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The Relationship Between Psychological Well-Being And Quality Of Life Management And The Quality Of Human Capital

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ABSTRACT

The article deals with the problem of psychological well-being in relation to the management of the quality of life and the quality of human capital development as an effect of managing these mutually conditioned processes, as a goal and means of managing the quality of life and the quality of human capital.

KEYWORDS

Psychological well-being, quality of life, human capital, quality of life management, human capital management, structure of human capital, structure of quality of life, components of psychological well-being.

INTRODUCTION

Managing the quality of human capital development is associated with the problem of the quality of life of both society as a whole and an individual and, accordingly, ultimately, with the problem of psychological well-being of

people. The issues of effective management of the quality of human capital, the quality of life and psychological well-being as interrelated are actualized by the development of the market economy and new ontological realities

of social life. The categories of "quality of life" and "human capital" as scientific terms first appeared in the 50-60s of the XX century. in the USA and, which is significant, almost simultaneously. They reflect the general nature of human existence, because of this there is a deep ontological relationship between them, which manifests itself in their fullness with a diverse socio-economic content associated with various aspects of the reproduction process, which has not yet received sufficient attention in the studies of both Russian and Uzbek scientists. ... These categories reflect the essential characteristics of the market structure of society, its potential for creating the necessary well-being in society.

The credit for the advancement of the concept of human capital belongs to the famous American economist, Nobel laureate Theodore Schultz, and the basic theoretical model was developed in the book by Gary Becker (also Nobel laureate) Human Capital (first edition 1964). This book became the basis for all subsequent research in this area and was recognized as a classic of modern economics.

MATERIALS AND METHODS

The works of the classics of economic theory A. Smith, D. Ricardo, A. Marshall, K. Marx are devoted to the study of the general methodological aspects of the problem of "human capital". They consistently worked out the methodological principles of economic theory, which made it possible to further consider the immaterial elements of production as objects of a capital nature.

The theory of human capital was developed in the works of G. Becker, I. Ben-Porat, M. Blaug, W. Bowen, M. Woodhall, S. Daisy, J. Jones, B.

Kicker, J. Mintzer, R. Layard, G. .Psakharopoulos, M. Karnoy, F. Mahlup, L. Hansen. Studies by E. Denison, J. Kendrick, T. Schultz, P. Romer, R. Lucas are devoted to the study of human capital as a factor of economic growth.

Social issues associated with the concept of efficiency and equity, private and social benefits of education, the causes of social inequality were reflected in the works of N. Barr, J. Weisy, B. Weisbrod, W. McMegen, S. Bowles, L. Lawrow, M. Spence, K. Arrow.

It should be noted that the concept of human capital is also used for assessing national wealth, developed by the World Bank. In this interpretation, national wealth includes natural, reproductive and human capital. In the structure of the national wealth calculated in this way, human capital dominates, accounting for about 2/3 of its final assessment, and in the countries of North and Central America, Western Europe and East Asia, it reaches 3/4 of the total value of national wealth. Based on this model, human capital began to be considered the main factor of social reproduction at the end of the 20th century.

THE MAIN PART

The competitiveness and leadership of the economy as a whole, of an individual enterprise and a person in the current situation are largely determined by the quality of human capital development - the professionalism of workers. American scientist E. Toffler noted that human capital is a measure in a person to generate income. Human capital includes innate ability and talent, as well as education and acquired qualifications. Human capital, in fact, is an integral resource and is a combination of

health capitals, professional knowledge, skills, intellectual, organizational, cultural and moral, brand capital, formed as a result of activities aimed at personal and professional development of an individual in order to maximize the benefits they bring to society and the growth of their own income. [4] Human capital includes, in addition to knowledge and practical experience, human health and motivation, intellectual abilities, psychological, ideological and cultural-historical properties of the individual. [7, p. 48-49] According to N.E. Simonovich, human capital can be represented as a set of certain factors:

- Human condition: intelligence, energy, reliability, dedication.
- Ability to learn: giftedness, genius, quick thinking, creativity.
- Ability to teach others: the formation of goals for subordinates and colleagues, develop a team spirit and a system of values, ensure good social well-being of the individual in the team and in the family. [8, p.143].

The following components can be distinguished in human capital: quality of life as the most important and fixed capital; human knowledge; intellectual capital, which includes knowledge, practical skills, creative and thinking abilities of people, moral and ethical values; emotional capital, which is inherently the main driving force behind human actions and behavior [9].

Professor of the Department of Political Psychology of St. Petersburg State University Yuryev A.I., based on the method of the systematic approach of Professor V.A. Hansen, developed the concept of human capital. In his opinion, human capital is the quantity and

quality of people who are suitable for the competitive struggle in terms of their medical indicators, psychological, intellectual, cultural, and professional parameters. Human capital has four basic psychological capacities: vitality, performance, innovation, and learning. These four basic abilities cover all the requirements for a person and human capital from a practical point of view. All other psychological properties and characteristics are special cases of these abilities [6].

The influence of vocational training on labor productivity has been sufficiently studied. The issues of the influence of the socio-psychological development of human capital on the quality and productivity of labor have not been given sufficient attention in the scientific literature. According to foreign scientists, the priority issue for business in the current situation is the question of finding the most talented, psychologically stable, communicative, effective workers [2]. The level of social and psychological development of an employee in a modern situation is as important as his professional skills. Social and psychological development of a person is characterized by the level of communication skills, the ability to manage their emotions, attitude towards life and personal time management [10].

The interpretation of human capital, despite the complexity of its structure, is more definite, the understanding of the category of quality of life as broader and more flexible, assumes, according to UN experts, the use of up to 200 indicators. The idea of the quality of life depends on many factors, including the age of the person. For example, for older people, modern technologies are not as necessary and important as for young people. This is due to

the fact that, due to their age, the majority of the elderly are not so easily and not fully able to master new computer technologies, despite the fact that the modern world is difficult to imagine without the global Internet, which many people need today for a comfortable life. Let's take, for example, the electronic registration system being introduced in polyclinics in Uzbekistan. In order to get to a doctor, you need to go to the site and register by entering the necessary data, choosing the right doctor and a convenient time to visit. For young people who own modern technologies, everything is very simple and convenient - making an appointment with a doctor is not difficult, but for an elderly person who is poorly versed in gadgets, this process can be quite complicated, causing certain difficulties, and an untimely visit to a doctor can complicate the course illness of an elderly patient and lead to undesirable consequences. The example with electronic registration indicates that for different age groups of people, the content of the category of quality of life will be understood depending on their social, professional status, moral and psychological state and, of course, on the state policy in this matter.

Improving the quality of life of young people as the future of any state is one of the urgent problems. The launch and implementation of certain state programs involves taking into account the needs of young people. According to research data, there are a number of negative trends characteristic of the formation of the modern youth population: its reduction as a labor resource of the country; a certain social, medico-biological and psychological deformation of the quality of the future economically active population [5].

As a result of a survey of bachelors, masters and postgraduates of a number of universities in the Fergana region of Uzbekistan (50 people), five main markers of the quality of life were identified that arouse the greatest interest among young people. The category "Low wages" was especially significant for young people, receiving 42% of the respondents' votes, then - "Lifestyle" - 40%, "Corruption" - 36%, "Employment after obtaining a specialty" - 28% and the category "High prices" with 24% of the vote. The analysis of the results of the survey revealed the activity of students and their interest in the problem of the quality of life. Young people differ significantly from other age groups: they are a part of society that has an accelerated process of adaptation, greater social mobility, accelerated growth of material needs, which is associated with the need to form their living space. Because of this, the "quality of life of young people" is an integral concept that characterizes the aspects of their life and the completeness of satisfying the entire range of needs and interests of a given age category of people. Young people are not homogeneous in terms of their social composition: differences are determined by age, place of residence, nature of employment, worldview, and lifestyle. Student youth, undoubtedly, are less independent in the possibility of regulating the conditions of the quality of life and, therefore, their assessment of the quality of life has its own certain specific elements. The survey showed that there is a very broad and heterogeneous structure of opinions. The needs of young people and older people have a number of differences, as a result of which it can be assumed that the assessment of the degree of importance of the elements of the quality of life has certain differences in different age groups.

In the post-industrial era, the development of human civilization brought the problem of the quality of life to the forefront, as a result of which the category of quality acquired a system-forming character. The relevance of these interrelated problems is determined by the steady interest in them of a wide range of researchers both abroad, and in Russia, and in Uzbekistan. The issue of the quality of life and, as a consequence, psychological well-being is one of the priorities in the context of the reforms being carried out in the Uzbek economy. For a number of objective and subjective reasons, the standard of living in Uzbekistan in many respects still lags behind the standard of living in more developed countries, therefore, various projects are being implemented in Uzbekistan with the help of UNDP. According to the UNDP Resident Representative and UN Resident Coordinator in Uzbekistan A. Nirodi, the implementation of more than 40 projects envisaged by the UN Development Program is an important partner for the country's government and a key player among international development organizations. Analytical advice and technical support are provided in three interrelated areas: economic (sustainable) development and improving human well-being, good governance and environmental protection. In addition, this international organization helps the implementation of projects of other major donors - the European Union, the World Bank, the Asian Development Bank. For example, a joint project "Improving Living Standards" is being implemented with the EU, thanks to which 75,000 people in rural areas have already received improved access to health services. Approximately 52 thousand residents want gas. More than 20 thousand people use clean tap water. The lives of over a thousand families

are improved through microfinance programs [1].

Obviously, in modern conditions, economic and political stability in society is largely determined by the solution to the problem of the quality of life of the population, the dynamics of the standard of living and the factors that determine it, including such a component as psychological well-being. The direction and pace of further transformations in the country, the progressive, sustainable and balanced development of both Russian and Uzbek society, depend on the solution of this problem. The problem of improving the level and quality of life is also relevant for modern Uzbekistan, as a result of which the category of quality plays the role of an integral characteristic of the socio-economic system and is necessarily associated with the psychological well-being of people. It is obvious that improving the quality of life as a strategy and tactics for the development of the state presupposes joint efforts of both an individual and society as a whole.

Over the past two decades, the content of the concept of "quality" has significantly changed and expanded: the content of the problem "quality of goods and labor" was transformed into the problems of "quality of culture", "quality of education", "quality of man and human capital". The defining moment in this process was the transition from the functioning of profit as the main criterion of economic development to the functioning of the quality of life as the main criterion, which also includes such indicators as the quality of the living environment, the level of material well-being, the degree of spiritual development and psychological well-being. According to modern scientists - economists

and politicians, the XXI century is the century of quality: the quality of life is considered in the international community as the main indicator characterizing the level of the country's development.

It should be emphasized that the category "quality of life" is still not clearly defined. In accordance with the UN Development Program, the main indicators characterizing the quality of life are: 1) life expectancy; 2) education; 3) the level of GDP per capita.

It can be argued that the quality of life is a complex integral category that includes all the conditions of existence necessary for the individual, the level of development and the degree of satisfaction of the entire complex of needs and interests of people, their psychological well-being. It also includes, as important components, goods and services, income, savings, spiritual needs, personal safety and other attributes of social comfort, as well as the state of the environment. Obviously, the quality of life is the modern paradigm of civilizational development.

The category "quality of life" is necessary to understand the level of completeness of satisfaction of the growing needs and desires of people, it manifests itself in various forms of life. It should be noted that the quality of life includes the standard of living together with the quality of the environment, determining the basic conditions of the social climate, psychological comfort and wealth of human life. At the same time, it is important to emphasize that the subjective intellectual process forms in each person the satisfaction of a special property - self-identification, which creates his own individual quality of life. Modern post-industrial requirements

determine that a person's status is directly determined by his intellect, education and health, which allow accumulating human capital [3].

It is customary to single out the following indicators as the basic components of psychological well-being:

- Self-acceptance (positive assessment of yourself and your life);
- The presence of goals that give direction and meaning to life;
- Personal growth as a sense of continuous development and self-realization;
- Competence (control over the environment, the ability to effectively manage your life);
- Autonomy (the ability to follow your own beliefs);
- Positive relationships with others.

Psychological well-being is closely related to concepts such as mental health and meaningfulness in life. As noted by P.P. Fesenko, the studies existing in personality psychology do not give an unambiguous answer to this question, however, based on his own research, the author claims that the meaningfulness of life and the psychological well-being of the individual directly and significantly correlate with each other. According to his data, all structural components of psychological well-being are directly correlated with the level of meaningfulness in life and life orientations.

It can be assumed that the level of psychological well-being will correspond to meeting the needs of different levels:

- 1) Vital (biological) needs;

- 2) Social needs - the desire to belong to a social group (community) and to occupy a certain place in this group, to enjoy the affection and attention of others, to be an object of their respect and love;
- 3) Ideal needs for cognition of the surrounding world and one's place in it, cognition of the meaning and purpose of one's existence on earth, both by appropriating existing cultural values and by discovering a completely new one, unknown to previous generations.

CONCLUSION

The category of psychological well-being is an insufficiently studied psychological reality in the context of the quality of life and the management of the development of the quality of human capital. It should be noted that her understanding is the interconnection of objective and subjective moments as a reflection of feelings, experience, perceptions of people different in age, status, professions, values and needs. It can be assumed that psychological well-being is able to play the role of a battery that "strikes a spark" to launch the activity of labor and other types of activity, providing the rise of vital and creative forces. Unwellness makes a person vulnerable to illness, mental illness, displacement from society and life. Psychological well-being can be represented as an integral indicator, formed by the following differential experiences: as 1) an individual experiencing great satisfaction and happiness; 2) a person who has faith in himself and the truth of his life strategy; 3) a subject that creates consumer value by his labor; 4) an individual with understanding and hope as a result of intellectual quest.

Psychological research of human capital can be carried out through testing using psychological blank tests and sociological questionnaires. The empirical data obtained in this case will make it possible to conduct a kind of "audit" of human capital to substantiate various plans - social, political and economic, to identify the reasons for the successes and failures of the economy and the development of civil society. Such information is necessary for psychological science, which has given priority in assessing human potential to economics and sociology. Such data make it possible to assess the psychological state of a person and society through indicators of mental state and the structure of mental properties, levels of development of cognitive processes, and not to use the assessment of their states through secondary indicators of consumption obtained by economics and sociology. Such information is necessary for the modernization of the entire system of formation and accumulation of human capital in the systems of upbringing, education, culture, and medicine [6].

It should be noted that psychological well-being presupposes internal cultural transformation as a necessary component of the quality of human capital development.

Thus, comparison and analysis of the content of the concepts of "human capital", "quality of life" and "psychological well-being" allows us to conclude that these concepts intersect, if we use the formal logical Euler-Venn schemes, they have more common features than different. At the same time, the linear scheme "management of the development of the quality of human capital - quality of life - psychological well-being" can be read and will be correct both from left to right and from right to left, only in the first case the first two

concepts will be considered as means and conditions for achieving the goal - psychological well-being, and in the second - the last two - as means and conditions that make it possible to effectively manage the quality of human capital development. There is no doubt that psychological well-being, the quality of life and the quality of human capital are interconnected and condition each other, which must be taken into account in the practice of managing these processes.

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Marketing Research On The Development Of Men's Polo T-Shirts And The Study Of Consumer Requirements

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ABSTRACT

This article surveyed respondents for a men's Polo T-shirt, studied its consumer and production requirements, and recommended its production.

KEYWORDS

Product, requirement, producing, research, respondent, marketing, cloth, questionnaire.

INTRODUCTION

One of the important tasks set by state for specialists and scientists of the textile industry is to contribute to the establishment of textile products in the world market and to become one of the most economically developed countries.

In the strategic direction of further development and liberalization of the economy in 2017-2021 it is planned to implement sectoral programs involving 649 investment projects worth \$40 billion. As a result, over the past 5 years, industrial

production increased 1,5 times, its share in GDP(Gross domestic Product)increased from 33,6% to 36%, and the portion of the processing industry increased from 80% to 85% [1].

Today marketing research (MR) is the primary and leading manufacturer of ready made products in the worldwide.

MR-is a systematic set, an analysis of the problems associated with a marketing product,a complex concept for all types of research related to marketing in practice.

MI is a basement for future or future product research projects.

Planning the structure and assortment of production clothing collection models for production-oriented marketing research provides environmental friendliness and high results. Targeted marketing of sewing and knitting enterprises includes:

- The segment of sewing and knitting market;
- Target segments selected by production;
- Records of target needs segments;
- Sewing and knitting sections.

Clothing can be called a person's second skin. It creates an alternative environment, a microclimate, to keep the heat around the body uniform, which is extremely important for human life activities, maintaining a high level of his fitness for work and health. Therefore, the demand for a product is determined by the interaction of the 'clothing-human-environmental system'.

Consumers, on the other hand manufacturers, respond to a complex set of requirements (GOST 4.45-86), clothing with different appearance and function. Therefore, the multiplicity of this demand is assessed by two group of indicators- consumer and manufacturer, or technical and economic indicators of quality. (Table 1)

Table 1

The requirement for clothing quality

QUALITY INDICATORS OF CLOTHING	
CONSUMER	TECHNICAL AND ECONOMIC(MANUFACTURER)
SOCIAL	STANDARDIZATION AND UNIFICATION
FUNCTIONAL	TECHNOLOGICAL
AESTHETIC	ECONOMIC
ERGONOMIC	

To determine the consumer requirements for men's Polo T-shirts, we used the most common survey method. Our survey was conducted on social media. The questionnaire can be approached with a variety of questions. Our questionnaire consists of a total of 15 questions. We received answers through a

series of questions from a total of 200 middle-aged respondents. The obtained indicators are given in Table 2.

Respondent(english word-answering) is a person who answers the questions of the questionnaire and gives an interview[2].

Table 2

QUESTIONNAIRES FOR MEN'S POLO T - SHIRTS

Nº	Questionnaires		
1.	What style would you like a men's Polo T-shirt to be?		
	Sticky	Half sticky	Straight
	1.6 %	56.8 %	41.6 %
2.	What kind of clothes do you like?		
	Comfortable, moisturizing and breathable	Lightweight, waterproof, heat retaining	It does not matter
	88.8 %	8 %	3.2 %
3.	What color material do you think should be used when sewing men's polo T- shirt?		
	Bright ,dark colors	Light, uplifting mood	It does not matter
	46.4 %	46.4 %	7.2 %
4.	Should Men have pockets on their Polo shirts?		

