is the process performed on the rolling machine GRR-636 of the Dutch company Fantein, which works in the manufacture of the disc of the car disc.

Main part: The GRR-636 rolling machine is used for cold processing of ring sheets to produce the profile of car discs. (Figure 1)

Figure 1 The structure of the GRR-636 rolling mill.

1-Upper shaft, 2- Lower shaft, 3- Upper roller, 4- Lower roller, 5-6- Roller fastening nuts, 7-8- Side guides, 9- Main frame, 10- Upper spindle

The quality, suitability, durability of car discs produced at the enterprise depends directly on the rolling equipment, and whether the equipment is suitable for use or not; its uninterrupted operation is of great importance. The long-term operation of the rolling mill with low maintenance provides a number of economic and financial benefits to the enterprise. Therefore, we have studied the device in order to ensure its long-term operation without the need for urgent repairs. As a result, one of the most out-of-date and at the same time most important working parts of the equipment is the shaft. The shaft is in a double position at the bottom and top of the roller unit. The rollers at the bottom and top do the main work in the preparation of car discs by cold processing of ring sheets. [1]

Previously, the shaft parts of the rolling mill were imported from the Netherlands, but now the shafts are made of steel 45 in accordance with GOST 1050-88 in the mechanical shop of the joint venture "Eurasia TAPO-Disk". Since the operating resource of the shaft is directly related to the operating resource of the equipment, it requires in-depth study, analysis.

In order to extend the service life of the shaft part of the GRR-636 rolling mill at the joint venture "Eurasia TAPO Disk", the following data were collected.

Analysis and results: The results of the research show that in the manufacture of car discs, the rollers that form the shaft part of the rolling device are fastened. The current market economy, on the other hand, requires the organization of work by frequently replacing disk articles. In this process, the forming rollers, together with the shaft with a torque of 230 kN, the number of revolutions of 730 rpm and torque of 750 Nm, the vibration caused by the collapse of the shaft contact surfaces with bearings, bearings, bearings and leading to rapid failure of other auxiliary parts of the device and a decrease in cocktail productivity.

Having studied the causes of the above-mentioned problems, we have set the following tasks to solve them:

a) prolong the service life of the shaft, increase its labor productivity.

b) reduce the time of fastening and loosening of equipment (roller, nut, dowel) fastening to the shaft.

c) to prevent the shaft from slipping into the threads of the shaft during fastening and loosening.

Modifications have been made to the design of the fastening nut to ensure the fulfillment of the tasks set before us, to save time and convenience in tightening and loosening the nut used to fasten the roller mounted on the shaft.

Figure 1 shows the design of the nut used to fasten the forming rollers on the rolling mill. This nut is a cylindrical shaped inner (1) threaded nut with a cut (2) in one plane of symmetry of the cylinder. After tightening the nut along the axis perpendicular to the cut (2), a hole (3) is made to ensure that it is tightened and not moved, and it is fastened with a screw (4). In the radial direction, along the circumference of the cylinder, three bottom closed holes (5) were made at an angle of 120 °. These holes are designed to tighten the nut by inserting a rod-shaped wrench. In the rolling machine equipped with such rollers, the vibration of the car wheel discs during the production of the wheel is reduced due to the loosening of the fastening screw (4), which reduces the accuracy of the product and does not meet the requirements of state standards. The machine needs to be stopped and reset. [2]

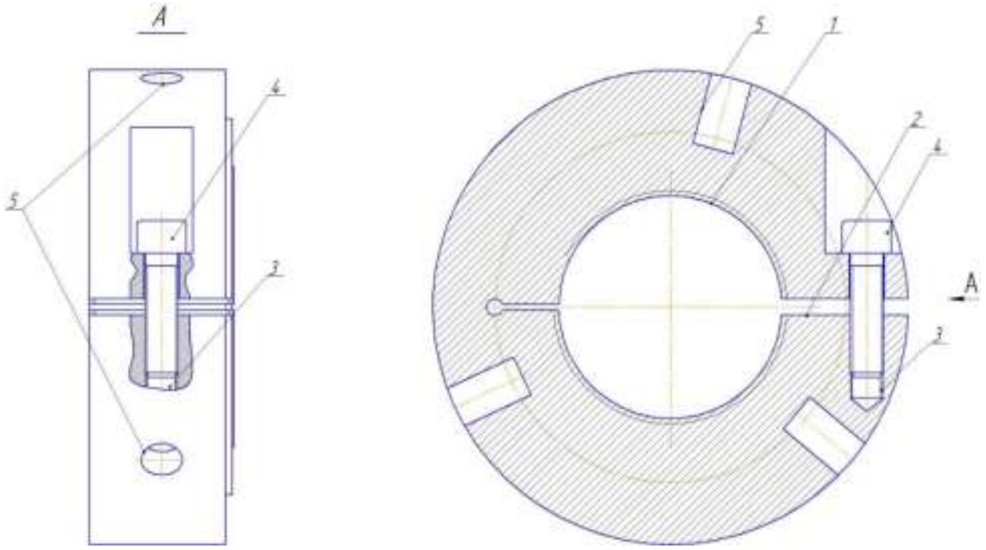


Figure 2 The nut that secures the forming rollers on the rolling machine

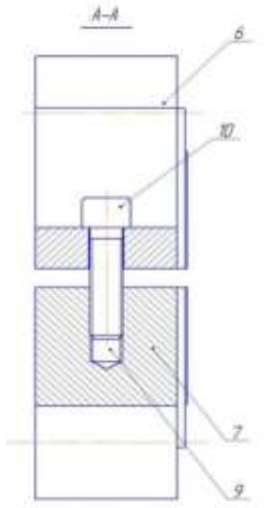
(4) The relaxed loosening condition of the screw occurs under the influence of a constant elastic deformation force directed along the axial plane of the screw (4) in the body of the tightening nut. As a result, the forming rollers move out of place, causing changes in the geometric parameters of the product - the disc and deviating from the requirements of the state standard. It is necessary to stop the machine, re-tighten the nut. This leads to a decrease in productivity.

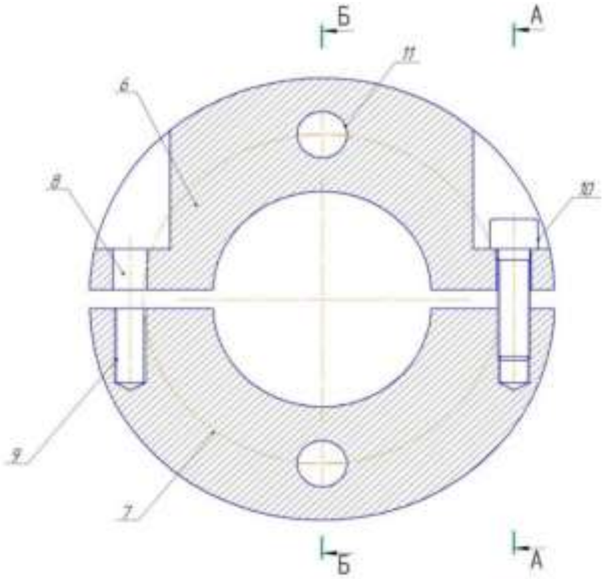
In addition, due to the variety of car discs, the forming rollers used in the manufacture of their wheels are also frequently replaced depending on the order. During the replacement of the forming rollers, loosening and tightening the nuts takes a long time, and the rolling stock causes the threaded openings of the shaft to fail.

The purpose of the proposed modified fastening nut is to prevent the product from deviating from the requirements of the state standard, increase production efficiency (reduce the time required to replace the working parts of the equipment), to prevent loosening of the nuts securing the forming rollers during the preparation of the car disc drive, as well as to ensure high-quality rapid replacement of the forming rollers without damaging the threaded surfaces of the shaft detail, which is one of the main working parts of the rolling equipment during resetting.

To perform the specified task, the clamping nut of the rolling machine, which makes the car wheel disc drive, is divided into two parts along the existing cutting plane, the number of available fastening holes is doubled, they are mutually symmetrical, the holes used to turn the clamping nut is made up of

Figure 2 shows a preview of the proposed utility model. Figure 3 shows the fastening holes for the interlocking nut pieces on the A-A and the screw on it. [3]





3rd figure 2nd figure

Modified design of the nut that secures the forming rollers on the rolling stock

Figure 4 shows the location of the holes used to turn the nut on B-B.

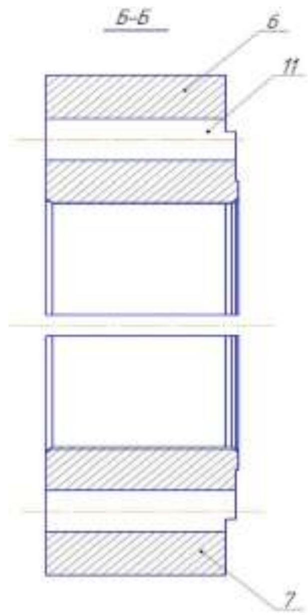


Figure 4 Modified design of the nut securing the forming rollers on the rolling stock.

The proposed fastening nut is a cylindrical internal threaded connection, similar to the analog, and differs from the analog in that it consists of detachable parts (6) and (7). One of the threaded connection pieces has two symmetrical side holes (8) open, and the other piece has the same bottom closed threaded holes (9) that are parallel to the holes (8). Pieces (6) and (7) of the nut are fastened to each other by means of screws (10) (Fig. 2.3).

Parallel to the axial plane of the nut, there are mutually symmetrically twisted holes (11) in a circle (Fig. 4).

Figure 5 shows the construction of a nut wrench.

The wrench used to tighten the nut has a crescent-shaped body (12) on one side, a handle (13) on the other side, and (12) body ends (14) with finger-shaped screws. (Fig. 5) The diameter of the caps (14) has a dimension that falls freely into their tightening nut screw holes (11). (Figures 4 and 5)

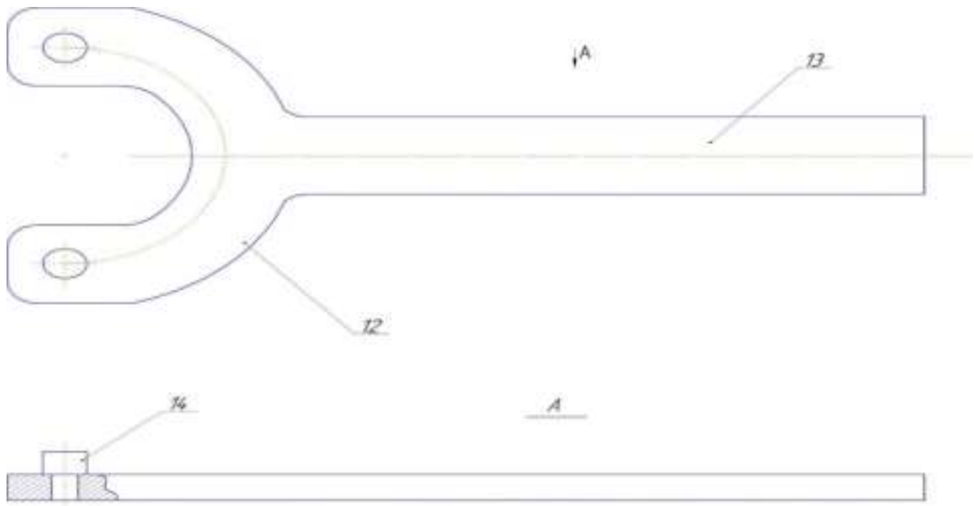


Figure 5 Key for the nut securing the shaping rollers of the rolling stock

The dimensions of the wrench are determined on the basis of the necessary calculations in accordance with the appropriate dimensions of the nut.

The pieces of the proposed nut (6) and (7) are assembled in the form of an integral joint by means of a screw (10). The degree of tightening of the screw (10) is initially at a level that allows the nut to be screwed freely onto the threaded end of the rolling pin shaft. (Figure 2.3)

During the adjustment of the machine, the forming rollers are mounted in the appropriate place on the machine shaft, and after the proposed nut is screwed to the end of the shaft, the screws (10) are tightened to the end to ensure that the nut (6) and (7) are not moved. (Figure 2)

Conclusion/Recommendations: The proposed fastening nut can be made of 45-grade steel and other materials that meet technological requirements.

The proposed nut eliminates the possibility of the formation of elastic deformation force, which occurs in its analogue.

The use of the proposed fastening nut makes it easier to ensure that the quality of the product constantly meets the requirements of state standards, increases productivity, adjusts the rolling equipment.

This proposal was used by the engineers and technicians of the EURASIA-TAPO Disk joint venture for production and is bearing fruit.

References:

[1.] Filonov I.P. “Projection of technologic processes in machine-building” (pages 31–35, p. 456-492, Edition of Techno-Print, Minsk town, 2003).

[2.] Sisoev S.K. “Machine-building technology, projection of technologic processes” (p. 19–34 Saint-Petersburg-Moscow-Krasnodar, edition “Lan”, 2011

[3.] Tkachev A.G., Shubin I.N. “Typical technologic processes of making the details of cars” (TGTU edition, Tambov town, 2007)

[4.] Book technical characteristics of the GRR 636 rolling machine

[5.] Mirboboev B.A. “Technology of construction materials” (“Uzbekistan” edition, Tashkent, 2004)

[6.] Ilhom Nosir “Materials science” (“Uzbekistan” edition, Tashkent, 2002)

[7.] Preuss G.A. “Technology of construction materials” ("Higher school” edition, Kiev, 984)

[8.] Koraboev V. Leksashev Y. "Resistance of materials" ("Science and technology" edition, Tashkent, 2007)

[9.] Rogov P.O. “Details of machines part 1” (“Teacher” edition, Tashkent, 1967)

[10.] Rogov P.O. “Details of machines part 2” (“Teacher” edition, Tashkent, 1967)

[11.] Dalsky A.I. "Technology of mechanical engineering" Fundamentals of mechanical engineering technology (Bauman N.E. Moscow state technical University, Moscow, 1998)

[12.] Melnikov G.N. "Technology of mechanical engineering" Production of machines (Bauman N.E. Moscow state technical University, Moscow, 1998)

[13.] Kasilova A.G. Meshcheryakova R.K. “Handbook of a machine-building technologist Part 1” (“Mechanical engineering” edition, Moscow, 1985)

[14.] Kasilova A.G. Meshcheryakov R.K. “Handbook of a machine-building technologist Part 2” (“Mechanical engineering” edition, Moscow, 1985)

[15.] Danilevsky V.V. “Technology of mechanical engineering” (“Higher school” edition, Moscow, 1986)

UDK 950(575.1):371.3.

THE USE OF COMPACT INFOGRAPHICS IN THE INCULCATION OF THE ESSENTIALITY OF JADIDISM AND JADIDS' ACTIVITY TO STUDENTS

Ikboljon Kamolov,
Teacher of history,
Presidential school in Tashkent
E-mail: i.ilxomovic@gmail.com;

Sayipjon Tilabayev,
Candidate of historical sciences
Tashkent state pedagogical
university named after Nizami
E-mail: sohibt@mail.ru,

Аннотация. Мазкур илмий тадқиқот ишида Тошкент шаҳридаги Президент мактаби мисолида ўқувчиларни жадидчилик ҳаракатининг мазмун-моҳияти ва жадид намоёндалари фаолияти билан ихчам усулда таништириш билан боғлиқ инновацион ёндашув очиб берилган. Шу билан бирга, STEAM тизимида гуманитар фанларни ўқитишнинг амалий жиҳатлари таъкидлаб ўтилган.

Калит сўзлар: педагогика, тарих ўқитиш методикаси, фанлараро интеграция, таълим, ўқитиш методлари, Президент мактаби, STEAM, жадидчилик, Ўзбекистон тарихи.

Аннотация. В данной научно-исследовательской работе выявлен инновационный подход к ознакомлению учащихся с сущностью и активностью стремительных проявлений стремительного движения на примере Президентской школы в городе Ташкенте. В то же время освещаются практические аспекты преподавания гуманитарных дисциплин в системе обучения STEAM.

Ключевые слова: педагогика, методика преподавания истории, межпредметная интеграция, образование, методы обучения, Президентская школа, STEAM, джадидизм, история Узбекистана.

Abstract. This research paper illustrates an innovative approach on delivering to students about essence of the Jadid movement and the activities of its representatives with a compact explanation in the case of the Presidential School in Tashkent. In addition, the practical aspects of teaching humanitarian subjects in the STEAM system are highlighted.

Key words: pedagogy, methods of teaching history, interdisciplinary integration, education, teaching methods, Presidential school, STEAM, Jadidism, history of Uzbekistan.

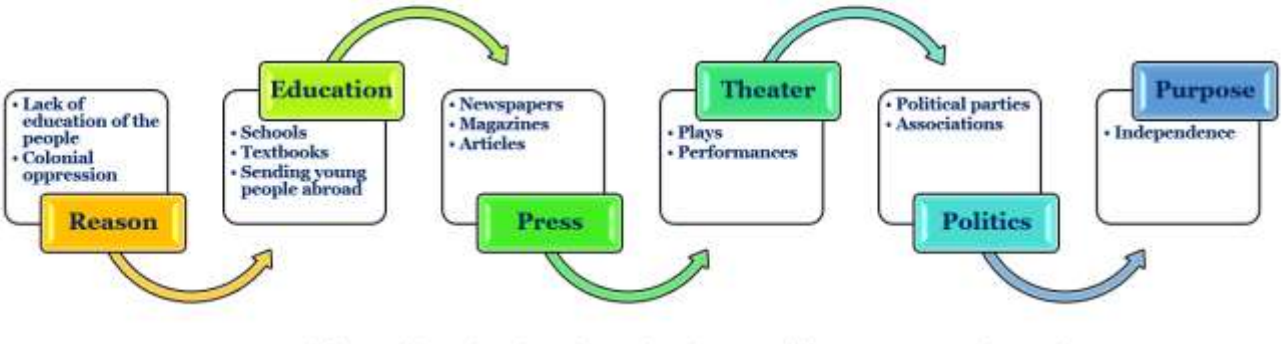
Introduction: A History of Uzbekistan coursebook for 9th grade covers historical events from the second half of the XIX century to 1916.[4] During the same period Jadidism movement arose and got wide progress among Turkic nations. At first by Tsar government, later by Soviet administration it was persecuted and banned at all when its real aim became clear.

New pedagogical approaches are required on compact delivery of these historical events' essentiality to the students. For e.g., the main consideration is being paid to teach in STEAM training system at the Presidential, Art and specialized schools, which are organized in a large scale in recent years. The STEAM training system where much emphasis is given on practical exercises than theoretical ones is different from the current system of training in Uzbekistan.[8] Now this training system is being tested in the conditions of Uzbekistan. The Presidential schools founded in four regions of the country in 2019 are serving as mainstay to reach the same goal. At the same time, educating the youth generation in the spirit of patriotism by deep comprehension of national history and national values is established as the key mission.[7]

Naturally, the students' main attention is paid to physics, astronomy, chemistry, biology, mathematics and informatics subjects in the condition of deepened teaching exact and natural sciences. Its not secret there are some difficulties on learning those complex subjects. Reading subject-related books, homework preparation, problem solving, laboratory experiments and etc. require a lot of time and energy of every student. More exactly to say, a student will have very short time and a little chance to master earnestly other subjects. In this case, the need for explaining the themes related to non-STEAM subjects more simply, more clearly and more briefly arises.

Literature review: Chapter VI (The Jadids' movement and its importance in social-political and cultural life of Turkestan) includes four themes to familiarize with the Jadidism movement and its representatives in current History of Uzbekistan Coursebook for 9th Grade, but Chapter VIII includes activity of the movements "young khivanians" and "young bukhorians", Chapter IX includes Jadids' contribution to education and printing press, theater and literature repeatedly.[4] Actually this is a problem related to technique of coursebooks and its not secret that they are waiting for their solutions for many years.

Firstly, it's required to have correct and perfect imagination about evaluation systems and their criteria to achieve the appropriate approach.[9] Is it possible that a student can realize the content of Jadidism movement and its essentiality just via learning by heart the historical dates and definition of terminologies? We guess, no. Accordingly, evaluation criteria should be delivered into the objectives of the lesson



A compact infographics related to the topics about Jadidizm movement in Turkestan

and all tools which lead to perform it must be used during the whole lesson.

So, let's have a look through the following model at the tools which can be used in explaining to the students about Jadidism movement's content and essentiality, the activity of Jadid's representatives:

Research Methodology: Students are offered to imagine social-political and spiritual position of Turkic people in the late XIX and early XX centuries. By itself, students will imagine about that almost all Turkic people except Ottoman Empire, which only nominally maintained its independence and isolated by Western Great powers, were affected by colonial policy of Russian Empire. In this position, it's possible to compare synchronically the themes of both World history and History of Uzbekistan subjects.

The method of **deductive approach**, i.e. to learn effect of international social-political trends to the internal environment in Turkestan region is the most important step towards forming logical thinking skills of the students. Since the ideas of national freedom and independence were taking root in the Balkans, North Africa, India, Persia and China by democratic influencers in that upper-mentioned period. A breeze of these political processes has passed by Russian Empire also, increasing labour movement, RSDLP's activity, 1905 Russian Revolution and establishment of Russian State Duma can be proof of this.[3]

By the method of **inductive approach** it's possible to compare Jadids contribution to education, printing press and literature with enlightenment activity by "Youth turks", "Youth afghans", "Hizb ul-Vatan" movement in Egypt, by Bal Gangadhar Tilak in India, Tongmenghui organization under the guidance of Sun Yat-Sen in China,[3] the Jadids' achievements in dramaturgy and theater can be compared with William Shakespeare's effective creativity and spiritual heritage at the period of Western Renaissance. It gives opportunity to explain the students in a simple and smooth way how the Jadids were smart and people with wide worldview who could realize suitably the essentiality of Shakespearer's work in awakening the West from medieval sleep.[2]

"Bibiliohistory" techinique just intends either to recommend theme-related fictions or giving some comments on some excerpts from them. For e.g., for the purpose of the students to imagine fairly the difference between old style Muslim schools and new style Jadid schools, how the society's attitude was in relation to Jadid schools can be recommended to read the novel "Childhood" by Muso Toshmukhammad Oybek and Chapter "Another hit" of the novel "Ferghana before dawn" by Mirzakalon Ismoili.[6]

Problem solving. It's relevant to ask the students why Jadids chose the theater, but rejected fine arts and sculpture among all tools used by humanists at the period of Renaissance to reform the spiritiuality of society.[2] Students will try to realize independently that fine arts and sculpture, i.e., worshiping illustrations or figures is banned according to Islam, analyzing the loyalty of Jadids' movement to Islamic principles, national traditions. Additionally, they can make analyze why Jadids did chose theater as a source of enlightenment. Herewith it's not difficult that the inculcation of the ideas of Jadidism in the minds of school-age children is carried out through schools and coursebooks, Jadid theaters needed to meet the spiritual and educational needs of adults who are not literate enough and do not read newspapers or books.[4]

Interpretation by using the method of **inductive approach** on misapprehension between radical and moderate influencers of Jadidism movement through addressing to the activity and rivalry between Freedom and accord Party and Party of Union and Progress in Turkey, between Indian National Congress and Indian Muslim League, between Kuomintang and Chinese Communist Party in the late XIXth – early XXth centuries provides understandable end of the theme.[3]

Using the **"Black Box"** method, it is possible to determine what level of information the readers have about the historical personalities whose names are mentioned in the framework of the topic. To do this, the names of historical figures are written on some pieces of paper and put in a box. The readers are explained what does the "Black Box" really mean. After that, students take a piece of paper without looking inside the box and describe historical figures based on the information they mastered.[10]

Through the **Venn diagramm,** students being divided into small groups can analyze the differences and common aspects of the activities of the Central Asian Jadids with the behaviour of Indian and Chinese national-liberation struggle.

Considering the above, it can be concluded that the major topics in the subject of history which seemed to be too complex can be explained to the students in a compact way based on the foreign experience, to check in an unconventional way in what level they have mastered the subject, to make a direct contribution to the formation of reading culture using interdisciplinary methods – and all these are within an hour's lesson.[1]

Conclution: In the future, there is an opportunity to popularize the innovative approach illuminated above by integrating into the content of textbooks of new generation of the subject of history for the Presidential, Art and specialized schools. Undoubtedly, we will not exaggerate saying that this goal lies on the basis of educational reforms carried out in Uzbekistan.

References:

[1]. Resolution of the President of the Republic of Uzbekistan. About the program of complex measures on development of system of the publication and dissemination of book products, improve reading culture. January 12, 2017 // National database of legislative acts of the Republic of Uzbekistan. Electronic resource: www.lex.uz [2019.10.10]

[2]. Farmanov R., Juraev U., Ergashev Sh. D. "World History", 8th grade. T.: Publishing House "Cho'lpon" – 2019. -p. 160.

[3]. Lafasov M., Juraev U., Xaliqov E., Kadirova D. "World History", 9th grade. T.: Publishing House "O'qituvchi" – 2019. -p. 160.

[4]. Tillaboev S., Zamonov A. "History of Uzbekistan", 9th grade. T.: Publishing House "Sharq" – 2019. -p. 160.

[5]. Oybek. "Childhood" (Novel). T.: Publishing House "Yosh gvardiya" – 1963. -p. 275.

[6]. Ismaili M. "Ferghana before dawn" (Novel. The first book. "The thunder of darkness"). T.: "Sharq" – 2010. -p. 464.

[7]. Presidential School opens in Tashkent. // Official Website of the President of Uzbekistan. Electronic resource: https://president.uz/en/lists/view/2856 [2020.28.05]

[8]. STEAM-education. // Official Website of the Presidential schools of the Republic of Uzbekistan. Electronic resource: https://pm.piima.uz/steam-ta-lim/ [2020.12.02]

[9]. Armstrong P., Bloom's Taxonomy. // Vanderbilt University's Center for Teaching. Electronic source: https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/ [2020.29.05]

[10]. Muqimova D., Technological system of implementation of educational opportunities of historical lessons // "Public Education" scientific-methodological magazine. 2009, №4, -pp. 37-42.

UDC: 94 (575.1):352.075.2(575.146)(092) Danish A. (04)

THE STUDY OF THE SCIENTIFIC HERITAGE OF AHMED DONISH, ONGOING RESEARCH, EXISTING PROBLEMS AND THEIR SOLUTIONS

Ismat Nusratilloevich Naimov,
PhD student of the
Institute history of Academy of
Sciences of the Republic of Uzbekistan,
E-mail: ismat.naimov@yandex.ru

Annotasiya: Ushbu maqolada XIX asrda foliyat yuritgan ensiklopedist alloma Ahmad Donish shaxsi hamda uning ilmiy merosi bo`yicha bugungi kunga qadar olib borilgan ilmiy tadqiqotlar tahlil qilingan. Shuningdek, maqolada amalga oshirilgan tadqiqotlarning o`ziga xosliklari, alloma faoliyatiga berilgan e`tabor, nazardan chetda qolgan masalalar hamda Ahmad Donish ilmiy merosining to`liq o`rganilishiga ahamiyat berilishi lozim bo`lgan jihatlar to`g`risida muallifning xulosa va takliflari bildirilib o`tilgan.

**Kalit so`zlar:** Ahmad Donish, ensiklopedist, mang`tlar, Tundagi yulduz, ma`rifatparvar, xarita, muhandis, oliyjanob inson.

Аннотация: В данной статье анализируется личность ученого-энциклопедиста Ахмада Дониша, жившего в XIX веке, а также научные исследования, проведенные работы до сегодняшнего времени по его научному наследию. Также были высказаны авторские выводы и предложения относительно особенностей проводимых в статье исследований, внимания, уделяемого деятельности ученого, вопросов, которые оставлены в стороне от обзора, а также аспектов, которым следует придавать значение для полноценного изучения научной нормы Ахмада Даниша.

Ключевые слова: Ахмеда Даниш энциклопедист, мангиты, Ночная Звезда, просветитель, карта, инженер, благородный человек.

Abstract: this article analyzes the personality of the scientist-encyclopedist Ahmad Donish, who lived in the XIX century, as well as scientific research carried out up to now on his scientific heritage. It was also suggested the author's conclusions and suggestions regarding the features implemented in the article the research focus of the academic issues that are left out from the review, as well as aspects that should be given importance for the study of scientific norms Ahmad Danisha.

Keywords: Ahmed Danish encyclopedist, mangits, Night Star, educator, map, engineer, noble man.

Introduction. In the XIX century in our country there were extremely complex and contradictory socio-political processes. At the same time, many people have taken decisive action to radically reform the crisis situation in the conditions of the Bukhara Emirate in the historical period. During this period, Ahmed Donish (1827-1897) and a number of enlighteners like him were creative people, and their writings, as well as ideas that contribute to enlightenment, are of particular importance.

Ahmad Donish saw the shortcomings of the existing system than the representatives of his time and initiated its reform. He came to the firm conclusion that reforms could only be carried out through education. The scientific legacy left behind is fully imbued with the spirit of enlightenment.

Research methodology. Ahmad Donish's incredibly wide-ranging work has been studied by scholars who have conducted research in various fields, including literary scholars, linguists, lawyers, geologists, engineers, astronomers, logicians, and members of the philosophical Sciences. They forgot, however, that Ahmed Danish was an encyclopaedic scholar and engaged in scientific research only from the point of view of his fields. To date, the views of the scientist, contributing to education in historical works, his contribution to the development of history, exact and natural Sciences, as well as diplomatic activities are not deeply studied. The educational schools created by the scientist also retain their importance to this day. Therefore, the restoration of his name, the realization of his works, as well as the study and coverage of this issue is one of the urgent tasks of our time.

Literature review. At the same time, a number of significant studies were conducted on the enlightenment of Ahmad Donish who lived and worked in the second half of the XIX century. It should be noted that Ahmad Donish was initially left with valuable information about his contemporaries, drawing on his memories. Although not within the scope of scientific research, it is considered a valuable resource for the study of wisdom and its scientific heritage. First data are presented in the "Navodari of ziaiya" [1] Sadr Ziya, colleagues of Ahmad Donish. The author highly appreciates the multifaceted activities of Ahmad Donish and admits that he is aware of all the tricks, saying: "Behzodu Moniy in photography, Ulugbek Keraguni in philology, Mir Ali in calligraphy, Mir Shafi'i in calligraphy, Ibn Sina in medicine, Sa'diy Sherozi in poetry and Hotami toy in philanthropy".

Analysis and results. Sadriddin Ayni's works are very important in the study of Ahmad Danish [2]. He pays special attention to the image of Ahmad's wisdom in all his works. His interest in the personality of the sage is explained by the fact that he originally had a “brief biography” explaining his thoughts on the work “Nawadir ul-waqae”. The chapters are wonderful people from “Souvenirs”, in the courtyard of Ahmad Mahdum, Latifjan of Mahsum and his interlocutors, the everyday life of Ahmad Mahdum, but dirty water, the satirical poems of Ahmad Mahdum, annual travel

Ahmad Mahdum provide valuable information in the study of personality Ahmad wise. The works of Ahmad Donish emphasize that he radically changed his views on the social and political life of the Emirate of Bukhara and that he awakened in it a reformist mood. However, the data of S. Ayni are not considered sufficient to study the scientific heritage of Ahmad Danish.

The famous oriental's E.Bertels for many years conducted scientific research on the manuscripts of works of Ahmad Danish, and was one of the first who drew the attention of the scientific community, and also introduced two famous scientists to the works of “Navodir ul-waqae” and “Treatise” (History of the Mangit kings) [3]. Also, the oriental scholar L.Epifanova studied the life and work of the scientist, giving a General classification of some hands up to the scream [4]. He said that the ignorance of Bukhara emirs in the management of the country was sharply criticized by Ahmed Donish.

In the studies of Academician Ibrahim Muminov, who laid the foundations of "wisdom" in local lore, Ahmad Donish was given special importance to life and work [5]. In his book “The History of the development of social and philosophical thinking in Uzbekistan in the late XIX – early XX centuries” he analyzed the enlightenment of Turkestan and touched on the work of wisdom, Furkat, Mukimiya, Berdak and others. Muminov talks about the works of Ahmad Donish such as “Ahmadi Kalla” (a complex of all the stories of Ahmad Kalla), “In risolaist isloh mieni Shia va sun” (instruction on the reconciliation of Shiites and Sunnis), "Notebook calendar", "Nawadir ul-waqae", "Biography of amironi (kings) Bukhara Sharif" illuminates views on the main ideas reflected in them. He also tried to clarify the thinker's ideas about patriotism, justice, enlightenment, his thoughts about injustice, oppression in society. Also under the editorship of academician I. Muminov was translated into Uzbek rare work of Ahmad Donish “Navodir ul-waqae” [6]. Other scholars of the work of wisdom have also shown harmony and contrast with the work of the wise. In particular, the progressive ideas of Ahmad Donish were highly appreciated by the Democrat-poet Mukimiy. Given that the resident studied in Bukhara madrassas (schools) in the 70s of the XIX century, he suggested that he could be familiar with Ahmed Donish. He showed similarities in their work on the basis of comparative analysis. Academician Muminov even under the pressure of previous union (USSR) ideology at that time, the great thinker of his time Ahmed Donish achieved a truthful assessment of scientific and creative activity.

Scientists of the fraternal Republic of Tajikistan also conducted research on the life and work of Ahmad Donish. In 1960, the 130th anniversary of Ahmad Donish was widely celebrated, and this event gave impetus to a deeper study of the work of the scientist. The manuscripts of Ahmad Donish's works are studied and translated into Tajik and Russian. In particular, in 1960, Scientists of the fraternal Republic of Tajikistan also conducted scientific research on the life and work of Ahmad Donish. In

1960, the 130th anniversary of Ahmad Donish was widely celebrated, and this event gave impetus to a deeper study of the work of the scientist. The manuscripts of Ahmad the wise's works are studied and translated into Tajik and Russian. In particular, in 1960 he published a work entitled "Journey from Bukhari to St. Petersburg" in which were presented the most popular parts of the works “Historical treatise” and “Amir ul-waqae” [7]. At the same time, in 1967, the translator I. A. Najafova translated into Russian the work “History of the Mangit kings” [8]. Professor A.Yunusov prepared a short brochure on life and creative heritage for the anniversary of Ahmad Donish, compiled a bibliography of scientific research [9].

Professor R.Khodizoda also explains in many of his articles his views about Ahmad Donish. He defends the idea that "enlightenment flowed from the ideas of Ahmad's wisdom" [10]. Rasul Khodizoda tried to reveal in his works the life and work of the sage. He analyzes Danish's greatest works, “Nawadir ul-waqae” and the “Biography of kings Bukhara Sharif”, from a literary point of view and interprets in a nutshell the contents of some chapters in them. R.Khodizoda is developing a travel map, as well as a complete reflection of Donish's trips to St. Petersburg. Based on Khodizoda's script, a film "Star of the night" was filmed and transferred to the screen by the Tajikfilm Studio in 1972, which lasts an hour and a half. He is also the author of a historical novel about the wisdom of Ahmed called "Light in darkness" [11]. Khodizoda refers to Ahmad Donish's views on language learning, culture and art development and concludes that “Ahmad Donish is an outstanding writer, poet and educator”.

In Kamal Aini's research, too, attention is paid to and there were Ahmad Donish with the Russian scientist, oriental’s and translator P.I. Pashino and close ties with him [12]. There are conclusions that as a result of the influence of Pashino he was able to get acquainted with the culture of other peoples, and later from a scientific point of view gave the conclusion that they have left their mark in the works of the scientist.

Z.S. Rajabov emphasized the idea that before studying all his multifaceted activities, it is necessary to understand the historical environment in which the scientist lived, while exploring the life and work of Ahmad Donish [13]. Z.Rajabov studied the project of socio-political reform, developed by Ahmad Donish, and called it "the only enlightenment that the Emirate of Bukhara dared to criticize without fear". The researcher sought to shed light on the influence of Ahmad Donish's travels to Russia and his positive conclusions about Russian culture, the activities of his contemporaries, as well as his ideas based on enlightenment, on the activities of the next generation of reformers.

And A.Mukhammadjonov's researches also paid much attention to the life and work of Ahmad Donish [14]. The researcher spoke about the engineering skills of Ahmed Donish, based on his scientific and theoretical findings. In particular, he conducted research on the history of irrigation of the lower Zarafshan oasis, and gave information about Ahmad Donish's project to extract water from the Amu Darya to the Bukhara Oasis, as well as its significance. Also gave valuable information about the topography of the city of Bukhara and its vicinities, which in 1858, the Russian scientist-oriental's P. V. Lerch took to St. Petersburg and proved that the author of this "Topographic map of Bukhara" is Ahmed Danish.

Dj.Tashkulov studied the political and legal views of Ahmad Donish from a scientific point of view [15]. According to him, during his visits to Russia as ambassadors of the emirate of Ahmad Donish, official meetings with the advanced Russian intelligentsia, as well as independently watching the capital of the Empire and the sights, led to the emergence in it of the idea of reforming the emirate system. The researcher noted that the proposals on the establishment of discipline of order in the emirate by Ahmad Donish, the management of the country on the basis of regulations, the introduction of the traditions of Parliamentary for the solution of important socio-economic and political issues are a world-wide innovation for the conditions of Bukhara in the nineteenth century.

Scientist-historian D. Alimova conducted research on the socio-political situation in Bukhara in the late XIX-early XX century, based on the scientific heritage of Ahmad Donish among historians Mirzo Muhammad Abdulazim SOMI Bostani, Mirzo Salimbek, who were direct witnesses of this period and participants of socio-political processes [16]. Ahmad Donish not only criticizes the situation in the Emirate of Bukhara, but also describes him as a noble man, ready to take on the heavy responsibility for understanding the strange situation of his homeland, as well as for its reform.

In the years of independence, a number of scientific researchers were carried out on the activity of the scientist. These can be divided into studies carried out by philosophy, pedagogy, political scientists and lawyers. Especially Q.Rajabov, D.Ziyaeva [17], I.Hakkulav, D.Jamolova, Z.Akhmedova and a group of different authors in scientific research created by, some aspects of the activity of the multifaceted scientist are covered. Also, as a result of the initiative of the candidate of Economic Sciences, docent Kamariddin Yuldashev, Ahmad Donish's work "A Brief History of the risale or mangit dynasty" was translated into the first Uzbek language and brought to the attention of readers [18]. At the beginning of the speech, the translator noted that the socio-economic, political, cultural, moral degradation in the emirate of Bukhara ultimately led to the dependence of the emirate on the Russian Empire.

Conclusion/Recommendations. In summary, it should be said that the creative heritage of Ahmad Donish has been brought to the attention of a wide scientific community over the past period. Each of the studies mentioned above has scientifically revealed a specific aspect of Ahmad Don, which is considered an encyclopedist scientist, and they are undoubtedly significant. It is worth noting, however, that the research conducted to date has been almost 60 years. During the past period, any researcher did not focus on archival documents on Ahmed wisdom activities, as well as the original manuscript, although the focus was on all the majority, all the researchers did not go beyond just one or two works of the scientist. However, the Institute of Oriental Studies named after Abu Rayhon Beruni and the archive funds have a lot of documents related to the activities of the scientists, especially foreign trips and ambassadorial activities, and it is certain that they will closely contribute to the improvement of the quality of the research carried out.

If considered carefully, the negative consequences of Soviet ideology are clearly manifested in the studies carried out. In this place, a question arises. Why in the 50 years of the last century so much attention was paid to the scientific heritage of Ahmed Donish? The reason is that Ahmed Donish sharply criticized the crisis situation of the socio-political situation in the emirate of Bukhara and was able to resist the unfair policy of the emirs and freely expressed his opinion on this matter. That is, these aspects of Ahmad Donish came to the hands of Soviet ideologists and helped to justify their colonial policies. This, in turn, led to the formation of an erroneous attitude towards the person of Ahmed wisdom to the readers. Therefore, creating a truthful picture of the Personality of Ahmad Bilish, revealing that he is not only a critic, but also a high educator, as well as finding a new attitude is one of the priority tasks of today.

Today, not only Ahmed wisdom, but also the study of the rich cultural norm left by our ancestors, there are actual problems before researchers. One such problem is that most researchers do not have perfect knowledge of this Persian language and lack the ability to read the manual written in Arabic spelling. Taking this into account, it would be worthwhile to increase the effectiveness of the lessons aimed at acquiring the above-mentioned skills in the relevant socio-humanitarian areas of the existing higher educational institutions of the Republic.

References:

[1] Sadr Ziya. Navadiri Ziyaiya. – Dushanbe: “Edib”, 1991. – 124 p.
[2] Ayniy S. Works. 8-volumes. – Tashkent: “State fiction of the USSR”, 1963-67; Selected works. – Tashkent: “Science”, 1978.
[3] Bertels E. Manuscripts of the works of Ahmad Kalle. The work of the Tajik base. – M: AN USSR, 1936. – 385 p.
[4] Epifanova L.M. Handwritten sources on the history of Central Asia of the period before its accession to Russia (Bukhara). – Tashkent. “Science”, 1965. – 75 p.
[5] Muminov I.M. Materials on the history of progressive social and philosophical thought in Uzbekistan. – Tashkent: “Science”, 1976; Outstanding thinkers of Central Asia. – Moscow: “Knowledge”, 1966; Selected works. 4 volumes. – Tashkent:

"Science", 1969; From the history of social and philosophical thought in Uzbekistan of the late XIX and early XX centuries. – Tashkent: "Gosizdat", 1957.
[6] Donish A. Nawadirul waqae. Translated of from the Persian language by A.Hamroev and A.Shokirov. – Tashkent: "Science", 1964. – 411 p.
[7] Donish A. Travel from Bukhara to St. Petersburg. Translated from tajik by M. N. Osmanov and L. N. Demidchik. – Stalinabad: "Tajikistan", 1960. – 300 p.
[8] Donish A. History of the mangit dynasty. Translation, preface and note by I.A. Najafova. – Dushanbe: "Donish", 1967. – 142 p.
[9] Yunusov A. Ahmadi Donish. – Stalinabad: "Lore", 1960. – 32 p.
[10] Khodizoda R. Ahmad Donish-writer and educator. – Dushanbe: "Irfon", 1976 – 27 p.
[11] Hadizadeh R. Star in the dark. – Moscow: "Soviet writer", 1986. – 368 p.
[12] Aini K. Meetings of Ahmad Donish with P.I. Pashino // Peoples. Asia and Africa, 1963. № 6.
[13] Rajabov Z. Outstanding educator of the Tajik people Ahmad Donish. – Stalinabad: "Irfon", 1961. - 76 with; Education Science man Ahmed Donish. – Dushanbe: "Irfon", 1964. – 104 p; About the political treatise of Ahmad Donish. – Dushanbe: "Donish", 1976. – 126 p.
[14] Muhammadjanov A. The history of irrigation of the lower Zarafshan valley. – Tashkent: "Science", 1972. – 375 p; Historical and topographical plan of Bukhara by Ahmad Donish / / Social Sciences in Uzbekistan. 1965. № 5.
[15] Rzaev A., Taskulov J. Tusi ~ Donish. – Moscow: "Legal literature", 1990. – 158 p.
[16] Alimova D. Djadidy: struggle for reform, renewal, independence and development (new lines to the history of Turkistan and Bukhara intensity)l. – Tashkent: "University", 1999. – 248 b.
[17] Ziyaeva D. Scientific research and expeditions in the direction of Natural Sciences in the territory of Uzbekistan (XIX – early XX centuries) [text] / project manager. - Tashkent: Akademnashr, 2019. – 416 p.
[18] Donish A. A brief history of the pamphlet or house of mangites. Translated by Kamariddin Yoldashev. – Tashkent. "National Encyclopedia of Uzbekistan", 2014. – 144 p.

UDC 316.733:37 (575.1)

TRANSFORMATION OF CYBERSPACE: SOCIO-PHILOSOPHICAL ANALYSIS

Rajabov Shukhrat Sheraliyevich
Phd Researcher of the Department of
“Ethics and Aesthetics”
National University of Uzbekistan
E-mail: shuxrat_rajabov@bk.ru

Аннотация: Компьютер технологияларининг ривожланиши фан ва ижтимоий бошқарув амалиёти учун бир қатор янги муаммоларни келтириб чиқармоқда. Янги ахборот ва телекоммуникация технологиялари томонидан олиб борилаётган кенг кўламли ўзгаришлар пухта ўйланган, ҳар томонлама ва чуқур тушунчага олиб келади. Масалан, бугунги кунда Интернетни ва унинг тан олган оқибатларини тавсифлайдиган кўплаб таърифлар мавжуд - Бутунжаҳон Интернет Тўри, кибермакон, электрон агора, электрон чегара ва бошқалар. Бироқ, уларнинг аксарияти метафорадан бошқа нарса эмас, гарчи улар бу ҳодисанинг ҳақиқий хусусиятларини алоҳида-алоҳида таъкидлашади. Бугунги кунда ушбу масаланинг ечимлари ўз долзарблигига эга.

Калит сўзлари: виртуал олам, ижтимоий тармоқлар, жонли эфир, киберхужум, кибермакон, электрон агора, електрон чегара.

Аннотация: Развитие компьютерных технологий ставит ряд новых задач для науки и практики социального управления. Масштабные изменения, вносимые новыми информационными и телекоммуникационными технологиями, ведут к хорошо продуманному, всеобъемлющему и глубокому пониманию. Например, сегодня существует много определений, которые описывают Интернет и его признанные последствия - Всемирная паутина, киберпространство, электронная агора, электронная граница и так далее. Однако большинство из них - не более чем метафоры, хотя они подчеркивают реальные особенности этого явления отдельно. Сегодня решения этих вопросов актуальны.

Ключевые слова: виртуальный мир, социальные сети, прямая трансляция, киберпреступность, киберпространство, электронная агора, электронная граница.

Abstract: The development of computer technology poses a number of new challenges for science and social management practices. The large-scale changes being made by new information and telecommunication technologies lead to a well-thought-out, comprehensive and in-depth understanding. For example, today there are many

definitions that describe the Internet and its recognized consequences - the World Wide Web, cyberspace, electronic agora, electronic border, and so on. However, most of them are nothing more than metaphors, even though they emphasize the real features of this phenomenon separately. Today, solutions to these issues are relevant.

Key words: virtual world, social networks, live broadcast, cybercrime, cyber space, electronic agora, electronic border

Introduction: The development of new information and communication technologies will inevitably lead to revolutionary social changes and poses tasks for many widespread disciplines and their theoretical and methodological resources. For example, economic theory deals with the study of new economic relations, political science - the problem of global change of nation-states, the problem of outdated forms of legal practice, and so on. Each of these disciplines must solve these problems independently, but on a higher level, e.g. socio-philosophical analysis, is required to study them comprehensively and competently. It also defines the selection of scientific research, the main goals and objectives.

Recently, social development is characterized in many respects by the speed and scale of social change due to new information and communication technologies. Today, almost everyone is aware of the many social consequences of being caught up in a global computer network. At the Representative Meeting of the Leaders of the World Academies of Sciences (Delhi, October 1993), the proliferation of information and telecommunications technologies, population growth and environmental issues were considered as important factors determining the image of the modern world.

Many contemporary thinkers place the Internet alongside human inventions such as speech, writing, and typography and consider it to be equally important among them. Thus, in the study "The Impact of the Internet Economy on Modern Europe" by Nesheu Senzeg, the author echoes the changes in Europe in the 18th century, with the only difference being that "the revolutionary process happens three times faster." It follows that the analysis of the place and role of the Internet in the life of society is one of the most pressing tasks facing the scientific community.

Literature review: Rather valuable information can be obtained from the works of S. N. Khutornoy [1], R.I.Vylkov[2], Santa Barbara [3], Rogers [4], Anna Granova [5], Abdalla Haji Faki [6] . They contributed with their lifetime of research to the refinement of the subject in question.

Based on the analysis, it can be concluded that virtual reality can be described as a place where other realities (nature, society, psyche) meet. Any virtual property comes as a combination of a series of realities given in a different form. Virtual reality can also be understood as a way for people to interact with each other. However, cyberspace is a modern way of working with virtual reality. A distinctive feature of cyberspace is, first of all, that the highly “visible” subjective images of the objective world are separated from the human brain, i.e., the computer network is included as the material environment of the ideal worlds. So, there are the paradoxical ontological features of the virtual world: it has a potential but real state, it is located outside the human brain, but without its help it cannot be actualized, and so forth. The new (modern) type of virtual world has a great potential for social education, which needs to be analyzed comprehensively and consistently.

Research Methodology: Particular attention is paid to Castells' "network ownership theory, "which claims to qualitatively describe the social changes taking place in modern society. The emergence of this theory has shown that research interest shifts to the problem of radically changing the socially structured society. Social structure is associated with a new way of development (Informationism) in which the main source of effectiveness is the "influence of knowledge itself". The big key concept ("information society") will be replaced by a new one ("network society"), which will be used to describe the vectors and main directions of modern social development.

In such a society, new information and communication technologies are not only the priority of the future, but also its important constitution. The latest technologies are making revolutionary changes in the process of information processing, which allows ordinary people to establish countless connections between different spheres of life and thus begin to express their (network) construction logic in social relations and processes.

The leading trend in the study of the social content of cyberspace is the idea that the focus should be on the description of the changes resulting from the global spread of the 'web'. However, the theoretical basis for studying the social structure of the Internet is different from the theory of social change. Accordingly, the main philosophical methodological researches are analyzed and conclusions are drawn, which are the main components of the conceptual apparatus of dialectics. However, many of the principles reflected and shaped in the dialectical paradigm can also be interpreted in the context of other methods of goal setting. For example, the categorical system of structural-functional analysis, hermeneutics, phenomenology and others. It turns out to be very convincing in describing modern social change.

In this regard, the thesis provides a detailed analysis of the theoretical and methodological structures of postmodernism, the ethics of which correspond to the basic features of modern virtual reality. The classical type of rationalism, and the socialism associated with it, is a somewhat definite erosion, although it exists systematically in the modern world. Today, new criteria of rationality must be developed in describing the new cultural situation. Postmodernism has made natural changes in the study of social reality, in particular, it has changed the nature of the object of social research. Many terms of postmodern philosophy ("centralization", “rhizomes”, “mosaic”, etc.) are well suited to describe social innovations introduced by new information and communication technologies (“network” as an example of many social substructures of a socially structured society). The scale and speed of information flows provided by new information and communication technologies require their addition to secular classical rationalism, non-classical post-class directions, in order to understand them. The use of the term “network” as a keyword of two alternative paradigms independently of each other is symptomatic. Perhaps this is due to the fact that modern society, like others, is undergoing extensive and dynamic change. Therefore, it may be less and less clear in the categories of statics, it is now difficult to adequately describe it from another distant point of view. The easiest way is to analyze it from an absolutely phenomenological point of view and describe how they interact, their commonality appears in the form of a “network” of flows (information, finance, migration, etc.). Thus, the concept of “network” acquires a categorical status in the description of modern society.

Analysis and results: In this context, the dynamic process in society can be considered as a series of changes in the forms of development: "industrialization" - "informatization" - "networking". However, the concepts of “post-industrial exchange”, “data exchange” and even “network exchange” do not fully reflect the current situation, but they can be considered as separate stages in the analysis of radical social change and the search for relevant terms.

In modern society, the media is becoming an important means of directing a person to the world and interacting with other people. They create a new communication environment where virtual communication tends to dominate. Therefore, it is important to study the features of Internet sharing that leave their mark on traditional communication methods. In the study, several features of the “virtual” type of communication are interrelated and described in detail - quality, interactivity, hypertextuality, globality, creativity, anonymity, mosaicism.

Virtual is not a new feature of communication. According to T. Parsons, all communication intermediaries (money, value orientation, etc.) will introduce a technically created virtual environment with the emergence of new information and communication technologies. A new type of symbolic domination of man, culture, society is being formed. Now all the signs of human clothing can be reflected, multiplied and changed in this “parallel” world. All phenomena that fall into the virtual world are bound to obey its laws, so that virtue is transformed from conditional to unconditional, and its past quasi-real nature (in the earlier stages of human development) is replaced by hyper-real nature.

Interactivity. The fundamental difference between modern “hypermedia” and non-state media is that it focuses primarily on individual and selective use of information, and secondly, on media flows.

In interpersonal and specialized infusions, traditional media mainly performs mass communication. Specific features of electronic communication: the machine enters into interpersonal communication and the machine takes into account some human characteristics. As a result, in one form or another, all parts of the form of communication change, because even though they continue to work actively, they are already merging with each other in terms of a new quality.

Globality is the expansion of space with various visible connections. According to Teilhard de Chardin, the Internet is a unique means of uniting everyone into a “single closed system”. In this regard, globalization (as well as internationalization) can be considered as "networking" - the global spread of the Internet means:

1) new (very large) expansion of the range of participants;

2) a new (perhaps infinite) expansion of human memory, which is the basis of collective interaction;

3) a new form of information selection, etc.

Creativity. With the help of Internet technologies, the user is able to build a new reality on a new basis, which expands the cognitive capabilities of the person (emotional-visual representation of previously imagined reality models). The virtual environment is a more creative environment than ever: it has to constantly expand its collective activities on a new basis in order to fully preserve itself. Virtual reality is not a place where a “real reality” is mechanically represented, but a way of constructing alternative worlds that are emphasized in the etymological sense of the term “virtual” (alternative means to awaken thought). This feature of virtual socialization (as a prototype of the future major social type) indicates an increasing role of the subjective factor in social life.

Mosaic. In the absence of a structured center and a regulated environment, any socio-cultural space inevitably forms a chaotic (mosaic, network) structure. Mosaic-information perception is characterized by a specific mosaic of information already presented.

I have predetermined the nature of perception and direction in the world. In the conditions of uncertainty and asymmetry of such communication, infinite communicative structures can always be constructed according to a new principle - the problem of new symbols. The construction of the text in this form of social loading will inevitably begin to take place in a mosaic paradigm. Perhaps this is the temptation of modern people to struggle with extreme indifference in the modern world.

Conclusion: Some scholars see the closeness of the media and the ideology of liberalism, and the Internet itself as the culmination of the development of capitalism. The article emphasizes that the network ideology has its own, very political (by its very nature) ideology. The network is political freedom in the absence of ideological political control over all this virtual reality. However, the logic of syberspace is by no means anarchic, but polyarchic. For the network community, these are specific mechanisms of self-governance and self-improvement.

One of the main problems is the legal regulation of cyberspace:

1) Wether it is necessary to regulate it legally;

2) Whom does the subject of regulation belong (national state or international community)? The virtual world is an uncharacteristic object of legal regulation, and the Internet user is an uncharacteristic subject of law. Global cyberspace is a nationwide area of legal regulation.

In conclusion, the results of the research will be summarized, relevant information will be provided, and opportunities for further research in this area will be indicated.

References

[1]. Khutornoy S. N. Cyberspace and the real world / S. N. Khutornoy // Bulletin of Moscow State Regional University. Serka "Philosophical sciences." - 2011. - N 2.

[2]. R.I.Vylkov. Cyber space as a socio-cultural phenomenon, a product of technological creativity and a project idea. Ekaterinburg – 2009.

[3]. Santa Barbara. Protecting Online Services from Malicious Activity. University of California. 2016

[4]. Rogers. Protecting America against cyber terrorism, United States Foreign Policy Agenda. USA. 2017

[5]. Anna Granova, Marco Slaviero. Cyber Warfare. University of Pretoria, Pretoria, South Africa. 2011

[6]. Abdalla Haji Faki. Cybercrime and analysis of laws: a case study of Zanzibar legal issues. University of Tanzania. 2014

[7]. James O. Ellithorpe. The Role and Impact of Cyber Security Mentoring. United Kingdom. 2016.

[8], Ki Hong (Steve) Chon. Cybercrime precursors: towards a model of offender resources. The Australian National University. 2016.

[9]. Khutornoy S. N. Specificity of Internet coverage / S. N. Khutornoy // Bulletin of Moscow State Regional University. Series "Philosophical Sciences". - 2011. - N 4. - S.

[10]. Professor Dr Toby Seddon. Cyber-security in the European Region: Anticipatory Governance and Practices. The University of Manchester, UK. 2018.

UDC 172.1:614.4 (575.1)

IMPACT OF THE COVID-19 PANDEMIC ON MIGRATION ETHICS IN UZBEKISTAN: AN INITIAL ANALYSIS

Alimov Sardor Komil ugli
PhD student, Department of Ethics and Aesthetics, Faculty of Social Sciences, National University of Uzbekistan
E-mail: sardoralimov2507@gmail.com

Annotatsiya: Ushbu maqolada COVID-19 pandemiyasi tufayli O`zbekiston Respublikasi fuqarolari bo`lgan migrantlar hayotida paydo bo`lgan ijtimoiy, axloqiy muammolar, mamlakatimizda migrantlarning holatini yaxshilash bo`yicha amalga oshirilayotgan ishlar va ularning axloqiy mohiyati, axloqiy oqibatlari tahlil qilingan. Maqolada ushbu yo`nalishda davlat tomonidan amalga oshirilayotgan ishlar tasniflangan.

Kalit so'zlar: COVID-19, migrant, pandemiya, axloqiy muammolar, stigmatizasiya, karantin, Jahon sog'liqni saqlash tashkiloti, charter reys.

Annotation: This article analyzes the social and moral problems in the lives of migrants who are citizens of the Republic of Uzbekistan in connection with the COVID-19 pandemic, the ongoing work in our country to improve the situation of migrants and the moral essence, moral consequences of these works. The work carried out by the state in this direction is classified in the article.

Keywords: COVID-19, immigrant, pandemic, moral problems, stigmatization, quarantine, World Health Organization, charter flight.

Аннотация: В данной статье анализируются социальные и моральные проблемы в жизни мигрантов, являющихся гражданами Республики Узбекистан в связи с пандемией COVID-19, проводимая в нашей стране работа по улучшению положения мигрантов и моральная сущность, моральные последствия этих работ. В статье классифицирована работа, проводимая государством в данном направлении.

Ключевые слова: COVID-19, мигрант, пандемия, этические проблемы, стигматизация, Всемирная Организация Здравоохранения, чартерный рейс.

Introduction: The year 2020 is characterized by social, economic, political, moral problems that have arisen all over the world due to the COVID-2019 pandemic and its consequences. The pandemic is affecting almost every person's life on earth, either directly or indirectly. According to information of WHO, in the case of June 3, 2020, 6287771 people were infected with this disease and 379941 people died [1]. In his speech at the Extraordinary summit meeting of the Turkic Council, the President of the Republic of Uzbekistan Shavkat Mirziyoev highlighted this process and he admitted that ‘The pandemic that we all have encountered has grown into an unprecedented global crisis in terms of the pace and scale of its contagion, and has become a very serious challenge for the entire human race and the global economy [2]’. In fact, the pandemic is a serious test for all citizens of our country, including labor migrants.

It is known that in 2019, the number of migrants reached 3,5 percent of the entire population of the earth, that is, 271,6 million people [3]. And the pandemic is having a huge impact on the fate of people in this social class. In particular, in Uzbekistan, fundamental changes have taken place in the social and economic life of migrants abroad. What measures should be taken for migrant citizens of countries in the world where the coronavirus is spread, in particular, the Republic of Uzbekistan? What measures are being taken? In our research social and moral problems in the lives of labor migrants outside the country, measures taken by the government of the Republic of Uzbekistan in this area and their moral consequences were studied.

Literature review: Research on migrants and their exposure to various infectious diseases in an immigrant country can be found in many scientific fields and disciplines today. These studies examine the relationship between epidemics and migration from different perspectives. In particular, in some scientific works, it is noted that migrants are not the direct main factor of the emergence of epidemics, but it is noted that migrants themselves are more likely to suffer from epidemic. (Greenaway C. and oth. 2017) [4]. The role of migrants in the spread of epidemics is lower than expected, and so far this factor has not been observed in infectious diseases. (Vignier N., Bouchaud O. 2018) [5]. In addition to this, recent studies have shown a direct link between the COVID-19 pandemic and the migration process. According to researcher Lorenzo Guadagno, the main vulnerabilities of migrants during the pandemic are their access to health services in the immigrant country, living and working conditions, the closure of borders between countries, changes in the immigration policy of countries, increasing of stigmatization, xenophobia and discrimination (Guadagno L. 2020) [6]. It is observed that in many countries (for example, UK), migrants have even been among the frontline workers who have been infected or have died because of COVID-19 (Siddique, 2020) [7] and in some immigrant countries (like Mexico), migrants are unable to receive wages and lose their permanent jobs, which has a negative impact on their economic situation (Li Ng, J.J. and C. Serrano, 2020) [8].

The need for countries to support migrants during the COVID-19 pandemic is also reflected in the conclusion of scientific work. Some scientific studies suggest that migrants and refugees should be received assistance by governments, which will have a positive effect on the situation in the country (Kluge H. H. P. et al. 2020) [9]. In this situation, the government's indifference to migrants is exacerbating the pandemic situation in the country (Page K. R. et al. 2020) [10]. Continuing the main direction ofthese studies, in our article we focused on the study of migration policy and its moral essence in the Republic of Uzbekistan during the pandemic.