	Yes	No	It does not matter
	7 %	85.6 %	7.4 %
5.	How would you like to attach the front of a men's Polo T-shirt?		
	Through zip	Through hook	Through button
	40 %	35.2 %	24.8 %
6.	How long will the sleeves of the men's polo T-shirt be comfortable for you?		
	Long, up to the wrist	Average, up to the elbow	Sleeveless
	25.6 %	68 %	6.4 %
7.	Do you want to use additional materials when sewing men's Polo T-shirt?		
	Yes	No	It does not matter
	54.4 %	33.6 %	12 %
8.	What do you want the bottom of the men's Polo T-shirt to look like?		
	Cuffed	Simple	Decorative shape
	7.2 %	72 %	20.8 %
9.	Do you want the men's Polo T-shirt to be uniquely designed?		
	Yes	No	It does not matter
	40.8 %	44 %	15.2 %
10.	Should men have accessories in a Polo T- shirt?		
	Yes	No	It does not matter
	34.4 %	45.6 %	20 %

11.	What kind of fiber do you like in men's Polo T-shirts?		
	Natural	Artificial	Synthetic
	94.4 %	2.4 %	3.2 %
12.	What length of men's polo T-shirt will be comfortable for you?		
	Long	Short	Average
	48 %	3.2 %	48.8 %
13.	How would you like a men's Polo T-shirt to be collared?		
	Straight	Lapel	It does not matter
	22.4 %	59.2 %	18.4 %

Our next fourteenth and fifteenth questionnaires were given in the form of closed-ended questions. Closed questions include an answer option that considers everything, and the respondent chooses what is needed from that answer option. Peculiar attention was given to the sequence of questions. It should be noted that the answers to closed questions are easily tabulated and easy to process using modern data from mathematical statistics and technology.[3]

Based on the above results, 56,8% of our respondents chose the answer 'half sticky' to the question of what style do you want the men's Polo T-shirt to be attached to. That is 55,2% more than the sticky style. 41.6% of our respondents wanted Polo T-shirts to be in straight style.[4]

88.8% of our respondents confirmed that they like comfortable, damp, breathable clothes. It should be noted that 3.2% of our respondents were indifferent to the characteristics of their clothes.

When asked if men should have pockets on their Polo T-shirts, 85.6% of respondents agreed that they do not. We found that this figure was 78.6% higher than the responses of our respondents who wanted it to be pocket.[6]

68% of our respondents chose the average, elbow-length answers to our question about the length of our sleeves. This figure is 42.4% higher than the respondents who wanted the sleeves to be long and wrist-length.

The answers of our respondents to our question about what fiber is made of men's Polo T-shirt are given in the diagram below.

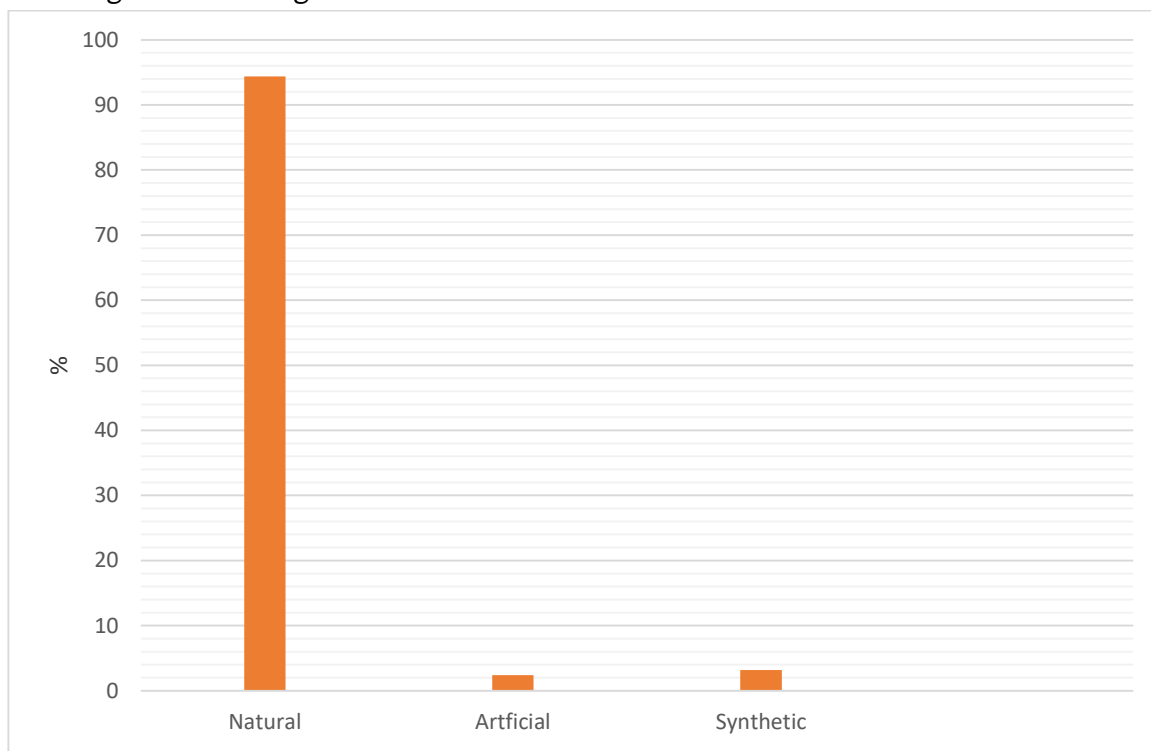


Diagram 1. An index of respondents' responses to what fiber men's Polo shirts are made of.[7]

Based on the above, we can conclude that according to the survey results on men's Polo shirts, they should have the following characteristics: the style of our Polo T-shirt should be comfortable, damp, breathable, and also the material should be bright, dark or straight, the front of the T-shirt combined with zippers, and the sleeves should be up to the middle wrist, the fiber was made from natural fiber and the length was average; was studied through a survey.

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The Culture Of Interpersonal Communication In The Family As A Prerequisite For Spiritual And Physical Development Of A Person

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ABSTRACT

The culture of relationships and the clarity of educational attitudes in the family is laid down consciously by parents as early as the prenatal period of a child's development. The highest mission of family education, the little school of Love - is the fullest revelation of the sources of spirituality in the young person.

KEYWORDS

Culture, human spiritual development, communication, family

INTRODUCTION

The subject of the study is communication in the family. The purpose of the study is to reveal the specifics of communication in the family in the context of the conditions of spiritual and physical human development.

In today's multicultural world, young people in today's multicultural world are increasingly faced with young people in today's multicultural world are increasingly faced with the choice of "What to be?" The image of man

in the preceding totalitarian and authoritarian eras was set by state ideology and limited. For instance, "the code of the builder of Communism", the image of the Komsomol hero, the image of the "ideal German soldier", etc., are well known. How is the image of behavior shaped in the modern generation of young people?

It is this question that we bring forward as a target for the study. research. The scientific search is based on the author's many years of experience in of professional medicine and the study of traditional oriental techniques. Improvement of the person and development of interpersonal relations. Practical. The task of this research consists in giving recommendations on the basis of personal experience and scientific knowledge to give recommendations for systematic formation of value-purpose attitudes in a young person in the family environment.

Without denying the importance of state institutions in the process of establishing a culture of interpersonal communication, I believe that the leading role in this sphere belongs to is the family. Neither schools nor any other social institutions possess such The power of Love, trust, and the power of parental authority. of parental authority. The only question is how parents can preserve and strengthen. The question is how can we preserve and strengthen the foundation of family upbringing, the continuity of the accumulated spiritual experience?

In recent decades, marked by social instability and cultural fragmentation, a new generation of young people has grown up. In recent decades, a new generation of young people, exposed only to different subcultures and with

little knowledge of traditional culture principles. What is especially worrisome is that the foundations of this generation's of the worldview of this generation is laid in most cases by the media. The foundation of this generation's worldview is laid, in most cases, by the mass media, the street environment, and publicly available and poorly trusted information from the Internet.

THE MAIN FINDINGS AND RESULTS

The family as the bearer of the ideological and goal-oriented attitudes the family is either relegated to the background in the educational process, or its values are denied altogether, values are denied altogether. Why does this happen? Why do we as parents often lose credibility with our children? The question is extremely complicated and multifaceted. There is only one point I want to make in this presentation: Are parental views and attitudes of interest to children, are the values applicable, Are the values inculcated by the family applicable in today's rapidly changing world?

Are we able to grow spiritually and physically ourselves, fitting into the paradigms of the new century, engaging our children in this children with this process? Or should we acknowledge that the child has a richer experience of spiritual self-knowledge and can even share their spiritual quests with their parents spiritual quest?

Unfortunately, in today's families, it is common for children, even when they are close to adults, to be excluded from the. The children say that they experience a lack of attention and, more dangerously, a lack of respect and trust for themselves. lack of attention and,

more dangerously, a lack of respect and trust. In connection with this, an increase in inadequate self-esteem, feelings of loneliness, cynicism and even violent tendencies. Psychologists also confirm that The modern generation of parents is characterized by an overt demonstration of Negative personality traits: frequent display of nervousness on various occasions, even insignificant ones, increased irritability, withdrawn, authoritarian, confrontational, and, at the same time, unreasonable indulgence of child and adolescent caprices.

This in no way contributes to stimulate positive interpersonal intrafamilial relationships and The authoritarian approach is not conducive to the development of positive interpersonal and intra-familial relationships. Authoritarian, Monological style of upbringing is viewed in modern conditions as unproductive.

In the East, the upbringing of a child is traditionally regarded as one as a kind of work of the soul, as a responsible opportunity to nurture not only The child's upbringing is traditionally regarded as a kind of soul work, a responsibility to nurture not only another life but also to strengthen oneself spiritually in the new creative role of father or mother. In my practice of psychological improvement I have successfully I have successfully combined the traditional knowledge of the East, embodied in the wisdom of Sufism, and I have successfully combined the traditional knowledge of the East, embodied in the wisdom of Sufism. Social work with adolescents.

It is obvious that the personality is formed depending on all spheres of family life: the family life, the spiritual and moral aura of the family, and the interpersonal type of

interaction between older family members, the family, their attitude toward children. Thus, the ultimate purpose of family upbringing is the fullest disclosure of the sources of spirituality in the young person. Depending on which facet of spiritual of a person's spiritual qualities will be shaped more vividly in the family-positive or negative-that is how a person will manifest himself or herself. that is how a person will manifest himself in the system of social interactions. Not It is no coincidence that in the East they say that only the family can raise a family man!

The traditional family structure was always based on hierarchical The traditional family structure was always based on the hierarchical authority of the father. and care. But the modern style of urbanized and technocratic life, the change in of values, the focus on career advancement not only for men, but also for women excessive material prosperity, and high social status have led to the disintegration of the family structure that had been established and time-tested for centuries time-honored family patterns.

As a consequence, there were also disorders in the emotional and moral family unity, in the shift of hierarchical dependencies, in the simplification of the father's role, in the the growth of spiritual weakness of both parents and children. So we have identified a whole series of problems that have a common root: the lack of sincerity and love in in family relationships! In my opinion, one of the major obstacles to of interpersonal communication in many families is the atmosphere of violence that reigns between between all the members of the family.

The child, while still in the womb, picks up falseness, anxiety, parental anger, perceiving such a family environment as hostile, leading to spiritual degradation. The interesting thing is that if even one family member, or even a pet, is capable of sincerely giving others True Love, it is a chance for the whole family to be strengthened, to cleanse oneself of spiritual "garbage" and start moving on the spiritual path.

Here are some practical tips for parents to revive a traditional culture of interpersonal communication:

The life of our ancestors, including its family aspect, was strictly The family life was strictly rhythmic, subject to a single cycle of natural laws. The type of family activities, i.e. family life was supported by a system of traditions, ceremonies and holidays. Family life was supported by a strict system of traditions, ceremonies and joint holidays. Unfortunately, members of modern families have different social schedules of daily of everyday life, different professions, aptitudes, interests.

It would be very useful to remember, to resurrect family customs, to introduce at least a few traditions, maybe linking them to the seasons of the year. perhaps tying them to the seasons of the year. For example, summer vacations together at least for a week the whole family spends together, working for the good of the family and the clan. Family and clan work. Beneficial effect of unselfish help to neighbors, Joint holidays for all the children. It is necessary to teach the younger generation to give their efforts unselfishly, and in their lifetime!

In this joint action family harmony is revived, the child gets a feeling of "a reliable parental shoulder, strengthens the authority of the elders. It is necessary to consciously Avoid all forms of disharmony in relations. Eliminate Distressing criticism for the child, even in a joking form, and to base one's Actions, thoughts, and speech only on goodwill and benevolence in all situations, even if one of the family members is wrong. I recommend making such changes, starting with your speech, especially the timbre of your voice and your gaze. The most soothing, calm tone of voice and a gentle, positive look are most acceptable. Once again let me emphasize again that these are states that parents should develop in themselves by acting purposeful and conscious, in the course of joint psycho-physical meditative exercises, or by listening to spiritual music, reading special literature.

Family life must not only be rhythmically aligned with The family's life should not only be rhythmically structured according to revived traditions, but also a unified spiritual foundation should be laid. In this, a special role belongs to the father, for it is he who determines the spiritual path of the family ship. The authority of the father will be increased and strengthened by That children will be able to see the success and priority of his life But this position should be responsible and sincere in the first place sincere. Lying in spiritual matters is most dangerous! And secondly, such a position should be constant, not depending on the vogue of the time and and the momentary orientations of society. I would especially emphasize that the education of boys should be aimed at developing a sense of responsibility for their thoughts and and actions, for the family, for the country, etc.

Family life is only full and dynamic when it is filled with mother's love. Parents need to learn to clearly distinguish between the feeling of blind love, which only causes infantilism and social dependence in children, from sincere parental love that supports the child's spiritual and and physical growth. I will express a paradoxical, controversial idea, but it is very important: A child is capable of effective self-improvement from the moment of conception, in the intrauterine period of its development. Parents must clearly understand that It is they who establish the culture of interpersonal communication in their offspring, and not not through moralizing, boring conversations about the right way of life (although the role of words in upbringing is also important), but parents can lay the foundation of culture spiritual development of the foetus with their kind thoughts, a positive attitude, and deliberate actions together in the family.

In the East it is said that the father educates to a greater extent by deeds, by personal example, and the mother by a kind word, a wise parable, a fairy tale, a conversation. By example, and the mother by a kind word, a wise parable, a fairy tale, a conversation. It is she who "leads" the child and supports in all difficulties on the "path of purification of the heart. The main qualities that, in my opinion, must be consciously cultivated The main qualities that I think a woman who is going to become a wife and a mother should consciously cultivate in herself are tenderness, forgiveness, solicitude, caring, and humility.

Based on my many years of experience as a doctor, I will address another important aspect of family life is the psycho-physical health of all family members. Nowadays a lot of literature is devoted to this problem, and media reports,

etc., are devoted to this problem. In this presentation I would like to I would like to specify from what period it is necessary to begin forming a culture of of health. Alas, in the European civilization a man has only lost in a hospital bed or, even worse, in a wheelchair, begins to understand the value of a strong and active body.

As a physician, I am convinced, aided by my family's experience, that the key to health is in a conscious way of life, in the constant painstaking control of one's behavior and thoughts, a subtle analysis of one's emotions, the elimination of negative feelings and the cultivation of highly positive ones, in the purposeful the purposeful formation of stable spiritual interests in the whole family! This is what is fundamentally This is fundamentally important: a person lives and develops in the bosom of the family since birth. This is his or her daily spiritual and material support. It is not so important whether the family is full or incomplete. whether a family is full or incomplete it is spiritually stable status of people living together that matters. The family is created to meet not just one or two, but a whole set of vital human needs. The family, therefore, unlike other small groups, unions and corporations, unites the whole integrity of its existence, whereas whereas, for example, the members of the production team unite only their professional interests.

More than any other social formation, the family The family has a unique ability to connect personal - collective - public interests through its multifunctionality and ability to to cultivate the physiological and psychological needs of the individual, through its capacity for self-development as an inseparable cell of the great social organism called society. Therefore,

the fullness and measure responsibility for the physical and spiritual-moral health of the child rests with Parents from the moment they reach out to each other, from the moment they They think about creating a family union and about giving birth to a new life - their future child.

In support of my conclusions I will refer to the statement Hazrat Inayat Khan stating that "most people are convinced that to be spiritual means to do wonders, to see extraordinary things, amazing

And only a few know how simple it is, to be spiritual means to be natural" [1, p. 215]. I will add to this statement by saying that to be healthy means to be a natural, physically and spiritually perfect person. Such This understanding must be inculcated in a child even before he or she is born prenatal education, prenatal inculcation of the culture of health, i.e. This understanding must be inculcated in the child before birth through prenatal education and the culture of health, i.e., through a sustained and purposeful relationship between mother and father unborn baby. In our concept of prenatal formation foundation of health, we do not view the unborn infant separately from the mother and even avoid calling it a "fetus," or an "embryo," as something totally unconscious, unformed.

The relationship with the child during the foetal period should be given more conscious importance, with the infant's spiritual and psychological development being ensured by both mother and father. In our practice, techniques that affect the unborn child are not applicable. We do not use methods for the unborn child, but the psycho-emotional state

of the mother during the pregnancy is very important during pregnancy is very important and needs to be influenced in the direction of The mother's psycho-emotional state during pregnancy is very important and should be influenced in the direction of creating positivity, togetherness with the baby, feeling its mood.

Oriental practice attaches great importance to the spiritual state of the father during the whole period of the wife's pregnancy. This is important because according to Eastern worldview, the mother forms the infant's body and his psycho-physical status, while the father contributes to the formation of his child's spirit and "lays down" in the child's the more active and pure the father's thoughts on his child of his child, the more viable and successful the child will be in the future baby!

European medicine also talks about conscious preparation for conception and childbirth, Unfortunately, in our society there is an entrenched view that only a healthy a healthy nutrition, controlled physical effort and a positive attitude of the mother during pregnancy contributes to the correct development of the foetus during pregnancy contributes to the proper development of the foetus. The fathers, on the other hand, are often are either avoided altogether from the process of supervising their wives' pregnancies, or understand their role as the breadwinner of the family. In my opinion the idea is that this is not enough.

Parents should jointly make conscious preparations long before parents should consciously prepare for pregnancy long beforehand. It is especially important for young people It is especially important for

young people who are about to start their lives and have their first sexual experiences.

A woman should think about pregnancy at least a year and a half in advance, i.e. think about her nutrition, adjust her mindset, assess her body's The state of the body's internal systems, mentally cleansing the reproductive It means to think about a pregnancy for at least a year and a half, to correct her nutrition, to clear her internal systems and fertile organs, to get rid of fears and negative pregnancy assumptions pregnancy. The father must carry out such work at least six months before conception child. It is a family and collective approach that is important in this difficult process It is the family approach and the commitment to the health of the unborn child that is important - the awareness of every action, words and thoughts of young parents!

I am a strong advocate of natural childbirth, preferably at home, because the birth process is one of the most important character-building events in a person's life. Surgical interventions, especially Caesarean section, which is fashionable in the West, creates fear, It may also lead to suicidal tendencies among adolescents and a reduction of a person's inner self. Often during childbirth a woman only thinks about her fears, her fear of pain and the possible negative consequences for her health alone. But she is responsible for the baby's health and life, especially as the pain passes quickly, but the character of the little one will be very hard to change later on.

The practical experience of Ukrainian specialists who have set up an antenatal centre at the Centre of Clinical Genetics and Prenatal Diagnostics in Kharkiv is of interest. Its staff, including paediatricians, neonatologists,

geneticists and molecular biologists, are convinced that parents' attitudes can influence both the physical and psycho-emotional state of the baby. And in this centre the geneticists deal with the prevention of diseases in children long before they are born.