Research Methodology: The study of various social and ethical problems that have arisen in the life of migrants from Uzbekistan due to the COVID-19 pandemic requires different research methods. Due to the fact that during the pandemic and quarantine period, the possibility of using typical methods like interview or social poll was limited, these methods were not used in the research.

In the research work, official databases of WHO and the official information of the Republic of Uzbekistan and ordinary research methods like observation, data analysis, content analysis were used. Besides that, the researcher had used journals, manuscripts and articles to collect data related to the research.

Analysis and results: The first case of COVID-19 was registered in the territory of the Republic of Uzbekistan on March 15, 2020 [11]. The first case of the disease among migrant citizens of the country was observed on March 16 in South Korea [12]. In Europe, the first case was noticed on 26 March in Austria [13]. The government quickly introduced quarantine rules throughout the country, all borders of the country were closed for an indefinite period. These processes have also affected the lives of Uzbek migrants. Based on the ethical features of the migration policy of our country related to COVID-19, we can divide it into the following parts.

The social-ethical problems of Uzbek migrants staying abroad for work, education and other purposes. According to the information of the State statistic committee, at present, the population of Uzbekistan is more than 34 million people. According to the UNO, the number of official labor migrants leaving the country in 2019 is more than 1.1 million [14]. However, some of the migrants are not registered as labor migrants in the process of formalization of documents or may have left the country for the purpose of obtaining education. In addition, the contribution of illegal migration is significant in the country. Most of migrants from Uzbekistan go to the CIS countries, in particular, the Russian Federation, Kazakhstan, as well as Turkey, the Republic of Korea and the United States. The majority of our citizens living in these countries have been affected by the consequences of the pandemic. Because the pandemic in these countries is worse than in Uzbekistan. Migrants have lost their jobs and incomes, which has intensified their efforts to return home. By the end of March, Uzbekistan had closed all access to the country, restrictions were imposed not only on the external but also on the internal movement of trains and vehicles. Migrants, who initially expected that the quarantine rules would be short-lived, have also run out of their reserve money over the past two months, their food is also over. What kind of work has the Government of Uzbekistan done in these conditions?

Initially, the embassies and consulates of the country abroad began to deal with the current problems of migrants. Permanent commissions have been set up to deal with current problems. Particular attention was paid to the return of citizens by charter flights from countries with a large number of migrants, in this case, bringing in people in need of social protection, the disabled, women, children, students was considered as a priority. At a video conference on 07.05.2020, the President of the Republic of Uzbekistan Shavkat Mirziyoev noted that measures are being taken to bring firstly in 11,000 of the tens of thousands of migrants, who are the most disadvantaged [15]. But this is also not the final solution to the problem. For example, according to the Ministry of Foreign Affairs of the Republic of Uzbekistan, in the case of May 12, 2020, 65 thousand migrants of Uzbekistan from the Russian Federation have applied to return to the country [16]. To bring all of them to Uzbekistan, approximately 260-300 charter flights (if 200-250 people are brought on each flight) will be needed. This is practically impossible. The government in this case also approaches the situation morally. It is trying to take advantage of all available opportunities. For example, a one-time fund (12130 rubles, that is, 165 US dollars) was provided to Uzbek migrants living in need of assistance in the Russian Federation as a part of the project ‘Mehr’, organized by the embassy of Uzbekistan in Russia [17]. Or in the Republic of Turkey, there are reports that Consulate General of the Republic of Uzbekistan in Istanbul provides free meals once a day for citizens who are in the city and cannot return to Uzbekistan [18]. Such actions can be described as an attempt of the government of Uzbekistan to comply with the moral requirement to protect the citizens of the country abroad.

The risk of stigmatization in the relationship with our citizens returning to the country. Due to intergovernmental relations, charter flights were launched. Tens of thousands of migrants have returned to Uzbekistan. At the beginning of June, more than a thousand citizens enter the country every day in various ways. However, in the case that the disease is exacerbated in foreign countries, it becomes necessary to consider every returning migrant as a potential carrier of the disease. There is a basis for this approach. For example, according to the First Deputy Director of the Agency of sanitary and epidemiologic tranquility of the Republic of Uzbekistan Botir Kurbanov, of the 937 cases of the disease detected on the 14 day of the interval from 23 May to 05 June, 525 (53 percent) were due to migrants who have returned from foreign countries [19]. These statistics show that there is another social-moral problem – the risk of stigmatization.

In general, stigmatization is a social and moral phenomenon that occurs in connection with various emergencies, natural disasters, acts of terrorism, epidemics and pandemics [20]. In particular, in Uzbekistan, there are certain difficulties in the process of adaptation of citizens to the social moral, psychological environment after their arrival from abroad. Separation from society and strong social pressure lead to moral pressure for returning migrants. But unlike many countries in the world, stigmatization does not have a significant impact on the moral environment in Uzbekistan and it seems mostly on social media.

Social problems of citizens who have not been able to go to work abroad due to the quarantine during the pandemic period. The beginning of quarantine in Uzbekistan coincided with the period of departure for seasonal migrants to Russia and Kazakhstan. As a result, many migrants did not have time and opportunity to leave the country. According to report from the Minister of employment and labor relations of Uzbekistan Nozim Khusanov, the number of potential migrants who unable to go abroad due to the closure of borders is about 500 thousand people [21]. This is an additional pressure on the economic problems of the country, which are already caused by the pandemic.

About 500 thousand unemployed will undoubtedly affect the social moral environment in the society. The government is trying to create social benefits for this category of citizens and seeks to prevent social and moral problems from escalating in this way.

Social and moral problems of foreign migrants in our country. The majority of migrants in the Republic of Uzbekistan are tourists. Uzbekistan is not famous for foreign labor migrants as the immigration country. Uzbekistan is not one of the most popular immigration countries for foreign labor migrants. The migration environment in the country is formed mainly due to emigration. But during the period of COVID-19 pandemic, special attention was also paid to the small number of foreign citizens in the country. For example, foreign citizens who have been in our country and have been diagnosed with COVID-19 have been given the opportunity to be treated in the same conditions as citizens of the country. For instance, Among the 34 patients treated in Uzbekistan on May 29 were citizens of Kazakhstan and Tajikistan [22]. This is in line with international recommendations on combating the pandemic announced by WHO. It also shows that the principle of humanism, which is considered one of the main moral principles, is upheld by the government.

Conclusion: Migrants are becoming the most vulnerable social category during the COVID-19 pandemic. To prevent this, each country needs to focus on this issue. International organizations are also paying special attention to this issue. “If during this pandemic we leave behind the most vulnerable, we fail not only them, but all of us. COVID-19 is challenging us as a community, and we must answer as one,” [23] said Dr Santino Severoni, Special Adviser on Health and Migration and Director ad interim of the Division of Health Systems and Public Health at WHO/Europe. The government of the Republic of Uzbekistan also pays special attention to solving the problem of migrants.

Based on the above considerations, it can be said that under the influence of the most global pandemic of the XXI century, the issue of migrants is becoming one of the most important issues in Uzbekistan, as in other countries around the world. It is necessary to consider not only the legal, diplomatic or economic aspect of the issue, but also its moral essence. Every migrant who lives abroad is also a citizen of Uzbekistan and government should morally protect their rights outside the country as well. The government of the Republic of Uzbekistan is also taking this path with the use of available resources.

In the conclusion of our research work, it should be noted that we cannot make a complete conclusion about the socio-moral environment by merely collecting information about the current situation. In addition to the content-analysis method we used for this study, we also consider sociological methods such as expert interviews and social poll to be effective. In our study of the COVID-19 pandemic, the pandemic itself prevented us from using these methods. Continuing this research, we will focus our further research on changes in the migratory mood in social life during and after the pandemic, the moral problems of migrants in specific countries during this period.

References

[1] World Health Organization. Coronavirus disease (COVID-19)/ Situation Report– 135. (https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200603-COVID-19-sitrep-135.pdf?sfvrsn=39972feb_2)

[2] Mirziyoev Sh. Speech at the Extraordinary summit meeting of the Turkic Council. 10.04.2020. (https://president.uz/en/lists/view/3494)

[3] "World Migration Report 2018" (https://publications.iom.int/system/files/pdf/wmr_2018_en.pdf) (PDF). International Organization for Migration. p. 15. Retrieved 26 November 2019.

[4] Greenaway C., Gushulak B. D. Pandemics, migration and global health security //Handbook on migration and security. – Edward Elgar Publishing, 2017.

[5] Vignier N., Bouchaud O. Travel, migration and emerging infectious diseases //EJIFCC. – 2018. – Т. 29. – №. 3. – С. 175.

[6] Guadagno, Lorenzo. (2020). Migrants and the COVID-19 pandemic: An initial analysis. IOM. No:60. (https://www.researchgate.net/publication/340844735)

[7] Siddique, H. UK Government urged to investigate coronavirus deaths of BAME doctors. The Guardian, 10 April. 2020.

[8] Li Ng, J.J. and C. Serrano. Remittances to Mexico could fall 17% in 2020 and recover between 2023-2028 due to COVID-19. BBVA Research, 8 April. 2020.

[9] Kluge H. H. P. et al. Refugee and migrant health in the COVID-19 response //The Lancet. – 2020. – Т. 395. – №. 10232. – С. 1237-1239.

[10] Page K. R. et al. Undocumented US immigrants and COVID-19 //New England Journal of Medicine. – 2020. – Т. 382. – №. 21. – С. e62.

[11] https://t.me/seo_agentligi/1493

[12] https://t.me/s/uzbekembassykorea/25

[13] https://t.me/koronavirusinfouz/1219

[14] United Nations, Department of Economic and Social Affairs, Population Division (UN DESA) (2019a). International Migrant Stock 2019 (United Nations database, POP/DB/MIG/Stock/Rev.2019).

[15] https://kun.uz/news/2020/05/07/ularning-11-mingga-yaqini-qiyin-ahvolda-prezident-xorijdagi-vatandoshlarni-olib-kelish-haqida-gapirdi

[16] https://mfa.uz/uz/press/news/2020/05/24132/

[17] https://xn--e1annt.xn--p1ai/ and https://t.me/uzbekmfa/405

[18] https://t.me/turkiyadagi_uzbeklar/394

[19] https://t.me/aoka_uz/2103

[20] White, A.R. Historical linkages: Epidemic threat, economic risk, and xenophobia. The Lancet, 27 March. 2020.

[21] https://kun.uz/news/2020/04/05/karantin-davrida-aholini-ish-bilan-taminlash-qanday-kechmoqda-vazir-bilan-suhbat

[22] https://pv.uz/oz/news/sogayganlar-orasida-chet-el-fuqarolari-ham-bor-

[23] Measures against COVID-19 need to include refugees and migrants (http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-COVID-19/news/news/2020/3/measures-against-COVID-19-need-to-include-refugees-and-migrants)

UDC 9.93.930.85

RESULTS OF SCIENTIFIC RESEARCH AND ARCHAEOLOGICAL RESEARCH IN THE ANCIENT KHOREZM

Allanazarov Sirojbek Bekchan ugli
Student, Department of history,
History faculty, Urgench state university
E-mail address: sirojbek.allanazarov@bk.ru

Annotatsiya: Mazkur maqolada qadimgi Xorazm madaniyati tarixining ayrim qirralari haqida so’z boradi. Hududdagi arxelogik manzilgohlarida arxelogik qazishma ishlari natijasida qo’lga kiritilgan ma’lumotlar, ibtidoiy diniy qarashlar va ularning hozirgi kungacha saqlanib qolgan ko’rinishlariga ham e’tibor qaratilgan.

Kalit so’zlar: Qadimgi Xorazm, ibtidoiy madaniyat, yodgorliklar, diniy e’tiqodlar, Amudaryo.

Annotation: This article deals with some aspects of the history of ancient Khorezm culture. Archaeological sites in the area also focus on archaeological findings, primitive religious beliefs, and their surviving appearance.

Keywords: Ancient Khorezm, primitive culture, monuments, religious beliefs, Amudarya.

Аннотация: В данной статье рассматриваются некоторые аспекты культурной истории древнего Хорезма. Археологические раскопки в поселениях первобытных народов в этом районе также сосредоточены на данных, примитивных религиозных верованиях и их сохранившемся облике.

Ключевые слова: древний Хорезм, первобытная культура, памятники, религиозные верования, Амударья.

Introduction: The sacred land of Khorezm, a land of science and culture with a history of almost three thousand years, which made an invaluable contribution to world civilization; the land of great people, the immortal work of the Avesto, is known to the whole world. [1] Ancient Khorezm is a legendary land where various events have taken place for thousands of years. For this reason, a deeper study of the history of this region emerged as a topical issue in the middle of the last century. Khorezm is important not only culturally, but also with its natural and geographical location. Geographically, ancient Khorezm includes the lower reaches of the Amudarya, the Darganata in the south, the Aral Sea in the north, the ancient irrigated lands of the Southern Akchadarya delta in the east to the Sariqamish lowland, and the west to the upper reaches of the Uzbay. [2] Geology shows that the plains of Central Asia, including the Khorezm oasis, were submerged in the middle of the Tertiary period.

Over the millennia, climate change has led to the drying up of the sea and its gradual retreat to the north. The land under the sea turns into groves and reeds. The lakes and rivers that formed during this period flowed in all directions, leaving rocks and mud brought from the Pamirs and Alay Mountains. The result is a large area of serum that is suitable for growing a variety of crops and trees [3]. The Amudarya, which flows from here, played an important role in the formation of primitive culture in the oasis. According to sources, the Amudarya flowed into the Aral Sea 22,000 years ago, in the middle of the Late Paleolithic [4]. During this period, the Akchadarya delta was formed in the basins of the Amudarya. In the north and south of the Akchadarya, the Amudarya divides into many canals, some of which flow into the lake that covers the Khorezm Plain, and some that flow north to the Aral Sea basin, crossing the Aral Sea sands northeast of Beltau Hill reaches [5].

Literature review: The rivers of the Amudarya are constantly changing. According to Herodotus, the river flows into the Caspian Sea. Other streams also flowed into the Aral Sea during this period. However, due to insufficient water supply to the Aral Sea, the area around the streams has become swampy.

The land of Khorezm sounds in different sources. Among them are «Khvarizem» in the Avesta, Khorasmia in the works of Greco-Roman historians, Uvarazmish in Persian sources, Khvarizam in Arabic sources, and Khvarzm in coins of the VII century AD. E. Zahau, a German scholar, who has studied the Avesto for many years and is an expert on the history of the East, points out that the land of Kairizao mentioned in the monument is the ancient Khorezm. The scholar divided the word Kairizao into two parts and suggested that it means a country of food. Another German scholar, Geischer, echoed Zahau's sentiments, concluding that the name «Kairizao» meant a fertile, food-rich country. There is also speculation in Persian sources that the word Uvarazmish means a place in the lowlands, and archaeologists such as Klippert and Lerch support this idea. The famous orientalist Barthold also draws attention to the etymology of the term Khorezm in his works. The scholar connects the word Khorezm with the word «gay xavora» and interprets it as gay-cow, xavora-fodder. [6]

Ancient Russian orientalist Sevelev was also interested in the etymology of Khorezm, linking the first syllable of the word Khorezm with the Persian word «khur» meaning sun, which means that Khorezm means «sunny land». S.P. Tolstov says that this idea is very close to the truth. An ancient Greek historian and geographer, Strabo, who lived in the first half of the first millennium BC, wrote in his book «Geography» that the ancient Khorezmians knew the sun as a god.

There are various legends about the origin of Khorezmians. One says that the Khorezmians are descended from giants and fairies, and the other says that the Khorezmians came from them as a result of the exile of 400 servants of the eastern king in the desert. Well-known ethnographer Tolstoy, in his book "In Search of Ancient Khorezmian Culture", states that these servants will later be given 400 Turkish girls. That is why the Khorezmians still have similarities with the Turks [7]. According to some sources, the first lands of the Khorezmians are connected with the Tajan-Herirud and Murgab oases [8]. Later, after the invasion of Darius I, it was suggested that the Khorezmians were relocated to the lower Amu Darya, which was suggested by many scholars. But scholars such as M.G. Vorobeva and I.N. Khlopin deny these views. The Khorezmians were not relocated to the lower Amudarya during the Achaemenid period. On the contrary, they concluded that they were formed in the Khorezm oasis [9]. It should be noted that people have been living in modern Khorezm and adjacent areas since ancient times. According to archeological sources, the first traces of human activity found in the Khorezm region date back to the Stone Age-Paleolithic, 150,000 years ago. Stone tools from the Early Paleolithic period, found in the Shorkul area of Khorezm, as well as the bones of the first four-legged animals, testify to the existence of humans in the Early Paleolithic period in primitive Khorezm. However, during this period this geographical area was not called Khorezm. These areas are geographically called the «Southern Aral Sea».

Materials and research methods: In the last century, according to the results of archeological and ethnographic expeditions led by SP Tostov, several hundred ancient and medieval sites were found in Khorezm. n 1937, the members of the expedition led by SPTolstov visited Ayoz Qala, Bozorqala, Jonbosqala, Tuproqqala, Qoyqirqanqala, Qorgoshinkala, Qizilqala, Ko'zaliqir, Teshikqal. archaeological monuments such as a are scientifically studied. As a result of the excavations, many historical monuments of the Khorezm oasis of different periods were found: ruins, castles, fortifications, canals, inscriptions, paintings, household utensils, seals, silver, copper statues to help study ancient culture. The expedition studied the relations of ancient Khorezm with other countries. As a result of the expedition's research, more than 7,000 archeological monuments of unparalleled scientific importance were identified in the lower Amudarya and Syrdarya regions, and valuable information was collected and published about the most important of them.

Results and discussions: Archaeological excavations in 1938 uncovered the monument to Jonboskala IV in the eastern foothills of the Sultan Uvays Mountains on the right bank of the Amu Darya. It is much older than other sites around the monument and dates back to the Neolithic period. Archaeologists have traditionally named it «Kelteminar Culture» after a nearby settlement. This culture dates back to the IV-III millennia BC and was mainly the home of primitive fishermen and hunters. This culture is characterized by the unity of stone tools and the similarity of the patterns on the pottery [3]. During the Kelteminar culture, the natural climate was conducive to the life of primitive hunters and fishermen. Primitive people fished in the lakes formed as a result of the change of the Amudarya and Syrdarya rivers. Kelteminar culture can be divided into two periods. The main tools of the early Kelteminars were made of stones such as flint and quartzite. During this period, the people were much better at stone and bone processing techniques. It should also be noted that some of the findings from the late Kelteminar culture sites have some similarities with the early Kelteminar culture. Monuments such as Jonbosqala IV, Konak I, Bolaeshim-IX are among the first settlements of Kelteminar culture.

Although the stone tools used in the late Kaltaminor culture are similar to those made by their ancestors, their processing techniques are much more advanced. There is an increase in their number. The blades of the late Kelteminar culture are 8-10 cm long. Some copper tools were even found in Beshbuloq and Irgiz during this period, which indicates that the people of this period had a very high level of culture. During the study of the monuments of Jonboskala IV, the remains of a large central hearth were found here. According to SP Tolstov, this furnace was a place where the fire of the Kelteminarians was never extinguished. About a hundred small furnace remains were found around the central furnace. This indicates that the monument was inhabited by a large community of primitive people [11].

Conclusions: In short, the present-day land of Khorezm has been a natural geographical area for humankind since ancient times.

The primitive culture created here during the Stone Age shows that they were in constant socio-political, trade and economic contact with other cultures around them. As a result, the level of the local people increased, which later led to the formation of the first culture of statehood and urban planning. In addition, due to the creativity and aspirations of the ancient Khorezmians, a high culture was created, and the participation of primitive people in the creation of this culture should be noted.

REFERENCES

[1]. Karimov.I.A., Our ultimate goal is a free and prosperous homeland, a free and prosperous life. Tashkent: Uzbekistan. 2000. P.-72.

[2]. Rtveladze. E.V., Alimova D.A. Khorezm and history of statehood of Uzbekistan. T .: 2013. P.-14.

[3]. Jabborov.I. A. treasure of ancient spirituality and culture. T .: Uzbekistan. 1999. P.-5-6

[4]. Kes A.S. Aral Sea in the Holocene // Ethnography and Archeology of Central Asia. - M .: Nauka, 1979.- P. 19.

[5]. Tolstov.S.P. According to the ancient deltas of Oks and Yaksart. M .: 1962.P.-26.

[6]. Masharipov.O. Pages from the history of Khorezm. T .: Uzbekistan. 1994. P.-10.

[7]. Tolstov.S.P. In search of ancient Khorezm culture. T .: Science Publishing. 1964. P.-83.

[8]. Livshits V.A. The oldest state formations // History of the Tajik people. - M .: 1963. T.: P-152-153.

[9]. Vorobeva M.G. The problem of «Greater Khorezm» and archeology // Ethnography and archeology of Central Asia. - M .: Nauka, 1979.P. 40–41.

[10]. Sagdullaev.A.A. History of Ancient Central Asia. T .: University. 2004. P.-18.

UDC: 633.174.1/6/8

EFFECT OF VARIOUS SALINITY CONCENTRATIONS ON EMERGENCE OF SORGHUM SPECIES.

Djumaniyazova Yulduzoy Abdusharipovna
Associated professor in Biology
Department, Natural science faculty,
Urgench state University
E-mail address: yulduz.d@gmail.com

Latipova Ro'zajon Shavkatovna
Master student, Biology
(Plant physiology) department
Natural science faculty, Urgench state University
E-mail address: ruza.shavkatovna@gmail.com

Аннотация: Солеустойчивые культуры более выгодны в орошаемом земледелии Узбекистана. Для изучения влияния различных концентраций соли на появление видов сорго был проведен лабораторный эксперимент и проанализированы результаты. С увеличением концентрации солености всхожесть семян, количество и длина листьев и корней уменьшались.

Ключевые слова: Концентрация солености, виды сорго, рост листьев и корней, лабораторный эксперимент

Annotasiya: Sho`rlanishga chidamli ekinlar O'zbekistonning sug'oriladigan dehqonchilikida foydalidir. Sho`rlanish kontsentratsiyasining jo'xori turlarining unib chiqishiga ta'sirini o'rganish uchun laboratoriya tajribasi o'tkazildi va natijalar tahlil qilindi. Sho'rlanish darajasi ortib borishi bilan urug'larning unib chiqishi, barg va ildiz miqdori va uzunligi pasaygan.

Kalit so'zlar: Sho`rlanish kontsentratsiyasi, jo'xori turlari, barg va ildiz o'sishi, laboratoriya tajribasi

Annotation: Salt tolerant crops are more profitable in irrigated agriculture of Uzbekistan. To study effect of various salt concentrations on emergence of sorghum species laboratory experiment conducted and results was analyzed. With the increasing salinity concentration seed emergence, leaf and root number and length was decreased.

Keywords: Salinity concentration, sorghum species, leaf and root growth, laboratory experiment

Introduction: Salinity is one of the major environmental effects to plant growth and development in irrigated agriculture in Khorezm condition. Poor water quality, high temperature and evapotranspiration, limited rainfall increase the effects of salinity on crop productivity [4, 6]. Sorghum (Sorghum bicolor (L.) Moench)) was characterized as moderately tolerant to salinity [9, 14, 15]. Sorghum is a major grain and forage, crop and sorghum are considered potential bioenergy crops in recent years. Large variations in salt tolerance among genotypes have been reported for sorghum [9, 13]. Salt tolerance can be assessed in terms of yield, plant height, relative growth rate and so on [3]. It is usually assessed as the percentage of biomass production in saline versus control conditions [16, 17, 18]. With this economic importance and variability in salt tolerance among genotypes, a high-throughput method to screen salt tolerance and the development of sorghum cultivars for salt tolerance for salt-affected areas is urgently needed.

Literature review: In the past few years, plant breeders have made significant achievements regarding salt tolerance in a number of potential crops using artificial selection and conventional breeding approaches [3]. For example, the screening of seven salinity tolerant and ten salinity sensitive sorghum genotypes was reported [12]. In general, sorghum is known as moderately tolerant to salinity [8]. An approach like a combination of molecular, physiological, biochemical and metabolic aspects of salt tolerance is essential to overcome the effects of salinity and develop salt-tolerant plant varieties [21]. Salt tolerance is usually assessed as the percent biomass production in saline versus control conditions over a prolonged period of time or in terms of survival [16, 18]. However, parameters related with plant growth (such as germination, leaf and root growth) at the seedling stage may provide a less time consuming, easy and inexpensive natural way to select salt tolerant cultivars to be used for cultivation or breeding programs. Farmers themselves may conduct such experiments without the requirements of expensive apparatus. Screening of such locally grown cultivars for salt tolerance can strengthen the breeding programs by identifying genotypes with high salt tolerance and yield potential. The tolerant genotypes could be recommended for cultivation in moderately salt-affected areas [20]. Previously, experiments on the selection of salt tolerance cultivars of sorghum were conducted using an artificial salt medium [5, 7, 19].

The sorghum plant was studied by Kh.N. Atabaeva in Andijan region mixed crops of sorghum with legumes; V.B. Davletmuratova [2] was devoted to finding ontogenetic features of halo accumulative adaptation of plants in the conditions of Karakalpakstan; Begdullayeva was studied the response of Sorghum bicolor varieties to soil salinity for feed and food production in Karakalpakstan [1]. She studied the effect of soil salinity on biomass, stover and grain yield, the baking and feed quality, and total water soluble salt accumulation, was assessed according to varieties, plant fractions and growth phases. Field experiments conducted on low, medium and highly saline soils using four sorghum cultivars (*S. vulgare*, *S. cernuum*, *S. durra*, and *S. technicum*). Results showed that *S. cernuum* had the highest grain yield on the low (5.13 t ha^{-1}), medium (6.05 t ha^{-1}) and highly (3.3 t ha^{-1}) saline soil. *S. technicum* showed the lowest growth potential under all salinity levels [6]. According to literature review identified the few studies were done about the sorghum physiology the reason we chose this topic. The objective to study of growth and development of sorghum cultivars under different saline concentration in laboratory condition.

Materials and methods: Laboratory experiments conducted in Plant physiology laboratory at the Urgench State University. Response of seed germination to different salinity studied in laboratory experiment with sorghum varieties: Sorghum vulgare (L) Moench, S durra (Forsk) Stapf, Sorghum sudanense, Sorghum Saccharatum. Seeds of four sorghum varieties were sown in Petri dishes with filter paper in three replications, 20 seeds per petri dish. The experimental design was factorial having two factors (varieties and salinity levels) with three replication.

Seeds inhibited in different salinity concentration in 10 ml and put in thermostat 25°C. The nutrient concentration were prepared in percent concentration 0.1; 0,2; 0,3; 0,4 0,5; 0,6; 0,7; 0,8; 0,9; 1,0; 2,0; 3,0; 4,0; 5,0; 10, 15,0. As control sorghum four varieties seeded in distilled water, to see emergence.

Daily determined how many seedlings emerge in different solution and added solution 5 ml. After seven days counted the totally emerged seeds in each Petri dishes in three replication and calculated the average value for percentage determination. After the seven days the roots and leaves in seedlings counted and measured the length and calculated the average value for roots and leaves in one plant. After ten days plants divided to shoots and roots and dried in the oven 70 °C 24 hours and measured the dry biomass. Data were statistically analyzed for analyses of average, standard deviation minimum and maximum in excel program.

Results and discussion: Sorghum genotypes showed significant variation on distilled water and different salinity levels (Figure 1). Minimum number of seed germination in distilled water counted in the Sorghum Saccharatum, 100% germination determined in the three species: Sorghum vulgare (L) Moench, S durra (Forsk) Stapf and Sorghum sudanense.

Germination growth respiration and other related process can be affected seeds that are subjected environment stress. Sorghum a moderately salt tolerant species showed the decreased growth under saline condition Igartua et., al. [9].

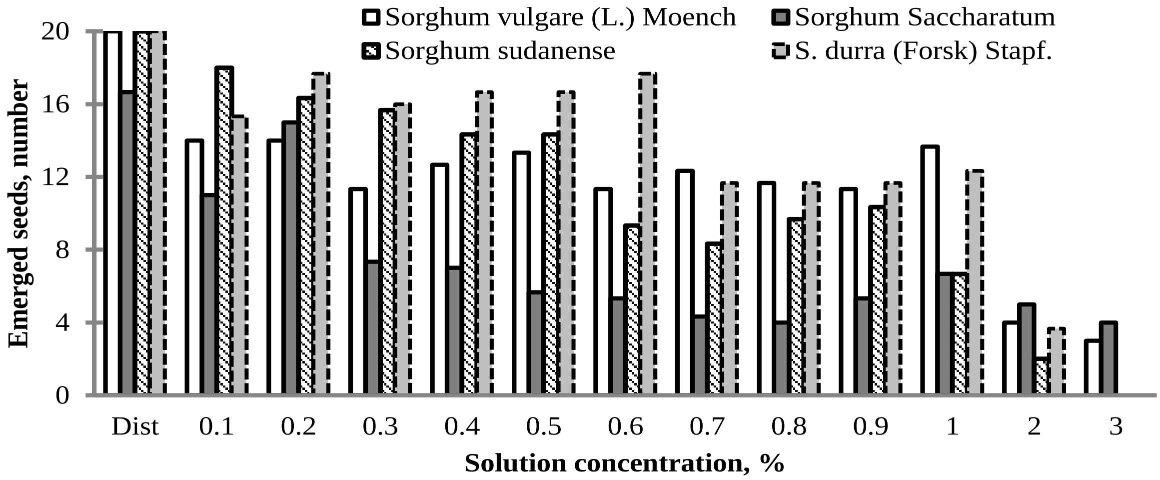


Figure 1. Emergence of sorghum species seeds in differed salinity concentration.

With the increasing salinity concentration seed emergence was decreased to 3 % concentration, in 4; 5; 10; 15% concentration even not emerged.

Responses of sorghum to salinity differed among species. Based on growth and visual salt damage, both Sorghum vulgare (L) Moench and Sorghum Saccharatum were relatively tolerant to salinity. Sorghum vulgare (L) Moench seed growth 100 %, Sorghum Saccharatum emergence were 83% in distilled water. Maximum solution 3 % growth of Sorghum vulgare (L) Moench seed growth were 15% and Sorghum Saccharatum emergence were 20%. Seed emergence of Sorghum vulgare (L) Moench were high till 1% solution and Sorghum Saccharatum emergence were decreased in 0,3 % solution.

The sorghum root system is highly organized and develops in two stages, the seminal roots and the adventitious crown roots. In early stages of growth, seminal roots develop from the radicle of the germinating seedling. Adventitious crown roots emerge from the coleoptile (first) node and potentially from several leaf nodes above the coleoptile node. Sorghum plants have a fibrous root system, characteristic of grasses, which can reach a depth of up to 1.5 - 2.4 m [12].

Number of roots and leaves were different in concentration and highest number were determined in distilled, 0,1 and 0,4 % concentration (Figure 2). Minimum number of leaf and root determined in 1% solution, the seeds emerged in 2; 3 % concentration but not developed the roots and leaves. Maximum leaf number were only two and maximum root number more than 4 in distilled, 0,1 and 0,2 % concentration.

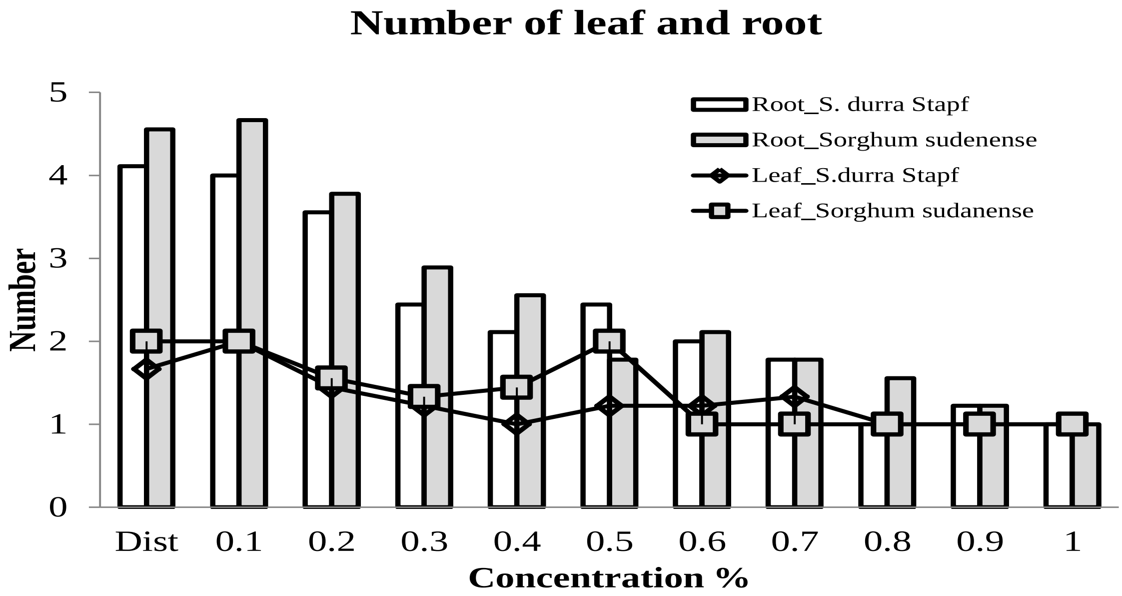


Figure 2. Number of leaves and roots of sorghum species seeds in differed salinity concentration.

Sorghum species showed significant variation on leaf length against application of various salt concentrations (Figure 3). The longest leaf length was found in distilled and 0,1% solution (12.8 and 11.7 cm respectively).

On the other hand, the shortest leaf length were observed in 1 and 0,9 % under salt stress (4.6 and 3.9 cm respectively).

Root length of different sorghum species varied significantly due to various salt concentrations. The longest root length was recorded in S durra (Forsk) Stapf in distilled water (16.0 cm). On the other hand, the shortest roots length were observed in 0,9% concentration of S durra (Forsk) Stapf under salt stress (1.8 cm).

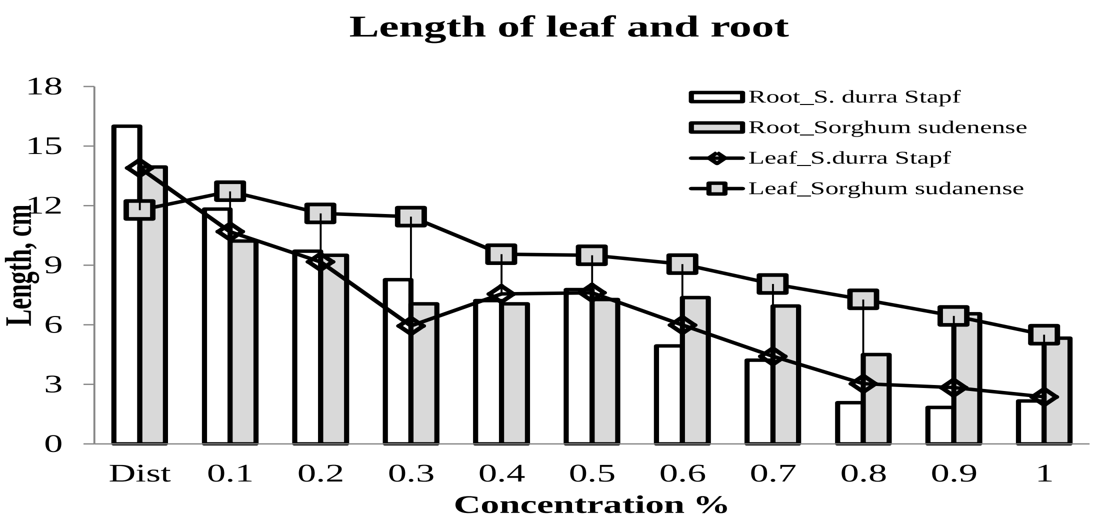


Figure 3. Length of leaves and roots of sorghum species seeds in differed salinity concentration.

In this experiment, it has been found that about all the parameters were reduced due to salinity stress. Reduction in germination percentage, leaf and root length in response to the stress might be due to the reduction of water taken up by the seeds or toxicity of Na and Cl ions. Generally, germination velocity is greatly retarded by salinity which causes a significantly high reduction in final germination percentage under salt stress condition even after seven days of incubation. These results are in agreement with the results of the previous researches that salinity may affect seed germination by decreasing the ease with which water may be taken up by the seeds or toxicity of Na and Cl ions thus germination process delayed and/or proceed at reduced rates [10] and even in case of salt-tolerant plants [11].

Dry weight accumulation also affected by salinity concentration (Figure 4) stem and leaf dry weights were decreased in all species.

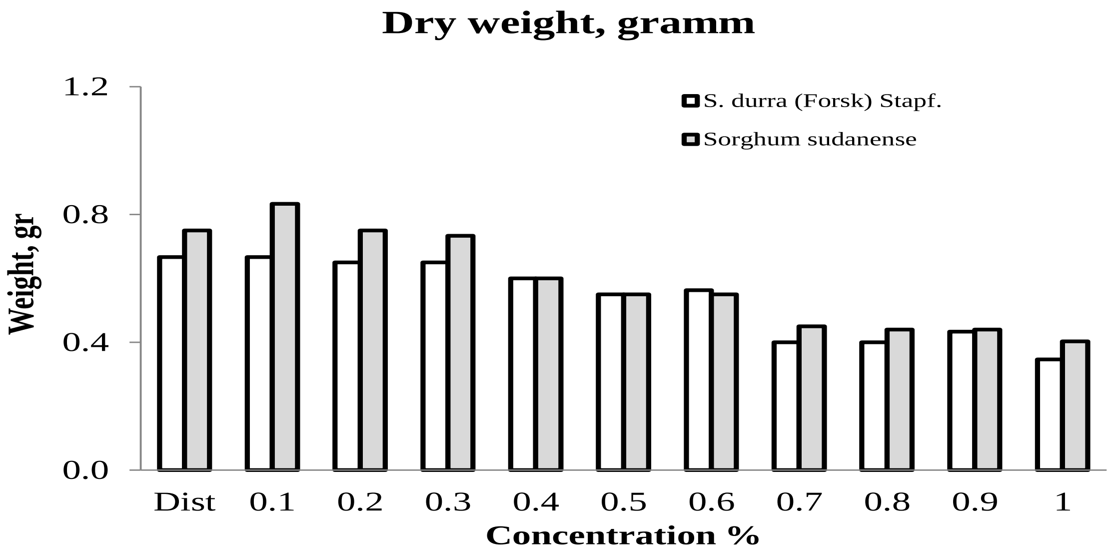


Figure 4. Dry weight of seedlings of sorghum species seeds in differed salinity concentration.

Laboratory condition determined responses of sorghum to salinity differed among species. Based on growth and visual salt damage, both Sorghum vulgare (L) Moench and Sorghum Saccharatum were relatively tolerant to salinity than S. durra (Forsk) Stapf and Sorghum sudanense.

Conclusion: From the present study we can conclude that the concentration of salinity in sorghum species grown under saline conditions could be an important factor. Sorghum species under saline conditions displayed reduced seed emergence, plant growth as demonstrated by decrease in dry weight.

Hundred percent germination in distilled water determined in the three species: Sorghum vulgare (L) Moench, S durra (Forsk) Stapf and Sorghum sudanense. Response of sorghum to salinity among species was significantly different. With the increasing salinity concentration seed emergence was decreased, lowest number of emergence determined in 3 % concentration and more than 4; 5; 10; 15% not emerged.

Maximum leaf number were only two and maximum root number more than 4 in distilled, 0,1 and 0,3 % concentration. Root and leaf length showed significant variation on various salt concentrations. The longest root length was recorded in S durra (Forsk) Stapf in distilled water and the shortest in 0,9% concentration.

Reference:

[1]. Begdullaeva T. K. Osobennosti solenakopleniya i soleustoychivosti raznix vidov sorgo v usloviyax Karakalpakstana. Avtoreferat dissertasii na soiskanie uchyonoy stepeni kandidata biologicheskix nauk, Tashkent 2011.

[2]. Davletmuratova V.B. Ontogeneticheskie osobennosti galoakkumulyativnoy adaptasii rasteniy v usloviyax Karakalpakstana: Dis. …kand. biol. nauk. – Nukus: KKO AN RUz, 2001. – 124 s.Ashraf M. Some important physiological selection criteria for salt tolerance in plants. Flora. 2004; 199(5):361–376.

[3]. Azevedo Neto A. D., J. T. Prisco, J. Enéas-Filho, C. E. B. D. Abreu, and E. Gomes-Filho, “Effect of salt stress on antioxidative enzymes and lipid peroxidation in leaves and roots of salt-tolerant and salt-sensitive maize genotypes,” Environmental and Experimental Botany, vol. 56, no. 1, pp. 87–94, 2006.

[4]. Azhar 2 F.M., McNeilly T. Variability for salt tolerance in *Sorghum bicolor* (L.) Moench. under hydroponic conditions. J. Agron. Crop Sci. 1987; 159(4): 269–277.

[5]. Begdullayeva T., Kienzler, K.M., Kan, E. *et al.* Response of *Sorghum bicolor* varieties to soil salinity for feed and food production in Karakalpakstan, Uzbekistan. *Irrig Drainage Syst* 21, 237–250 (2007). https://doi.org/10.1007/s10795-007-9020-8

[6]. El-Naim A.M., Mohammed K.E., Ibrahim E.A., Suleiman N.N. Impact of salinity on seed germination and early seedling growth of three sorghum (*Sorghum biolor* L. Moench) cultivars. Sci. Technol. 2012; 2(2):16–20.

[7]. IAEA TECDOC-814. Management strategies to utilize salt affected soils. – International Atomic Energy Agency (IAEA), 1995., Vienna.

[8]. Igartua E., M. P. Gracia, and J. M. Lasa, “Field responses of grain sorghum to a salinity gradient,” Field Crops Research, vol. 42, no. 1, pp. 15–25, 1995.

[9]. Kazemi, K. and Eskandari, H. 2011. Effects of salt stress on germination and early seedling growth of rice (Oryza sativa) cultivars in Iran. Afr. J. Biotechnol., 10: 17789–17792.

[11]. Khan, D. and Ahmed, R. 1998. Effect of saline water irrigation on germination, growth and mineral distribution in Indigofolia oblongifolia forsk. Hamd. Med. 41: 81-93.

[12]. Kimber, C.T. (2000) Origins of Domesticated Sorghum and its Early Diffusion in India and China. In Sorghum, Origin, History, Technology and Production (eds C.W. Smith & R.A. Frederiksn). Wiley and Sons, New York http://www.ask-force.org/web/Africa-Harvest-Sorghum-Lit-1/Kimber-Origins-Sorghum-2000.PDF
[13]. Krishnamurthy L., R. Serraj, C. T. Hash, A. J. Dakheel, and B. V. S. Reddy, "Screening sorghum genotypes for salinity tolerant biomass production," Euphytica, vol. 156, no. 1-2, pp. 15–24, 2007.
[14]. Maas E. V. and G. J. Hoffman, "Crop salt tolerance—current assessment," Journal of the Irrigation and Drainage Division, vol. 103, no. 2, pp. 115–134, 1977.
[15]. Maas E. V., "Crop tolerance to saline sprinkling water," Plant and Soil, vol. 89, no. 1–3, pp. 273–284, 1985.
[16]. Munns R. Comparative physiology of salt and water stress. Plant Cell Environ. 2002; 25:239–250.
[17]. Munns R., and M. Tester, "Mechanisms of salinity tolerance," Annual Review of Plant Biology, vol. 59, pp. 651–681, 2008.
[18] Munns, R., 2005.Genes and salt tolerance: bringing them together. New Phytol., 167: 645−663.
[19]. Rani C.R., Reema C., Alka S., Singh P.K. Salt tolerance of *Sorghum bicolor* cultivars during germination and seedling growth. Res. J. Recent Sci. 2012; 1(3):1–10.
[20]. Roy S.J., Negrão S., Tester M. Salt resistant crop plants. Curr. Opin. Biotechnol. 2014; 26:115–124.
[21]. Roychoudhury A., Chakraborty M. Biochemical and molecular basis of varietal difference in plant salt tolerance. Annu. Rev. Res. Biol. 2013; 3(4):422–454.

UDC: 661.152.3.1.2

INFLUENCE OF AMMONIUM SULPHATE IN THE GRANULOMETRIC COMPOSITION OF AZOSUPERPHOSPHATE

Atashev Elyor Atashevich
PhD Student of the department
«Chemical technology», Faculty of
«Chemical technology», Urgench State University.
Email: elyor.a@urdu.uz

Tadjiev Sayfitdin Mukhitdinovich
Doctor of Science, Professor,

Head of the Laboratory of Complex Fertilizers,
Institute of General and Inorganic Chemistry,
Academy of Sciences of the Republic of Uzbekistan.
Email:sayf48@rambler.ru

Jumaniyazov Maxsud Jabbiyevich
Doctor of Science, Professor,
of t he department «Chemical technology»,
Faculty of «Chemical technology»,
Urgench State University.
Email: ximtex@rambler.ru

Annottsiya: Ushbu maqolada azosuperfosfatning granulometrik hamda tayyor mahsulotning tovar xossalarini yahshilashga, ammoniy sulfatning me’yori va uni fosforit uni tarkibiga kiritilish usullari natijalari o’rganilgan. Faollashtirilgan azot-fosforli o'g'itlarning granulalari qishloq xo'jaligining talablariga javob beradigan yetarlicha mustahkamlikka ega.

Kalit so’zlar: oquvchanlik, zichlik, granulalash, granulyator, bardoshli granulalar, purkash, kambag’al fosforitlar, boyitilmagan fosforit uni.

Аннотация. В настоящем сообщении излагаются результаты для улучшения гранулометрического состава азосуперфосфата исследовано влияние нормы и способа ведения сульфата аммония на товарные свойства готового продукта. Гранулы активированных азотнофосфорных удобрений имеют достаточную прочность, что отвечает требованиям сельского хозяйства.

Ключевые слова: текучесть, плотность, грануляция, гранулятор, прочные гранулы, разбрызгивания, бедные фосфориты, необогащенная фосмука.

Annotation. This information sets out the results for improving the granulometric composition of azosuperphosphate. Investigated on the marketability finished product and the influence of the norm and method of conducting ammonium sulfate. The granules of activated nitrogen-phosphorus fertilizers have sufficient strength, which meets the requirements of agriculture.

Key words: fluidity, density, granulation, granulator, durable granules, spatter, poor phosphorites, unenriched phosphum.

Introduction: In order to fully provide agriculture of the Republic of Uzbekistan with nitrogen, phosphorus and potassium fertilizers in the agro-technical terms of their use, in 2019-2020, the enterprises of JSC "Uzkimyosanoat" have developed measures to increase production of nitrogen and phosphorus fertilizers [1,2] .

It is known that the phosphorites of the Central Kyzyl Kum have no analogues among the phosphorite deposits of the CIS countries and, in terms of their mineral composition, are analogous to the largest phosphorite deposits of the African-Arabian province [3].

The total reserves of granular phosphorites are estimated at 10 billion tons of ore. In the Kyzylkum basin, the most fully explored fields are Zheroy, Sardarin, Tashkurin, Karakaten, Zhetymtau [4].

Ore reserves at the largest deposit in the Zheroy-Sardarin basin have already been approved and amount to 240 million tons (47 million tons of P_2O_5) [5].

Projected reserves to a depth of 100 meters are over 100 million tons of P_2O_5 [6]. Phosphorite ores (taking into account 20% dilution with enclosing marls) contain 16% P_2O_5. According to the composition, they are very close to the phosphorites of the largest deposits in North Africa (Khuribga, Jebel - Onk, Gafsa, Abu Tartur) [7].

Phosphorus fertilizers based on phosphates in the Central Kyzylkum basin are produced in the country.

Lack of phosphorus nutrients in the cultivation of agricultural crops reduces the drought tolerance, growth and productivity of plants [8].

Therefore, in order to increase the amount of phosphorus reserves in the soil, the production of phosphorus fertilizers with satisfactory brand properties is one of the main problems of today.

Literature review: The most important consumer properties of mineral fertilizers include, besides the content of nutrients, such indicators as caking, strength and abrasion of granules, dust content, granulometric (fractional) composition.

In turn, these characteristics depend, on many factors - both internal (related to the properties of fertilizer components, the method and parameters of the production process), and external (environmental conditions in which the fertilizer is during transportation, transhipment and storage) [9, 10, 11, 12].

In the process of granulating mineral fertilizers, a dispersed structure is formed, characterized by a certain porosity of the grain, the packing density and crystalline blocks that make up the granule, the concentration and strength of phase contacts between the granules, the defects in individual blocks and granules.

The nature of the structure of the formed granules determines the mechanical strength, hygroscopicity, caking of the product. The formation of granules occurs primarily in the granulator apparatus, as well as in the process of auxiliary operations - drying, classification and cooling [13].

It is known that the process of producing azosuperphosphate from unenriched phosmoke (ammonized superphosphate), in contrast to the classical chamber superphosphate, is carried out by the reaction of unenriched phosmoke; with thorough mixing, it was treated (93-98% H_2SO_4) with sulfuric acid containing ammonium sulfate.

The chemical composition and physicochemical properties of Kyzylkum phosphorites are given in Table 1.

The main goal of the ammonization process was to improve the quality of simple superphosphate obtained in the laboratory.

According to the literature, the optimal ratio of P_2O_5 and nitrogen in nitrogen-phosphorus fertilizers should be in the range: (4-1) kg P_2O_5 per 1 kg of nitrogen, t.e. at P_2O_5 content (9-10)% nitrogen content should be at least 2.25%, max 6% [14, 15].

Table 1.

Chemical composition and physicochemical properties of Kyzylkum phosphorites

№	Phosphate	Raw Materials	
		Poor phosphorites	Unenriched fosmuka
1.	P_2O_5	13,94	17,65
2.	CO_2	19,20	15,25
3.	CaO	43,78	43,78
4.	Insoluble residues	8,67	7,65
5.	Volume weight	1,26г/sm^3 under W-1,25% 1,3г/sm^3 under W-2,20%	1,10г/sm^3 under W-1,15% 1,21г/см^3 – 2,10%
6.	Slope angle	56^o under W-1,25% 58^o under W-2,20%	35^o under W-1,15% 39^o under – 2,10%
7.	Fluidity	Does not flow	18-20 seconds
8.	Density	2,2006 г/sm^3	2,2283 г/sm^3

In the process of decomposition, the temperature of the mass rises to 110-115^{0}C and the process is almost completed within 20-30 minutes. The chemical composition of the finished product of azo superphosphates is shown below(Table 2).

Table 2.

The chemical composition of azosuperphosphates, %

P_2O_5, %					N	SO_3 gen/water	CaO gen/water	MgO	H_2O
General	0,1 н Hcl	Тр-Б	2 % лк	water					
Azosuperphosphate from unenriched fosmuka,%. (ammoniated superphosphate)									
11,61	10,72	9,98	9,51	6,11	1,48	4,41	1,85	1,04	1,59
Raw phosphate azosuperphosphate.									
11,39	6,32	5,61	4,42	2,61	5,18	1,65	1,40	1,00	2,94
Poor phosphorite azosuperphosphate									
7,92	4,51	2,98	2,45	1,21	4,95	1,48	2,41	1,09	2,80

Research Methodology: The process of interaction proceeds rapidly with the release of carbon dioxide into the gas phase. Ammonium ions $(NH_4)_2SO_4$ contained in sulfuric acid neutralize the free phosphoric acid formed during the decomposition of phosphorite. The resulting ammonium phosphates improve the marketability of azo superphosphate. As the interaction is completed, azosuperphosphate is ground into fine fractions due to the rapid decomposition of carbonate minerals, in particular, endocalcite [16, 17].

The resulting product contains, depending on the norm of the acid (from 20 to 60%) particles less than 1 mm in size. To improve the granulometric composition of azo superphosphate, the influence of the norm and method of conducting ammonium sulfate on the commodity properties of the finished product was studied [8, 16].

Analysis and results: Granular or powdered nitro superphosphate is a grey or light grey product and contains nutrients such as nitrogen, phosphorus, sulfur and calcium.

These initial data provide for the production of nitro superphosphate by treating low-grade enriched Kyzyl-Kum phosphorites with sulfuric acid in the presence of ammonium sulfate.

For obtaining the finished product, 3 experiments were carried out.

1-experiment; treatment of unenriched fosmuka with 93% sulfuric acid without ammonium sulfate,

2-experience; treatment of unenriched fosmuka with sulfuric acid in the presence of ammonium sulfate,

3-experience; processing the finished product with a solution of ammonium sulfate.

Finished sample products were analyzed in accordance with the normative documents[18, 19, 20].

The experimental results are shown in tables 3,4,5. The product is treated with a solution of ammonium sulfate in a screw reactor-mixers by spraying it.

Since a screw mixer reactor cannot be reproduced in laboratory conditions, the experiments were carried out in a thermally insulated glass equipped with a scraper mixer. Therefore, it is necessary to take into account that the fractional composition of the product obtained in the laboratory may slightly differ from the workshop due to differences in mixing mechanisms.

The interaction of unenriched fosmuka with sulfuric acid proceeds very easily and practically ends in 5-7 minutes. The process is exothermic, the temperature, depending on the norm of sulfuric acid, rises to 35-80 ° C.

Results of the 1-experiment, the decomposition of phosphate raw materials in sulfuric acid without ammonium sulfate are given in table 3.

Table 3.

The effect of normal sulfuric acid on the particle size distribution of the finished product.

№	Norm of sulfuric acid %	5 мм high	3-5 mm	1-3 mm	1 mm and Less
1	80	-	10	30	60
2	90	-	18	37	45
3	100	5	41	25	29
4	105	8	40	47	25

Based on the results of the experiment, it was found that in the studied range of sulfuric acid concentrations up to its 80% norm, a powdery product is obtained. With an increase in the norm of sulfuric acid, the granulometric composition of simple superphosphate improves. So, for example, at a 90% norm of sulfuric acid, the content of the fraction of 1-5 mm is 18-37%, and at 100-105% - 25-47%. In samples of 80-90% norm of sulfuric acid there are no particles larger than 5 mm; at 100-105% norm of sulfuric acid, the content of the fraction of 5 mm and above is 5-8%.

Results of the 2-experiment, the influence of the norms and methods of maintaining ammonium sulfate on the particle size distribution of the finished product are given in table 4. Ammonium sulfate addition has a positive effect on the growth of calcium sulfate crystals. The formation of larger crystals favors the access of hydrogen ions to the surface of phosphorite grains. The increase in the norm of sulfuric acid and the presence of ammonium sulfate in the system contributes to the production of a granular product with good marketability. This is due to the fact that during the formation of granules, ammonium sulfate performs the function of a binding material and gives them mechanical strength. And also the product is better granulated and granules are more durable.

Table 4.

The influence of norms and methods of conducting ammonium sulfate on the particle size distribution of the finished product.

№	Norm of sulfuric acid, %	5 mm and higher	3-5 mm	1-3 mm	1mm and less
Ratio of $(NH_4)_2SO_4:H_2SO_4$, 0,1:1					
1	80	-	17	45	38
2	90	-	13	42	35
3	100	2	28	43	20
4	105	2	30	50	18
Ratio of $(NH_4)_2SO_4:H_2SO_4$, 0,2:1					
5	80	-	20	43	30
6	90	3	27	50	20

7	100	2	40	47	11
8	105	3	41	51	5
Ratio of $(NH_4)_2SO_4$:H_2SO_4, 0,3:1					
9	80	1	29	45	25
10	90	2	47	33	18
11	100	2	56	34	8
12	105	2	65	29	4

Based on Table 2, we can explain the experimental process as follows. At a rate of 80% of sulfuric acid, the ratio of ammonium sulfate to sulfuric acid $(NH_4)_2SO_4$:H_2SO_4: , 0.1: 1, the granular content is -17% in the size of 3-5 mm, -45% in the size of 1-3 mm, When the ratio of ammonium sulfate to sulfuric $(NH_4)_2SO_4$:H_2SO_4, 0,3:1, the granular content is 5 mm and larger, while the size of 1 mm and less is 38%. and the amount of granules of 3-5 mm size increased by 12% to 29%, the amount of granules of 1-3 mm size remained unchanged and amounted to 45%, 1 mm and the amount of granules of smaller size decreased by 13% to 25%.

In this process, as the ratio of sulfuric acid and ammonium sulfate increased, the size of the granules of the sample products increased and the physical and mechanical properties improved, and this relationship was maintained at 90, 100 and 105% of sulfuric acid.

Results of the 3-experiment, the processing of the finished product with a solution of ammonium sulfate are given in table 5.

When dusting the surface of granules of nitrogen-phosphorus fertilizers with a solution of ammonium sulfate, the latter fills the micropores of the granules and adheres phosphorite flour on their surface, i.e. a protective layer forms on the surface of the fertilizer granules. In the process of dusting on the surface of the granules, a coupling reagent interacts with the components of unenriched phosphorites.

Table 5.

The influence of norms and methods of maintaining ammonium sulfate on the particle size distribution of the finished product.

№	Norm of sulfuric acid, %	5mm and higher	3-5 mm	1-3 mm	1mm and less
Ratio of $(NH_4)_2SO_4$:H_2SO_4, 0,1:1					
1	80	-	20	55	25
2	90	-	31	46	23
3	100	-	55	35	10
4	105	2	58	35	5
Ratio of $(NH_4)_2SO_4$:H_2SO_4, 0,2:1					
1	80	2	32	50	16

2	90	2	44	48	6
3	100	2	52	37	3
4	105	2	61	35	2
Ratio of $(NH_4)_2SO_4$:H_2SO_4, 0,3:1					
1	80	-	36	52	12
2	90	2	48	45	5
3	100	2	56	40	2
4	105	2	67	30	1

In 3-Experiment, the use of ammonium sulfate solution also showed an increase in the size, size, and physical and mechanical properties of the sample products as the rate of sulfuric acid in the decomposition process increased and the ratio of ammonium sulfate to sulfuric acid in the granulation process increased.

At the rate of 80% sulfuric acid, the ratio of ammonium sulfate to sulfuric acid $(NH_4)_2SO_4$: H_2SO_4, increased from 0.1:1 to $(NH_4)_2SO_4$:H_2SO_4, 0.3:1, the composition of the granules changed as follows, 5 mm and larger no granules were formed, the amount of granules of 3-5 mm size increased by 16%, the amount of granules of 1-3 mm size remained unchanged, the amount of granules of 1 mm and smaller size increased by 13% decreased, and this dependence was maintained at 90, 100, and 105% levels of sulfuric acid, even when decomposed

Conclusion: Ammonium sulphate with an additive forms calcium sulphate and calcium phosphates, which coat the surface of the granules with a thin layer, i.e. a protective layer is formed on the surface of the granules, consisting of a salt with less solubility, it isolates the hygroscopic ammonium salts and the calcium of the granules from the environment. With further surface treatment of the obtained granules with a binding reagent and a dusting agent, an increase in the thickness of the protective layer occurs. Due to the absence on the surface layer of granules of rapidly soluble, hygroscopic salts of ammonium and calcium sulfate, the product obtained does not cake during prolonged storage and increased humidity.

The laboratory results obtained on a robot ammonized superphosphate show that the product is better granulated, the granules are more durable, the amount of dust is reduced.

Based on the above, we can draw the following general conclusion: It is established that when processing unenriched fosmuki with sulfuric acid in the presence of ammonium sulfate, strong granules with a good particle size distribution are obtained. The optimal conditions are processing the product azo superphosphate from unenriched phosphate,% (ammoniated superphosphate) or simple superphosphate with a 45-48% solution of ammonium sulfate at a ratio of sulfuric acid to ammonium sulfate 1:0.2.

Ammonization of superphosphate with a solution of ammonium sulfate will eliminate the main disadvantage of our superphosphate is the low strength of the granules, reduce the content of dusty fraction.

Ammonized superphosphate with an optimal nitrogen content of (1–6)% can be produced on existing equipment using unenriched phosphate.

REFERENCES

[1]. Decree of the President of the Republic of Uzbekistan dated February 7, 2017 UP 4947 “Strategy for the further development of the Republic of Uzbekistan”.

[2]. Resolution of the President of the Republic of Uzbekistan dated April 3, 2019 № PP-4265 "On measures to further reform the chemical industry and increase its investment attractiveness."

[3]. Beglov B.M., Namazov Sh.S., Mirzakulov H.Ch., Umarov T.Zh. Activation of natural phosphate raw materials. Tashkent-Urgench: Khorezm Publishing House, 1999. - P. 4.

[4]. Sokolov S.I., Fathullaev G., Ibaydullaev N.I. Paleogenous granular phosphorites of the Central Kyzyl Kum // Genetic types and assessment of the prospects of nonmetallic minerals of Central Asia. - Tashkent, 1977 . P. 22-37.

[5]. Amirova A.M., Sokolov S.I. et al. On the material composition of granular-detrital phosphorites of the Central Kyzyl Kum //Uzbek. Chem. journal-1981.- №. 1. P. 8-13.