As practice shows, through classes at this centre, prenatal treatment and prenatal education of the child can significantly reduce the risk of transmitting hereditary family diseases and weaken the effect of pathological genes on the developing organism. Psychologists work with the most "problematic" couples to teach them how to communicate with their unborn child [3]. Specialists believe that the unborn child begins to react to the outside world from about 8-9 weeks of pregnancy, it even detects individual sound and taste preferences, which it actively signals. The modern psychologist V.M. Livshits states that the child also reacts sensitively to the mother's thoughts and changes of her emotions, i.e. "the unborn child already has consciousness, which is clearly recorded by researchers starting from six months of age" [3].

The successful cooperation of specialists from different fields, medical doctors, genetic biologists and psychologists is another confirmation of the fact that perinatal medicine and perinatal psychology have a promising development. In the last third of the twentieth century, there has been an upsurge of interest in prenatal and perinatal studies. The International Study Group on Prenatal Psychology (Vienna, 1971, initiated by G.H. Graber), the International Association of Prenatal and Perinatal Psychology and Medicine (Austria, 1986, ISPPM President Rupert Linder, MD (Germany)), the Russian

Association of Perinatal Psychology and Medicine (APPM, Russia, Ivanovo, 1994) were established.

President of the Russian Association of Pre and Perinatal Development, Dr. Nina Chicherina), international journals have been published in English and German, and since 2004 the journal Perinatal Psychology and Parenthood Psychology has been published in Russia, and international congresses have been held. The International Society of Perinatal and Perinatal Psychology and Medicine (ISPPM) has grown in more than 30 years of experience into a respected world-class organisation with more than 500 experts from 10 countries in Europe alone. It has offices in 10 countries, including England, Greece, Poland, Hungary, Slovakia, Croatia, Serbia, Switzerland, Austria, Australia, The Netherlands, Spain, Israel.

The objectives of the work are to bring together the most important European scientific research and the latest methods of scientific knowledge from other continents and to coordinate, share and transfer truly unique information to the entire world community on the problems of prenatal medicine and psychology. The main objectives include such as the study of the basics of the integration of sciences - in obstetrics, neonatology, psychology, psychotherapy, sociology, genetics, physics and other disciplines, which contributes to the early prevention of bodily and spiritual developmental disabilities in the pre and perinatal phases of the child.

Further development of therapies and research in these fields of science based on in-depth knowledge of prenatal development helps new generations of people to improve

the quality of their lives, to give birth to children more already the XVII International Congress of the International Society of Prenatal and Perinatal Psychology and Medicine (ISPPM) and the VI All-Russian Congress of Pre- and Perinatal Psychology, Perinatology and Psychotherapy of the All-Russian Association of Pre- and Perinatal Development (RAPPD) [6].

Going deeper into the history of the issue, it should be noted that The theoretical foundations of perinatal psychology were laid by the American perinatal psychology was founded by the American researcher Stanislav Groff, who developed the perinatal matrix theory. According to Groff, the forming consciousness of the unborn baby contains four fundamental matrixes (clichés, stamps): matrix of intrauterine life violation; victim matrix; matrix of struggle; freedom matrix. The matrixes are laid during pregnancy, childbirth and the first stages of the postnatal period [7].

It has been noted that children who have been in comfortable psycho-emotional conditions during pregnancy and birth have higher initial mental potential than other infants. For example, separation from the mother immediately after birth has a negative impact on the child's willpower and perceptions of freedom and independence, which can be intimidating for these children. Parents' reluctance to have a child, especially if the mother demonstrates such reluctance, has an extremely negative psychological potential. So-called "accidental" children show decreased motivational activity, blurred purposeful attitudes and other problems.

Thus, prenatal and childbirth difficulties leave a deep mark on a person's developing psyche.

This makes it more difficult for a person to adapt socially, and it makes it more difficult for the adult to communicate collectively in society, and so on. In order to avoid these kinds of difficulties it is necessary to work on several fronts at the same time. The first is family counselling, developing a culture of interpersonal communication in the family, deepening and stabilising family traditions. Secondly, there is the psychological and pedagogical activity of specialists in forming special respectful attitudes in society that welcome independent choice choice in respect of human health, and the formation of its foundations as early as the prenatal period prenatal period. In my opinion, a society whose world view is based on traditional family values and is now demonstrating promise.

CONCLUSION

To summarize the above, let us turn to the classical To summarize, we turn to the classical definition of family, which can be found in the modern philosophical dictionary: "Family is a small group based on marriage or blood kinship, the members of which are bound by the community of life, mutual moral responsibility and mutual assistance" [8]. It would seem that the definition sets common parameters that bind different people together: common moral rules, responsibility, mutual assistance. I also wholeheartedly agree with these parameters, but I want to emphasize that the basis of a family should be conscious spirituality, untiring growth of soul due to cares and efforts of each family member, voluntary service to each other. It is with this approach that the family can be seen as a kind of small school of Love.

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Use Of Experience Gained In The Process Of Teaching Chemistry

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ABSTRACT

This article describes improved experiments on factors influencing the rate of chemical reaction from general chemistry in continuous learning: catalyst and temperature, reagent surface area, dependence on reagent concentration.

KEYWORDS

Experimental techniques and methods, reaction rate, factors affecting the reaction rate, catalyst, temperature, pressure, surface area of a substance, concentration of substances, reaction conditions, an increase in the reaction rate.

INTRODUCTION

In accordance with the Resolution of the President of the Republic of Uzbekistan Sh.M. Mirziyoyev dated August 12, 2020 No. PP-4805 "On measures to improve the quality of

continuing education and scientific efficiency in chemistry and biology" Chemistry in higher and secondary schools. Special and general secondary education requires further

improvement in the teaching of natural sciences.

The role and significance of chemical experiments in the formation of students' practical competencies on the basis of lifelong education are incomparable. One of the urgent tasks of modern chemical education is to further improve the conduct of experiments on the "chemical reaction", which is important for science and the field of chemistry.

Much attention is paid to the experience and skills that students need to acquire in the programs of chemical sciences of higher, specialized secondary and general secondary education, as well as in state educational standards [1; p.33].

It is known that experimental techniques and methods used in the study of chemistry are widely described in the literature [3;p. 34-35].

Taking into account the above tasks, let us dwell on the approved experiments to study the regularities of chemical reactions, which are supposed to be carried out in chemistry programs of higher, specialized secondary and general secondary education.

MAIN PART

In general secondary and higher educational institutions of great theoretical and practical importance is the formation of knowledge and skills on the rate of chemical reaction and its definition, as well as the influence of various factors on the rate of reaction [2; p.35].

The more students know about the rate of chemical reactions, the easier it is for them to understand the nature and mechanism of chemical reactions. In the process of observing

chemical experiments, they learn that the rate of reactions changes, as well as important factors affecting the reaction (temperature, pressure, concentration of reagents and catalyst) [4; p. 36].

It should be noted that in the program of the course of general and inorganic chemistry, a special place is given to the knowledge of the rate of chemical reactions. There are experiments on the dependence of the rate of chemical reactions on various factors and their detection, but there are few guidelines. In most cases, teachers will simply list the factors that increase the rate of chemical reactions.

In the experiments we recommend, students will see that the reaction rate depends on temperature, the presence of a catalyst, and the surface area of solids. Substances and catalysts, such as bertol salt, potassium permanganate, metallic zinc, marble, hydrochloric acid, are obtained in optimal quantities for the reaction, the reaction conditions are measured, and the experimental results are formulated.

Theoretical and practical teaching of the topic "The rate of chemical reactions and factors affecting it" is considered on the example of the course "General chemistry" in the bachelor's program "Chemistry" of pedagogical universities of the Republic of Uzbekistan and the subject "Chemistry" in secondary schools. At the same time, on an analytical basis, the volume of hours in the curriculum of the subject, the content of the topic in textbooks and teaching aids were studied.

According to the chemistry program of the 8th grade of a comprehensive school on the topic "The rate of chemical reactions and the influence of various factors on it", only 1 hour is given. There are no separate hours allocated for laboratory experiments on this topic. In the modern era, when the formation of practical competencies in students is one of the urgent tasks of modern chemistry education, there is a need to improve practices.

In higher educational institutions, 4 hours of theoretical and 4 hours of laboratory studies are allocated for a bachelor's degree in Chemistry. The lack of the necessary reagents and equipment in universities requires quick and effective experiments in the practical study of the reaction rate and the factors affecting it. Accordingly, we aimed to build and test an improved experimental device in order to study the reaction rate and the factors influencing it.

Grades 8A and 8B of secondary school №16 of Uchkuprik district were chosen as the object of the experiment. Initially, the knowledge and practical skills of students in this class regarding the rate of a chemical reaction and the factors influencing it were monitored on the basis of oral questioning. According to the results, the quality of assimilation and knowledge of students on the topic did not correspond to the high indicators we expected. To ensure the reliability of the results of the experiments, the classes were divided into experimental and control classes.

Class 8A was designated as an experimental class and class 8B was designated as a control group. In the experimental class, the improved experimental setup developed by us was used only for experiments on the effect of catalyst

and temperature on the reaction rate. In the control group, the experiments were carried out on the basis of a device consisting of devices given in the laboratory instructions for this subject.

On the basis of experiments carried out in both grades, students' practical knowledge and skills on the topic were retested in order to compare quality indicators. The analysis showed that the quality of assimilation and knowledge on the chosen topic in the experimental class changed significantly in comparison with the control class. The university carried out a comprehensive study of such factors as the effect of the catalyst and temperature on the reaction rate, the surface area of the reagents and the concentration of substances on the basis of an improved device. As the object of the pedagogical experiment, 101 and 102 groups of bachelor's degree "Chemistry" of the Faculty of Natural Sciences of the Kokand State Pedagogical Institute were selected. Group 101 was designated as experimental and group 102 as control.

The pedagogical experiments were organized as follows. In the experimental group, the effectiveness of the tool "Study of the action of important factors affecting a chemical reaction (catalyst, temperature, concentration of reagents and surface of a substance)" was investigated.

2 conical flasks with a volume of 500 ml (a, a'), and round tubes with a volume of 100 ml (b, b'), 2 graduated glass tubes with a volume of 25 ml (c, c'), 2 lamps (d, d') the device is assembled for the study of the electrical conductivity of solutions.

A. Effect of catalyst and temperature on reaction rate

The dependence of the reaction rate on various factors was studied in parallel experiments. The effect of the catalyst and temperature on the reaction rate was studied by oxygen extraction methods. In this experiment, the reaction rate is determined by the volume of the new substance (oxygen) formed.

This is due to the fact that solids (MnO_2 , KCl) remain after the reaction instead of the bertol salt. To do this, add the same amount of 0.73 grams of berthollet salt to the flasks (b, b') of the device. 0.8 g of MnO_2 catalyst was added to b'. The flasks were heated in one flame and the results were as follows:

1. The d' lamp is on 1 minute after the start of heating (it is known that b' catalyst has been added to the lamp).
2. Light d came on after 6 minutes (tube b was without catalyst).
3. Both reactions produce the same amount of oxygen (200 ml).

The rate of reaction in the presence of a catalyst.

$$V = v / t = 200 \text{ ml} / 1 \text{ min} = 200 \text{ ml} / \text{min}$$

Reaction rate without catalyst,

$$V = v / t = 200 \text{ ml} / 6 \text{ min} = 33.3 \text{ ml} / \text{min}$$

By comparing the rates of these two reactions, students find that the rate of the reaction is increased by a factor of 6 in the presence of a catalyst. In the same order, instead of the bertole salt, potassium permanganate (KMnO_4) is taken and placed in the same amount (b, b') in flasks, and flask b is heated in

b flame stronger than b' bubble. Heating begins at the same time. Students will see the light bulb illuminate 2 minutes earlier than the light bulb and will conclude that the rate of decomposition increases with temperature.

B. Dependence of the reaction rate on the size of the surface of the reagents.

The dependence of the reaction rate on the surface area of the reagents was investigated as follows. The same amount of 3% HCl solution was poured into the tubes of the device (b, b'), the same amount of granular zinc metal was added to flask b' and the same amount of powdered zinc metal (0.49 g). Into flask b at the same time. In this case, due to the large surface area of zinc in tube b, the hydrogen in this tube is released so quickly that lamp d is lit 1.5 minutes before the d' lamp. After the experiment, the students came to the conclusion that the larger the surface area of a solid, the higher the reaction rate in which this substance is involved.

C. Dependence of the reaction rate on the concentration of the substance

The concentration of the reactants, part a, b, c of the apparatus shown in Figure 1 was used and the following experiment was performed.

Pour HCl solution (1: 1) into tube b of the instrument, add 3 pieces of marble, 0.9 g each, and record the volume of gas generated every minute and get the following result.

60 ml CO_2 per minute. 56 ml of CO_2 was formed in 2 minutes. In 3 minutes, 40 ml of CO_2 was formed. In 4 minutes, 30 ml of CO_2 was formed. In 5 minutes, 14 ml of CO_2 was formed. From this result, the students saw that the amount

of gas emitted decreased over time as the concentration of substances decreased.

They then concluded that there is a quantitative relationship between the reaction rate and the concentration of the reactants. The decrease in the reaction rate was explained by the dependence on the surface and the amount of marble that reacts. Based on the data obtained in this experiment, the relative reaction rates per minute were determined as follows: 60: 56: 40: 30: 14 or expressed as 4.3: 4.2: 2.8: 2.1: 1, showed that the reaction rate in 1 minute was 4.3 times faster than the reaction rate in 5 minutes, and the reaction rate in 2 minutes was 4 times faster than in 5 minutes.

In the experimental group, students' practical skills on the topic "Reaction rate and factors affecting it" were controlled by oral questioning, which showed that the assimilation of the topic by students and the quality of knowledge significantly increased in comparison with the control group. In conclusion, it should be noted that the study of the rate of chemical reactions and the factors affecting them in general secondary schools and higher educational institutions in order to ensure the continuity and continuity of teaching seems to be one of the problems of improving the quality and efficiency of chemistry education.

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National Crafts And Socio-Economic Activity

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ABSTRACT

The article describes national crafts and its socio-economic significance, with logical and consistent logic.

KEYWORDS

Pottery, ceramic, craftsman, softer, dust, crafts, pottery, ganch engraving, pattern, copper.

INTRODUCTION

He is a craftsman who makes pottery and utensils. He is engaged in the preparation of bowls, bowls, plates, bowls, jugs, palms, bowls, jars, ovens and other items made of clay made from special clay, glazing them and baking them in jars. The main tool is a wheel. It is basically the same in all nations. Potters can

also make a variety of toys, tiles and pipes. Their profession is called "pottery", "pottery".

Pottery - pottery - is the field of craftsmanship where different types of clay containers, articles, building materials and more. People knew from the beginning of the Neolithic

period (5,000 BC) how to make pots from a special soil (dark, yellow, green, green, and so on) that the secretary would cook when planted.

Initially, bottles were made of clay, dried and then heated in a fire. The presence of ceramics everywhere in the world has made pottery widely available in almost all nations. Initially, women were engaged in ceramics in the late 4th millennium BC (early Mesopotamia) and at the beginning of the third millennium (Egypt), and later, when the pottery was invented, men began to embroider pottery. Today, simple ways of making ceramics are still common in the mountainous regions of Asia.

MAIN PART

The fossilized remains of the Neolithic settlement indicate that the vessels were made with pointed edges during that time. This means that the containers were used on the ground at that time.

In the Eastern and Eastern Greece during the Eneolithic period, the manufacture of fine ceramics, the use of ceramics in architecture, followed by the discovery of glazing techniques and the artistic value of ceramic products.

Archaeological excavations in Afrosiab and other parts of Central Asia show that ceramics flourished in Central Asia in the 7th and 12th centuries. In the 13th century, as a result of the Mongol invasion, pottery developed slowly. By the 14th-16th centuries, however, there was a rise. Separation of Central Asia into several feudal states in the seventeenth and eighteenth centuries led to the weakening of relations between the different countries, but, as with all types of crafts, ceramics were

created in different places. The nineteenth century ceramics are unique in their design, close to wood and gypsy carving.

The shape of ceramics, including bottles, has changed over the centuries with the times and tastes. The large water demand in central Asia has led to the proliferation of ceramic containers. In addition to making these dishes, the craftsmen adorned them with great taste. Widespread use of low-cost porcelain production in Russia in the 19th century and the large import of porcelain from central Russia have slowed the Central Asian pottery market. However, the demand for cheap ceramic tiles and articles, especially the need for ceramic products in the architecture, necessitated the continuation of ceramics.

Pottery is widely spread in Central Asia, especially in the town where Uzbeks and Tajiks live. In Karatag, Samarkand, Shakhrisabz, Gijduvan, Tashkent, Rishtan there are unique ways of painting ceramic bottles. In the 19th century there were large centers of ceramics. The products made here are sturdy, beautiful, elegant and appealing.

After the October Revolution, special attention was paid to the organization of pottery. In 1930, experimental ceramics workshops were opened in Tashkent and ceramics workshops in Samarkand. In 1932, a training and production workshop was launched in Tashkent, where short courses were organized, potters were trained, and their skills improved. During the difficult years of the Great Patriotic War great attention was paid to pottery. In 1943 in Shakhrisabz began training and production artistic complex. Dozens of famous ceramists, such as Turob Miraliev (Tashkent), Rustam Egamberdiev, Karim Hazratkulov (Shahrisabz),

Uzak Shermatov, Kholmat Yunusov (Rishtan), Muhammad Siddiq, Usman Umarov (Gijduvan), were trained. Muhiddin Rakhimov, a national artist and candidate of art criticism, worked hard in developing ceramics in Uzbekistan, making pottery from young people and studying ceramics. In Gijduvan and Rishtan, pottery was particularly developed, where dozens of pottery workshops were established. In the 1940s products of the «Pattern» in Gijduvan, and «New Life» in Rishtan became popular throughout the country.

According to the famous ganch master Ziyovuddin Yusupov, “Ganch carving has a thousand-year history. This type of folk art has been widely used in Iran, Turkey and Turkestan, and it is still practiced. There are many opportunities for gardening. It can be shaped in any way, and in this art our ancestors showed their dreams, culture, philosophy of the time. ”Bekzod Norboev wrote:“ Ziyovuddin aka Yusupov Bukhara School of Gardening, Umarjon aka Takhirov Khiva They start creative in school methods. Their intention was to contribute to the strengthening of the Uzbek people in the field of applied art. What they have done so far cannot be counted: Decoration of the Metro National Park, Memorial Complex in Karshi and Regional Theater, Tashkent Institute of Irrigation and Mechanization Engineers.

In the 19th century, schooling was established in Bukhara, Kokand, Margilan, Samarkand, Tashkent, Shakhrisabz and Khorezm.

After the Revolution, artisans were organized into artillery. Since the 50s, gift products and artistic products have become more and more popular. The workshops were opened. In these

workshops, masters from various schools of embroidery (such as L. Fozilov in Kokand, S. Khamidov in Bukhara, Y. Bekjanov in Khiva) taught young people the art of embroidery. Samples of Kokand and Margilan School of Gardening depict gardens, meadows, and ornaments are made with shallow and narrow ground. Copper items and bottles in Tashkent are decorated with larger, simpler patterns. The patterns of the Bukhara School are sophisticated and elegant. The ornaments of Karshi and Shakhrisabz are engraved with precious stones and colored bottles. Samarkand ornamental patterns are common in geometric shapes. The Khorezm grasshoppers work in the form of elaborate ornamental patterns and geometric patterns.

Restoration and placement of all areas of national crafts, applied arts, even forgotten and forgotten, can not only enrich our national culture, but also to enter the world market with its masterpieces and extensive consumer goods, as well as one of the most pressing problems in our country. to some extent, especially in the transition and transition to market economy and market relations. As an example, we would like to give the following information:

Looking at employment in Uzbekistan in 1990 by sectors and sectors, one can see the validity of the above conclusions.

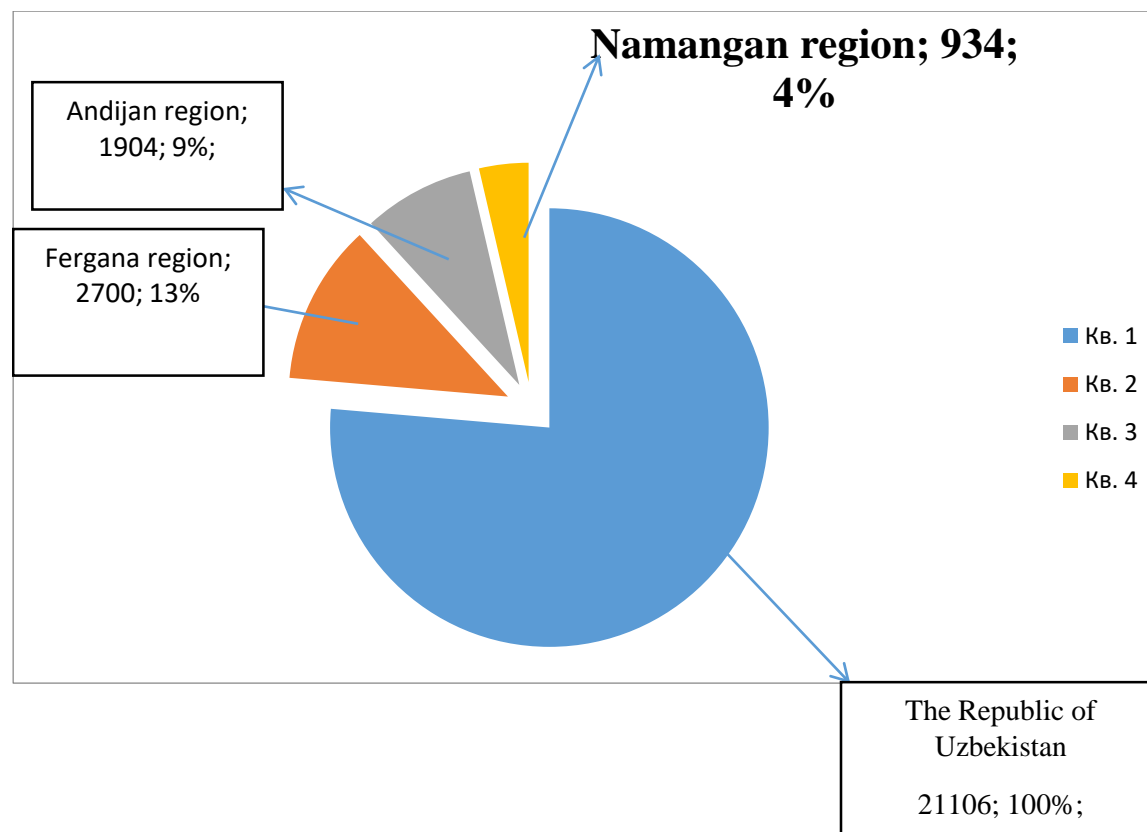
Of the 347,400 enterprises currently operating in Uzbekistan, 93.0% are non-state enterprises and only 7.0% are state-owned enterprises. Non-state enterprises comprised 48.6% of farms and dehqan farms, 2.1% of joint stock companies, 1.9% enterprises with foreign investments and 40.4% of other types of enterprises. In the country, 77.2% of the total

employed population is in the non-state sector and 22.8% in the public sector. Consequently, the transition to a market model of the economy is being carried out in Uzbekistan too. The main challenge now is to improve the

structural deposition that reflects this process. At the same time, it is important not to diminish the attention to the sectors and industries, related to national handicraft and craftsmanship.

Diagram 3

**Share of Fergana region in the number of craftsmen in the Republic
In 2011 (in relation to the republican indicator)**

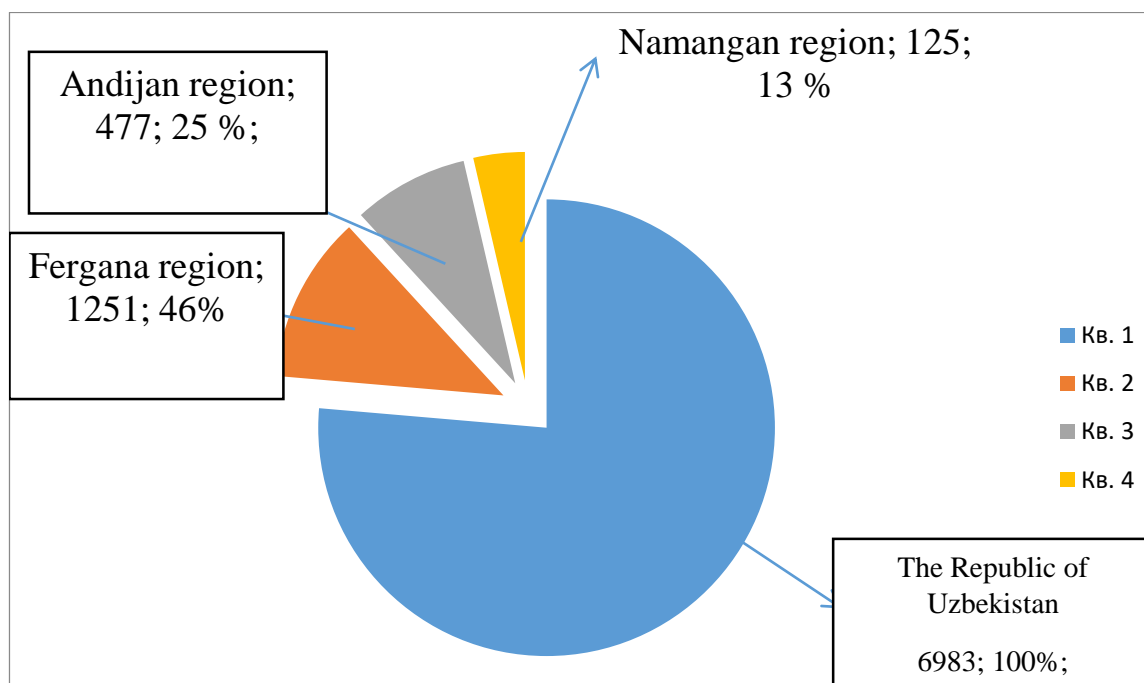


Explanation: The diagram was prepared by the author based on the data of the Republican craft Association.

As it is known, in recent years in Uzbekistan, a lot of attention is paid to home-based work to ensure employment. Family business is particularly important. At the same time, crafts are being consolidated into the Republican Association of Craftsmen, and wide opportunities are created by adopting

programs to promote their activities. The total number of registered workers in the Association of Craftsmen across the country in 2011 reached 21,106. Of this, the share of the Fergana region is 5538 people, which is 26.5% of all craftsmen in the country. When analyzing the number of artisans in the Fergana region, almost half (2,700) of them belong to the Fergana region. In Andijan (1904) and Namangan (934) regions, the number is relatively low.

Diagram 4
Share of Fergana region in the number of craftswomen in the Republic in 2011 (by region)



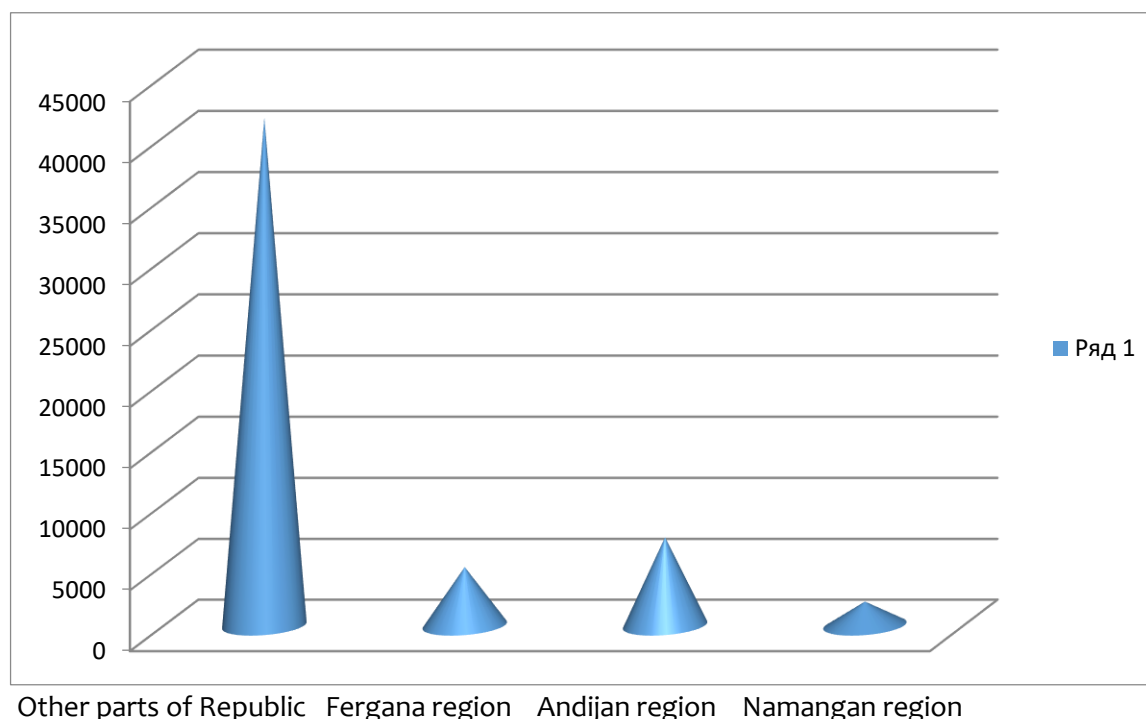
Explanation: The diagram was prepared by the author based on the data of the Republican craft Association.

During the years of independence women have been involved in the production. In particular, women are employed equally with men in small businesses. In 2011, the number of artisans in the Republic was 6,983, of which 1,853 persons, or 26.3 percent, were from the Ferghana region. Given that craftswomen account for 33.2% of the total craftsmanship in

the republic, craftswomen in the Ferghana region make up about 34% of the total number of artisans in the region. This is due to the high attention of artisans in the region. In particular, 46% of craftsmen in Ferghana region, 25% in Andijan region and 13% in Namangan region. In the Andijan and Namangan regions of the region, women's participation is lower than in the Fergana region.

Diagram 5

Volume of goods produced by Hunarmand Association in 2011 (million soums)



In 2011, the Association of Hunarmand produced goods worth 55,608.5 million soums. Of them, the products worth UZS 14021.7 million belong to the Fergana region and to the amount of UZS 41,586.8 million. The region produces 25.2% of national crafts. Analysis of crafts production by region makes up more than half (51.7%) of crafts produced in the region. Production in Fergana and Namangan regions is negligible. In these areas, home labor and craftsmanship are explained by the slowness of local conditions.

Independence and respect for our national values is one of the major challenges of today. Everyone living on the territory of Uzbekistan must protect their national values to the future, to the younger generation.

Everyone should feel it when it comes to respecting the heritage, cultural values, and national values left by our forefathers.

Table 6

Contribution of national applied art and national crafts in production

T/p	Types of activities	Total in Uzbekistan	Including by region					
			Tashkent	Fergana	Zarafshon	Mirzachul	South	Lower Amu Darya
1.	Pottery, baking, porcelain	100	78,1	18,8	2,1	0,4	0,4	0,5
2.	Miniature, painting	100	50,6	36,9	8,9	-	1,9	1,7
3.	Knitting, ganch engraving	100	23,7	32,0	38,1	2,5	1,0	2,7
4.	Knitting, embroidery, bricklaying, blacksmithing	100	9,0	74,9	11,4	1,4	0,9	2,5
5.	Gold embroidery, embroidery, embroidery	100	1,7	90,2	6,6	0,4	0,4	0,7
6.	Wood carving	100	10,3	69,3	12,4	1,3	1,1	5,6
7.	Jewelry	100	55,8	33,7	6,7	1,5	0,7	1,6
8.	Carpets, satin knitwear, embroidery, skullcaps, roses	100	4,8	71,0	19,7	0,9	0,6	3,0
9.	Crafting in bulk molds	100	13,3	51,4	33,4	1,1	0,1	0,7
10.	Entrepreneurship	100	13,7	80,9	3,9	0,8	0,2	0,5
11.	Sewing, saddle making	100	23,7	63,5	10,2	1,0	0,3	1,3
12.	Production of household goods	100	4,7	72,3	18,8	3,0	0,6	0,6
13.	Puppet making	100	2,7	17,2	78,9	0	0,1	1,1
14.	Other	100	77,8	0,8	9,7	2,2	1,7	7,8
Total		100	18,5	66,3	11,5	0,9	0,6	2,2

Note: The Republic of Uzbekistan is based on the materials of the Hunarmand Association in 2010.

As for the national craftsmanship, first of all, the Decree of the President of the Republic of Uzbekistan “On measures of state support for further development of folk arts and crafts” pays special attention to the revival of

centuries-old traditions and original forms of folk art.

Each of the existing ceremonies in the social and family life of the Uzbek people contains a number of customs and rituals. Traditions and rituals relate to the centuries-old national traditions of our people.

Among the national crafts in the Fergana region, the most profitable are gold embroidery and embroidery, carpet weaving, knitting and knitting. In 2010, products of these industries were valued at 17888 million soums.

It accounts for 73.8% of the region's national crafts. For this reason, Fergana region is the leader in the country in the production of crafts.

The regional composition of the products of national art and national crafts is directly related to the historical formation, formation and development of handicrafts. The participation of the Fergana region is unique.

Regional workmanship and ganch carving; knitting, embroidery, knitting and embroidery and embroidery; The leather industry is ranked first in the country in leather and saddle

making. In particular, more than 90% of gold and embroidery products, 80% of crafts, knife, carpet weaving, knitting and knitwear and home appliances make more than 70%, woodworking, leather and saddle products.

The region occupies the third place in the history of ceramics, bakery and porcelain, after Tashkent and Lower Amudarya, and the second in Tashkent in miniature and painting. It is the second largest producer of jewelry in the region after Tashkent and produces 33.7% of the total jewelry in the region. This is double the amount of jewelry produced in the Mirzachul and Lower Amudarya regions.

Almost 80% of all puppets made in the country are in the Zarafshan region. Fergana region is second only to the republic, with 17.2% of the total puppet production in the region.

Table 7

Contribution of national applied arts and national handicrafts to production (million soums)

S/N	Types of activities	Total in Uzbekistan	Including by regions					
			Tashkent	Fergana	Zarafshon	Mirzachul	South	Lower Amu Darya
1.	Pottery, baking, porcelain	3986,9	3112,7	750,6	84,4	3,3	15,1	20,8
2.	Miniature, painting	508,6	257,4	187,5	45,4		9,7	8,6
3.	Knitting, ganch engraving	608,2	144,1	194,7	231,6	14,9	6,3	16,6
4.	Knitting, embroidery, bricklaying, blacksmithing	3755,3	338,5	2812,9	425,0	53,0	32,7	93,2
5.	Gold embroidery, embroidery, embroidery	8701,8	149,2	7845,9	576,0	36,5	31,3	62,9
6.	Wood carving	6540,2	671,2	4533,1	812,4	85,0	72,2	366,
7.	Jewelry	1083,9	604,6	365,0	73,1	16,5	8,0	16,7
8.	Carpets, satin weaving, embroidery, embroidery, flower	4942,2	236,0	3509,0	972,0	45,5	31,2	148,5
9.	Comfortable masonry in bulk shapes	852,8	113,4	438,2	285,1	9,4	1,1	5,6

10.	Entrepreneurship	3003,5	412,1	2431,1	115,3	25,1	5,5	14,4
11.	Leather, saddle making	1015,4	240,8	645,3	103,0	10,6	2,4	13,3
12.	Production of household goods	608,6	28,3	440,3	114,2	18,1	3,7	4,0
13.	Puppet making	398,2	10,6	68,4	314,0	0,2	0,3	4,7
14.	Other	557,8	433,9	4,7	54,2	12,4	‘0	43,4
Total		36563,	6752,	24226	4205,	330,5	228,	819

Note: The Republic of Uzbekistan is based on the materials of the Hunarmand Association in 2010.

As for the national craftsmanship, first of all, the Decree of the President of the Republic of Uzbekistan “On measures of state support for further development of folk arts and crafts” focuses on the revival of centuries-old traditions and original forms of folk art.

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The regional composition of the products of national art and national crafts is directly related to the historical formation, formation and development of handicrafts. The participation of the Fergana region is unique.

Note: Republic of Uzbekistan Hunarmand Association 2010 material.

In 2010, the sector of national applied arts and crafts produced goods worth UZS 36563.4 million, of which UZS 24,226.7 million or 66.2% accounted for the Fergana region.

In the Ferghana region in 2010 ceramics, confectionery and porcelain were manufactured to the amount of 750.6 million soums, which is 18.8% of the total ceramic production in the country. Tashkent region is the leader in the field of national handicrafts, its share makes up 78.1%.

In Uzbek embroidery you can find methods and techniques of Indian, Chinese, Russian, Afghan, Kazakh, Kyrgyz and Tajik embroidery.

The Uzbek national embroidery is rich in floral, geometric and flower patterns, while Russian embroidery is often depicted with geometric shapes, flowers, birds, and fruits.

In Kazakh and Kyrgyz embroidery, the elements are more like royal and hoofed elements.

According to ancient traditions, Uzbek girls - future brides made their own embroidery for their wedding. The brow is beautiful, elegant and elegant, and the bride is highly regarded. Girls, of course (these national traditions are of

great economic and educational importance for the younger generation to train, prepare them for life, to work), have been taught embroidery since the age of 9-10. They started embroidering independently 3-4 years later.

Ready embroidery experts have sought to express their dreams of beauty through their art and nature.

In the beginning of the 19th and 20th centuries a unique school of gold embroidery was created. In Uzbekistan, gold-embroidery schools have been opened in Bukhara, Samarkand, Ferghana and elsewhere. Embroidered garments made of precious fabrics are mainly worn by the Emir's palace and the city's rich.

Outside the city, SitoraiMohiKhosa and Shirbudin's palaces have a variety of bazaar exhibits, including ceramics, copper, knife making, and gold embroidery. This exhibition lasted 4-6 weeks in Shirbudin and 2 weeks in SitoraiMohiKhosa.

The annual festival is a traditional national holiday and is legalized by the government. The existence of such festivals contributed to the development of national crafts.

During the reign, gold embroidery was a long and complicated process until it was in the hands of the tailor. Gold embroidery was carried out in the following stages:

- Workshop cutter by standard;
- The tailor made the template and presented it to the king. After getting her approval, she moved to the gold.