[6]. Nabiev M.N., Abdurakhmanov E., Amirova A.M. Physicochemical studies of phosphorites of the Central Kyzyl Kum //Journal. adj. chemistry. -1984. - №. 4.-P. 969-973.

[7]. Boyko V.S. The mineral nature of the phosphate substance of the Middle Eocene granular phosphorites of the Central Kyzyl Kum //DAN UzSSR. -1979. № 11. P: 59-61.

[8]. Atashev E.A., Tajiev S.M., Zhumaniyazov M.Zh., Obtaining azosuperphosphate from phospharites // I International Scientific and Practical Conference on "Actual problems of introducing innovation and technology in enterprises for the production of building materials, the chemical industry and related industries". Thesis Doc. scientific-practical conference May 24-25, 2019.-Ferghana, 2019.-P. 182-184.

[9]. Petropavlovsky I.A., Dmitrievsky B.A., Levin B.V., Pochitalkina I.A. The technology of mineral fertilizers. SP: Prospect of Science, 2018.312 p.

[10]. Dmitrievsky B.A., Yuryev V.I., Smelik V.A. et al. Properties, production and use of mineral fertilizers. St. Petersburg: Prospect of Science, 2013.326 p.

[11]. Fertilizer Manual. Kluwer Academic Publishers, Alabama, 1998. 616 p.

[12]. Kuvshinnikov I.M. Mineral fertilizers and salts: properties and methods for their preparation. M .: Chemistry, 1987.256 p.

[13]. Kochetova I.M. Influence of the structure of granules of complex NP, NP (S) and NPK fertilizers on their physicochemical properties. Thesis, Moscow-2018.

[14]. A.A.Sokolovsky, Technology of mineral fertilizers, p. 319

[15]. Atashev E.A., Tajiev S.M., Jumaniyazov M.J. Improving the granulometric composition of azo superphosphate // I International Scientific and Practical

Conference on "Actual Problems of the Introduction of Innovation and Technologies in Enterprises for the Production of Building Materials, the Chemical Industry and Related Industries". Thesis Doc. scientific-practical conference May 24-25, 2019.-Ferghana, 2019.-P:184-185.
[16]. E.Atashev, S.Tadjiev., Obtaining azosuperphosphate from low-grade phosphates of the central Kyzyl-kum. Journal of Critical Reviews.Vol 7, Issue-5, 2020. P: 472-477//elyor.a@urdu.uz//
[17]. Atashev E.A., Tadjiev S.M., Saparbaeva N.K., «Production of azosuperphosphate in the participation of central kyzylkum phospharites and ammonium sulphate», Journal of Critical Reviews ISSN-2394-5125 Vol 7, Issue-7, 2020. P: 358-362//elyor.a@urdu.uz//
[18]. Methods of analysis of phosphate raw materials, phosphate and complex fertilizers, feed phosphates. M.M.Vinnik, L.N.Erbanova, P.M.Zaitsev et al. - M .: Chemistry, 1975 .-- 218 p.
[19]. GOST 21560.2-82. Mineral fertilizer, IPC publishing standards: Moscow -1982
[20]. Karmyshov V.F. Chemical processing of phosphorites. Moscow: Chemistry, 1983–304 pps
[21]. Atashev E.A, Tadjiev S.M., «Effect of ammonium salts in the production of azosuperphosphate from low various, Central Kyzylkum phospharits» Proceedings of the International Conference “Scientific research of the SCO countries: synergy and integration”. P: 131-140, Part 2 - Reports in English, June 24, 2020. Beijing, China. //elyor.a@urdu.uz//

UDK 635.621.1

INFLUENCE OF THE FERTILIZER STANDARDS, TIMING OF PLANTING, THICKNESS OF SEEDLINGS ON THE YIELD OF A PUMPKIN SORT “ISPANSKAYA-73” IN THE CONDITIONS OF KHOREZM REGION

Jumaniyazova Navbahor Bakhtiyarovna
Lecturer, Faculty of Natural Science, Department of Biology, Urgench State University.
Email: jnbiolog@mail.ru

Annotatsiya. Oshqovoqning “Ispanskaya-73” navini hosildorligiga mineral o`g`itlar me’yorlarining ta’siri o`rganildi. Mineral o`g`it me’yori N-150; P-100; K-90 kg, N-200; P-140; K-120 kg qo`llanilganda, ko`chat qalinligi 220x100x1, 220x80x1, 220x70x1, ekish muddatlari 10-20-30 aprelda ekilib hosildorlikka ta’siri o`rganildi.

Kalit so'zlar. Oshqovoq, nav, poliz ekinlari, mineral o`g`itlar, ekish muddati, ko`chat qalinligi, hosil.

Аннотация. Изучено влияние стандартов удобрений на урожайность тыквы сорта «Испанская-73». Исследование проводилось в условиях, когда нормы удобрений были N-150; P-100; K-90 кг, Н-200; Р-140; толщина сеянцев составляла 220x100x1, 220x80x1, 220x70x1, а сроки посадки были 10, 20, 30 апреля.

Ключевые слова: тыква, сорт, полевые растения, минеральные удобрения, время посадки, толщина рассады, урожайность.

Annotation. The influence of fertilizer standards on the yield of the pumpkin sort "Ispanskaya-73" was studied. The study was conducted under the conditions that fertilizer standards were N-150; P-100; K-90 kg, N-200; P-140; the thickness of seedlings was 220x100x1, 220x80x1, 220x70x1, and the timing of planting was on April 10, 20, 30.

Key words: Pumpkin, variety, gourds, mineral fertilizers, planting time, seedling thickness, yield.

Introduction: Based on the Presidential decree of the Republic of Uzbekistan, dated July 29, 2019, № PQ-4406 "On Additional Measures for Deeply Processing of Agricultural Products and Further Development of the Food Industry", prognostic indicators of reproducing and exporting main types of agricultural plants were determined, in particular, 110.4% increase in gourds, including pumpkin by 110.9% is expected during 2019-2021. [1]

According to the Presidential decree of the Republic of Uzbekistan, dated September 15, 2017, № PQ-3281 "On Measures for Rational Deployment of Agricultural Crops in 2018 and Prognostic Amount of Agricultural Production", the special attention is paid to the rational deployment of agricultural plants for the next years, taking into account the specialization of districts, soil and climatic conditions and water availability of regions. [1]

In 2019, the republic had a total of 135,641 hectares of vegetables, 60,156 hectares of gourd plants were deployed, and 2 million 875,640 tons of vegetables, 1 million 59,240 tons of gourd plants were grown. This was stated in the government's resolution "On the Rational Deployment of Agricultural Crops for the Harvest of 2019 and Prognostic Amounts of Yield Production".[8]

Literature review: Grouds are grown in all tropical, subtropical and temperate climates of the world counries. Worldwide, the area of grouds' cultivation is 2.8 - 2.9 million hectares. Of these, 70% of them are used for watermelon, 20% for melon and 10% for pumpkin. Worldwide production of gourds is as follows: watermelon -23-26 million. tons, melon- 6.4-6,6 million tons, pumpkin 4-5 million tons.[2]

Gourds are rich in various compounds that are very useful for human body, in particular, pumpkin seeds are a dietary food that is used to treat various diseases and they can be eaten in reproduction. In our republic, many lider scientists have conducted researches in this field, specifically, N.N.Balashev, G.O.Zeman (1977), V.I.Zuev, A.A.Umarov (1987), A. Rasulov (1995), A.G.Abdullaev (1997), T.E.Ostonakulov, O.Kodirkhodjaev (2009), H.Boriev, R.Joraev, O.Alimov (2002) and others.[3]

In his book "The Origin and Development Way of Gourd Crops", K.I.Pingalo explains the initial generations of gourds, S.N.Andrianov and others have conducted researches on the deficiency of phosphorus and potassium in the production of gourds and increasing damage of microorganisms in their storage.[4,9]

Studies have been done by Erin Ivan on world-class pumpkin seed oil, Vladimir Manannikov on the benefits of pumpkin, and Khusid Svetlana and others on the physiological and biochemical aspects of pumpkin varieties.[5]

Research Methodology: Ripening of pumpkin lasts from the beginning of September to the end of September, depending on the timing of planting. The heat of the weather accelerates the maturation of the pumpkin fruit, while heat deficiency and moisture content slow it down.

In gourd plants, the period of formation of fruits and their rest time varies greatly. As it is known in our research, the formation of pumpkin fruit in our irrigated lands starts at 50-60 days. It takes 60 to 80 days from the time of formation of fruit to ripening.

The conducted experiments show that the color of the pumpkin during ripening began to change. By the end of the ripening period, the physiological link between the fruit and the plants weakened, and the water and nutrients to the fruits were less frequent than at the beginning of the ripening period. Sometimes the leaves began to dry up. We found if the large squash ripened or not by means of the fact that the fruit band had dried up and became ductile. The large pumpkin "Ispanskaya-73" has changed the color of fruits. At that time, the color of the fruit changed from greenish to the color of the typical variety. Winter ripening continued even after the pumpkin was gathered. This is called the maturation stage of the ripening period.

Pumpkin fruits were gathered 1-2 times before frosting. At the same time, the fruit stalks were left 3-5 cm long. The more sugar is accumulated in the fruit, the higher its sweetness and flavor.

For fertilizing pumpkins, we used ammonium nitrate as a nitrogen fertilizer, additional superphosphate as phosphorus fertilizer, and potassium chloride salt as a potassium fertilizer.

Based on the conducted experiments, the yield of the “Ispanskaya-73” pumpkin variety is as follows. (Table 1.1).

Table 1.1

Variant 1

The Avarage Productivity

N-150, P -100, K-90		
Timing of Planting	**The Thickness of Seedlings**	**Ispanskaya-73 Center/hectare**
10.04	**220 x 70x1**	**400**
	220 x 80x1	**430**
	220 x 100x1	**480**
20.04	**220 x 70x1**	**390**
	220 x 80x1	**410**
	220 x 100x1	**450**
30.04	**220 x 70x1**	**360**
	220 x 80x1	**380**
	220 x 100x1	**410**

Variant 2

The Avarage Productivity

N-200, P -140, K-120		
Timing of Planting	**The Thickness of Seedlings**	**Ispanskaya-73 Center/hectare**
10.04	**220 x 70x1**	**430**
	220 x 80x1	**450**
	220 x 100x1	**510**
20.04	**220 x 70x1**	**410**
	220 x 80x1	**430**
	220 x 100x1	**480**
30.04	**220 x 70x1**	**390**
	220 x 80x1	**400**
	220 x 100x1	**450**

As shown in the table, in variant 1, when the fertilizer amount was N-150, P - 100, K-90 kg, the seedling thickness was 220x100x1, the planting time was on April 10, the yield of pumpkin variety “Ispanskaya-73” was 480s/ha, when the seedling thickness was 220x80x1, the yield was 430 c/ha, when the seedling thickness was 220x70x1, the yield was 400 c/ha. On April 20, it is observed that when the seedling thickness was 220x100x1, the yield was 480 c/ha, when the seedling thickness was 220x80x1, the yield was 430c/ha, when the seedling thickness was 220x70x1, the yield was 390 c/ha. On April 30, it is observed that when the seedling thickness was 220x100x1, the yield was 410 c/ha, when the seedling thickness was 220x80x1, the yield was 380c/ha, when the seedling thickness was 220x70x1, the yield was 360c/ha.

In variant 2, when the fertilizer amount was N-200, P-140, K-120 kg, the seedling thickness was 220x100x1, the planting time was on April 10, the yield of pumpkin variety “Ispanskaya-73” was 510 c/ha, when the seedling thickness was 220x80x1, the yield was 450 c/ha, when the seedling thickness was 220x70x1, the yield was 430 c/ha. On April 20, it is observed that when the seedling thickness was 220x100x1, the yield was 480 c/ha, when the seedling thickness was 220x80x1, the yield was 430 c/ha, when the seedling thickness was 220x70x1, the yield was 410 c/ha. On April 30, it is observed that when the seedling thickness was 220x100x1, the yield was 450 c/ha, when the seedling thickness was 220x80x1, the yield was 400 c/ha, when the seedling thickness was 220x70x1, the yield was 390 c/ha.

According to the table data, the fertility rates also increased due to the rise in mineral fertilizer rates. The efficiency of fertilizers is usually determined by the amount of additional crop yield. Demand for pumpkin crops for mineral nutrition varies at different stages of the growth period, which is related to the growth process.

With the increase in mineral fertilizer rates, all productivity ratios increased in the second variant compared to our first option.

In conclusion, the use of fertilizers with the amount of N-200, P-140, K-120 kg per hectare and 220x100x1 seedlings’ thickness planted on April 10 influenced positively on the plant productivity. Optimum nutrition for pumpkin fertilizers is N-200, P-140, K-120 kg.

Productivity of the pumpkin depends on its varietal characteristics and agrotechnics.

Productivity is one of the key indicators that determine the nature, extent and impact of agricultural practices in agriculture, or the pros and cons of the factors learned in practice.

The quality of the crop yield depends on yielding the timely and fast harvest. In determining harvest time it is advisable to take into account plant biology (ripening phase), weather conditions and economic opportunities.

Ripening of the pumpkin harvest is determined with the beginning of the growth of the plant, the ripening of the fruit stems and the easy break. The pumpkin crop, which was planted as an experiment, ripened in September. During the harvesting period, 10 fruits were harvested in duplication of all variants of the experiment, and the weights were determined by weighing the pumpkin.

Conclusion: The following conclusions were obtained by the study of the influence of the fertilizer standards on the “Ispanskaya-73” pumpkin sort’s thickness of seedlings and the impact of the timing of planting on the yield in Khorezm region:

1. The intensity of ripening fruits of the “Ispanskaya-73” variety depends on agrotechnological activities.

2. Fertilizing the soil with mineral fertilizers ensures that the pumpkin is in good nutrition throughout the growing season. Fertilizing norms and timing of planting ensure that high quality and sweet fruits are obtained from pumpkin crops.

3. Increase of fertilizer rates N-200, P -140, K-120 kg per hectare has a positive effect on pumpkin productivity. Optimum nutrition for pumpkin fertilizers is N-200, P-140, K-120 kg.

References:

[1] Ashurmetov O.A., Boriev Kh.Ch., Reproductive biology of representatives of the family. “Fan.” Toshkent - 2002.

[2] Balashev N.N., Zeman G.O. "Vegetable science". “Oqituvchi”. Tashkent - 1977.

[3] Balashev N.N., “Gardening”. “Oqituvchi”. Tashkent - 1976.

[4] Belik I.F. “Gardening”. Kolos. Moscow - 1982.

[5] Buriev Kh.Ch., Zuev V.I., Kodirkhuzhaev O., Muhamedov.M.M. "Progressive Technology of Growing Vegetables on the Open Field". “UZMEDIN”. Tashkent-2002.

[6] Buriev Kh.Ch., Selection and seed breeding of vegetables. "Mehnat" Tashkent-1998.

[7] Buriev Kh.Ch., Zuev V.I., Umarov A.A., "Practical training in field planting". "Mehnat." Tashkent - 1997.

[8] Buriev Kh.Ch. Flowering biology and seed productivity of pumpkin crops. Mehnat. Toshkent - 1992.

[9] Buriev Kh.Ch. Inquiry book on gardening. Kolos. Moscow 1984

[10] Rasulov A. "Keeping potato and melon products", "Mehnat", Tashkent - 1995.

UDK 581.4:582.929+581.522

BIOGEOGRAPHY SCUTELLARIA ADENOSTEGIA BRIQ. (LAMIACEAE)

Akbarova Muhayyo Husanovna
Senior Lecturer, Department of Botany, Faculty Natural Sciences of Fergana State University
E-mail: muhayyo-akbarova@mail.ru,

Zhuraev Zukhuridin Nazhmidin oglu,
Biology student, Fergana State University
E-mail: zukhriddin_n@msil.ru

Аннотация: Мақола Scutellaria L. туркуми турлари устида олиб борилган кенг кўламдаги тадқиқотлар тўғрисида қисқача шарх, Фарғона водийсида учрайдиган туркум турлари устида мақсадли тадқиқотлар олиб борилиши кераклиги борасида мунозара, шу билан бирга олиб борилган дала тадқиқотлари, адабиётлар ва гербарий фондларида сақланаётган намуналар асосида Scutellaria adenostegia Briq. турининг Ўзбекистон ботаник-географик районларида тақсимланиши, тарқалишини акс эттирувчи хариталари ҳамда тур тўғрисида қисқача маълумотлар баён қилинган.

Калит сўзлар: Фарғона, водий, таҳлил, ҳудуд, тур, туркум, ареал, гербарий, ботаник-географик район, флора, фонд, харита.

Аннотация: В статье приводится краткий обзор широко масштабных исследований видов рода Scutellaria L., дисскуссия о необходимости проведения целевых исследований видов рода, встречающиеся в Ферганской долине, в том числе о распространение вида Scutellaria adenostegiya Briq. в ботанических и географических районирование Узбекистана на основе проведённых полевых исследований, литература, образцов гербариев, хранящиеся в фондах, изложены краткие сведения о данном виде.

Ключевые слова: Фергана, долина, анализ**,** регион, вид, род, ареал, гербарий, ботанико-географический район, флора, фонд, карта.

Annotation: The article provides a brief overview of large-scale studies of species of the genus Scutellaria L., discussion about the need for targeted studies of species of the genus found in the Ferghana Valley, including the distribution of the species Scutellaria adenostegiya Briq in the botanical and geographical areas of Uzbekistan, based on field studies, literature, herbarium samples stored in the funds, brief information about this species is presented.

Key words: Ferghana valley analysis, region, species, genus, areal, herbarium, botanical and geographical region, flora, fund, map.

Introduction: Currently, a comprehensive study of the flora of the Republic of Uzbekistan, the determination of plant resources, the identification of botanical territories of particular importance, the development of scientific foundations for the conservation of rare and endemic species of the plant world, the development of a national information and analytical database, the inventory of wild plant species that are rare and are on the verge of extinction, monitoring of the Red Book of the Republic of Uzbekistan and the world of vegetation, development of the geographical foundations of introduction and acclimatization plant species promising and cost-effective value creation of a bank of genetic information of rare plants, the study of the dynamics of the devastation in the evolution of vegetation and climate, as well as the development of practical recommendations are the main tasks before the Uzbek botanist scientists.

Identified medicinal and economically beneficial plant resources and assessment of the current state, their fruitful use is considered one of the topical problems of botanist scientists involved in the resources of the plant world. The transformation processes occurring in ecosystems as a result of the influence of biotic, abiotic and anthropogenic factors in nature, in particular, the determination of the composition of species, as well as the study of bio-documentation of plant world objects require special attention.

The protection of plant world objects, the maintenance of the state cadastre, the conservation of biological diversity and its fruitful use is increasing day by day; attention to this direction is increasing 3 in the course of the implemented program measures certain results have been achieved.

These are such as identifying the composition of species of local flora, ensuring the creation of natural conditions and growth, protecting them, determining the reserves of the raw material base of plants, as well as for species of plants that are threatened with extinction, creating *ex-siti* collection conditions, identifying the composition of rare and endemic plant species and mapping of their distribution.

At the present time, a new edition of the flora of Uzbekistan is being published by scientists from the Institute of Botany of the Academy of Sciences of the Republic of Uzbekistan. The state cadastre of higher plants growing in the regions of the republic is being drawn up. The composition of the endemic species of the flora of Uzbekistan has been specifically determined, and most importantly, a reliable list of the highest plants of the flora of Uzbekistan has been drawn up. According to these data, 4,404 species of higher flowering plants are now registered in the flora of Uzbekistan.

Material and methods: These works were directly carried out during field studies, as well as using the results of studying materials from large funds TASH, MW, LE, AA, TAJ, FR and herbariums from the Samarkand and Ferghana State Universities. Names of species are given according to the “Key to Plants of Central Asia” (2015) [2] and the International Plants Names Index (www.ipni.org) [3], The Plant List (www.theplantname.com) [4].

Based on the manual “Authors of Plant Names” R.K. Brummit, C.E. Powell (1992) [5] determined the coordinates of the species using the Google Earth programs, displayed the distribution of GAT maps using the ArcMap 10 programs. Distributed the species among the botanical and geographical areas according to the developed scheme by K.Sh. Tazhibaev and other authors (2016) [6].

Results and discussion: In order to sustainable use of stocks of medicinal plants growing under natural conditions in the flora of Uzbekistan, including the establishment of a plantation of some medicinal plants and in order to increase the volume of processing of raw materials and exports, the Republic adopted Resolution PP-3617 of March 30, 2018 of the President of the Republic of Uzbekistan “On measures to create ferula in the Republic, increase the volume of processing of its raw materials and exports. ” The decree sets the task of creating plantations of plants Ferula tadshikorum Pimenov, Ferula foetida (Bunge) Regel, increasing the volume of processing of their raw materials and exporting.

Along with this, the Decree of the President of the Republic of Uzbekistan “On Approving the Concept of Environmental Protection of the Republic of Uzbekistan” of 10.30.2019 (PP-5863) defines the task of registering natural reserves of medicinal, fodder and technical wild plant species.

Currently, according to the allocated quota from the side of the State Committee of the Republic of Uzbekistan on Ecology and Environmental Protection, over 40 medicinal, fodder and industrial plants are harvested from the natural environment (Hypericum L. St. John's wort, Ziziphora L. zizifora thin, Origanum L. oregano small-flowered and similar species)

In recent years, the chemists of our country have paid considerable attention to the study of the chemical composition of species of the Scutellaria L. group, which are widely distributed in the flora of Uzbekistan. In particular, the studies conducted by A.M. Karimov (2017) [7] and G.U. Siddikov (2018) [8]. In the course of research by scientists from the separated species of Scutellaria L. (S. cordifrons Juz., S. phyllostachya Juz., S. comosa Juz., S.haematochlora Juz., S. immaculata Nevski ex Juz., S. ocellata Juz.) new flavonoids, glycosides and aglycones were recovered. It was determined that these plants with biological activity, such as paracetamol and heliotrin alkaloids, have therapeutic effects on inflammation and poisoning, they are soothing, they keep the blood pressure at the proper level; besides this, the technology of these types of plants suggests the coloring of woolen, semi-woolen, silk and other materials. (Karimov (2017) [7] va G.U. Siddikov (2018) [8].

Registration of the natural reserves of all plant species that are the object of these studies, assessment of the current state of cenopopulations, and also in order to ensure their future stability, develop recommendations on preserving the gene pool, mapping reflecting the distribution of species and vitality, to develop measures for the conservation of species populations in need of protection, research is being carried out on the topic “Bioecological features and natural reserves of species Yes Scutellaria L. (Lamiaceae), common in the Ferghana Valley”.

Field studies conducted in the Ferghana Valley, the study of samples stored in large funds and the results of an in-depth analysis of the available scientific literature show that 12 species of this genus are found in the Ferghana Valley, in the Uzbekistan part of the valley. Of these, Scutellaria adenostegiya Briq. It is comparatively widespread in a wider range and its peculiar population has been revealed.

Currently, over 350 species of Scutellaria L. are distributed on the globe (Paton, 1990) [9]. Species of the genus are widespread on the hills of foothill slopes, mountain belts of Eurasia, it is distinguished from other belts by a high variety of species, in particular, if the regions of Iran-Turan, Central Asia and Afghanistan are considered one of the centers for the appearance of species of the genus, then the eastern part of the coastal territories of the Srezemnoe Sea is considered the second center (Safikhani, 2017) [10].

Species of the genus in the flora of the former union are divided into subgenus: Euscutelleria Brig., Cystaspis Juz., Anaspis (Reching.fil.) Juz. and Apeltanthus (Nevski) Juz. 148 species recorded. In Central Asia, 84 species of the genus are found (Abdullaeva, 1987, 1991) [11]. Of these, 32 species are found in the flora of Uzbekistan (Vvedensky, 1969). Field studies in recent years, and taxonomic changes in the flora of Uzbekistan revealed the presence of 40 species (www.floruz.uz) [1].

In the flora of Kazakhstan, 32 species (Pavlov, 1964) [12], in the flora of Kyrgyzstan, 30 species (Shpota, 1960, Lazkov, 2016) [13], in the flora of Tajikistan, 35 species (Kochkareva, 1986) [14], 7 species are widespread in the flora of Turkmenistan (Shishkin, 1954) [15].

Over the past 10 years, research has begun to be widely carried out around the world to identify new species of this genus, to study the chemical composition and morphology of ontogenesis. But the volume of research on the geography of species, natural reserves, and the current state of cenopopulations is somewhat insufficient.

For science, the identification of new species, relatively larger, is from the flora of Turkey, Iran and China. The main reason for this circumstance is that in these countries, along with the high availability of various species, modern methods are applied qualitatively.

In 2011, Scutellaria ketenoglui M. Cicek & Yaprak, Scutellaria anatolica M.

Cicek & O. Ketenoglu was transferred to the science fund from the flora of Turkey [16], and in 2013, the species Scutellaria hsiehii T.H. was introduced from Tsiny-Hsin Hsieh's Xinyi region of Central Taiwan. Hsieh [17], in 2017 Fei Zhao and others introduced the species Scutellaria wuana C.L. Xiang & F. Zhao from the Xiugan Province of China [18], in 2017 K. Safihani and others conducted complex studies, phylogenetic, morphological, molecular and systematic analyzes of the species Scutellaria multicaulis Boiss., Widespread in the Iranian flora, with this introduced new species of Scutellaria patonii Jamzad & Safikhani, Scutellaria arakensis Jamzad & Safikhani, Scutellaria multicaulis Boiss. subsp. multicaulis var. gandomanensis Jamzad & Safikhani [10].

In Central Asia, including Uzbekistan, until recently, targeted research was not conducted on the distribution of species of the genus Scutellaria L., on the study of ecology, phytocenology, and taxonomy. Only the numbers and names of species studied in floristic studies conducted in recent years in local flora of 18 species in the flora of the Baysun botanical and geographical area (Turginov, 2017) [19], 10 species of the genus in the flora of the Malguzar ridge (Azimova, 2017) [20].

By the degree of distribution of Scutellaria L. species found in the flora of Uzbekistan, the Pamir-Alai and West Tien Shan mountain ranges and their foothill regions stand out. Some species of the genus are found in both zones and the flora of these two zones connects them together. One of these species is Scutellaria adenostegiya Briq.

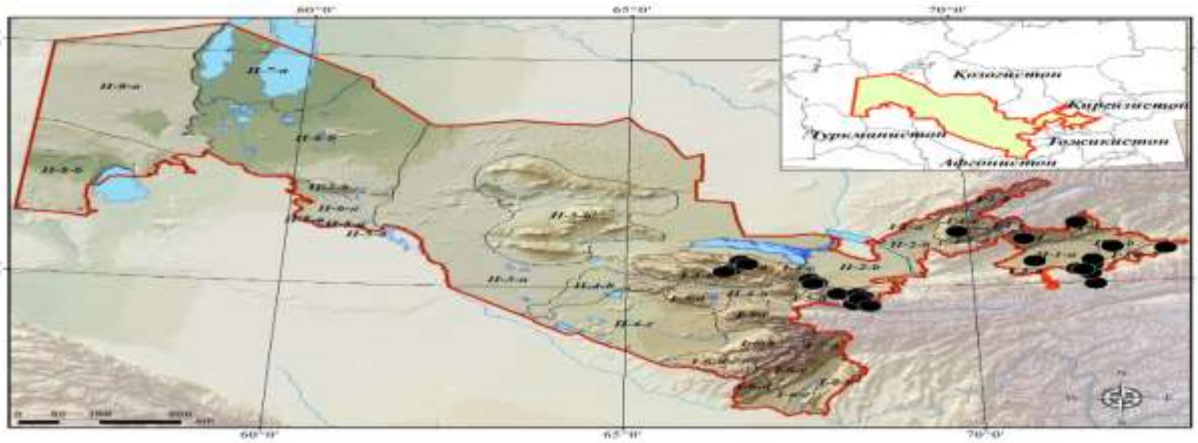
This species was introduced into science in 1907 by John Isaac Brik, described from the southern slope of the Alai ridge bl. Gulchi. Type in Copenhagen, isotype (Paulsen, n ° 386) in Leningrad.

Scutellaria bucharica Jus stands close to this species. The leaves are oblong or more often ovate, with a heart-shaped, dull base, flowers in thick, sometimes elongated hands, on shaggy pedicels, usually significantly exceeding the internodes, distinguishes it from the foregoing.

Scutellaria adenostegiya Briq. shrub with woody stems at the base. The stems are (10) -15-25- (30) cm tall, branched or almost simple, grayish-gray from a curly gun. The leaves are triangular oblong or more often triangular-shaped, island-like, coarse-pilgriminate, edged along the edge, wrinkled from the pressed veins, densely pinned down on top, sometimes almost felted, grayish densely felted on the bottom, short petiolate, upper almost sessile. Bracts are almost membranous, very broad-ovoid, gradually pointed "lower particular denticles, with protruding veins, short densely yellowish and non-ferruginous hairy, with a considerable admixture of long non-ferrous hairs. Flowers in thick, sometimes elongated hands, on shaggy pedicels, usually significantly exceeding internodes. Calyx with fruits of 3-3.5 mm in length, glandular hairy, with an admixture of longer non-gallous hairs; upper lip with a very broad obovate, almost flat appendage, 5-6 mm high, Corolla yellow, sometimes with a purple subsequently lip, densely glandular hairy outside, with a bundle of longer non-galling hairs on the upper lip, 22-25 mm long. Nuts are angular, almost ovoid, mm long., Fluffy. Blossoms in May – June; bears fruit in June – July.

Conclusions: Scutellaria adenostegiya Briq. grows in gravelly and rocky slopes in the lower and middle zones of the Pamirs - Alai, Turkestan, Nurata, Zerafshan, West Tien Shan, Chatkal, Fergana, Mogoltava, Zeravshan, Gissar, Karategin, Peter the Great, Darvazlov, 1987) [11].

A map of the distribution of the species in the botanical and geographical regions of Uzbekistan is shown in Figure 1.



Picture No 1. Map showing the distribution of Scutellaria adenostegia Brq. in the botanical and geographical areas of Uzbekistan.

The distribution of this species among the botanical and geographical regions of Uzbekistan is carried out in the article. Based on the study of the samples stored in the funds, the growth and distribution of Scutellaria adenostegiya Briq is confirmed. in the following botanical and geographical areas of Uzbekistan:

I-1. Western Tien Shan District. I-1-b. West Zapadnachkal district: Chatkal ridge (Chintenboo above the Yangiabad camp site, 1990, Umarov);

I-1-e. Chorkesar district: Kuraminsky ridge (Western Tien Shan. Kuraminsky ridge of the southern slope along the Kyzatasai path, 06.1989, Umarov; Sredn. Tech. Gusshaya. Flat watershed at 1100 m above sea level Mixed variegated steppe with single bushes Amygdalus spinov, 06/14/1963, Bulgakova), Left side of Almaly-Say. On the watershed. The rarefied ephemeral-pyrein assemblage in juniper is rarely a forest on granodiphyte porphyrates.