Development of ornamental art After the collapse of the emirate in 1920 and the

establishment of the former «Soviet power» in Bukhara, the art of embroidery, like all kinds of art, went into international hands.

The difficulties experienced in the early years of the Soviet Union led to the stopping of dice cables from Iran, Arabia and Russia, and hampered the development of gold art. At that time, the types of gold jewelry also changed. Later, luxurious suits were replaced by skullcaps, women's hats, socks, slippers, album covers, sheets, sunglasses and more.

Jewelry was practiced only by men during the Emirate, because he did not involve them in the work, saying, «The dice that touch a woman's hand will become dim.» In 1930, a gold-embroidery art was established under the Artists' Union in Uzbekistan. In the early years, the artel did not fully meet the demands of the people. But then the artel expanded and became a factory. The number of workers and masters is increasing day by day. At that time, talented artist Olimjon Muhimmedov, talented ornamental artist Fayzulla Faybullaev, Umar Hiyatov and many other masters received a lot of students who were creative in their search for new styles and new forms. For example, she has made national clothes, household items, gifts and special orders.

Widespread in national costumes are embroidered skullcaps, which are a distinctive art. Skullcaps are widespread throughout the country, and each region has its own way of sewing. Dice skullcaps are only made in Bukhara. After throwing parganas, the women began to embroider beautiful skullcaps. The most beautiful copies of gold embroidery skullcaps in Bukhara were created. In particular, the girls sewed a number of skullcaps known as «Gulnoz», «Spring»,

«Navruz», «Dilorom», «Gulbahor», «Dilafroz», «Rano», «Festeval» and «Happiness». The art of gold embroidery is now developing extensively, and these products require exceptional skills.

The carpet weaving has been developed in Central Asia and especially in Uzbekistan since ancient times. During the archeological excavations in Khorezm, a carpet pattern was found dating back millennia BC. The carpet weaving was mostly occupied by women, and the ornaments were remembered and stored. The ornaments represent tiger and camel prints, apple blossoms, grape roses, plants, especially the image of the animal king. The main color was red and 2-3 colors, and blue, black, white, and yellow were secondary.

Andijan carpets are short, thick and soft. Samarkand's colorful long woolen fleece («bear skin») is unique.

In the 19th century, rugs developed in their own way. Carpet weaving centers have been developed, artes have been dismantled and craftsmen have been involved in making high quality carpets with the same pattern as well as small household items. An example is the carpet weaving artisan in the village of Oyim in Andijan region.

Centers for carpet weaving were established in Samarkand, Kitab, 1946, Khiva, Andijan, Termez in 1947, Shahrisabz in 1949 and Khojayi in 1954, local masters and students were trained, ancient traditional ornaments were selected.

The collaboration between artists and craftsmen has made some progress. Using the traditions of applied and magnificent art, the first new copy was created by the Khorezmian

carpet and its original Feruza color background. In the late 1960s small carpets were combined and new carpet factories were established. The craftsmen began to work in these enterprises.

In Uzbekistan, new factories in the Almalyk, Samarkand, Khiva, Farish, Shafirkan and other industries are made of traditional carpets and artfully enriched carpets.

It is still developed in the Ferghana Valley, Kashkadarya, Surkhandarya, Syrdarya and the Republic of Karakalpakstan. Samarkand, Urgut, Kokand and Khorezm are also carpet centers.

Traditional rugs are being developed as a craft. Silk carpets from Samarkand and Bukhara are also common. The Ustyurt Association and the Hunarmand Association have made a significant contribution to the development of traditional carpet weaving.

After the Mongol invasions in the 17th century, gold coins were first produced. Jewelry are made of gold, silver and other metals. The weapons were used in jewelry adorned with gemstones, glass crystal, gold, etc., used a very blend of gold and naphtha, which was used with soft and non-glossy silver and silver. In the 19th and early 20th centuries Central Asian khanates developed crafts. Often in cities such as Khiva, Bukhara, Kokand, Samarkand, Karshi, Shakhrisabz, Tashkent, Andijan, Jizzakh Kitab, Chust, Urgut, Margilan and other places, they lived in a special neighborhood. That is why the jeweler was called the neighborhood. Khiva had 12 jewelry stores in the 1860s and more than 100 in the early 20th century. Among the famous masters of art at that time were Mahmud Mahmud, master Omon Haji,

M.Rakhimov, H.Najmiddinov, master Niyoz Ohun from Namangan, Oybergan from Andijan, S.Bobojonov from Tashkent, Mirhoshim from Urgench, M.Abdullaev from Urgench. .Yuldashev, I. Kamilov and others. There are five jewelry factories in the city of Tashkent, which produce one name under the name Fanon. These are:

- Tashkent Jewelry Plant.
- Fanon Association.
- Creative Union Nur.
- Yantar plant.
- Einstein Rhine.

One of the streets in Chilanazar district in Tashkent is called «Jewelry». On the same street there is a Tashkent jewelry factory and a crafts college. Abdurashid Ganiev, a jeweler from Tashkent, helped greatly in the establishment of the National College of Crafts.

Knitting art has developed since ancient times, and nowadays the art of knitting is popularized as a folk arts and craftsmanship. There are few Uzbek knife-makers making rare knives.

Historical monuments in ancient cities such as Bukhara, Samarkand, Khiva, Shahrisabz, and Tashkent have been displaying wonderful signs of folk applied art for centuries. This is a unique celebration of human labor. Art ceramics is part of this art, one of the most ancient crafts of our people.

The potter, Raimberdi Matjonov, makes various clay items based on this technology. No wonder our nation has said, «A tree without a disciple, a tree without fruit.» The master is compared to a tree in Khorezm because it has a large number of disciples.

The Union of Craftsmen of Uzbekistan offered to open a crafts school at the Raimberdi Matjonov workshop, which allowed the master to spread the secrets of his craft. His students Davron Sadullaev, Amin Mirzaev, Maryamjon Matjonova and Mukarrama Sadullaeva are currently making a significant contribution to the development of art ceramics. The potter has a great role in repairing historical monuments. In 1956, he participated in the renovation of the Pahlavon Mahmud Mausoleum in Khiva. He has designed the ancient tiles for the lower part of the dome in the ancient style. They are still colorless. The potter was also involved in repairing the two towers of the Old Arc.

In 1957, the people's master was awarded a silver medal. Raimberdi Matjonov, a member of the «Master» Association, has been honored since 1999. His ceramics have been honored and displayed in the Republic and in Asia, as well as abroad, for example, Hungary, France, Czechoslovakia, India, Italy, and Mongolia. His bodice, jugs, pans, tin and others have become regular exhibitions in museums of Central Asian cities.

The history of the country is marked by the period of the Orientation. Since that time, the development of science and culture, literature and art has begun to rise.

In the agricultural sector too, gardeners, breeders, and master cereals actively contributed to the development of the country. Generally, the period required such a thing, while urban and rural inhabitants were engaged in the manufacture and manufacture of consumer goods through crafts and applied arts. The goods produced by the population were traded on the market, the outdoors

caravan sold their goods, sold and bought the necessary supplies.

If another similar or non-homogeneous culture is pressured or coerced into a national culture, then its development may not be there, but it all coincides. In other words, there is neither culture nor culture, and many things are forgotten. For example, if the Arab or Mongol invasion blended the native culture, the Russian, European culture, the Turkic occupation, the local population willingly or unwillingly - Russian culture, during the Soviet period the Arabic alphabet was first used in Latin and later in Cyrillic (Russian alphabet). what has been the result of the encroachment on science, culture, literature and art, and on the study of our past.

CONCLUSION

In addition, the establishment of a new Soviet Union in Turkestan, but its interpretation and implementation in violation of its basic principles, including individual or family arrangements, recognition of artisans and workers of arts and crafts companies as private owners, subject to significant taxation by financial institutions. However, it is important to note that even if some survivors are not eligible for retirement, their retirement age is not paid. The confiscation of their property and shops, and their expulsion in exchange for the recognition of family artisans as private owners, undermined nationalism and applied art. Such dishonesty has undermined the work of artisans and has led to their breaking. The artisans, unable to endure repression, were forced to move to work in artillery, factories and factories.

It was both politically and economically helpless against the national craftsmanship and its applied art. The name of the master-students, schools of crafts and applied arts, which are world-renowned, who have created masterpieces in folk crafts and applied arts, supply the consumer with consumer goods, have begun to grow due to such vices and weakness. As a result, the world-famous Turkestan carpets, ornaments, jewelry - historical monuments, porcelain bowls - can be found only in museums or private collections.

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Analysis Of Methods And Means Of Bump Hazard Prediction

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ABSTRACT

The article analyzes the methods and tools for predicting the impact hazard in the conditions of underground mining of gold deposits. To assess the stress state of a rock mass, the core disk method is proposed as a basic method. The degree and categories of impact hazard of sections of the rock mass are estimated. Due to the impossibility of solving many problems by geomechanical only field studies.

The reliable efficiency of the use of the finite element method and the boundary element method in predicting the impact hazard of the field sites a priori is shown.

KEYWORDS

Rock pressure, geodynamics, geomechanics, impact hazard, geomechanical state, rock displacement, stress-strain state, collapse, tectonics

INTRODUCTION

The difficulties, associated with the research of rock pressure, caused by the fact that the results of the research in a mine or in a certain mine are very specific to the location, where the research is carried out, which means that the results usually do not have a trend to be generalized and sometimes may be contrary to the results of other studies.

In order to study the rock pressure, monitoring and measuring must be provided in real underground conditions, also in the laboratory. These observations usually are provided in very different conditions, on different species and at different depths. As a result, the theory can be accepted, which is applicable to both the coal mines as well as to the development of salt, metal ores and others.

Also the problem of creating a safe environment for developers (miners), where rock formations were exposed to shock waves, possible through an integrated consideration of all the issues from the field of exploration, type of mining, methods of preparations and development schemes, transportation, and with the organization of labour at the facility.

MATERIALS AND METHODS

Naturally, the decision of such questions requires a special approach to the setup of research. It is essential that the study can provide exploration of rock pressure and displacement of rocks within the mining area as a whole and in its individual parts, also to develop an idea of the size and boundaries of the rock pressure and pressure discharge zones. In addition clear understanding of special stress concentration zones, formation of shock sources and shocks as a result of

mining must be developed. Another task is to develop technics to identify the shock hazards and forecasting of rock bursts at the places of their occurrence.

The successful solution of this task is possible with the right combination of scientific research at the mine, laboratory and mine conditions. These experiments must be repeated several times on real mountain conditions in order to develop recommendations and conclusions, based on scientific research and tests. Experiments on real mountain condition, in turn, must be accompanied by appropriate scientific research, designed to evaluate the effectiveness of the implemented activities and to give impetus to their further improvement.

At present, extensive experience of creation and application of methods and tools are collected for evaluating the stress-strain state of rock masses. Developed methods of deformation measurements of the total values of the stresses acting in the rock mass (methods of decreasing stress and fracturing), based on the recording of mechanical shiftings and deformations in the process of changes of stressed condition of rock masses [1, 2, 3]. These instrumental methods, having a number of advantages, have several disadvantages, caused by their labour intensity, by necessity to determine the elastic characteristics of rocks on the place of mining, as well as the complexity of extrapolation of measurements results to the large volumes of rock. In addition to pressure decreasing methods used instrumental methods of stress changes and deformations, which includes methods of hole deformometers, hydraulic insertions,

photoelastic sensors, coatings, deep and contoured frames and others. [4].

Based on the experience of working in bump hazardous deposits has been found out that the great effect is achieved by the use of a multi-tiered system in which regional methods and technical means are added to local methods.

By the degree of bump hazard portions of the array are divided into three categories [5]:

Category I - area with increased risk for the appearance of mining impact, visual signs - mountain bursts and micro-blows. These mining zones are subject to mandatory reducing stress and bringing them into a safe state from possible bursts, also must be taken additional safety measures of people employed in these studies;

Category II - areas dangerous for the occurrence of the mining impact. Visual symptoms - tremors, spalling, intensive weir formation. The mining zone should be brought into a safe from bump hazard state.

Category III - an area that does not pose a bump hazard from the impact of mining, can be operated without additional safety measurements.

The degree of bump hazard area is established by at least two methods and the most dangerous category [5]. Known methods of bump hazard assessment: a method for estimating core diskings at the base and the second method: electric, acoustic, electrometric, Poisson indentation in to stop back etc.

The study of rock pressure began with direct observation in the mines; this method is limited, as can be observed not the developing pressure, but only its after impact effect on the rock. Therefore, we can approach an understanding of the effects of the pressure based on these visible effects.

Research of rock pressure is conducted using the following methods:

Generalization of mining experience in order to conduct mining operations on arrays with possible mountain bump hazards. All cases of rock bursts must be analyzed and classified in order to find measures to prevent rock bursts. On the routes of planned developments constitute the basic types of structural elements in descending proportionate order in the overall structure of the orefield. By compiling a catalogue of rock bursts their frequency occurrence can be calculated in the areas outside of the zones of influence of each factor. Evaluation of the importance of structural factors is carried out using random balancing method using a scatter diagram of statistical data;

- Measurement of rock and ore deformation can be observed by measuring stations in mines and wells. Developed and widely used method of deep frames allows carrying out measurements in the depths of rocks.
- Testing of mechanical properties of rocks and ores in the conditions of uniaxial compression with the measurement of their strength and elasticity;
- Testing mechanical properties of the rock mass conditions in the field, based on an assessment of the fragility of the state of stress in the rocks with different

mechanical properties and the degree of tension have different resistance to the introduction of a rigid stamp.

- Studying conditions of rock transition to extreme conditions and their brittle fracture. The tendency of rocks to brittle fracture during over-limited characteristics. It was found out that the ratio of E/M can serve as an estimate of rock bump hazard (E - modulus of elasticity of the enclosing rocks, M - recession module degrading material, which characterizes the rate of the absolute value of tension decreases with an increase in the absolute value of the absolute distortion at the descending area).
- During micro seismic zoning of rock bursts and studying of their seismic energy. This method is based on the dependence of the velocity of propagation of elastic waves in the rocks on the magnitude of rock pressure. The greater the load, the greater the velocity of seismic waves in the elastic range, and vice versa.
- Seismic acoustic method of studying the stress state is based on the wave of indignation caused by the dynamic redistribution of the local stresses due to changes in the crystal structure or the movements of micro-and macroscopic defects. Acoustic emission accompanies the entire process of deformation of the material starting at the stage of displacement and exposing the dislocation on the surface up to the total destruction of the object;

A method of fracture analysis. A system of cracks, exposed on the perpendicular surface to the stretch of the ore body, is an indication of the bump hazard of the ore. When the direction of mining follows the running down

cracks in the array tension level is high, and vice versa. In the first case, the plane of maximum shear stress is normal to the plane of the fracture. Bump hazard increases when running down transverse cracks are exposed; the plane of maximum shear stress coincides with the plane of the crack. Bump hazard is reduced.

- Discharging method for determining stress level is based on the use of the characteristics of the elastic restoring of the deformation of elements by the way of artificial destruction of bond with the main array.

Method of estimation of stresses in the rock mass by the deformation of the contour of holes, which can be determined by the hydro deformation measuring device. It is used to quantify the stress level of rock, which is different from the method of discharge based on the measurement of sensors and calculation of stress level. The basics of the method are to calculate the stress level of the measured integral radial deformations of the good contour as in the stress discharge method or during long observation of the stress-strain state of the array.

- Electrical measuring method of the changes of stress level is based on the dependence of the electrical resistance of rocks from their stress level. When the stress level increases the electrical resistance of most rocks during elastic deformation decreases and vice versa.
- Modelling of the conditions and processes of formation of discharge pressure zones in the rock mass and withholding pressure using suitable materials, volts mass and optically active materials.

These methods can be used alone or in a connection with other matters and combination of two or three or more at a time phenomena. during tests and researches, depending on the complexity of the issues and the nature of their

Table 1. A comprehensive method for studying rock bursts

Objectives	Methods
Terms and character of manifestation of rock bursts	Conditions of appearance and parameters of rock bursts. Connection of rock bursts with manufacturing processes. Classification of rock bursts.
Conditions of formation and size of the hazard source	Measuring the impact of stress and strain in the core zone. Seismic- acoustic observation. Method of decreasing tension. Deep benchmarks. Modelling.
The mechanism and energy of rockburst	studding conditions of transition of the rock mass to an extreme state. Research of the Laws of brittle fracture of rocks in the laboratory and on the field. Micro-seismic studies. Simulation of rock bursts.
The effectiveness of the measures to combat the bursts	Micro-seismic, seismic acoustic and strain monitoring. Field tests of the mechanical properties of the formation.
Protective layers	Measuring deformation of the rock mass. Modelling of equivalent materials, valets-weight and optically active materials. Methods for calculating the limits and the degree of protection.
Prediction of rock bursts	Full-scale testing of mechanical properties of the array. Micro-seismic, tilt-metric and seismic acoustic research. Measurement rock deformation.
Using rock pressure energy to reduce a mining zone	Studying the behaviour of rock mass at recess sinking mines. Mining and experimental work. Modelling.
The study of similarities and differences of rock bursts and sudden rock falls	Testing of mechanical properties of the array on the field, the analysis of materials in the case of rock bursts and rockfalls in different mountainous geological conditions.

The results of a comprehensive study of the stress-strain state of rock mass, showing the compatibility of the measured tensions with tensions, defined by tectonic methods [6] indicate that the geological structures, including tectonic faults, provide information about modern stress fields in the Earth crust.

Improving the efficiency and reliability of the forecast as a bump hazard fields, also regional prediction in the process of development can

give knowledge about block structure of the rock mass in the area of the field and the interaction of the blocks and as a result of this - the stress state of the undisturbed array in each block.

Using the advantages of geological-structural methods of rock mass stress evaluation in solving many problems of the mining practice is strongly associated with the development of geodynamic zoning of deposits (GZD) in recent

years, unifying complex of geomorphology and tectonic methods [7]. The tectonic-physical methods, which are the foundation of the GZD method, do not allow to obtain quantitative values of operating tensions in the array. Planning of high rate mining in bump hazard conditions is often necessary and sufficient to use relative characteristics of stress state, compared with hazards of occurrence of dynamic events or difficulties in maintaining of extraction zones in mountains [8].

Given the complexity of the challenges we have to deal with, none of the above methods can independently address the issue of the behaviour of rocks; all of these methods should be combined to achieve this goal. It is impossible to develop any suggestions before the results, obtained by different methods, do not confirm each other, and will not correspond to the real facts, which are recorded during the direct observation in the mine. The general conclusion can be made when the proper explanation of rock pressure will be observed in all types of developments, and all provided observations will be comparable.

All research methods are based on the fact that the phenomena occurring in rocks, controlled by the weight of the rocks above the mining cavity.

Analyzing the discussed methods of measurement and evaluation of the state of stress and methods of bump hazard control should be noted that in order to solve many problems of mining geomechanics it must not be limited to results of research in nature. It is explained by the following circumstances:

- First, the empirical relationships established on the basis of these studies valid only for a certain range of conditions and factors in which they were received, and when a change of conditions occur, then needed studies must be repeated;
- Second, forecasting ahead of time characters and parameters of geo-mechanical processes is not possible due to insufficiency of the required information and empirical dependency, necessary because of the high labour intensity and longtime of field research.
- Third, field studies do not allow to provide the most important practical knowledge about extreme conditions of the objects, as this condition can lead to unacceptable violations of mining safety, or may cause economic loss. [9].

These shortcomings are eliminated by a combination of field studies with physical and mathematical modelling of situation. The results of field studies serve as boundary conditions at the modelling of geo-mechanical processes, and vice versa. Important behavioural tendencies of rock mass, identified during modelling, allow better plan full-scale field studies, specify the combination of the methods to be used, and the volume of necessary measurements.

Lately, various digital methods are being used in order to study the impacts of mining and theoretical solution of various geomechanical problems, among them outstanding methods are the finite elements method (FEM) and boundary element method (BEM). Especially these methods are widely used for the modelling of tensions of techno-genetic fields due to the influence of mining operations, as well as calculations of the stability of various

elements of mining developments and mining cavities [9].

CONCLUSION

Summarizing the above mentioned, it is possible to make the following conclusions:

- Up to the present, a large number of methods and means of field studies of geo-mechanical state of the array are developed, the area of effective application of which is determined by the particular geo-mechanical and mining-technical situation;
- For reliable prediction of dangerous dynamic rock pressure necessary to apply complex of regional and local methods of geo-mechanical monitoring and control of bump hazard in conjunction with the methods and conditions of modelling of the conditions and processes that cause rock bursts;
- Full-scale practical and theoretical methods have to be adapted as close as possible to geological and mining-technical conditions of development of a particular field and provide continuous monitoring of geo-mechanical and geodynamic processes, occurring in the rock mass.

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Prospects Of Development And Problems Of Introducing Digitalization In The Economy Of Uzbekistan

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ABSTRACT

Realizing the high importance of digital technologies, Uzbekistan, along with many countries, creates conditions for the transition to a digital economy. The task of the new economic model is to improve the lives of citizens by improving the quality of goods and services produced using modern digital technologies and to bring small businesses to the level of innovative entrepreneurship.

KEYWORDS

Digital economy, digital technologies, women's entrepreneurship, IT technologies

INTRODUCTION

The Action Strategy developed by the President of Uzbekistan Sh.M. Mirziyoyev, aimed at the economic development of Uzbekistan, the introduction of the digital economy is a necessary platform in the context of the globalization of the world economy and

the technological development of the country. The formation and implementation of the digital economy is one of the priority areas for Uzbekistan. In recent years, it has become a necessary task to introduce and develop the digital economy, transform the models of

activity in business and the social sphere, that is, the development of artificial intelligence, robotics, online commerce, wireless communication technologies, etc. Digitalization provides fundamental transformations in all spheres of human life and activities. Technology is not only becoming an engine for the development of new industries, but also acquiring important social roles, making a significant contribution to solving social problems such as population aging, social stratification, environmental problems and climate change. With the help of advanced science and technology, a "smart" society is emerging, based on new values of orientation towards human needs, flexibility, and creativity. Under the influence of digitalization, the labor market, health care, education, spatial development are radically changing, a lot of social and financial problems are being solved.

To date, the introduction of digitalization in the economy of Uzbekistan has faced a number of problems along with other developing countries: weak telecommunications infrastructure and communications, lack of digital skills and personnel in this area, undeveloped information infrastructure, insufficient quality of education and quality of human capital, outdated material and technical and the technological base of enterprises and sectors of the economy, an insufficient level of online commerce and online services provided to the population.

There are many definitions of a new technological order in the economy, the most common is the "digital economy" (web, Internet and electronic economy) - an economic activity based on digital technologies associated with electronic

business and commerce. Payments for services and goods of the digital economy are often made with electronic money, and this is only the most visible part of the process. Digital technologies play a key role in increasing the competitiveness of the economy and in stimulating the country's economic growth. The digital economy is a production based on electronic technology. The use of digital technologies launches the modernization of traditional sectors of the economy and creates new industries, which becomes the basis for economic growth and the creation of additional jobs.

The introduction of new digital technologies increases labor productivity, reduces business costs, increases the availability of information and reduces barriers to entry into new markets - and has a multiplier effect on the development of the economy as a whole. Digitalization requires the formation of new competencies in the labor market, which entails a restructuring of the entire education system. Realizing the high importance of digital technologies, Uzbekistan, along with many countries, creates conditions for the transition to a digital economy. The task of the new economic model is to improve the lives of citizens by increasing the quality of goods and services produced using modern digital technologies and to bring small businesses to the level of innovative entrepreneurship.

THE MAIN PART

Women's entrepreneurship as a dynamic small business sector contributes to economic growth, develops in socially significant areas of entrepreneurship for the country, contributes to the improvement of the well-being of women and is an important element in

ensuring the principle of equality of rights and opportunities for citizens.

“More active participation of women in the development of the digital economy will lead to sustainable economic growth. The OECD estimates that today the number of women actively using digital technologies is 250 million fewer than men. Moreover, women account for only 20% of the total number of graduates in professional fields related to information and communication technologies (ICT) [1].

Throughout the civilized world, women's entrepreneurship is associated with small business, with forms of family business and self-employment. The entrepreneurial resource of small business is actively used in Western countries to solve the problem of economic growth, as well as social problems, in particular, increasing employment and strengthening the role of women in society. Globally, the number of women-led businesses accounts for between a quarter and a third of all businesses. The women's business is developing in the field of personal services, in industry, in the food industry, in wholesale and retail trade, in design and fashion.

Entrepreneurs of Uzbekistan develop preschool education, support folk crafts, create jobs for vulnerable segments of the population, expand the network of consumer services and catering, take care of the health of the nation through the organization of medical and sports organizations. Women's business is able to satisfy the urgent need for the development of enterprises that provide social services to the population. The development of women's entrepreneurship in Uzbekistan will make it possible to rationally use the labor opportunities of women, mitigate

unemployment, and contribute to the growth of the material well-being of women.

State support for the development of women's entrepreneurship will significantly improve the well-being of women, contribute to the manifestation of their creative activity, participation in economic decision-making and social stability in society. The development of women's entrepreneurship in Uzbekistan will raise the standard of living of the population and reduce social tension in society.

In the digital economy, attracting women to the field of information technology will provide them with employment through the widespread use of IT technologies. The introduction of information and communication technologies, the improvement of the business environment in the regions, the widespread introduction of new information and communication and pedagogical technologies in educational institutions will provide new opportunities for the development of women's entrepreneurship. By creating a favorable business environment on the Internet, an increase in the number of women entrepreneurs can be achieved.

Based on the decree of the President of the Republic of Uzbekistan "On measures to develop the digital economy in the Republic of Uzbekistan" [2], the state is taking large-scale measures to develop the digital sector of the economy, introduce an electronic trade system, develop electronic payments and improve the regulatory framework in the field of e-commerce. Based on the implementation of the Country Development Strategy, in order to liberalize and develop entrepreneurship, to ensure close interaction between government

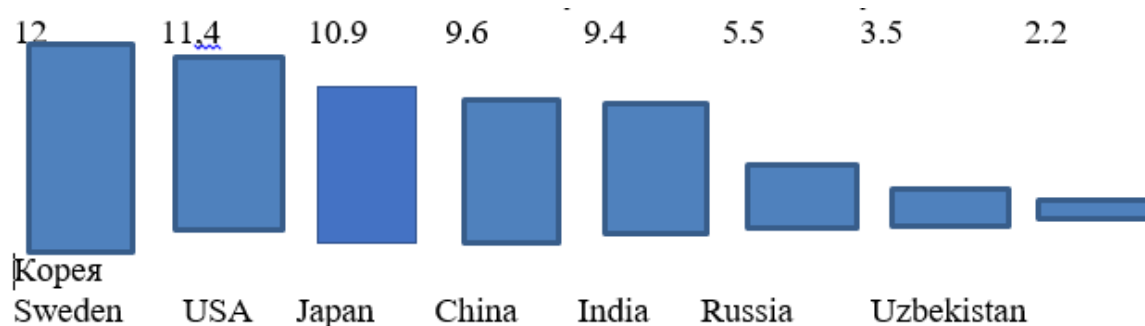
bodies and business entities in the implementation of innovative ideas, technologies and developments for further digitalization of the economy, it is necessary:

- Expand trade and service of digital goods both in the domestic market and for export;
- Increase the share of the digital economy in GDP;
- Increase investment in the ICT industry;
- Expand the provision of organizations with ICT specialists;
- Ensure digital security, as well as the security of subjects involved in the digital economy;
- Expand international cooperation and create attractive conditions for the inflow and implementation of advanced information technologies in all areas of economic activity;
- Stimulate and encourage the introduction of ICT in organizations, electronic services and introduce tax incentives for the development of digital technologies, as well as online commerce;
- Create dynamism in the development of the digital economy and its contribution to economic growth and the well-being of society;

- Expand the influence of digital technologies on business efficiency, employment, labor productivity and other socio-economic parameters.

The share of the digital economy in Uzbekistan's GDP at the end of 2019 amounted to 2.2% against 10.9% in the United States, 9.4% in China and 5.5% in India. The group of leaders includes states with the highest percentage of "digitization" of economic operations and a high level of technology - South Korea, Denmark, Great Britain, Sweden, Norway, and the Netherlands. 90 percent of the entire digital economy is controlled by nine companies, which also receive more than 90 percent of all profits - these are Apple, Google, Facebook, Amazon, Microsoft and others. The leaders of the national market of Uzbekistan Korzinka.uz, Artel, Yandex, NBU and others are striving to create their own economic systems that can compete in the domestic market.

In accordance with the draft Concept for the Development of the Electronic Government System of the Republic of Uzbekistan, it is planned to increase the share of ICT services in GDP to 5.0% by 2025, and to 10% by 2030.



Share of the digital sector in GDP, %.

According to the ICT Development Index (IDI), Uzbekistan in 2017 ranked 95th (index - 4.9) among 176 countries of the world (for comparison: Belarus - 32nd (7.55), Russia - 45-e (7.07), Kazakhstan - 52nd (6.79) Iceland took the first place (8.98), the second - South Korea (8.85) [3].

The digital economy is highly dependent on personnel - both in terms of competence ownership and in terms of technology availability.

President ShavkatMirziyoyev in his Address made a special emphasis on the importance of scientific and technological development: "The widespread introduction of digital technologies contributes to the efficiency of state and public administration, the development of the social sphere, in a word, a radical improvement in people's lives. Despite the fact that in 2019 our country rose by 8 positions in the International Index for the Development of Information and Communication Technologies, we are still very lagging behind in this area "[4].

In Uzbekistan, the One Million Uzbek Coders project has been launched to train a million domestic programmers, which is the foundation of one of the five initiatives of the President of the country. This is the opening of training centers on digital technologies with free training, aimed at increasing the computer literacy of the population, helping children interested in IT in realizing their potential, and creating software products. The teacher becomes more of a mentor and navigator in the educational process, rather than a "reproducer" of information.

"The implementation of the One Million Uzbek Coders project will allow to involve wide layers of the population in the development of new professions in the ICT field, to employ young people, including people with disabilities," said President of Uzbekistan Sh.Mirziyoyev. In the Address to the OliyMajlis of the President of the Republic of Uzbekistan ShavkatMirziyoyev on January 24, 2020, important tasks were noted, such as "Completion and implementation in two months of the development of the "Digital Uzbekistan - 2030" program, which provides for updating all sectors of the economy based on digital technologies, increasing the share the digital economy in GDP by at least 30%, thereby reducing corruption, a radical change in the digital economy this year, the implementation of the "1,0 million programmers" project with our foreign partners in order to further accelerate work on the development of science and the digital economy and the training of highly qualified specialists in this area "[4].

In Uzbekistan, there is a rather low level of use of digital technologies by the population in key aspects of socio-economic life (shopping, financial transactions, job search, education) and the integration of digital technologies is also at a relatively low level. According to the Telecommunications Infrastructure Index, Uzbekistan is ahead of only Turkmenistan and Tajikistan among the CIS countries, and with an indicator of 0.3307 it lags behind Russia, Belarus and Kazakhstan by almost 2 times. But at the same time, "According to the Electronic Government Development Index (EGDI), which is one of the indicators in the UN study "Electronic Government 2018 ", Uzbekistan took 81st place in the ranking, ahead of Kyrgyzstan (91st), Tajikistan (131st) and Turkmenistan

(147th), and lost to Kazakhstan (39th), Belarus (38th) and Russia (32nd) [3].

Of particular importance is the formation of educational programs that meet global trends and personalized learning paths that can provide "digital literacy". The penetration of digital technologies into the life of the population and the level of information infrastructure is based on: the availability of access to the Internet in households, the use of the Internet by the population; the use of mobile phones by the population to access the Internet; search by the population for information about goods (services) via the Internet, ordering goods (services) by the population via the Internet; financial transactions by the population via the Internet; downloading software by the population from the Internet; search for work by the population using the Internet; distance education of the population using the Internet; availability and demand for products and services related to digital technologies; stimulating massive demand for digital solutions from both business and the public.

The growth in the share of the digital economy, which is associated with the development of the field of information and communication technologies and their implementation in economic relations between suppliers and consumers of goods and services, directly depends on the availability of an appropriate level of infrastructure in the country and the introduction of advanced Internet-related technologies into economic processes. In assessing the development of infrastructure, an important role is played by the indicator of the speed of the Internet and its availability, including price, for consumers. One of the main tasks is to assess and measure the real benefits

of digitalization of the state for business and use indicators such as small and medium-sized enterprises selling online, revenue in the e-commerce sector, etc.

Accelerated introduction of digital technologies in the economy and social sphere, it is achievable only if a number of essential conditions are met. First, business and the social sector must be ready for digital transformation. Secondly, a relatively mature sector of technological supply should be formed in the country, capable of rapid transfer and adaptation of foreign technological solutions and a rapid increase in the scale of its own activities. Thirdly, the demand of the population for digital technologies should constantly grow, since it is the needs and capabilities of consumers that ultimately determine the adequate demand for digital technologies from organizations. The digital economy is the main source of economic growth. Economic growth will stimulate competition, investment and innovation, which will lead to improved quality of services, increased choice for consumers, and creation of new jobs [European Commission, 2018a] [6]. An economy in which, thanks to the development of digital technologies, there is an increase in labor productivity, the competitiveness of companies, a decrease in production costs, the creation of new jobs, a reduction in poverty and social inequality [World Bank, 2016p.] [7]. Since technological and innovative enterprises are the driver of the development of the digital economy, their small number in Uzbekistan creates serious risks for the digital development of the country. The main risks limiting the development of private business in the IT sphere:

- 1) Risks of limiting property rights and bringing to responsibility (personal data, licensing requirements, risks in public procurement, etc.);
- 2) Instability of business conditions, low coverage of regions of the country with digitalization;
- 3) Lack of incentives to export services, i.e. encouraging the introduction of electronic services in organizations by introducing tax incentives for the development of digital technologies, as well as online trading;
- 4) Threats to the safety of digital user data, a low level of trust in the digital environment;
- 5) It is possible to reduce the risk of resource allocation only through high quality management in the development and implementation of digital technologies based on the prospective demand of business and the population.

The development of technologies, the digital transformation of companies, the growth of competition for jobs, and an increase in life expectancy lead employees to the need to change their professional activity several times during their life, acquiring new competencies and skills.

A key factor in the success of digitalization processes is the availability of a sufficient number of highly qualified personnel and appropriate jobs.

CONCLUSION

Digitalization will require not only an increase in investments in digital technologies, but also a radical modernization of the infrastructure of almost all sectors of the economy, which will ensure high growth rates of the contribution of

the capital factor to added value. The digitalization of industries leads to a change in the demand for factors of production. Digital technologies make it possible to better take into account the opinion of society when making socially significant decisions in science, to involve the population in the processes of collecting data and posing research questions.

Based on the above, for the development of the digital economy, benefits are needed that will help entrepreneurs feel the ground under their feet, invest in development, for example: in their employees, improve their skills, attract expensive specialists, equip enterprises with advanced IT technologies.

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The Level Of Interregional Cooperation Of The Fergana Valley Provinces

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ABSTRACT

This article discusses about the current level of interregional socio-economic cooperation of Fergana, Namangan and Adijan (Fergana valley) provinces of Uzbekistan.

The purpose of the study is to analyze and give recommendations based on the existing issues on interregional socio-economic cooperation, the level of interdependence, innovation and technologies for business people and government officers of the country.

Scientific novelty of the research:

1. It is recommended to establish the Organization in Fergana city which can be useful and serve for industry productions sectors of the Fergana, Namangan and Andijan provinces.
2. The establishment of the same above mentioned organizations at the following regions of the country is also recommended: Tashkent, Jizzakh, Samarkand, Kashkadarya and Karakalpakstan regions.
3. For the possibilities of easy access of products` information for local and foreign trade firms, entrepreneurs and consumers in Fergana valley as well as in other mentioned regions is preferable to monitor and gather indicators of products.

KEYWORDS

Economic regions, trade and services, information base, labor resources, interregional cooperation, scientific and analytical stages, socio-economic issues.

INTRODUCTION

Assessing the level of socio-economic interregional cooperation between the regions of the Fergana Valley and the other regions, further strengthening existing ties by identifying systemic problems is very relevant and important in case of Uzbekistan. Because, until this days any research projects has not been conducted in this area, the necessary information base to assess the level of cooperation has not been formed. Official state statistics do not contain information on import and export of goods (services) in each regions in the Fergana Valley. Through a number of available indicators can be used to get a general idea of a certain part of the interaction, without taking into account some errors.

RESEARCH METHODOLOGY

Scientific abstraction, analysis and synthesis methods were effectively used in this research paper. In particular, I studied Fergana valley provinces socio-economic conditions using the three hundred application questionnaire forms for the purpose of learning the real facing issues among the entrepreneurs and households. The method of presentation directions and separating the regions for socio-economic cooperation zones of Uzbekistan was mentioned for better design of conclusion and recommendations for the readers.

RESULTS AND FIGURES

If the formation of the composition of exports and imports is analyzed it can be possible to

identify certain imbalances in production of certain products. (Table 1).

In Andijan region, the positive ratio of exports and imports of goods is observed only in foods (3,822). For the other goods the ratio of imported (chemical products are - 0.027, non-ferrous metals - 0.048, ferrous metals - 0.072, machinery equipment - 0.129 and services - 0.028). Almost these trends can be observed in Namangan and Fergana regions.

Objectively, the Fergana valley to satisfy the demands now and in the near future will buy non-ferrous and ferrous metals, chemical and fuel products from abroad and other regions of the country. But for valley, it is desirable to strengthen the process of localization for the production use the own capabilities and potentials in terms of machinery and equipment, foods, services and consumer goods for not importing those products from other parts of the country and abroad.

The indicators show the inflow and outflow of goods (services) and the volume of imports - exports of goods by the railways of Fergana valley. (Table 2)

As can be seen from the table products from the valleys and provinces are mainly shipped by railways. (10.5 percent share in the country). The role of railways in the shipment of goods is more than 99.0%. These are mainly products of light automobiles, chemical, gasoline, light and food industries.