I-2. Ferghana district. I-2-a. South Chatkal region: Chatkal ridge (Khazratbuva village, upper reaches of Kasansay terrace, 08/04/1930, Skorokhodov, Azatyan 939; (outskirts of Kassan, 07/31/1936, Skorokhodov, Azatyan 893).

I-3 Fergano-Alai District. I-3-a West Alai District: Alai Range (The right bank of the Sokh river, 3 km north of the village of Kshtut, h = 1300 m, 06/10/1984, Khalkuziev, Shermatov, Makhmedov, Gafarov)

I-3.Fergano-Alai District. I-3-b. East Alai District: Alai Range (Bass. Shakhimardan. Surroundings. Yardan Valley, Dugoba-sa River, Pyatayev, Students; Spurs of the Katran-Tau Mountains. Lesson. Selevel. 26.05.1954, Arifkhanova, Pamir-Alai. Western part of the Alai ridge. Surroundings of the village of Vuadyl. 04.29.1965, Shonazarov; District. Village. Shakhimardan).

II-1-b. East Ferghana region: (Ferghana region. Skobelevsky u. Ankhor site. Arpa ravine, returning part of the northern slope, 04/28/1916, Babenko)

I-3.Fergano-Alai District. I-3-b. East Alai District: Alai Range (Surrounding Satkak Village, 05/09/1965. Shonazarov).

I-5. Kuhistan district. I-5-b. Malguzar district: Malguzar range (usher. Sanzar river “Tamerlan gate”, 04/26/1975, Piminov, Baranova).

I-6 West Gissar District. I-6-c Baysunsky district (Spurs of the Southwest Gissar. Baysuntau. Machai-Darya river basin. Neighborhood to / from Darband, O. Turginov)

I-5 Kuhistan District. I-5-a North Turkestan region: Turkestan Range (Bass. R. Khoja-Bakirgan, Burikurmas mountains, 06.06.1984; rivulet Dzhetikupryuk, h = 1540, west-west., 04.06.1984, Khalkuziev, Shermatov, Makhmedov, Gafarov)

As a result of the distribution of the species in the botanical and geographical regions of Uzbekistan, it was found that this species also grows in the Kuramin ridge of the Western Tien Shan mountain system. This applies to the Charkesar bot.

REFERENCES

[1]. floruz.uz [Electronic resource]. - www.floruz.uz

[2]. F.O. Khasanov “Key to plants of Central Asia” (2015)

[3]. International Plant Names Index [Electronic resource]. - URL: www.ipni.org

[4]. The Plant List [Electronic resource]. - URL: www.theplantlist.org

[5]. R.K. Brummit, C.E. Powell “Authors of Plant Names” (1992)

[6]. Tazhibaev K.Sh., Beshko N.Yu., Popov V.A. Botanical and geographical zoning of Uzbekistan. Botanical journal T. 101. 2016.

[7]. Karimov A.M. Flavanoids of 4 plants that are the member of the Scutellaria L. specie growing in Uzbekistan: Dis. Cand. Biol of Sciences. - Tashkent: 2017.

[8]. Siddikov G.U. Second metabolits of plants S.Phyllostachya and S.Cordifrons, member of the species Scutellaria L. growing in Uzbekistan: separation, chemical structure and biological activity&:Dis. Cand. Biol of Sciences. - Ferghana: 2018.

[9]. Paton, A. 1990. A global taxonomic investigation of Scutellaria (Labiatae). Kew Bull. 45: 399-450.
[10]. Safikhani, Z. Jamzad & H. Saeidi Taxonomic revision of Scutellaria multicaulis (Lamiaceae) species complex in irank. // Iranian journal of botany 23 (1), 2017
[11]. Abdullaev M.N. Genus Scutellaria L. - Scutellaria. Key to plants of Central Asia. - Tashkent .: Fan, 1987.T. IX. S. 13-37.
[12]. Pavlov N.V. - Flora of Kazakhstan. T. 7. Alma Ata - 1964.
[13]. Shpota E.I. - Flora of the Kyrgyz SSR.t 9. Frunze 1960.
[14]. Kuchkarova T.F. - Flora of the Tajik SSR. T. 8. 1986.
[15]. Shishkin B.K. - Flora Turkmenistan.t 6. Ashgabat 1954.
[16]. Mehmet Cycek, Ahmet Emre Yaprak A new natural hybrid of Scutellaria (Lamiaceae) from Turkey // Phytotaxa, 2011, Vol. 29: pp. 51–55.
[17]. A new species of Scutellaria (Scutellarioideae, Lamiaceae) from Taiwan. DOI: 10.6165 / tai. Taiwania, 58 (4): 242-245,2013.
[18]. Zhao et al. A new species of Scutellaria (Scutellarioideae, Lamiaceae) from Sichuan Province in southwest China. PeerJ, DOI, China 2017.10 / 7717 /peerj.3624.
[19]. Turginov O.T. “Flora of the Baysun Botanical and Geographic Area”: Dis. Cand. Biol of Sciences. - Tashkent: 2017.
[20]. Azimova D.E. “Flora of the Malguzar Range” // author. can diss. Tashkent. 2018.

UDC: 536.658:541.183

ADSORPTION ETHANOL IN $H_{3,25}$ZSM-5 ZEOLITE

Yuldosh Yakubov
PhD, Institute of General and Inorganic Chemistry, Academy of Sciences of the Republic of Uzbekistan
E-mail:yuldoshyakubov@mail.ru

Annotasiya: 303 K da Tian-Calvet tipidagi mikrokalorimetr o'lchov tizimi bilan $H_{3,25}$ZSM-5 zeolitida etanol adsorbsiyasining differentsial issiqligi va izotermalari o'lchangan. Olingan ma'lumotlarga asoslanib, $H_{3,25}$ZSM-5 zeolit matrisasida $(C_2H_5O)n/H^+$ komplekslarning shakllanishi va etanol adsorbsiyasini mexanizmi aniqlangan. Adsorbtsiya izotermasi qiymatlari MHTN tenglamasi bilan tavsiflandi.

Кalit so’zlar: Adsorbsiya differensial issiqligi, adsorbsiya izotermasi, adsorbsiyaning differensial molli entropiyasi, kinetika, цеолит $H_{3,25}$ZSM-5, adsorbsiya kalorimetriyasi.

Аннотация: Дифференциальные теплоты и изотермы адсорбции этанола в цеолите $H_{3,25}ZSM$-5 были измерены микрокалориметром и объемной системой типа Тиана-Кальвета при 303 К. На основании полученных данных, механизм адсорбции этанола и $(C_2H_5O)n/H^+$ выявлено образование комплексов в цеолитной матрице $H_{3,25}ZSM$-5. Изотерма адсорбции обработана уравнениями ТОЗМ.

Ключевые слова: Адсорбция дифференциальная теплота, изотерма адсорбция, адсорбция дифференциальная мольная энтропия, кинетика, $H_{3,25}ZSM$-5 цеолити, адсорбцион калориметрия.

Abstract: Differential heats and isotherms of ethanol adsorption in a zeolite $H_{3,25}ZSM$-5 have been measured by Tian-Calvet-type microcalorimeter and volumetric system at 303 K. Based on the data obtained, the mechanism of ethanol adsorption and $(C_2H_5O)n/H^+$ complexes formation in the zeolitic matrix of $H_{3,25}ZSM$-5 is revealed. The adsorption isotherms are quantitatively reproduced by VOM theory equations.

Keywords: Differential heats of adsorption, isotherm of adsorption, differential molar entropy of adsorption, kinetics, zeolite $H_{3,25}ZSM$-5, adsorption calorimetric.

Introduction: At present, nonporous molecular sieves, zeolites, are one of the most demanded materials for selective adsorption and separation in the world. They are of interest because of the ability to control their texture (pore size and architecture), chemical properties (Si / Al ratio) and the nature of extra-lattice cations, which affect the adsorption and catalytic properties of crystalline materials, controlled by the structure, number and nature of the active centers[1].

Literature Review: Previous studies of the adsorption of ethanol in defective silicalite [2,3,4], synthesized using a quaternary ammonium base, showed that real silicalite crystals have defects in the form of hydroxyl groups that chemically interact with alcohols to form surface alkoxyl groups and the presence of insignificant actual amount of impurities consisting of cations [4,5,6].

Methodology: Adsorption studies were carried out with zeolite $H_{3.25}ZSM$-5. There are HZSM-5 with composition of elementary units of $H_{3,25}Al_{3,25}Si_{92,75}O_{192}$. The polar ethanol molecule were selected as adsorptives [7]. Adsorption-calorimetric method is used in this paper and provided a high-precision molar thermodynamic characteristics of adsorption systems and through them were revealed the mechanism of adsorption processes occurring in the adsorbent. The microcalorimeter Tian-Calvet-type was used with high accuracy and stability as a calorimeter [8, 9].

Experimental Results: The differential heats of ethanol adsorption on zeolite $H_{3,25}ZSM$-5 are shown in Fig. 1. Q_d of ethanol, as well as in the case of methanol significantly overestimated (reaching 135 kJ/mol), in the initial filling region (up to 0,52 mmol / g) . The Q_d curve of ethanol on $H_{3,25}ZSM$-5 zeolite has four sections: the first is in the filling region from 0 to 0,55 mmol / g, ethanol molecules are adsorbed with increased heat, and Q_d drops from 136,6 to 86,78 kJ / mole; the second is in the region from a = 0,55 to ~ 1.1 mmol / g, where ethanol molecules are adsorbed with constant heat of ~ 86,78-59,8 kJ / mol; the third – in ranges from a = 1,1 to 1,53 mmol / g, the Qd curve forms two plateaus (-59,8 kJ / mol and ~ 58,7 kJ / mol) and falls from 58,7 to ~ 66,12 kJ / mol at a = 1,87 mmol / g; and finally, the fourth - in the region from a = 1,87 to 2,42 mmol / g, where the heats are constant and equal to ~ 53,84 kJ / mol. Next, the Q_d curve passes through a small maximum (~ 53,7 kJ / mol) at ~ 2,49 mmol / g, and then drops to the heat of condensation at a ~ 2,62 mmol / g. The presence of a maximum on the Q_d curve of ethanol is due to the intermolecular interaction of the adsorbed molecules with each other. As in the case of methanol, the Q_d curve has.

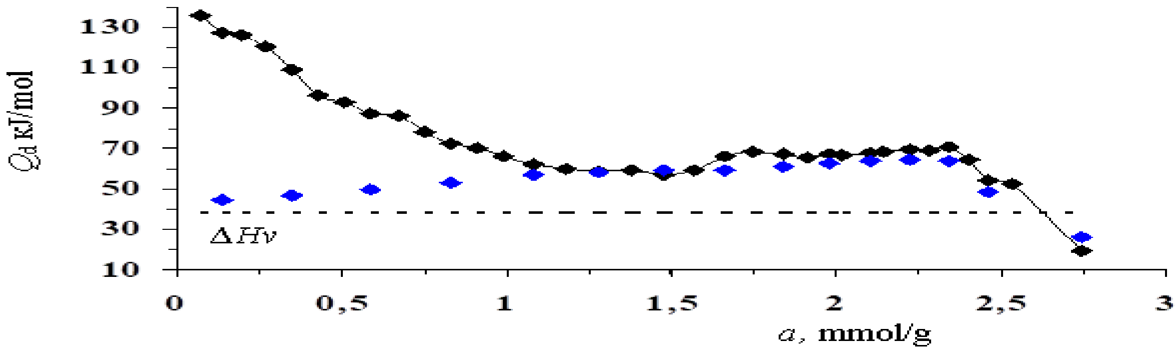


Fig- 1. Differential adsorption heat of ethyl alcohol in zeolite $H_{3,25}$ZSM-5 at 303 K. Horizontal dashed line - heat condensation at 303 K. Blue points adsorption heat of ZSM-5 without cations.

Stepped view, although the 4th step is smoothed. Adsorption of 2,62 mmol / g of ethanol corresponds to the specific interaction of ethanol with hydrogen cations. Further, adsorption proceeds in the remaining volume of zeolite channels. From the considered differential heats of adsorption of polar molecules of water, methanol and ethanol, it is seen that the change in heats is stepwise, which indicates a discrete homogeneity of the $H_{3,25}$ZSM-5 zeolite cavities.

The differential heats of ethanol adsorption are on average ~ 10 - ~ 12 kj / mol higher than the Qd of methanol on $H_{3,25}$ZSM-5, which corresponds to the increment of heat on the CH2 group. The ethanol adsorption isotherm on the $H_{3,25}$ZSM-5 Neolithic and the triggers developed along the relative pressure axis of its part are shown in Fig. 27. The isotherm is brought to almost saturation (a = 2,62 mmol / g at P / Ps = 0,63) . About the same amount of ethanol is adsorbed on HZSM-5 zeolite (Si / Al = 28,5) at room temperature.

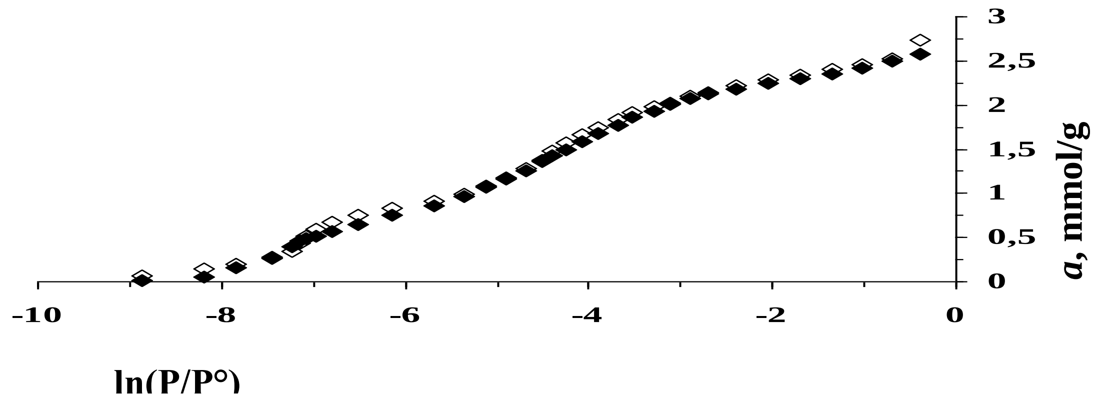


Fig. 2. Ethanol adsorption isotherm in zeolite $H_{3,25}ZSM$-5 at 303K.
▲ experimental data
Δ calculated using the theory of micropore volumetric filling (VOM)

In the initial filling region, the adsorption isotherm is convex, as well as in the case of methanol (Fig. 2), indicating the existence of strongly interacting adsorption centers. Further, the isotherm has an inflection at a ~ 2.63 mmol / g.

If we take the density of ethanol in zeolite the same as that of a normal liquid at the test temperature and calculate the volume occupied by ethanol molecules at saturation, it turns out that ethanol fills the channels of $H_{3,25}ZSM$-5 by ~ 92%. Thus, the sorption volume of zeolite calculated from the adsorption of ethanol and methanol is the same and equal to 0.169 cm^3 / g. The adsorption isotherm of ethanol on zeolite $H_{3,25}ZSM$-5 is described by the two-term equation of VOM from small fillings to ~ 2,74 mmol / g: $a = 0{,}513\exp[-(A / 20{,}32)^8] + 0{,}804\exp[-(A / 15{,}89)^{10}] + 0{,}45\exp[-(A / 14{,}35)^2]$ (1)

Figure 2 shows the isotherm of ethanol adsorption on $H_{3,25}ZSM$-5 in semi-logarithmic coordinates. As can be seen from the figure, the experimental data are in good agreement with the calculated ones[10].

The molar differential entropy of ethanol adsorption on zeolite $H_{3,25}ZSM$-5, has a wavy appearance, deposited from the entropy of liquid ethanol.

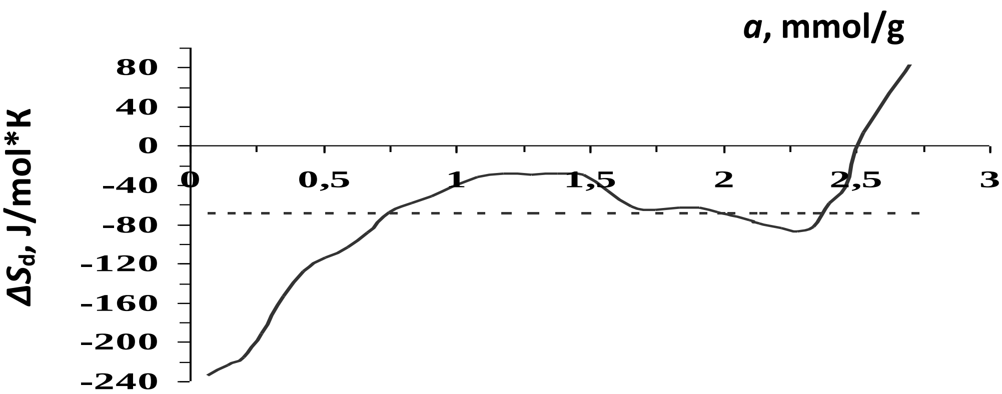


Fig. 3 - Differential mole entropy of ethyl alcohol adsorption in zeolite $H_{3,25}ZSM$-5 at 303 K. The dashed line is the mean-size integral entropy. Entropy of liquid ethyl alcohol is taken as zero

The dependence of the time for the establishment of adsorption equilibrium on filling is shown in Fig. 4. It can be seen that up to an adsorption value of 0,27 mmol/g, the process proceeds slowly (on average, т = 9-10 h).

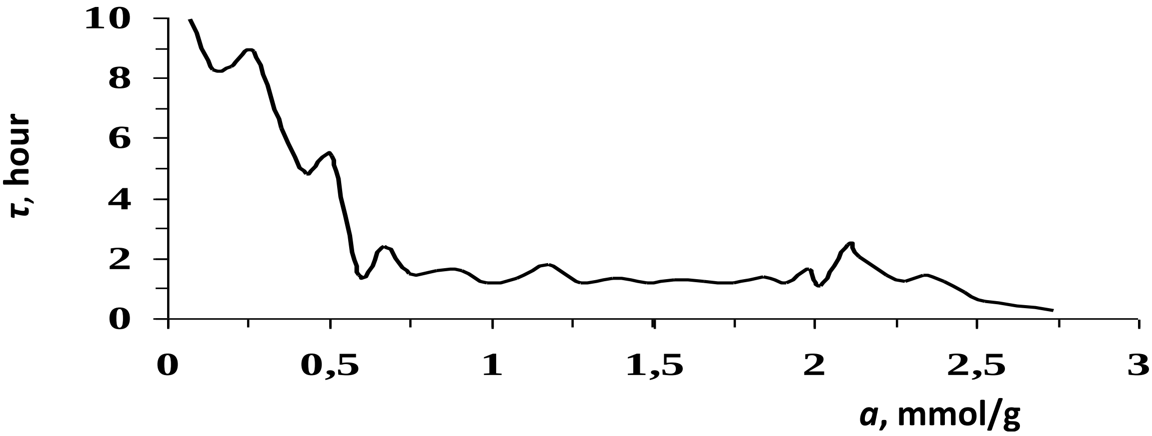


Fig. 4. The time to establish adsorption equilibrium depending on the amount of ethanol adsorption in zeolite $H_{3,25}$ZSM-5 at 303K.

Conclusion: First in this scientific work there have been presented the precision data of isotherms and complete thermodynamic behaviours (ΔH, ΔF and ΔS) adsorption of ethanol in HZSM-5 zeolite, secondly as well as accordance of trinomial equations on theory of volume filling of micro pores (VOM) by stepped behaviour has been proved. Based on the above scientific results, the following is considered: There has been established the stepped behaviour of adsorption heat of ethanol with mutual adsorptive correlation of high stages of H^+ heat in the zeolites.

References

[1]. Rakhmatkarieva F. G. Adsorption-calorimetric determination of the properties of ion-molecular complexes in the synthetic zeolite // Izv. diss. doc. , 2018.pp. 45-50. (in Russian)

[2]. Yakubov Y. Yu. Thermodynamics of the formation of ion-molecular complexes in zeolites HZSM-5.//Izv. diss. cand, 2017.pp. 39-50. (In Rissian)

[3]. Dubinin M. M., RakhmatkarievG. U., Isirikyan A. A.// "Izvestia Akademysciens" USSR. Ser. chem. 1989. No. 9. p. 2117. (in Russian)

[4]. Дубинин М.М., Рахматкариев Г.У., Исирикян А.А. Дифференциальные теплоты и изотермы адсорбции спиртов на силикалите //Изв. АН СССР., Сер.хим. -1989. -№9. -С.2117-2120.

[5]. Дубинин М.М., Рахматкариев Г.У., Исирикян А.А. Теплота адсорбции метанола и этанола на высококремнистых цеолитах ZSM-5 и силикалите. //Изв. АН СССР. Сер. хим. -1989.- № 11. -С.2633-2635.

[6]. Рахматкариев Г.У., Рахматуллаева Т.К., Файзиева Н.Ш. ИК-спектро-скопическое исследование адсорбции метанола на силикалите. //Узб.хим.жур. -1997. -№4. –С. 13-16.

[7]. Akhmedov K.S., Rakhmatkariyev G.U., Dubinin M.M., Isirikyan A.A. Heat of methanol adsorption on ultra -high-silicon zeolite silicalite. Изв. ACADEMY OF SCIENCES OF THE USSR.It is gray. Hem., 1987. № 8.pp 1717.
[8]. Yakubov J. Yu. Thermodynamics of ion-molecular formation Complexes in zeolite HZSM-5. Abs. yew. Kand, 2017.pp 10-19.
[9]. Rakhmatkariyev G.U., Kurbanov S.D. Energy of adsorption of methanol and water on silicalite. Изв. Tashkent-2007. Republican Science and Technology Conference.pp 159-160.
[10]. Dubinin M.M. Progress in Surface Membrane Science, New York 1975.Vol. 9.pp. 1-70.

UDC 547.362

AN OBTAINMENT OF SINGLE-ATOMIC UNCERTAIN ALCOHOLS ON THE BASE OF ACETHYLENE AND PHENYL ACETHYLENE AND THEIR BROMINATION

Kultaev Kuzibay Kazakbayevich,
Tashkent state pedagogical university named after Nizami, faculty of Natural Sciences, department of Chemistry and Methods of its Teaching, associate professor,
E-mail: Kultayev60@.bk.ru

Turgunov Erkhan,
National university of Uzbekistan named after M.Ulugbek, faculty of Chemistry, department of General and Oil – Gas of Chemical Chemistry, associate professor,
E-mail: erxon1955@yandex.ru

Аннотация: Ацетилен спиртлари ва фенилацетилен халқ хўжалиги учун зарур бўлган - суньий полимерлар, фармакологик препаратлар, қишлоқ хўжалигида пестицидлар, дефолиантлар, ўсимликлар стимуляторлари синтез қилиш учун бошланғич моддалар ҳисобланади. Ушбу мақолада ацетилен ва фенилацетилен асосида ацетилен спиртларининг синтези ўрганилди, уларнинг юқори унум билан хосил бўлиш шароити аниқланди, олинган иккиламчи ва учламчи спиртларнинг тузилиши физикавий усуллар - нур синдириш кўрсаткичи, зичлиги, қайнаш температураси, суюқланиш температураси ва спектрал анализ асосида тасдиқланди. Олинган ацетилен спиртларни кимёвий хоссаларини ўрганиш мақсадида уларнинг таркибидаги ацетилен боғига галогенларни бирикиш реакцияси тадқиқ қилинди. Иккиламчи ва учламчи спиртларда гидроксил гуруҳи томон электрон булутини зичлиги силжигани туфайли спирт молекулари қутбланган. Уларни таркибидаги тўйинмаган боғга галогенларни таъсири электрофиль хужум орқали амалга ошади. Амалга оширилган реакциялар натижасида синтезланган галогенгидринлар транс- ва цис-фазовий шакллари мавжуд бўлиб, дастлаб жараён π-комплекс ҳосил бўлиши орқали амалга ошади. Олинган галогенли хосилалар рангсиз суюқликлар бўлиб, вақт ўтиши билан (бромли хосилалар) қўнғир рангли суюқликка айланади, уларнинг тузилиши ИҚ- ва ПМР-спектрлар ёрдамида тасдиқланди. Галогенли бирикмаларнинг нур синдириши, зичлиги, қайнаш температураси каби ўзгармас константалари, ҳамда унуми аниқланди. Махсулот унумининг эритувчи табиатига боғлиқлиги тасдиқланди.

Калит сўзлар: диметилэтинилкарбинол, фенилдиметилэтинилкарбинол, гексин-1-ол-3, диметилкетон, мусбат индуктив эффект, инфрақизил спектр, парамагнит резонанс, валент тўлқин тебраниши, деформацион тўлқин функция, фазовий изомер, конденсатланиш реакцияси.

Аннотация: цетиленовые спирты и фенилацетилен позволяют синтезировать необходимые вещества для химической промышленности - синтетические полимеры, фармакологические препараты, сельскохозяйственные пестициды, дефолианты, стимуляторы растений. В данной статье исследовали синтез третичных спиртов на основе ацетилена и фенилацетилена, определены условия их высокой продуктивности, структура вторичных и третичных спиртов, и подтверждены физическими параметрами. Определены показатель преломления света, плотность, температура кипения и продуктивность. Молекулы спирта поляризуются из-за сдвига плотности электронного облака в сторону гидроксильной группы во вторичных и третичных спиртах. Их влияние на галоген происходит путем электрофильного присоединения. Существуют транс- и цис-пространственные формы производных галогенов, которые начинаются с образования π- комплекса. Галогенные образования представляют собой бесцветные жидкости, а бромные образования со временем превращаются в черную жидкость. Структура галогеновых соединений подтверждена ИК- и ПМР-спектрами. Определены постоянные галогеновых соединений, такие как преломление света, плотность и температура кипения. Установлено влияние природа растворителя на выход продукта .

Ключевые слова : диметилэтилкарбинол, фенилдиметилэтинилкарбинол, гексин-1- ола-3, диметилкетон, положительной индукционной эффект, инфракрасный спектр, парамагнитная резонанс, волновые валентные колебания, деформационные волновые функция, пространственные изомер, реакция конденсатции.

Abstract. Acetylene alcohols and phenyl acetylene allow synthesizing the necessary substances for the chemical industry - synthetic polymers, pharmacological preparations, agricultural pesticides, defoliants, plant stimulants. We investigated the synthesis of tertiary alcohols on the base of acetylene and phenyl acetylene, the conditions for their high productivity, the structure of secondary and tertiary alcohols were determined, and confirmed by physical parameters. The refractive index of light, density, boiling point and productivity were defined. Alcohol molecules are polarized due to a shift in the density of the electron cloud towards the hydroxyl groups in secondary and tertiary alcohols. Their influence to halogen occurs through electrophilic addition. There are trans- and cis-spatial forms of halogen derivatives, which are began with the formation of the π-complex. Halogen formations are colorless liquids, and bromine formations turn into a black liquid over time. The structure of halogen compounds is confirmed by IR and PMR spectra. The constants of halogen compounds were determined, such as light refraction, density and boiling temperature. The influence of the nature of the solvent to the output of product was established.

Keywords: dimethylethylcarbinol, phenyldimethylethynylcarbinol, hexin-1-ol-3, dimethylketone, positive induction effect, infrared spectrum, paramagnetic resonance, valence wave vibrations, deformation wave function, spatial isomer, condensation reaction.

Introduction. Acetylene homologs and aromatic hydrocarbons in chemical industry in production are used as organic colorants, synthetic detergents, plastics and insecticides in agriculture, as well as solvents [1]. The presence of a carbon atom which contains a triple bond in the benzene ring, allows to obtain valuable semi productions as a result of chemical changes in organic synthesis [2].

[1]. Melnikov N.N., Baskakov Yu.A. Chemistry of herbicides and plant regulators. – Moscow, 1962.

[2]. American patent 2584420. Chem. Abstracts, 1952, 46, 9605.

Aromatic hydrocarbons have great prospects in this area. Acetylene alcohols and their halogen derivatives are very important substances on chemical and physiological properties. Pesticides, medicines, bactericides, stimulants and inhibitors were received among these substances [3, 4, 5]. The synthesis of such substances, which contain various substituents in their molecules, in this position, the research of various functional derivatives of acetylene, has theoretical and practical significance. It creates the facility to synthesize a new group of unsaturated multifunctional organic compounds. However, there is no literature on the formation and physiological activity of such substances, which contain an aromatic ring and halogen in the molecule [6]. In the phenyl acetylene molecule, the electron clouds are unevenly distributed, they shift from the phenyl radical to the triple bond. This is due to the hybridization of the carbon atom. In the series of sp2, sp - hybridization increases the electronegativity of the carbon atom. Carbon in the phenyl radical has a state of sp^2 - hybridization, and there is sp in the ethynyl radical. Monosubstituted derivatives of acetylene due to the positive induction effect of the electron-donor radicals (+ I), the electron cloud of triple bond shifts towards carbon, the final carbon atom, which is a non-containing radical and this carbon atom is negatively charged. This condition facilitates the exchange reaction and electrophilic addition.

The Main Part. The reactions of monosubstituted acetylene derivatives with carbonyl compounds were studied in 1900 by Russian academician A.E. Favorsky. The interaction of aldehydes and ketones with acetylene, including phenylacetylene, occurs in a suspension of potassium hydroxide in completely dry diethyl ether. This reaction is common for the synthesis of secondary and tertiary acetylene alcohols:

$CH \equiv CH + O = CRR' + KOH \longrightarrow CH \equiv C\text{-}OH(RR')$, where $R = R' = -CH_3$;

$R = -CH_3$, $R' = -C_2H_5$; $R = -H$, $R' = -C_3H_7$; $R = -H$, $R' = \text{-iso-}C_3H_7$,

$R\text{-}C \equiv CH + O = CRR' + KOH \longrightarrow R\text{-}C \equiv C\text{-}COH(RR')$,

where $R = -C_6H_5$, $R = R' = -CH_3$; $R = -C_6H_5$, $R = -CH_3$, $R' = -C_2H_5$

On Favorsky, reaction synthesizes aliphatic, alicyclic, aromatic and heterocyclic acetylene and diacetylene alcohols and glycols, hydroxy acids and amino alcohols. Isoprene, obtained on the basis of acetylene alcohols is the starting material for the production of synthetic rubber in production.