Table 1
Products (services) in the Fergana Valley
formation of the structure of imports and exports
(2020 year, mln. dollars)¹

Products (services)	Export			Import		
	Andijon province	Namangan province	Fergana province	Andijon province	Namangan province	Fergana province
Total	584,9	378,1	555,3	2211,5	493,4	907,0
Including: cotton fiber	1,1	0,4	2,7	-	-	-
Chemical products	7,0	5,4	13,3	257,6	98,0	94,0
Non-ferrous metals	0,5	0,1	0,11	10,5	0,5	4,3
Ferrous metals	11,3	10,2	2,9	156,6	43,0	36,2
Energy	0,0	0,38	6,6	14,7	12,0	193,6
Machinery and equipment	192,6	8,1	1,3	149,4	179,4	291,4
Foods	51,6	104,8	207,9	13,5	72,8	119,2
Services	3,9	5,5	8,9	138,7	0,9	12,0
Others	316,8	243,0	311,7	125,9	86,8	156,2

But these figures are only show some parts of exports from the valley regions and shipments to the other regions. The import-export of goods by railways is not fully regulated in the regions. (transport balance). In general, the lack of balance of products (services) imports & exports of the official statistics has a negative effect to analyse of socio-economic processes of the regions to determine the level of their overall development, self-sufficiency in basic consumer goods in economic cooperation between regions.

At present taking into account the level of formation of database, the results of local

surveys can be used as the main method of assessing inter-regional socio-economic cooperation through a specially designed questionnaire.

The main purpose of the survey conducted by the author was the development of the important economic factors. It consists of identifying the advantages of interregional socio-economic cooperation and effectively using it. The survey also aims to evaluate the existing socio-economic relations between Andijan, Namangan and Fergana regions of the valley population, and ways to expand mutually beneficial cooperation in the future.

¹ Calculated based on the data of State Statistics Committee.

Table 2

Goods shipped (transported) by railways and roads in Fergana valley provinces (2019)²

Regions	Amount of Goods (mln.tn)	
	Railway transport	Road transport
Republic of Uzbekistan	70137,3	329,3
Fergana Valley provinces:	7390,3	46,0
Andijon	494,5	23,1
Namangan	353,0	6,5
Fergana	6542,8	16,4

The survey was conducted in the form of interviews with respondents directly at work places. The questionnaire questions covered four areas. The first is to interview the management groups of the largest industrial enterprises (10) selected in each regions. The second is to establish a dialogue with the management of small and medium-sized businesses (20), selected in different areas (industry, construction, services) in each regions. Third, direct interviews with households (50) in each provinces. Fourth, evaluate the inter-regional relations with the heads and specialists (10) of each regions (government office workers).

With the managers of large industrial enterprises operating in three regions

I have identified from which regions the raw materials, spare parts and components, tools, machinery and technology is imported. (Table 3). During the survey managers and head of divisions of textile, machinery, food, pharmaceutical, construction materials and chemical industries operating enterprises of the valley actively attended.

² Calculated based on the data of State Statistics Committee.

Table-3

Fergana Valley regions` share on importing needed large industrial enterprises` raw materials, components, machinery and equipments.

(Percentage of survey results)³

Regions	Andijan province enterprises			Fergana province Enterprises			Namangan province enterprises		
	Raw materials	Components	Machinery and equipment	Raw materials	Components	Machinery and equipment	Raw materials	Components	Machinery and equipment
Machinery and equipment	56,0	51,0	45,0	50,0	55,0	69,0	50,0	69,0	40,0
From neighbore Andijan province	-	-	-	10,0	10,0	9,0	10,0	9,0	11,0
From neighbore Fergana province	11,0	7,0	2,0	-	-	-	5,0	13,0	10,0
From neighbore Namangan province	9,0	5,0	5,5	13,0	5,0	14,0	-	-	-
From the other province of Uzbekistan	19,0	24,0	19,0	12,0	14,0	5,0	30,0	11,0	15,5
From abroad	5,0	6,0	11,0	15,0	11,0	14,0	5,0	10,	12,0

In general, the raw materials in industrial enterprises (cotton fiber, agricultural raw materials, oil, construction materials, etc.) are obtained from the local regions.

In particular, their share in Andijan is 56.0% and 50.0% in Namangan and 50.0% in Fergana provinces. At the same time, raw materials imported for production from other regions of the country and abroad accounted for 24.0% in Andijan, 27.0% in Fergana and 35.0% in Namangan provinces.

The production of components for enterprises in the regions is relatively high, it is higher than 51.0% in Andijan, 55.0% in Fergana and 69.0% in Namangan provinces. However, the share of other regions of the country and foreign countries in the import of necessary machinery and equipment is relatively high. In particular, its share is 30.0% in Andijan province, 27.0% in Namangan and 29.0% in Fergana provinces. According to the results of the analysis, the largest enterprises of the Fergana Valley almost half of the raw materials 25-30% of components, about 30% of machinery and

³ Source: Author's calculations based on survey results.

technology bought from the other regions of the country and abroad. The share of valley regions in importing of components remains low.

For example, the share of Fergana to supply of components to enterprises of Andijan is only 7.0%, and to Namangan - 5.0%. This situation shows the mutual cooperation between the valley regions is not established as required. This has a negative impact on competitiveness and serves as a key factor for high transportation and product costs.

CONCLUSION AND RECOMMENDATION

The results of the assessment by the experts, socio-economic cooperation between the regions of the Fergana Valley is summarized and analyzed by author and some conclusion and recommendations are given.

(Table 4). The level of cooperation in each of the main areas is assessed as following: cooperation level high 8-10 points; cooperation level average 4-7 points; cooperation level is low 0-3 points.

Table 4

Rating system for assessing the level of socio-economic cooperation in Fergana Valley. Survey results, December 2020, percent)⁴

№	The main areas of cooperation	Evaluation criteria			Final result (points, rating)
		High	Medium	Low	
1.	Ratio of import and export of products from the regions	-	-	1	1
2.	Development of interregional production infrastructure	-	5	-	5
3.	Interregional industrial cooperation	-	-	2	2
4.	Mutual investment activity	-	-	-	0
5.	Cooperation in the field of higher education	-	4	-	4
6.	Mutual trade	-	4	-	4
7.	Mutual use of services	-	4	-	4
8.	Mutual use of workers and professionals	-	-	3	3
9.	Availability of official documents on cooperation	-	-	0	0

According to the conclusion of experts, the formation of production infrastructure and the opportunity of its development is assessed by 5 points and mentioned as a key factor in cooperation, 1st place in the ranking. In the second place, taking into consideration the

informal nature of cooperation can be observed in the field of higher education, trade and services. There is also a certain shift in interregional use of the required workers and specialists (third place).

⁴ Source: Based on the survey results of the expert assessment, systematized by the author.

Despite the great opportunities the level of industrial cooperation remains low. Basically, it is an informal cooperation in the production of components for automobiles which took fourth place in the ranking. The ratio of imports and exports of interregional products in the valley is negative, and this also belongs to the ratio of exports and imports from/to abroad. (fifth place).

The lowest results of economic cooperation can be assessed by the lack of formal documents of mutual investment activities and interregional cooperation (provinces, cities and districts, formal agreements between entrepreneurs, etc.). (sixth place).

In conclusion, it should be noted that the economic relations between the valley provinces even informally are better comparatively to other regions of the country. (infrastructure, trade, services, internal migration, cooperation).

However, the lack of documents on the establishment of formal cooperation, mutual aspiration and initiative hinder the expansion of socio-economic ties between the regions.

According to the questionnaire survey the socio-economic cooperation of the Fergana valley remains low, for better and convenient business environment for local and foreign business people, it will be advisable to establish regional cooperation office for above mentioned three provinces in Fergana city.

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Association Of Vitamin D Deficiency With Risk Factors In Postmenopausal Women

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ABSTRACT

In conditions of age-related decrease in sex hormones and a number of pathological conditions and diseases in postmenopausal women, there is a deficiency of D hormone. In our country, the geographic location of which is below northern latitude and sufficient ultraviolet radiation, an insufficient content of vitamin D is seen in postmenopausal women. There are a lot of risk factors leading to vitamin D deficiency - the presence of smog and dust in cities, insufficient consumption of vitamin-fortified foods, the presence of problems with the gastrointestinal tract and excretory system and a number of others. One of the important factors that reduce vitamin storage is overweight and obesity, especially in combination with old age, when all absorption processes are reduced. The aim of our research was to study risk factors in women with vitamin D deficiency with subsequent correction of the deficiency state. We examined the level of total 25 (OH) D in the blood serum in 46 postmenopausal women, and identified risk factors. Vitamin D deficiency was detected in 86.96% of women, and its deficiency was registered in 10.87%. At the same time, a pronounced vitamin deficiency was not registered in any patient. Overweight was registered in 32.6%, obesity of varying degrees in 26.1%. Given the indicators, recommendations were given for correcting vitamin D deficiency. All postmenopausal women, especially those with risk factors for deficiency, are recommended to determine the basic level of vitamin D. In case of deficiency, drug correction is recommended to reduce the risk of cardiovascular and oncological diseases.

KEYWORDS

Vitamin D, postmenopausal women, risk factors, obesity, hypovitaminosis, correction

INTRODUCTION

Vitamin D was recently known as a regulator of calcium-phosphorus metabolism. Recently, however, a lot of information has appeared on the effect of vitamin D on other physiological parameters of the body, both women and men [9, 14]. Vitamin D is chemically similar to progesterone. Today it is considered a steroid hormone with progesterone-like activity and its effect on the body is great [3]. There is enough information in the literature on the effect on reproductive function - maintaining the luteal phase, ensuring endometrial receptivity, anti-inflammatory effect, as well as the effect on pregnancy - reducing the frequency of premature birth and late spontaneous miscarriages, low birth weight [1,2,4,12]. Given the association of vitamin D deficiency with a decrease in fertility, as well as with a worsening of maternal and perinatal pregnancy outcomes, it is recommended to normalize its indicators in pregravid preparation [4,10]. There is more evidence that vitamin D hypovitaminosis leads to an increase in the incidence of cancer and autoimmune diseases, diabetes mellitus, there is a connection with obesity, the development of these complications is most typical for older age. In recent years, it is increasingly recognized that vitamin D has a significant effect on the functioning of the organs of the cardiovascular system. Epidemiological researches have shown that there is an inverse correlation between vitamin levels and diseases such as hypertension, atherosclerosis, coronary heart disease, myocardial infarction, heart failure, stroke and hyperlipidemia [6,11]. Prevention of the above complications reduces the incidence of postmenopausal problems. Vitamin D deficiency is indeed a global problem.

THE MAIN RESULTS AND FINDINGS

Vitamin D in 80-90% enters the body through the skin, a small part of it comes with food. There are varieties of vitamin D - D₃ (cholecalciferol) and D₂ (ergocalciferol). D₃ (cholecalciferol) is called "solar" because it is formed in the skin through exposure to ultraviolet light. To do this, children and adults should be in the sun for about 15-30 minutes several times a week. However, the intense production of vitamin D occurs during unhealthy hours - from 11:00 to 14:00, when the skin needs protection. Ultraviolet radiation from the sun is composed of UVA and UVB rays. Vitamin D synthesis is more actively triggered in the presence of UVB radiation (although it is considered more aggressive, does not allow glass to pass through). D₂ (ergocalciferol) enters the body along with the usual food; unfortunately, there are not many animal foods enriched with vitamin D [13].

Despite the fact that the geographical location of Uzbekistan is at 41 latitude, it is below 35 parallel north latitude; in a zone of moderate insolation, a sunny country, where there is plenty of ultraviolet radiation, but vitamin D deficiency is common. What is the reason for this? There are many reasons for the deficit in Uzbekistan. First of all, residents of large cities in the atmosphere have a large layer of smog and dust ("dust cushion") - this prevents UV rays from breaking through. Secondly, insufficient consumption of foods with polyunsaturated fatty acids (fatty fish). Thirdly, insufficient sun exposure, dark skin color, closed clothing are also risk factors for vitamin D deficiency. Also, impaired absorption of vitamin D due to gastrointestinal diseases

(malabsorption syndrome, Crohn's disease, pancreatitis, cholestasis, etc.), long-term use glucocorticoids, liver and kidney disease, when the processes of vitamin D hydroxylation are disrupted [7,8]. Obesity is also a factor in which vitamin D is deposited in adipose tissue. These risk factors are most often found in the older age group, respectively, the risk group is women over the age of 50. Old age is also a risk factor for hypovitaminosis, this fact is associated with a decrease in the production of vitamin D in the skin, absorption of vitamin D in the intestine, the number of VDR receptors in muscle tissue and functional activity of the kidneys, which in turn aggravates the deficiency state.

Menopause is characterized by ovarian depletion, a decrease in the production of steroid hormones. About 1/3 of a woman's life falls on the period of menopause, on average it is at least 15-20 years. In turn, the menopausal age is characterized by certain problems: from early psychovegetative disorders, urogenital problems and changes in the skin to late cardiovascular disorders, osteoporosis and Alzheimer's disease [11]. For this age, the most common cause of death is coronary heart disease. Thus, the combination of the problems of menopausal age and vitamin D deficiency dictates the need to search for risk factors and timely correction in this age group.

Considering the above, we examined 46 postmenopausal women. The aim of our study was to study risk factors in women with vitamin D deficiency with subsequent adequate correction of hypovitaminosis. The

examination of women was carried out in the polyclinic of the City Perinatal Center.

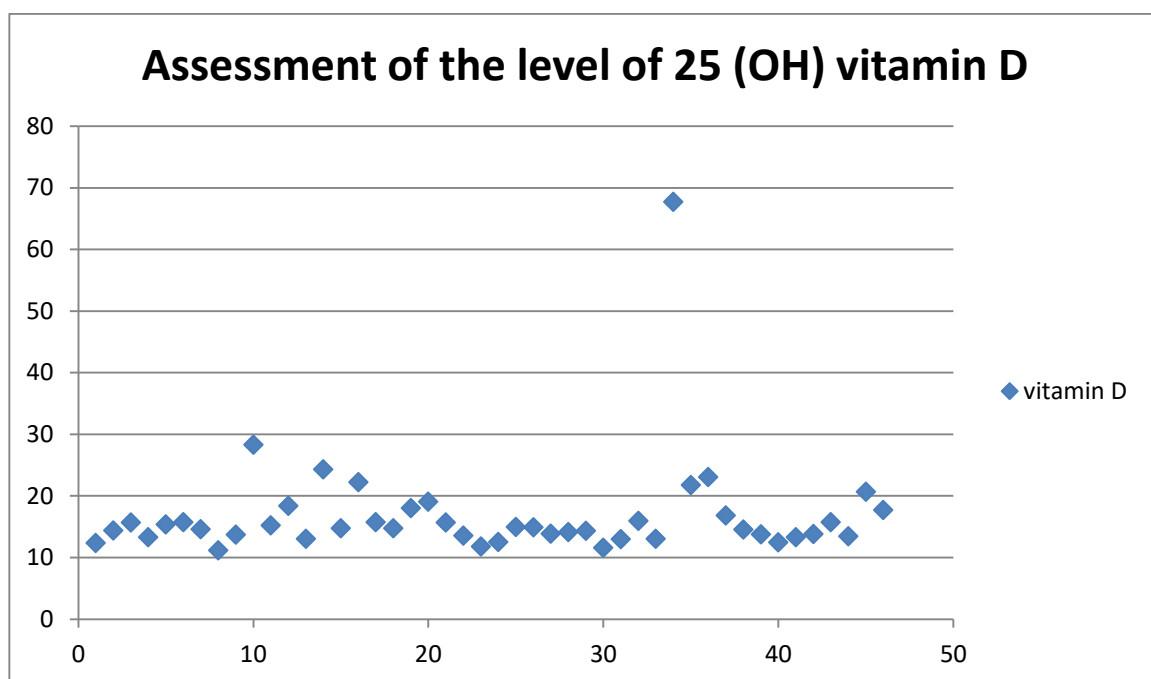
RESEARCH METHODS

Assessment of the level of total 25 (OH) D in blood serum. Determination of the quantitative 25-OH vitamin D in blood serum was carried out by chemiluminescence immunoassay in vitro using an automatic chemiluminescence immunological analyzer of the MAGLUMI series. To interpret the results, we used the most frequently recommended standards for the concentration of 25 (OH) vitamin D: an indicator up to 10 ng / ml (25 nmol / l) is interpreted as a pronounced deficiency, 11-20 ng / ml (50 nmol / l) indicates a deficiency, 21-30 ng / ml (51-75 nmol / l) - insufficiency, with values over 30 ng / ml (75 nmol / l), the concentration of vitamin D has an adequate level. For prevention and treatment, it is recommended to adhere to the target level in the range of 30-60 ng / ml (75-150 nmol / L).

RESULTS OF THE RESEARCH

The age of the examined women ranged from 49 to 70 years. The median age was 56.1 years. There were 8 elderly women (over 60 years old) in the study group (17.4%), they are a risk group for severe vitamin D deficiency. The menopause age ranged from 1 to 20 years. From the group of women examined, early menopause (40-45 years old) was diagnosed in 9 (19.6%) women, in 1 (2.2%) women at 56 years old, in the remaining 36 (78.3) women - timely.

Table 1. Vitamin D-status of the studied women.



Determination of the level of total 25 (OH) D in blood serum in 46 postmenopausal women revealed the following values (Table 1). An adequate level of vitamin D of 67.77 ng / ml was registered only in a 53-year-old patient who had been taking drugs in a prophylactic dosage for the last 4 months. The remaining 45 women were diagnosed with decreased vitamin D levels. The mean serum 25 (OH) D levels in the deficient group were 16.39 ± 3.87 , and in the deficient group - 23.96 ± 2.4 .

We found that 97.8% of the women undergoing examination had reduced levels of vitamin D in the blood serum (Table 2). Of these, vitamin D deficiency was registered in 10.87% of women in the surveyed group. At the same time, a pronounced vitamin deficiency was not registered in any patient from the group, which indicates the intake of vitamin into the body. In 86.96% of women, a deficiency of vitamin D in the blood serum was found, which corresponds to the idea of the frequent occurrence of a reduced vitamin D-status.

Table 2. Vitamin D-status by identified groups

Serum 25 (OH) D level	Number of people	% of all investigated
Severe vitamin D deficiency	0	0%
Vitamin D deficiency	40	86,96%
Insufficiency of vitamin D	5	10,87%
Adequate vitamin D levels	1	2,17%

The next stage of the examination was to identify risk factors that lead to vitamin D deficiency. Given possible adjustments of risk factors, recommendations were given for correcting hypovitaminosis in order to further reduce complications in this category of women.

The risk group for vitamin D deficiency includes older age; people with a dark skin tone; other factors in which insufficient exposure to ultraviolet rays occurs. That is, these are factors in which, even with adequate availability or intake of "solar" vitamin, vitamin deficiency develops. It was said above that in the surveyed group, 17.4% of the deficiency state was associated with one of the factors, such as old age. 11 (23.9%) women from the study group had a dark skin tone. The main source of vitamin D is its formation under the influence of UV rays, which is aggravated by insufficient exposure to them associated with closed clothing. This fact was revealed in every second patient, in 24 (52.2%) postmenopausal women.