The main purpose of this work is to obtain tertiary and secondary acetylene alcohols, studying their physicochemical properties and synthesize on the base of their halohydrins.

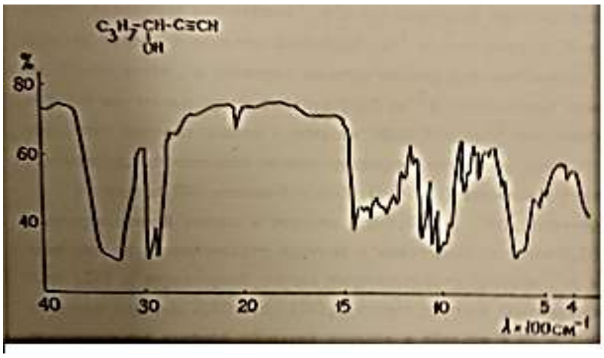
The experiments were carried out in a 2000 ml three-necked volumetric flask, equipped with a mechanical stirrer, reflux condenser, thermometer and dropping funnel. 200 g of a mass of a ground suspension of potassium hydroxide in 1000 ml of absolute diethyl ether were prepared, the flask was cooled at - 5° -10 °C and the purified acetylene was passed under stirring. Gaseous acetylene was obtained in an autoclave by the reaction of hydrolysis of calcium carbide and dried from mois-ture, passing it through concentrated sulfuric acid. The reaction continues for 10 hours, and during this period, 100 ml of acetone are added drop by drop from a dropping funnel. To decompose the yellow potassium complex salt of dimethyle- thynylcarbinol into alcohol, 100 ml of water are added drop by drop from a drop -ping funnel. The ether portion is separated, and the aqueous portion is extracted several times with diethyl ether. The ether portion, containing dimethylethynylcar-binol is dried from water with dry calcium chloride, and the formed acetylene alcohol is separated by distillation.

The synthesis of acetylene alcohol was carried out in a three-necked flask with a volume of 300 ml, by equipped with a thermometer, stirrer and reflux condenser. To do this, we prepared a suspension of 20 g of potassium hydroxide and 250 ml of dried diethyl ether in a flask. It cools the flask outside with ice, insist at 50 ° C, and with vigorous stirring of the mixtures, begins to drip the mixture of 5.8 g (0.1 mol) of dimethyl ketone and 5.6 g (0.055 mol) of phenylacetylene at 8-10 ° C during 8-10 h. The reaction mixture is cooled with ice and hydrolyzed with 100 ml of water. The ether portion is separated, the aqueous portion is extracted several times with ether. The ether portion is dried with potash. The ether is distilled and the resulting alcohol is distilled into a Kleisen flask with a reflux condenser by 25 cm high.

The condensation reaction of acetylene with aldehydes and ketones proceeds under the conditions of Favorsky reaction with a high output of 60 -70%. The output of tertiary alcohols in counting to phenylacetylene is 65-75%. The achievement of high outputs of acetylene alcohol depends on the activation of the reaction environ, which is 74.3% as a result of adding ethanol or normal butanol to the reaction mixture (1.0% with respect to the amount of potassium hydroxide). Here, alcohols act as carriers of potassium ions. The reaction proceeds with the formation of a complex "solvent - acetylene-potassium hydroxide". The nature of the solvent plays a major role in the formation of this complex.

The structure of the received substances was confirmed by infrared spectroscopy (IR). In the IR-spectrum of n-propylethynylcarbinol (Fig. 1), valence vibrations of the methyl and methylene groups are observed at 3000-2800 cm^{-1}, and valence vibrations of the C-O groups absorb at 1200-1000 cm^{-1}, and C≡C groups give absorption at 2200-2100 cm^{-1}, the absorption line of valence vibrations of the ≡C - H groups correspond to the acetylene group of 3315 cm^{-1}. A wide line in the range of 3450–3000 cm^{-1} represents the vibration of valence vibrations of the OH - groups. In addition, the absorption line, characteristic of deformation vibrations of the methylene group is presented in the region of about 1400 cm^{-1}. It should be noted that the absorption line of 3450–3000 cm^{-1} of the spectrum shows the characteristic lines belonging to the hydroxyl group (OH-).

In the PMR ^1H spectrum of n-propylethynylcarbinol (Fig. 2), the triplet signal corresponding to the methylene group presents at 0.9–1.0 m.p. (6H).



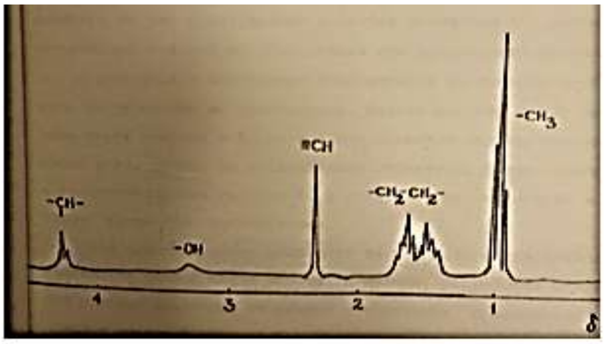


Fig.1. IR – spectrum n-propylethynylcarbinol

Fig.2. PMR- spectrum n-propylethynylcarbinol

The signal, corresponding to the protonacetylene groups, appears at 2.25 m.p. with a chemical shift. (1 H), and the signal, corresponding to the proton of the hydroxyl group is 3.20 m.p. (1H), the proton of the groups of C - H interacts with the hydroxyl group with forming 4.25 m.p. in triplet form, and the displacement belonging to the proton of the methylene groups is expressed from 1.5 to 1.7m.p.

The IR spectrum of the synthesized dimethylethynylcarbinol (Fig. 3) and the PMR 1 H-spectrum (Fig. 4), the PMR 1H spectrum 1-phenyl-3-methylbutin-1-ol-3 (Fig. 5) completely confirm their chemical structure.

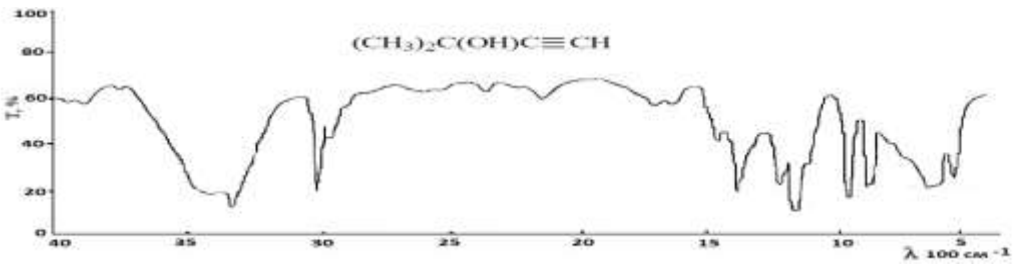


Fig.3. IR-spectrum dimethylethynylcarbinol.

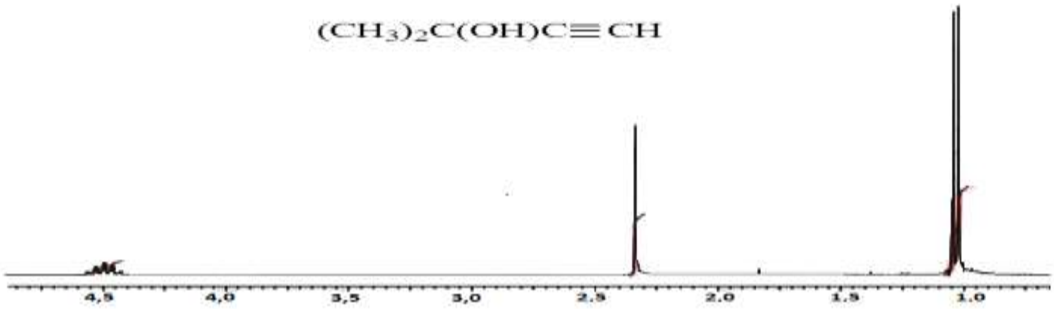


Fig.4. PMR 1H – spectrum dimethylethynylcarbinol

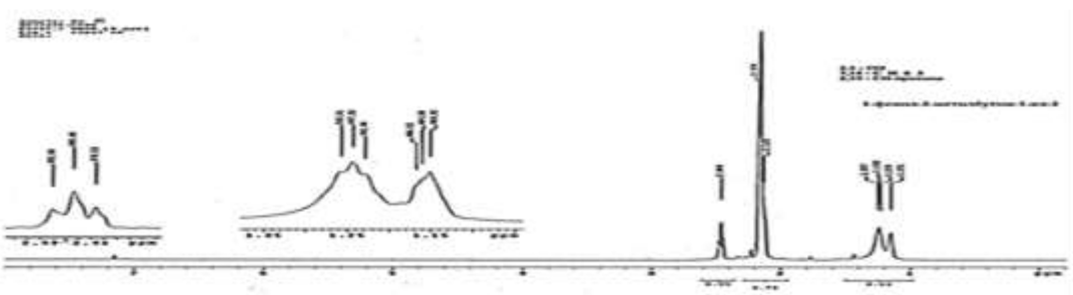


Fig.5. PMR 1H- spectrum 1-phenyl-3-methylbutin-1-ola-3

Physico-chemical characteristics of acetylene compounds

No.	Name of substance	Molecular mass	Temperature melting, °C	Boiling temperature, °C	n^{20}_{d}	Density, g/ ml d^{20}_{n}	Output, %
1	Phenylacetylene	102,14	-44,8 °C	141,7°C	1,5492	0,9281	75
2	Dimethylethynylcarbinol	84	-	102-104 °C	1,4211	0,8611	68
3	Methylethyl-ethynylcarbinol	98	-	118-122°C	1.4310	0,8692	15 - 97
4	H-propyl-ethynylcarbinol	97	-	87-88/ 10 mm. m.c. (mercury column)	1,4350	0,8710	75,9
5	Isopropylethynylcarbinol	97	-	133-134	1,4352	-	68,1
6	1- phenyl- 3-methyl-butin-1-ol -3	160	-	147	1,4560	1,9320	74.1
7	1- phenyl-3-methyl pentin-1-ol-3	174	161-162	-	1,4887	1.1658	66,2

An analysis of published materials shows that the optimal conditions for the formation of acetylene alcohols in the reaction of condensation of acetylene and its derivatives with carbonyl compounds are poorly studied. Besides, information on the synthesis of acetylene alcohols and their derivatives, chemical properties, physical and chemical constants and properties, as well as the use of products derived from them were insufficient now. Tertiary acetylene alcohols have polar bonds of O - H and O - C and unallocated electron pairs. The chemical properties of acetylene alcohols are due to hydroxyl (OH-) and ethynyl groups (-C≡C-). Simple chemical properties in such compounds are manifested in the presence of a hydroxyl groups, where the ethynyl group is considered neutral and it does not matter. However, under the influence of strong electrophilic reagents, the ethynyl group can react in the same way as the hydroxyl group [9, 10]. Acetylene alcohols do not have a pronounced acidity, they are less acidic than the limit. This is due to the donor property of methyl groups (effect +

I), that the electron density accumulates in the oxygen atom. Anion of tertiary acetylene alcohol has strong basic properties.

Acetylene alcohol bromination reaction.

The bromination reaction of dimethylethynylcarbinol was carried out in a non-polar solvent, which in tetrachloride carbon in the presence of a light emitting lamp for 5-6 hours with stirring with a magnetic stirrer at room temperature. As a result of gas chromatographic analysis, it was found that the product consists of mixtures of cis and trans-dibromohydrins. The output of dibromo derivatives depends on the nature of the solvent, polar (50% acetic acid can also be used) or a nonpolar molecule of solvent, concentration of solvent and temperature. At high temperatures (above 25 °C), trans-dibromo derivatives are formed, and at low temperatures (-50 °C) cis-dibromisomers are formed.

Physico-chemical characteristics of the reaction products

No.	Name by systematic nomenclature	Output, %	Boiling temperature , °C	n^{20}_D	D^{20}_n
1	Trans-1,2- dibromo-3-methylbutene-1-ol-3	74,2	76 -77/ 7 mm. m.c.	1,5469	1,8551
2	Trans-1,2-dibromo-3-methylpentene -1-ol-3	70,1	94-95/10 mm. m.c.	1,5392	1,7472
3	Trans-1.2-di-bromhexene-1-ol-3	53-54	120-122/7 mm. m.c.	1,5320	-
4	Cis-1,2-dibromo-3-methylbutene-1-ol-3	63,4	79 -80/6 mm. m.c.	1,5416	1,8451
5	Cis-1,2-dibromo-3-methylpentene -1-ol-3	72,5	68 - 69 /9 mm. m.c.	1,5388	1,7372
6	Cis-1.2-di-bromhexene-1-ol-3	43- 44	129 -130 /7 mm. m.c.	1,5172	-
7	Trans -1.2 - di bromo-1-phenyl-3- methylbutene-1-ol -3	52	79-80/8 mm. m.c.	1,5564	1,5564
8	Cis -1,2- dibrom-1-phenyl-3-methylbutene-1-ol -3	8	70-71/7 mm. m.c.	1,5514	1,7345

The structure of the received substances was confirmed by infrared (IR) and PMR methods. The valence vibrations of the methyl and methylene groups in the synthesized molecules of trans-1,2-dibromo-3-methylbutene-1-ol-3 are in the range of

3000 - 2800 cm^{-1}, the valence vibrations of the C-O groups make up 1200-900 cm^{-1}, the line of absorption groups of - C = C for the trans-isomer is 1680-1640 cm^{-1}, for the cis-isomer at 1665-1635 cm^{-1}, = C-H valence vibration of the C-H bonds appears at 3095 -3010 cm^{-1} , and deformation vibrations of which are manifested at 1420 - 1290 cm^{-1}. The valence vibrations of the C-Br groups are visible on the characteristic absorption line at 1080-1000 cm^{-1} and 700-500 cm^{-1}. It should be noted that the absorption line of 3450–3000 cm^{-1} of the spectrum shows the characteristic lines, belonging to the free hydroxyl group (OH-). For a monosubstituted benzene ring, an absorption corresponds in the region of 1175-1125 cm^{-1} and strain absorption in the region of 770-730 cm^{-1}.

In the PMR spectrum, synthesized by trans-1,2-dibromo-3-methylbuten-1-ol-3, the triplet signal, corresponding to the methyl group presents at 0.9–1.0 m.p. (6H). = C – H signal for the proton in the C – H group has with a chemical shift to the trans state at 6.86 m.p. (1H) and to the cis-state at 6.75 m.p. (1H). In the signal, corresponding to the proton (1 H) hydroxyl group with a chemical shift of 3.20 m.p. (1H) is expressed in distances of 7.4-7.8m.p., and there are signals, specific for protons in the phenyl ring (5H).

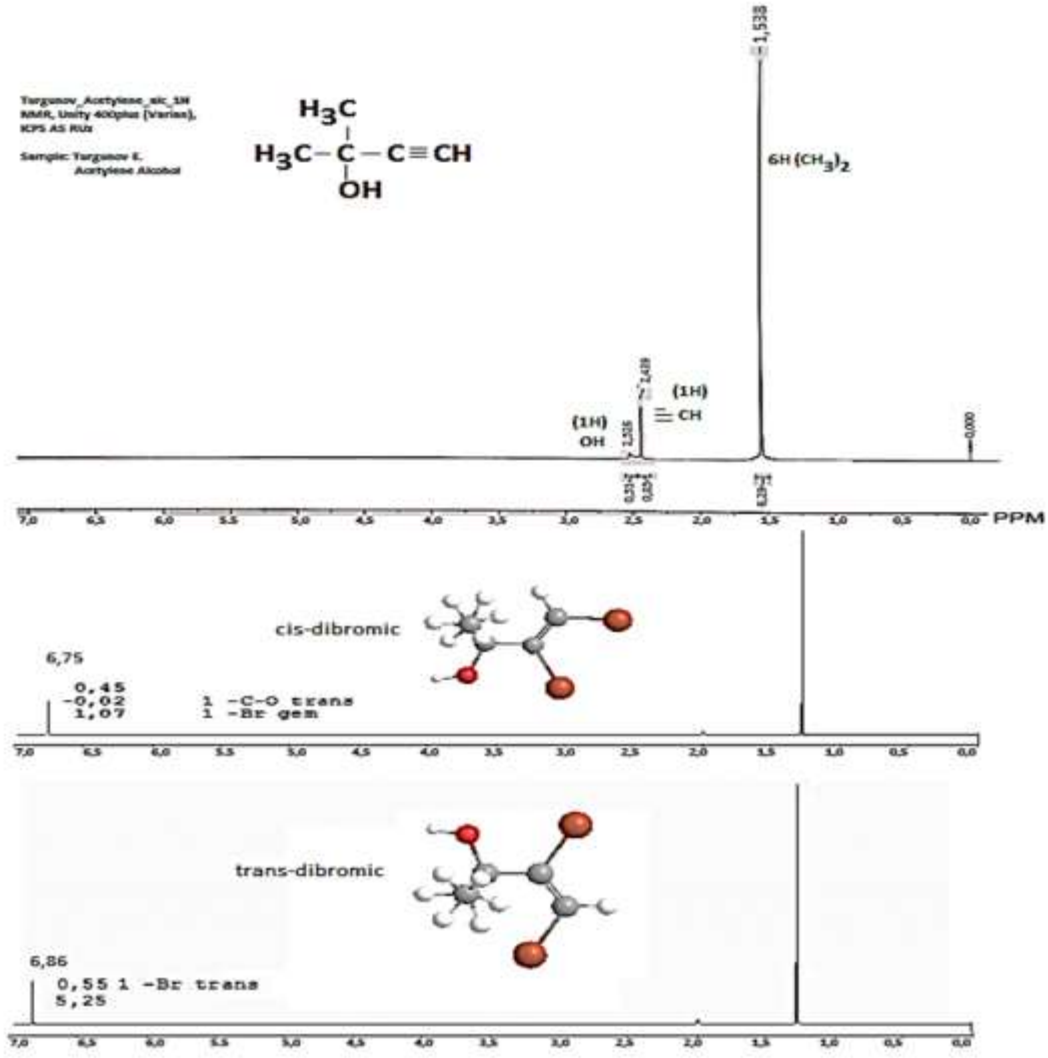


Fig. 6. a) PMR 1H- dimethylethynylcarbinyl spectrum, б) PMR 1 H-spectrum of 1,2-cisdi-bromo-3-methylbutene-1-ol-3; b) PMR 1 H- spectrum of 1,2-transdibromo-3-methylbutene-1-ol-3.

Conclusion. The condensation reactions of aldehydes and ketones with acetylene and phenyl acetylene occurred in high output by using a solvent of dry diethyl ether, the temperature of the system was maintained in the range of -5 - (-10) ^{o}C, and the duration of the reaction was 10-12 hours.

The spatial form of halogen derivatives of tertiary ethylene alcohols are in the cis- and trans configurations. When it was used chloroform or carbon tetrachloride as a solvent, the outputs of trans-dihalohydrins were higher than cis-isomers at 25 °C, respectively.

The structural formulas of alcohols, synthesized on base of acetylene and phenylacetylene, as well as halogen derivatives were confirmed on their base by IR and PMR spectra, and their physicochemical constants were also determined.

1. The reactions of acetylene and phenyl acetylene with the corresponding carbonyl compounds proceed at 25 °C under normal conditions with the formation of acetylene alcohols. This occurs under duration of the reaction for 5–6 h and using because of solvent of diethyl ether. Tertiary acetylene alcohols can be received by thermal decomposition of diols.
2. Tertiary acetylene alcohols are aromatic substances, so they can be used as perfumes.
3. Acetylene alcohols have inhibitory properties, reducing corrosion damage to metals. It is necessary to study the inhibitory properties, inherent to their chlorinated and brominated derivatives.

References

[1]. Melnikov N.N., Baskakov Yu.A. Chemistry of herbicides and plant regulators. – Moscow, 1962.

[2]. American patent 2584420. Chem. Abstracts, 1952, 46, 9605.

[3]. Sirlibaev S., Kurbanov A.I., Turgunov E., Kultaev K.K., Koblov R.K., Khikmatov A. Herbicidal activity in the production of acetylene alcohols. – T.: 1985, No. 11. – Pp.105 -107.

[4]. Kurbanov A. I., Sirlibaev T. S., Turgunova E., Kultaev K. K., Kovlova R. K., Tarikov S. A. The biological activity of some acetylene amino alcohols and halogen-containing products. Agrochemistry, 1986, No. 4. – Pp. 86 - 89.

[5]. Sirlibaev T.S., Kultaev K.K., Kurbanov A.I. The study of the antimicrobial activity of some acetylene compounds in products obtained primarily. – Tashkent, 1989, 8 with Dep, in UZRISTI, No. 957-Uz 89.

[6]. Kurbanov A.I. Synthesis based on secondary, tertiary acetylene alcohols and pyridylacetylene, possible applications of the compounds obtained, doctoral dissertation. – Tashkent, 1998.
[7]. Favorsky A.E., Skosarevsky M.P. South Russian Physical Chemical Society 1900, No. 32. – P.652
[8]. Ziyadullaev O.E. Synthesis and technology of aromatic acetylene alcohols, IX vinyl esters based on phenylacetylene. PhD thesis. – Tashkent, 2012.
[9]. Neyland O.Ya. Organic chemistry. – Moscow, Higher School, 1990, 750 p.
[10]. Askarov I.R., Isaev V.T., Maksumov A.G. Kyrgyz organic chemistry. – Tashkent, 2012. – P. 258.

UDC: 528.735:631.48.

USE OF STATISTICAL METHODS IN THE ANALYSIS OF LAND COVER CHANGE

Jaksibaev Rashid Nietalievich
Lecturer, Karakalpak state university,
faculty of Geography and natural resources,
department of geodesy, cartography
and natural resources.
E-mail address: jaqsibaev@mail.ru

Aleuov Aydos Sabirovich
Lecturer, Karakalpak state university,
faculty of Geography and natural resources,
department of geodesy, cartography
and natural resources, assistant teacher
E-mail address: laki_aas@mail.ru

Annotatsiya: Maqolada yerning qoplanish tushunchasi va mohiyati ochib berildi. Va 1995-2015 yillardagi yerning qoplanish darajasining o'zgarishlari O'zbekiston va kontinentlar misolida keltirilip tahlil qilingan va xulosalar keltirilgan. Maqolada keltirilgan *Land cover map* malumotlari *www.diva-gis.org* dan olindi va *ArcGIS 10.5* da qayta ishlab chiqildi. Statistik malumotlar esa *www.fao.org* dan olindi.

Kalitso'zlar: Yer qoplami, yer qoplamining o'zgarishi, yerdan foydalanish, iqlim o'zgarishi, yer turlari, tabiiy ekotizim.

Аннотация: В статье разъясняются понятие и сущность земельного покрова. А изменения земельного покрова за период с 1995 по 2015 годы были проанализированы на примере Узбекистана и континентов, и сделаны выводы. Данные карты земельного покрова, представленные в статье, были взяты с *www.diva-gis.org* и переработаны в *ArcGIS 10.5*. Статистика была получена с *www.fao.org*.

Ключевые слова: Земельный покров, изменение земельного покрова, землепользование, изменение климата, типы земель, природная экосистема.

Abstract: The article explains the concept and essence of land cover. And the land cover changes from 1995-2015 were analyzed on the example of Uzbekistan and the continents, and conclusions are drawn. The Land cover map data provided in the article were taken from *www.diva-gis.org* and reworked in ArcGIS 10.5. Statistics were obtained from *www.fao.org*.

Key words: Land cover, land cover change, land use, climate change, land types, natural ecosystem.

Introduction: Agile and unplanned urban growth in large areas over the world constitutes of problems ranging from unsustainable development to environmental degradations. With the change in the trend of the urban environment, land cover information also changes. Problems caused by this change in the land cover, require decisions and responsive plans from various authoritative bodies such as government agencies, economy planners and policy makers to develop and implement relevant land policies. Timely updates and regular reports about the land cover are required to understand the changes in the classes that occur over time. [2]

Most of the human inhabitants of this planet spend most of their time on the land; what covers the land and how humans use it has a profound effect on the functioning of the Earth system and on ways in which this global system is changing. The nature of the land cover (bare soil, rock, different types and quantities of vegetation, water-bodies, snow, ice, man-made materials and any combination of the above) influences the Earth's climate system by affecting water and energy exchanges with the atmosphere, and greenhouse gas and aerosol sources and sinks. The nature of the land cover will also affect the services provided to humans – everything from the obvious such as determining sources of food, fiber, medicines and the like, to the less obvious recreational and cultural influences on our lives.

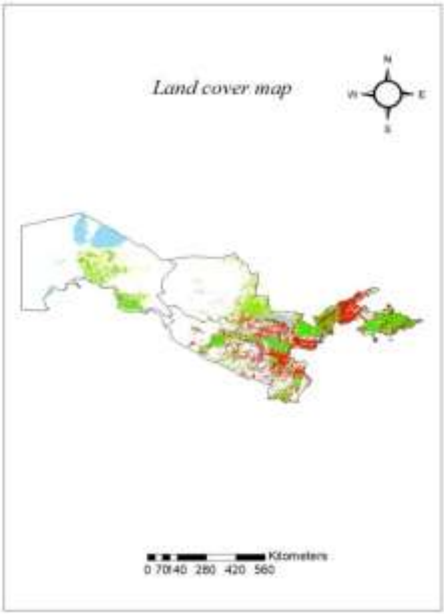
Land cover and land use dynamics are very much part of the climate change story, but their role does not stop here. There is no universally accepted definition of global change, yet wherever one chooses to limit the definition, land cover and land use dynamics have a role in the process of global change. These dynamics affect climates, land, freshwater and even marine-productivity. They affect the chemistry of the atmosphere surrounding us; they determine how and where we can construct dwellings, communication, and transport and energy networks and have profound influences on the biological diversity of our planet. [5]

Research Methodology: Land cover can be defined as the biophysical state of the earth's surface and immediate subsurface, including biota, soil, topography, surface water and groundwater, and human structures. In other words, it describes both natural and human-made coverings of the earth's surface. Land use can be defined as the human use of the land. Land use involves both the manner in which the biophysical attributes of the land are manipulated and the purpose for which the land is used. The relationship between land use and land cover is not always direct and obvious. A single class of land cover may support multiple uses, whereas a single land use may involve the maintenance of several distinct land covers. [6]

Land cover is defined as the biophysical state of the land surface. This definition encompasses both biotic and abiotic properties, but does not strictly include land use by humans. That said, humans depend on goods and services provided by terrestrial ecosystems, and reliable information on the state of global land cover is important to the welfare of human society. Land cover is therefore a fundamental component of global ecosystems, one, that humans rely heavily upon.

Besides providing ecosystem services to humans, land cover information is important to a wide spectrum of global change research. Because land cover strongly influences biosphere – atmosphere interactions, accurate land cover information is essential to parameterize land surface processes in regional to global scale models of the Earth system. Further, as the Earth's human population grows; the global footprint of land areas dominated by human use is expanding. As a result, human-induced land use and land cover modifications are among the most significant agents of environmental change at local to global scales, and human land use has significant implications for ecosystem health, water quality, and sustainable resource management practices. The state and dynamics of global land cover therefore has significant implications for both the sustainability of the Earth's ecological systems and the socio-economic stability of current and futuregenerations. [3]

Land cover maps are useful for natural resource management and local-to-national planning. A reliable description of the land cover will allow us to improve our understanding of the working methods of the biosphere and to construct future climate scenarios.



Land cover and land use changes occur globally in a large variety of situations from the ecological and human point of view. This broad spectrum will have an impact on the Earth Observation data and techniques used for identifying the processes and measuring their magnitude. We will first examine the variation factors to take into account and review the technical parameters that are important to define for a reliable monitoring system. Then we will detail two major land-cover change processes and provide remote sensing-based estimates of tropical deforestation and agricultural expansion.

Land cover and land use changes include the conversion from one land-cover class to another and the small changes within one class without changing its classification. The intensification of agriculture, the densification of urban settlements or the forest exploitation is good examples of continuous changes that do not modify the category of the main land cover. However, as some basic attributes are modified, it can have a major impact for global change studies. [5]

As the effects of the land cover change on bio-diversity and climate have been observed, modeling these changes is necessary and meaningful. Various researches have been conducted in the past that shows how important it is to model the land cover changes.

There are several approaches to model the land cover change such as:

Equation-based models: The models are based on some mathematical equations. For example, an equation linking the population with the area change over time.

System Models: The model is based on stock and flow approach. This type of model incorporates the interaction between the humans and environment.

Statistical Models: It is one of the most used methods for modeling the land cover change. It includes the different regression methods. Statistical techniques are proven effective unless they are used with theoretical models

Expert Models: This model incorporates the combined effect of expert knowledge and the probability functions.

Cellular models: It includes the Markov, Cellular Models (CA) or a combination of the two.

Agent-Based Models: It incorporates the human decision making along with their interaction with the environment. [2]

Change in the land cover is a result of multiple factors occurring over the concerned study area. These driving factors can be categorized into two categories:

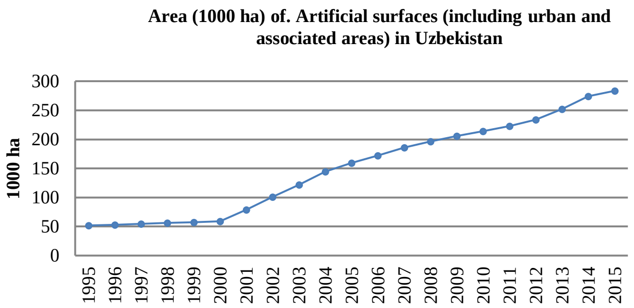
1. Driving factors that arises due to human activity: Among the anthropogenic activities, the increase in population plays a major role, but it is not the only factor that causes the land cover change. Construction of the new roads leads to settlements nearby. It is observed that wherever the road network density is high, built-up areas are observed. The driving factors due to anthropogenic activity can be considered under socio-economic factors.

2. Driving factors originating due to natural phenomena: Natural factors also accounts for the change in land cover. For example climate is the utmost natural factor that affects the land cover from yearly to decadal time ratio. The changes in the climate affect the crop field which in turn affects the soil. Rain also affects the soil, as in cases of heavy rain the top fertile layer of the soil is washed away, leaving the soil unfertile. The driving factor due to natural forces can be considered under the bio-physical factors. [2]

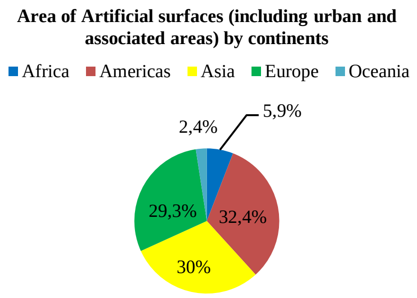
Analysis and Results: Based on the above data, we consider the analysis of Land cover change by statistical method. And we obtain basic statistics from the Food and Agriculture Organization of the United Nations. The data were mainly analyzed by artificial surfaces, tree covered areas, and shrub covered areas, terrestrial barren land, sparsely natural vegetated areas, inland water bodies, woody crops.

The first and second diagrams show the changes in Artificial surfaces in Uzbekistan during 1995 and 2015 and their distribution in continents. It was almost the same between 1995 and 2000 but continued to grow from 2000 to 2015. This, in turn, shows the high level of urbanization in Uzbekistan. In the continents, the largest share is in the Americas with 32.4% and 30% in Asia. The lowest level of artificial surfaces belongs to Oceania with 2.4%.

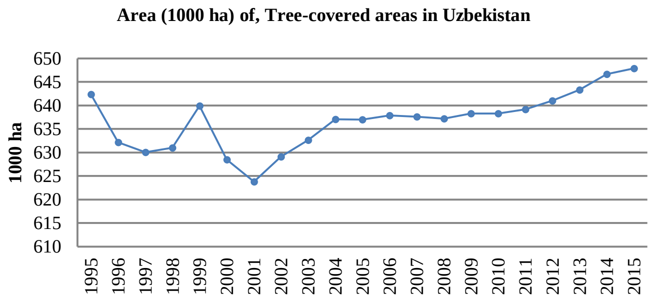
I diagram



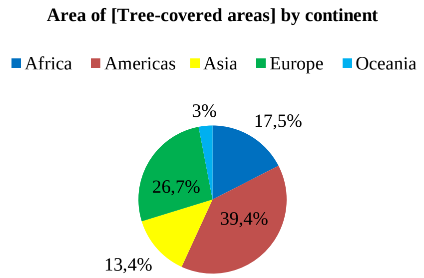
II diagram



III diagram

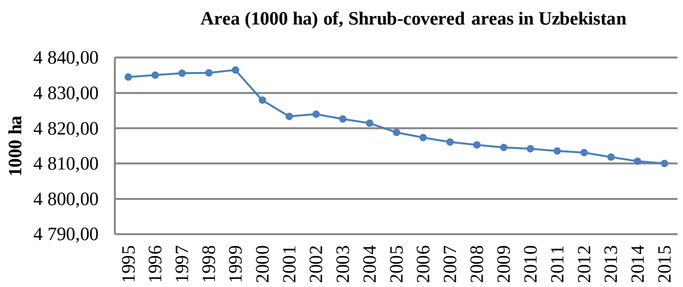


IV diagram

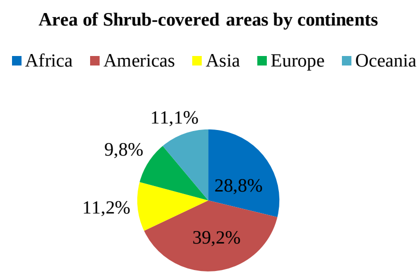


The third and fourth diagrams show the changes in Tree covered areas in Uzbekistan between 1995 and 2015 and their distribution in continents. It declined between 1995 and 1998, but rose in 1999. It had its lowest rate in 2001 and rose sharply until 2004. From 2004 to 2015, almost the same growth was achieved. So we can see that in Uzbekistan, Tree covered areas are occupying large areas. The largest areas are in the Americas continent. The Asian continent accounts for 13.4% of the continents.

V diagram

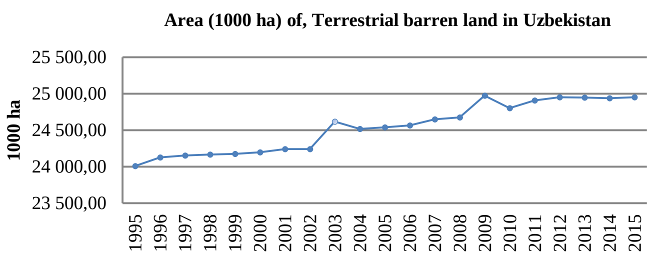


VI diagram

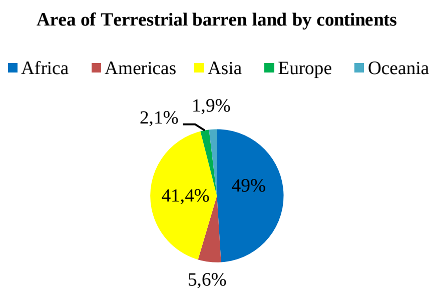


The fifth and sixth diagrams show the changes in Shrub covered areas in Uzbekistan between 1995 and 2015 and their distribution in continents. There was almost no increase from 1995 to 1999, but a sharp decline between 1999 and 2001. From 2002 to 2015, almost the same decline was observed. This means that Shrub covered areas in Uzbekistan are shrinking. In the Continents section, the largest area belongs to Americas, accounting for 39.2%. The African continent accounted for 28.8%. The smallest area is 9.8% in Europe.

VII diagram

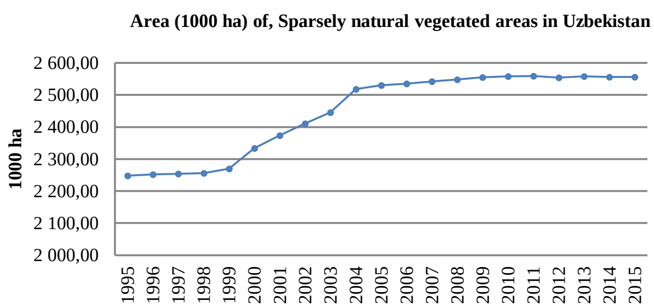


VIII diagram

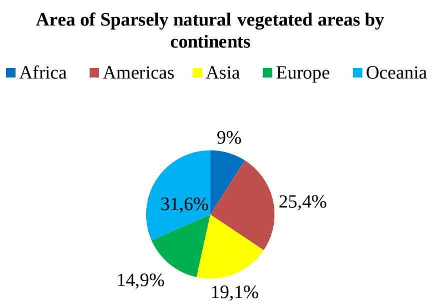


The seventh and eighth diagrams show the changes in the Terrestrial Barren Land in Uzbekistan during 1995 and 2015 and their distribution in continents. From 1995 to 2002, there was an almost uniform, slow growth process. Significant changes took place from 2002 to 2011, but did not fall below the key figure. From 2011 to 2015, it had almost the same performance. This means that Uzbekistan will grow in the next 20 years. But it has remained virtually unchanged for the last 4 years. The largest area in terms of terrestrial barren land continents belongs to the African continent with 49%. The Asian continent accounted for 41.4%.

IX diagram

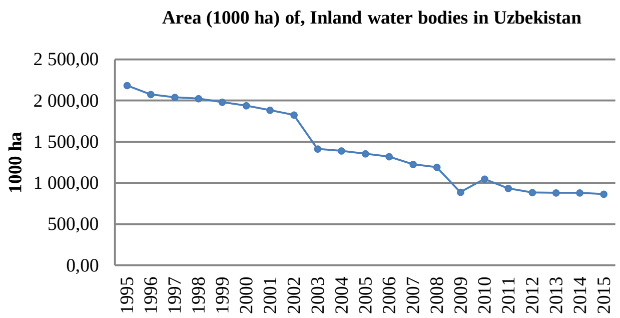


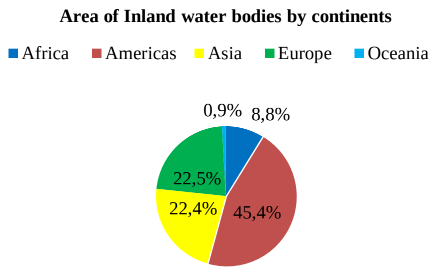
X diagram



The ninth and tenth diagrams show the changes in Sparsely natural vegetated areas in Uzbekistan in 1995 and 2015 and their distribution in continents. From 1995 to 1999, there was almost the same slow rise. But from 1999 to 2004, we can see a sudden rise. But from 2004 to 2015, little has changed. This means that almost the same usage has been observed in the last 10 years of the years being analyzed. In the above statistics, the Oceania continent, which has the lowest rates, has the highest rate with 31.6% in sparsely natural vegetated areas. The lowest rate is in Africa.

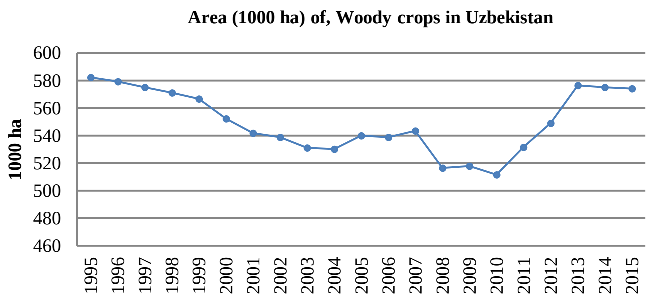
XI diagram XII diagram

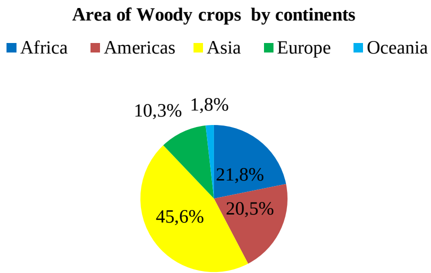




The eleventh and twelfth diagrams show the changes in Inland water bodies in Uzbekistan during 1995 and 2015 and their distribution in continents. From 1995 to 2015, we can see a steady decline. Only in 2010 there was an increase compared to 2009, but this figure remains lower than in 2008. In terms of continents, the lowest rates are in Africa with 8.8% and Oceania with 0.9%.

XIII diagram XIV diagram





The thirteenth and fourteenth diagrams show the changes in Woody crops in Uzbekistan between 1995 and 2015 and their distribution in continents. From 1995 to 2004, the area occupied by woody crops continued to decline. However, there was some increase between 2004 and 2007. But in 2008 there was a sudden decline. The lowest level was observed in 2010. There will be a sudden rise in languages during 2010 and 2013. From 2013 to 2015, almost the same figure was achieved. This means that the same level has not been achieved from woody crop lands. The area occupied by woody crops is Asia with the largest area among continents with 45.6%. And the smallest area belongs to Oceania with 1.8%.

Conclusion

The above seven land cover types were analyzed. Areas that are expanding according to the indicators given in the analysis; they are artificial surfaces, tree covered areas, terrestrial barren land, sparsely natural vegetated areas, and declining areas are inland water bodies and shrub covered areas. It can be seen that the woody crop type of land cover is not stable.

The use of statistical analysis is very important in the rational use of land. Because, the land use change is more problematic, especially in natural ecosystems that could be multi usages. The inclusion of socio-economic parameters in the analysis can help to derive general patterns, but a local knowledge is once again needed to provide information relevant for decision-makers.

References:

[1] Chen,X.; Bai,J.; Li,X.; Luo,G.; Li,J.; Li,B.L. Changes in land use/land cover and ecosystem services in Central Asia during 1990-2009. Curr. Opin. Environ. Sustain. 2013, – pages 116-127.

[2] Damandeep Singh. “Spatial structure pattern prediction using deep learning technique for land cover modelling”. Enschede, The Netherland, June, 2017, – pages 75.

[3] Mark Friedl, Xiaoyang Zhang, and Alan Strahler. “Characterizing Global Land Cover Type and Seasonal Land Cover Dynamics at Moderate Spatial Resolution With MODIS Data”. Land Remote Sensing and Global Environmental Change. Springer Science+Business Media, LLC 2011, – pages 709-725.

[4] Mas,J.-F. Monitoring land-cover changes: A comparison of change detection techniques. Int. J. Remote Sens. 1999, – pages 139-152.

[5]Philippe Mayaux, Hugh Eva, Andreas Brink, FrédéricAchard and Alan Belward. “Remote Sensing of Land-Cover and Land-Use Dynamics”. Earth Observation of Global Change. The Role of Satellite Remote Sensing in Monitoring the Global Environment. Springer Science + Business Media B.V 2008, – pages 85-108.

[6]QihaoWeng. Remote Sensing and GIS Integration (Theories, Methods, and Applications) – eBook. The McGraw-Hill Companies, 2010, – pages 91-116.

[7] Timur T Berdimbetov, Zhu-Guo Ma, Chen Liang, Sana Ilyas. Impact of Climate Factors and Human Activities on Water Resources in the Aral Sea Basin. Hydrology 2020, pages 14.

[8] www.fao.org/faostat/en/#data/LC/visualize

[9] www.diva-gis.org/gdata

[10] www.Yceo.yale.edu/modis-land-cover-product-mcd12q1

UDK **517.977.1.**

ABOUT MINKOVSKI DIFFERENCE AND SUM OF OPEN AND CLOSED SETS

Mamatov Mashrabjon Shaxabutdinovich
Doctor of Science, Professor
of the department of "Geometry and topology" Faculty of "Mathematics"
National University of Uzbekistan
named after Mirzo Ulugbek
e-mail: mamatovmsh@mail.ru

Nuritdinov Jalolxon Tursunboy ugli
PhD Student of the department of "Geometry and topology", Faculty of "Mathematics", National University of Uzbekistan named after Mirzo Ulugbek
e-mail: mamatovmsh@mail.ru

Аннотация: Ushbu maqolada toʻplamlar ustida Minkovskiy geometrik ayirmasi va yigʻindisinining differensial oʻyinlarni oʻrganishda qoʻllaniladigan xossalari oʻrganilgan hamda hisoblashdagi oʻziga hos murakkabchiliklarni yengib oʻtish yoʻllari bayon qilingan. Koʻrilgan misollar aslida tekislikdagi toʻplamlar uchun bayon qilingan. Ayrim teoremalar va ularning isbotlari keltirilgan.

Kalit so`zlar: Minkovskiy ayirmasi, Minkovskiy yigʻindisi, toʻplamni songa koʻpaytirish, kuchli qavariq toʻplam, quvish, qochish, terminal toʻplam.

Аннотация: В данной статье изучены свойства геометрической разности и суммы Минковского над множествами, которые применяются в изучении дифференциальных игр, также изложены пути переодоления своеобразные сложности при вычислении. Рассмотренные примеры в статье изложены для множеств на плоскости. Приведены некоторые теоремы и их доказательство.

Ключевые слова: разности Минковского, сумма Минковского, умножение множество на число, сильновыпуклое множества, преследование, убегания, терминальное множество.

Annotation: This article explores the properties of the geometric difference and the Minkowski sum over the sets that are used in the study of differential games, and also outlines ways to overcome the peculiar difficulties in the calculation. The

considered examples are presented for sets in the plane. Some theorems and their proof are presented.

Keywords: Minkowski difference, Minkowski sum, multiplication of a set by number, strongly convex sets, pursuit, escape, terminal set.

Introduction: It is known that Minkowski sum and difference and algorithms for their calculation are widely used in various branches of applied mathematics, such as computational mathematics, numerical program control systems, robotic motion planning, theory of optimal control.

If our activity in the study of vector algebra in ordinary space $\mathbb{R}^n$ begins with the addition of two vectors, then this activity extends to the addition of a vector or vectors belonging to one set to vectors belonging to another set. It is important to understand intuitively that adding a set to a vector is a combination of vectors formed by adding each element of the set to the vector. For example, to add a set A to set B in a plane $\mathbb{R}^2$, you need to copy the set A onto each element of the set B and get the combination, or vice versa. This process is not difficult to imagine, even in arbitrary of n dimensional space, and it can be seen that the geometric nature of the sets A and B does not depend on their location relatively to the origin.

Research Methodology: **Definition 1.** Let $X, Y \subset E$ be nonempty sets on the linear space E. The *Minkowski sum and difference* of two sets X and Y are defined to be the sets

$$X+Y=\{x+y : x\in X, y\in Y\},\quad X\overset{*}{-}Y=\{x\in E : x+Y\subset X\}.$$

Definition 2. The *multiplication* of set X and number λ is defined to be the set

$$\lambda X=\{\lambda x : x\in X\}.$$

Definition 3. The Minkowski sum of any vector $a\in E$ and nonempty set $X\subset E$ is defined to be the set

$$a+X=\{a+x : x\in X\}$$

By the definition of the Minkowski difference of sets, the set $X\overset{*}{-}Y$ means the intersection of movement of the set X to vector $d\in -Y$, which is

$$X\overset{*}{-}Y=\bigcap_{d\in -Y}(X+d). \qquad (1)$$

To prove this equality, it's enough to show all $z\in X\overset{*}{-}Y$ are belonged to set $\bigcap_{d\in -Y}(X+d)$ and on the contrary. By the definition of the muliplication of set and number, expression $d\in -Y$ means that always there exists y element in the set Y such that $d=-y$. Hence $y=-d\in Y$.

Let $z\in X\overset{*}{-}Y$ be vector of set $X\overset{*}{-}Y$. Then by the definition of Minkowski difference of sets, $z+Y\subset X$. By the definition of the Minkowski sum of sets, for all

$y \in Y$ elements there exists $x \in X$ element such that $z + y = x$, $z = x - y$. Since $y = -d$, $z = x + d$. This equality is true for all $d \in -Y$ and such $x \in X$, so we can write following expressions

$$z \in X + d,$$

$$z \in \bigcap_{d \in -Y} (X + d).$$

Therefore, if $z \in X \overset{*}{-} Y$, then $z \in \bigcap_{d \in -Y} (X + d)$.

Now, let $z \in \bigcap_{d \in -Y} (X + d)$ be vector of intersection $\bigcap_{d \in -Y} (X + d)$, then $z \in X + d$ for all $d \in -Y$ vectors. Hence there exists $x \in X$ vector such that $z = x + d$. Then $z = x + d = x - y$ and $z + y = x$, since $d = -y$. This equality is true for all $\forall y \in Y$ and such $x \in X$, so we can write $z + Y \subset X$, hence $z \in X \overset{*}{-} Y$. Therefore equality (1) is really true.

Definition 4. Unit of all the boundary points of set X is called *boundary of* X and written ∂X.

Definition 5. The complement of given set X on the linear space E is written X^c and defined to be the set

$$X^c = \{x \in E, x \notin X\}.$$

Definition 6. The Minkowski operators of the multiple-valued function $G : E \to 2^E$, written as $A_G : 2^E \to 2^E$ and $B_G : 2^E \to 2^E$, are defined to be operators

$$A_G S = \bigcup_{x \in S} (x + G(x)), \qquad B_G S = E \setminus (A_G (E \setminus S)).$$

In here $S \subset E$ be any set.

In especial condition multiple-valued function G is constant $G(x) = G_0$ for each $x \in S$, then Minkowski operators become as Minkowski sum and difference:

$$A_G S = S + G_0, \qquad B_G S = S \overset{*}{-} (-G_0).$$

It is very important to know that, Minkowski sum and difference of the given sets are open or closed set. Therefore, we are writing following lemmas and theorems.

Analysis and results:

Lemma 1. Let $X, Y \subset E$ be nonempty sets on the linear space E and $X \overset{*}{-} Y \neq \varnothing$. For any vectors $y \in Y$ there exists a vector $x \in X$ such that

$$x - y \in X \overset{*}{-} Y.$$

Proof. Let $a \in X \overset{*}{-} Y$, then by the definition of Minkowski difference $a + Y \subset X$. By the definition of Minkowski sum of sets for each $y \in Y$ there exists vector $x \in X$ such $a + y = x$. Hence $a = x - y$. Therefore, $a = x - y \in X \overset{*}{-} Y$ relation is true.

Lemma 2. For any nonempty sets X and Y on the linear space E following relation is true:

$$X \overset{*}{-} Y \subset X + (-Y).$$

Proof. To prove this lemma we show that every element of $X \overset{*}{-} Y$ will be an element of $X + (-Y)$ and on the contrary.

Let $a \in X \overset{*}{-} Y$ be any vector. By the definition of the Minkowski difference of sets we can write $a + Y \subset X$. For all $y \in Y$ vectors $a + y \in X$. We add $-y \in -Y$ vector to both sides of this relation. Hence $a \in X + (-y)$. Since $X + (-y) \subset X + (-Y)$ relation, follows that $a \in X + (-Y)$.

Following example shows that each $a \in X + (-Y)$ vector does not belong to $X \overset{*}{-} Y$ set every time.

Example: Let $X = [-4,5]; Y = (3,4)$ be given sets. Then $-Y = (-4,-3)$, $X + (-Y) = (-8,2)$, $X \overset{*}{-} Y = [-7,1]$. Therefore, $X \overset{*}{-} Y \subset X + (-Y)$.

Lemma 3. For any nonempty sets X and Y on the linear space E following relation is true:

$$(X \overset{*}{-} Y)^c = -Y + X^c$$

Proof. Let $a \in (X \overset{*}{-} Y)^c$ be any vector, then $a \notin X \overset{*}{-} Y$. By the definition of the Minkowski difference of sets $a + Y \not\subset X$. There exists $y \in Y$ vector such that $a + y \in X^c$ and there exists $x' \in X^c$ vector such that $a + y = x'$. Hence $a = x' - y \in -Y + X^c$, therefore $a \in -Y + X^c$.

Lemma 4. For any nonempty sets X and Y on the linear space E following relation is true:

$$\lambda(X \cap Y) = \lambda X \cap \lambda Y$$

Proof. Let $a \in \lambda(X \cap Y)$ be any vector. By the definition of multiplication of sets and number there exists $t \in X \cap Y$ vector such that $a = \lambda t$. Since $t \in X \cap Y$, we have $t \in X$ and $t \in Y$. Hence , $\lambda t \in \lambda X$ and $\lambda t \in \lambda Y$. It means that $\lambda t \in \lambda X \cap \lambda Y$. We can show that every vector $a \in \lambda X \cap \lambda Y$ belongs to set $\lambda(X \cap Y)$ by using this method. Lemma has been proved.

Lemma 5. For any nonempty set X on the linear space E and for number λ following relation is true:

$$\lambda \partial X = \partial(\lambda X)$$

In here ∂X means boundary of the set X .

Proof. Let $a \in \lambda \partial X$ be a vector, there exists $x' \in \partial X$ vector such that $a = \lambda x'$. $x' \in \partial X$ means that for all neighborhoods $B_r(x') = \{x : \|x' - x\| < r, r \in R\}$ of x'

$B_r(x')\cap X\neq\varnothing,\ B_r(x')\cap X^c\neq\varnothing$. We multiply both sides of these relations by number λ and according to the lemma 4, we have $B_{\lambda r}(\lambda x')\cap\lambda X\neq\varnothing,\ B_{\lambda r}(\lambda x')\cap(\lambda X)^c\neq\varnothing$. It means that $a=\lambda x'\in\partial(\lambda X)$. We can show that every vector $a\in\partial(\lambda X)$ belongs to set $\lambda\partial X$ by using this method. Lemma has been proved.

Lemma 6. For any nonempty sets A,B,C and D on the linear space E following relation is true:

$$(A\cap B)+(C\cap D)\subset(A+C)\cap(B+D)$$

Proof. Let $x\in(A\cap B)+(C\cap D)$ be a vector. By the definition of Minkowski sum there exists $t\in A\cap B$ and $k\in C\cap D$ such that $x=t+k$. It means $t\in A,\ t\in B,\ k\in C,\ k\in D$. Hence, it follows $t+k\in A+C$ and $t+k\in B+D$. Therefore, $x=t+k\in(A+C)\cap(B+D)$.

Following example shows that each $x\in(A+C)\cap(B+D)$ vector does not belong to $(A\cap B)+(C\cap D)$ set every time.

Example: Let $A=[1,2],\ B=[3,4],\ C=[7,8],\ D=[5,6]$ be given sets. Then $(A\cap B)+(C\cap D)=\varnothing,\ (A+C)\cap(B+D)=[8,10]\cap[8,10]=[8,10]$. Therefore $(A\cap B)+(C\cap D)\subset(A+C)\cap(B+D)$.

Following theorems may be proved by using of the lemmas given above.

Theorem 1. If X be open(closed) set, then λX will be open(closed) set too.

Proof. Suppose X be open set. Then for each $x_0\in X$ vectors there exists neighborhood $B_r(x_0)=\{x:\|x_0-x\|<r\}$ such that $B_r(x_0)\subset X$. It is multiplied both sides of this relation by the number λ, consequently $B_{\lambda r}(\lambda x_0)\subset\lambda X$. In here $B_{\lambda r}(\lambda x_0)=\{x':\|\lambda x_0-x'\|<\lambda r\}$. It means that all points of set λX are interior points, therefore λX is open set.

Now suppose X be closed set. By the definition of closed set for all $x_0\in X$ vectors there exists neighborhoods $B_r(x_0)=\{x:\|x_0-x\|<r\}$ such that $B_r(x_0)\cap X\neq\varnothing$. It is multiplied both sides of this relation by the number λ, consequently $B_{\lambda r}(\lambda x_0)\cap\lambda X\neq\varnothing$. It means that all points of set the λX are adherent points, therefore λX is closed set.

Theorem 2. Let $X,Y\subset E$ be nonempty sets on the linear space E. If either of them is an open set, then $X+Y$ will be an open set and in other conditions it will be a closed set.

Proof. According to the condition of the theorem, either of given sets must be open set. Suppose set X be open set. According to the definition of the open sets, for all $x_0\in X$ vectors there exists it's neighborhood $B_r(x_0)=\{x:\|x_0-x\|<r\}$ such that

$B_r(x_0) \subset X$. By the properties of Minkowski sum of the sets, we can write following relation:

$$B_r(x_0) + y_0 \subset X + Y \qquad (4)$$

in here y_0 is any vector of the set Y.

The neighborhood $B_r(x_0) = \{x : \|x_0 - x\| < r\}$ is open ball with center x_0 and radius r. By the definition of the Minkowski sum,

$$B_r(x_0) + y_0 = B_r(x_0 + y_0) \qquad (5)$$

In here the set $B_r(x_0 + y_0) = \{z : \|(x_0 + y_0) - z\| < r\}$ is open ball with center $(x_0 + y_0)$ and radius r. Since (4) and (5), it follows $B_r(x_0 + y_0) \subset X + Y$. Therefore, $X + Y$ is open set. First part of theorem has been proved.

Now we must prove second part of theorem. Suppose both sets X, Y are closed. By the definition of closed sets, for all neighborhoods $B_{r_1}(x_0) = \{x : \|x_0 - x\| < r_2\}$ and $B_{r_2}(y_0) = \{y : \|y_0 - y\| < r_2\}$ of $x_0 \in X$ and $y_0 \in Y$ we can record $B_{r_1}(x_0) \cap X \neq \varnothing$, $B_{r_2}(y_0) \cap Y \neq \varnothing$. Hence, $(B_{r_1}(x_0) \cap X) + (B_{r_2}(y_0) \cap Y) \neq \varnothing$. According to the lemma 6, it follows

$$(B_{r_1}(x_0) \cap X) + (B_{r_2}(y_0) \cap Y) \subset (B_{r_1}(x_0) + B_{r_2}(y_0)) \cap (X + Y) \neq \varnothing \qquad (6)$$

By the Minkowski sum $B_{r_1}(x_0) + B_{r_2}(y_0) = B_{r_1 + r_2}(x_0 + y_0)$, then relation (6) becomes $B_{r_1 + r_2}(x_0 + y_0) \cap (X + Y) \neq \varnothing$. It means that $X + Y$ is closed set. Theorem has been completely proved.

Theorem 3. Let $X, Y \subset E$ be nonempty sets on the linear space E. If the set X is open and the set Y is closed, then the set $X \overset{*}{-} Y$ will be the open one, and in other conditions it will be a closed set.

Proof. Suppose set $X \overset{*}{-} Y$ be closed. Then set $(X \overset{*}{-} Y)^c$ will be an open set. By the lemma 3, $(X \overset{*}{-} Y)^c = -Y + X^c$. It means that, set $-Y + X^c$ must be open. But according to the condition of theorem, set X is open and the set Y is closed so X^c will be closed and according to the theorem 1, set $-Y$ will be closed too. By the theorem 2, set $-Y + X^c$ will be closed. It means contradiction. Therefore, our suppose is not true and $X \overset{*}{-} Y$ will be open set.

Conclusion: This article discusses some essential properties of Minkowski sum and difference of sets and given their proofs. It includes new theorems about Minkowski sum and difference of open and closed sets. The considered examples are presented for sets in the plane. It is difficult to measure in three dimensional space and is often mistaken. Even it is not explored in four dimensional polyhedrons. It may be easy and fast to calculate Minkowski sum and difference of sets in three dimensional space. Recorded results can be used to get sufficiency conditions to finish the game in differential games.

References

[1]. Minkowski H. Verhandlungen des III internationalen Mathematiker-Kongresses in Heidelberg. — Berlin, 1904. — P. 164–173.

[2]. Matheron, G. Random Sets and Integral Geometry, Wiley, New York, 1976.

[3]. Hadwiger, H. Vorlesungen *über* Inhalt Oberfläche und. Isoperimetrie, Springer, Berlin, 1957.

[4]. Ghosh, P. K. A mathematical model for shape description using Minkowski operators, Comput. Vision, Graphics, Image Process. 44 (1988), 239-269.

[5]. Kaul, A. Computing Minkowski sums, PhD Thesis, Columbia University, 1993.

[6]. Kaul, A. and Rossignac, J. R.: Solid interpolating deformations: Construction and animation of PIP, Computers and Graphics 16 (1992), 107-115.

[7]. Lozano-Pe¨rez, T. and Wesley, M. A.: An algorithm for planning collision-free paths among polyhedral obstacles, Comm. ACM 22 (1979), 560-570.

[8]. Polovinkin Y.S., Balashov M.V. (2007) Elements of convex and strongly convex analysis. *Fizmatlit.* Issue 2. pp.440.

[9]. Wein R. Exact and efficient construction of planar Minkowski sums using the convolution method // Proc. 14th European Symposium on Algorithms (ESA), LNCS. 2006. V. 4186. P. 829–840.

[10]. Ramkumar, G.D.: An algorithm to compute the Minkowski sum outer-face of two simple polygons. In: Proc. 12th Sympos. Comput. Geom., pp. 234–241 (1996)

[11]. Kaul, A., O‘Connor, M.A., Srinivasan, V.: Computing Minkowski sums of regular polygons. In: Proc. 3rd Canad. Conf. Comput. Geom., pp. 74–77 (1991)

[12]. Satimon N.Yu. (1973). To the pursuit problem in linear differential games. *Differential equations.* Vol 9. Issue 11. pp 2000-2009.

[13]. Ivanov G.E. (2006). Weakly convex sets and their properties. *Math. Notes*. Vol 79. Issue 1. pp 60-86.