Overweight and obesity also lead to an increased prevalence of vitamin D deficiency. Menopausal age is characterized by an increase in body weight due to reduced metabolism and insufficient physical activity. Since the termination of ovarian function in women, the number of women with metabolic syndrome has increased three times more. Obesity in menopause is accompanied by a decrease in fat-free mass, including muscle mass. Vitamin D deficiency is observed due to deposition in the fat mass, thus a vicious circle develops, which can only be broken with adequate correction of vitamin D deficiency and weight loss. In the group of surveyed

women, body mass index was normal (BMI 19.8-24.9) in 19 women (41.3%), excess body weight (25-29.9) was found in 15 women (32.6%). In 12 (26.1%) women, obesity (30 or more) of varying degrees was registered. Moreover, class 1 obesity (BMI 30-34.9) was diagnosed in 8 (17.4%) women, class 2 obesity (BMI 35-39.9) - in 3 (6.5%) women, class 3 obesity (BMI 40-44.9) - in 1 (2.2%) woman. Noteworthy is the fact that in the group of obese women, vitamin D values ranged from 11.8 to 14.36 ng / ml, that is, all patients had vitamin D deficiency. It is well known that obesity leads to an increased risk of metabolic and cardiovascular diseases, cancer, and this leads to an increased risk of mortality in this group. Researches show that weight loss is problematic when vitamin D is deficient. According to the WHO, vitamin D deficiency increases the risk of cancers such as cancer of the endometrium, breast, ovaries, esophagus, stomach, liver, gallbladder, kidney, colon, Hodgkin's and non-Hodgkin's lymphomas [4,14]. In the surveyed group, 2 women were registered with breast cancer, 1 woman with non-Hodgkin's lymphoma, which amounted to 6.5%. The vitamin D concentration in these patients showed a deficiency of 14.36 to 17.76 ng / ml.

By the time of examination, in the study group of women, the consequences of both climacteric age and hypovitaminosis D were found: arterial hypertension - 14 (in 30.4% of cases), stroke and heart attack - 1 case (respectively, 2.2% in each case), diabetes mellitus - 2 (4.3%). Diseases of the thyroid gland (hypothyroidism, nodular goiter) and the respiratory system have also been reported. The clinical parameters of hypovitaminosis were assessed. Clinical symptoms of vitamin D deficiency have no obvious manifestations and

are scarce. Most often, women are concerned about isolated or generalized pain, discomfort in bones and muscles. Vitamin D deficiency leads to myopathy, which can manifest itself as muscle weakness, especially in the proximal muscle groups, diffuse muscle pain, and difficulty walking. In the group of surveyed women, the above complaints of varying severity from mild to severe were observed in 37 patients, which amounted to 80.4%.

When studying the anamnesis in this category of women, it shows a number of problems in both obstetric-gynecological and somatic status (Table 3). Problems in reproductive health were observed in 65.2% of women (uterine myoma, fibroadenoma, fibrocystic breast disease, secondary infertility). A burdened obstetric history was observed in 54.3% of women, in the form of hypertensive conditions, postpartum hemorrhage, placental abruption, antenatal fetal death.

Table 3. Assessment of patient anamnestic data

Burdened gynecological anamnesis	% of women	Complicated obstetric anamnesis	% of women
Uterine fibroid	45,6% (21)	Non-developing pregnancy	15,2% (7)
Pelvic inflammatory diseases	13% (6)	Premature birth	17,4% (8)
Sterility	10,9% (5)	Intrauterine fetal death	4,3% (2)
Tumor diseases of the ovaries	10,8% (5)	Preeclampsia	47,8% (22)
Cervical disease	6,5% (3)	Cervical insufficiency	10,8% (5)
Fibrocystic mastopathy	58,7% (27)	Placental abruption	19,6% (9)
Fibroadenoma (operated on)	4,3% (2)	Postpartum hemorrhage	23,9% (11)

All patients with vitamin D deficiency were offered drug correction, the recommended drug was cholecalciferol (vitamin D₃). The proposed schemes for correcting vitamin D deficiency were selected individually, depending on the initial level and the achievement of target values. The recommended serum 25 (OH) D level is 40-60

ng / ml (100-150 nmol / L). Table 3 presents an algorithm that can be used to select the optimal daily dose of vitamin D preparations depending on its initial serum level and the desired one [8,10]. Prescribing the drugs was taking into account the contraindications to taking vitamin D preparation. The patient with normal vitamin levels was advised to continue prophylactic doses of the vitamin.

Table 3. Average change in blood concentration based on consumption per day (IU / day).

Expected level, ng / ml		20	30	40	50	60
		The recommended daily amount of vitamin D ₃ , IU				
Available level, ng / ml	10	2000	4000	6000	10000	10000
	15	1000	3000	6000	9000	10000
	20		2000	5000	8000	10000
	25		1000	4000	7000	10000
	30			3000	6000	10000
	35			1000	5000	9000
	40				5000	9000

CONCLUSION

1. All postmenopausal women, especially those with risk factors for vitamin D deficiency, are recommended to determine total 25 (OH) D in serum.
2. All postmenopausal women with overweight and obesity are recommended to correct hypovitaminosis and weight loss.
3. All postmenopausal women with insufficient vitamin D content are recommended drug correction to reduce the risk of cardiovascular and oncological diseases.
4. The role of vitamin D in the prevention of complications in postmenopausal age requires further study on the basis of more clinical material.

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Characteristic Orbits Of Charged Particles Around Charged Black Holes

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ABSTRACT

We have considered Reissner-Nordström (RN) charged nonrotating black hole (BH). We have studied motion of charged particles around charged RN BH. It was found out that there are two boundary conditions for specific angular momentum of stable circular orbits corresponding to: innermost stable circular orbits (ISCO) and outermost stable circular orbits (OSCO) and accretion disk is originated between these two orbits. It was obtained the upper and lower limits for the value of particle's charge which may exist in the accretion disk matter around the extreme charged Reissner Nordström black hole.

KEYWORDS

Black holes, Kerr-Taub-NUT, Blandford-Znajek mechanism, Charged particle

INTRODUCTION

It is obvious properties of the spacetime can be studied considering the particle motion. Charged particle motion around Reissner-Nordström black hole has been studied in [1, 2]. From astrophysical point of view it is

interesting to study the charged particles motion around charged black holes and black holes in external magnetic field. Recently, the motion of charged [3, 4], magnetized and spinning particles around black holes with

different parameters in an external asymptotically uniform magnetic field in various theories of gravity have been studied.

LITERATURE REVIEW

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RESEARCH METHODOLOGY

In this work, we have studied circular motion of charged particles around Reissner-Nordström black hole and the following main results are obtained. It was shown that the critical radius of circular orbits depends on particle charge. Upper and lower limits for the value of charged particle at circular orbits for the given

value of RN black hole charge have been found

ANALYSIS AND RESULTS

The geometry of the spacetime around electrically and magnetically charged RN BH in spherical coordinates ($x^\alpha = \{t, r, \theta, \phi\}$) is given in the following form

$$ds^2 = S(r)[-f dt^2 + f^{-1} dr^2 + r^2(d\theta^2 + \sin^2\theta d\phi^2)] \quad (1)$$

with the following gravitational metric function

$$f = 1 - \frac{2M}{r} + \frac{Q^2 + P^2}{r^2} \quad (2)$$

and associated with the four vector potential of the electromagnetic field around the electrically charged BH

$$A_\alpha = \frac{Q}{r} \{1, 0, 0, 0\} \quad (3)$$

where M is the total mass of BH, Q and P is the total electric and magnetic charge, respectively. Here we will provide the study of charged particle motion around charged black hole, supposing m is particle mass and e is electric charge of the particle. The Lagrangian for the charged particle in the electromagnetic field has the following form

$$\mathcal{L} = mg_{\mu\nu} u^\mu u^\nu + eu^\mu A_\mu \quad (4)$$

The conserved quantities { the energy and the angular momentum can be found by

$$g_{tt}\dot{t} + qA_t = \varepsilon \quad (5)$$

$$g_{\phi\phi}\dot{\phi} = \mathcal{L} \quad (6)$$

where $\varepsilon = E/m$ and $\mathcal{L} = L/m$ are the specific energy and angular momentum of the particle, respectively, $q = e/(mc)$ is the specific electric charge of the particle with mass m and electric charge e , related to the observer at infinity. The equation of motion for charged particles

with the Lagrangian (4) can be found using the Euler-Lagrange equation [5], so we have

$$u^\mu \nabla u^\nu = q F_\sigma^\nu u^\sigma \quad (7)$$

where $F_\sigma^\nu = g^{\mu\nu} F_{\mu\sigma}$ and $F_{\mu\sigma} = A_{\sigma,\mu} - A_{\mu,\sigma}$ is the electromagnetic field tensor. Using the equations (5-7) one may easily find the equation of motion of the charged particles in the equatorial plane ($\theta = \pi/2$) in the following form

$$\dot{t} = \frac{1}{f} \left(\mathcal{E} - \frac{Qq}{r} \right)$$

$$\dot{r}^2 = \left(\mathcal{E} - \frac{Qq}{r} \right)^2 - f \left(1 + \frac{\mathcal{L}^2}{r^2} \right) \quad (8)$$

$$\dot{\phi} = \frac{\mathcal{L}}{r^2} \quad (9)$$

In this section we will study the stable circular orbits using following standard conditions

$$V_{eff} = \mathcal{E}, \quad V_{eff}' = 0, \quad (10)$$

in the equatorial plane the circular orbits can be stable for the critical value of angular momentum L_{cr} which is the solution of the equation $V_{eff}' = 0$ and have the following form

$$\mathcal{L}_\pm^2 = \frac{1}{2(r(r-3M)+2Q^2)^2} \left[Q^2 r^3 ((q^2 - 2)r - 2M(q^2 - 5)) + 2Mr^4(r - 3M) + (q^2 - \right.$$

$$\left. 4)Q^4 r^2 \pm qQr^2(r(r - 2M) + Q^2)\sqrt{4r(r - 3M) + (q^2 + 8)Q^2} \right] \quad (11)$$

Now we will analyze the solution (11) and look for the condition where both \mathcal{L}_\pm^2 are real. For this we require the expression inside the square root to be non-negative:

$$4r(r - 3M) + (q^2 + 8)Q^2 \leq 0 \quad (12)$$

From the condition (12) one may get the lower limit for radius of the circular orbit of particle when L is still real.

$$r_{crit} = \frac{3M}{2} \left(1 + \sqrt{1 - \frac{(q^2 + 8)Q^2}{9M^2}} \right) \quad (13)$$

Expression indicates the allowed value of the charge of the test particle required for circular stable orbits. Figure 1 illustrates the dependence of critical radius of circular orbits from the electric charge of the BH Q and the particle q . One can see that the critical radius decreases with the increase of the value of Q . From the Figure 1 one can also see that for the neutral test particle we get $r = 3M$ (the Schwarzschild case). It can be also seen from the figure that for the large values of Q and q , the critical radius decreases very fast, depending both black hole and particles charge. The critical radius decreases with the increase of the black hole charge and reaches the value of $2M$ for $Q = 1$ for neutral particle

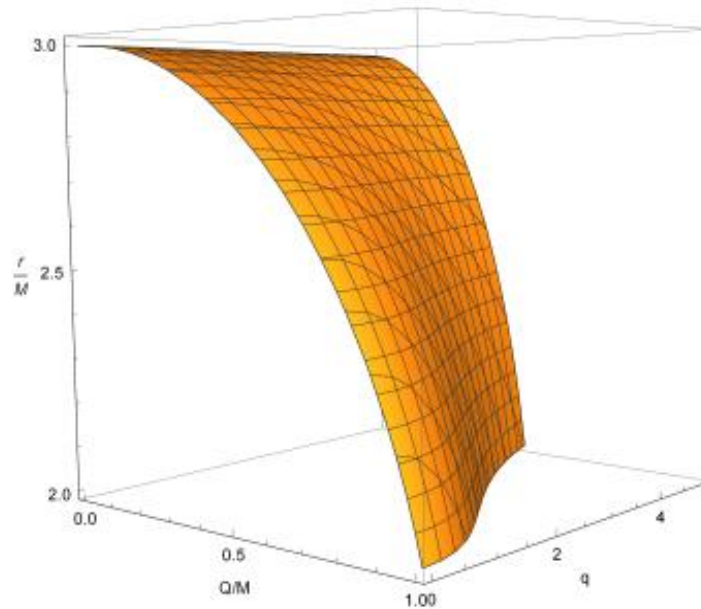


Figure 1: 3D plot for the dependence of critical radius of circular orbits on the charge of BH Q and particle q .

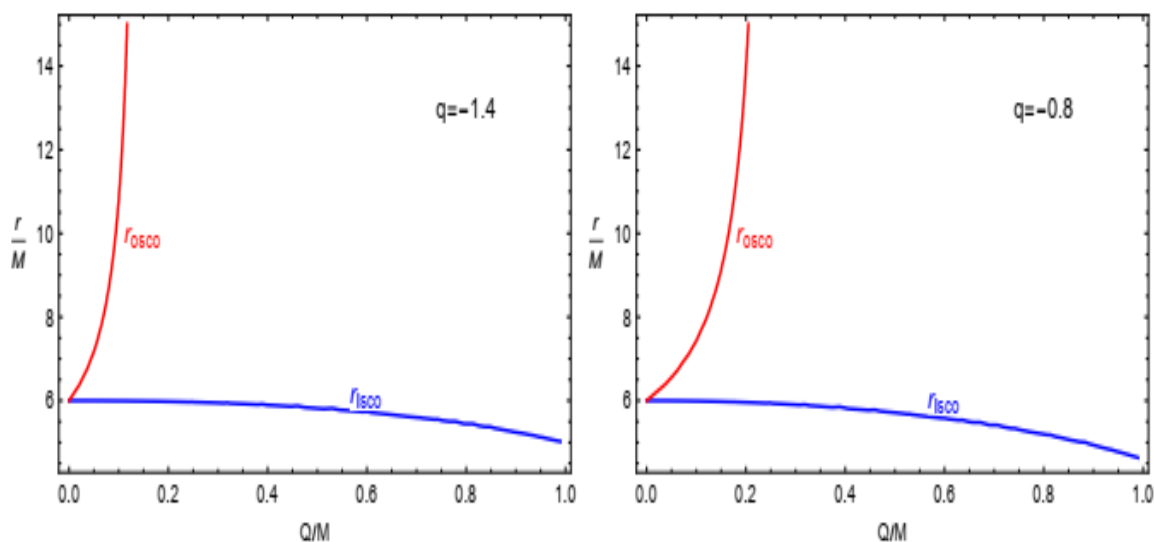


Figure 2: ISCO and OSCO radius as a function of black hole charge for negatively charged particles.

Figure 2 illustrates the dependence of ISCO and OSCO radius on black charge for negatively charged particles. One can see that in both case $q > 1$ and $q < 1$ ISCO radius decreases with the increase of the value of black hole charge.

The behavior of the radius of OSCO differs from the case of positive charge: for all negative charge of particles the radius of OSCO increases with the increase of the module of the charge.

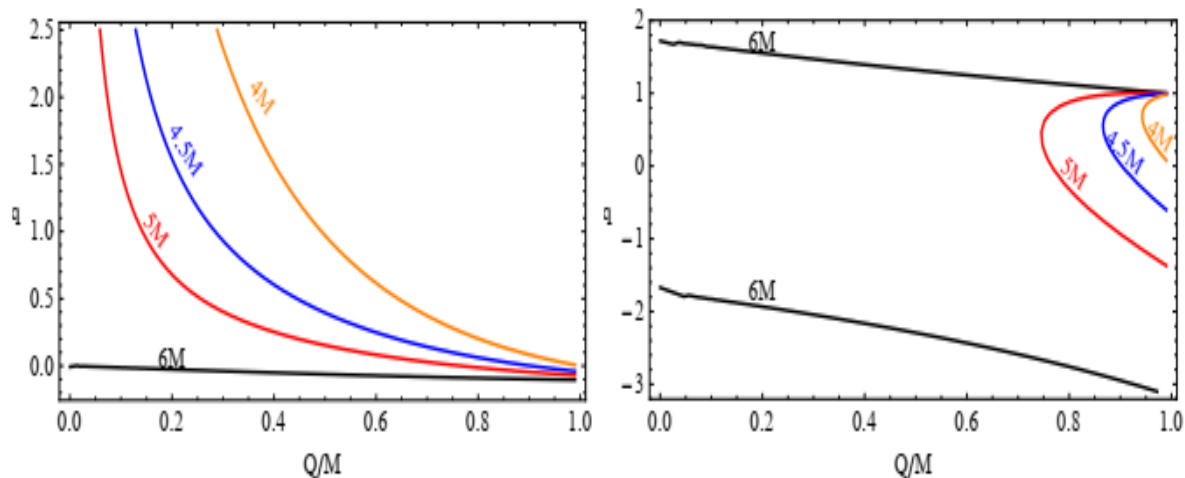


Figure 3: q - Q diagram for different values of ISCO (left panel) and OSCO (right panel) radius of a charged particle

Now we study the distance between ISCO and OSCO, which corresponds to the size of accretion disk $\Delta r = r_{osco} - r_{isco}$

In Figure 3 we present the relation between the particle's and the black hole's charges for the fixed values of ISCO and OSCO. One can see from the diagram that OSCO may not exist below the radius $6M$ from the central object for negatively charged particles and for positively charged particles with value more than $q = 2$. One can also see from the right panel of the Figure 3 OSCO radius (at the range $6M \leq r_{osco} \leq 4M$) can be the same for different charged particles ($2 \leq q \leq 3$) for the fixed value of black hole charge.

CONCLUSIONS

It was found that there are two critical values for the specific angular momentum for charged particles. One of them corresponds to the lower boundary and the other to the upper boundary of the stable circular orbits. It was shown that OSCO radius of positively charged particles increases with the increase of Q for $q > 1$ and it decreases with the

increase of Q for $q < 1$. However, OSCO radius for negatively charged particles increases with the increase of the black hole charge Q .

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The Role Of Small Business In The Management Of The Organized Structure

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ABSTRACT

Small business is one of the most important sectors of the national economy. At the same time, small businesses play an important role not only in the national economy, but also in the social sphere. The article considers the nature of the organizational structure of the activities of small businesses and makes recommendations.

KEYWORDS

Small business, economy, sustainable growth, small business, structure, retail, sales function, control, marketing, financial affairs, divisional structure.

INTRODUCTION

From the first years of independence of Uzbekistan, great attention has been paid to the development of the legislative and legal framework, the organization of financial

support, protection of the rights of entrepreneurs, training and retraining, development of market infrastructure for small businesses.

THE MAIN PART

There is no best way to organize¹. However, the organization's decision is based on direct principles that depend on many factors, including business size, market, product mix, competition, number of employees, goals, and

available financial resources. Each small business entity must decide which organizational method is appropriate for their business. One of the organizational methods is the "Organizational Schedule" - a method of formal organization of business.²

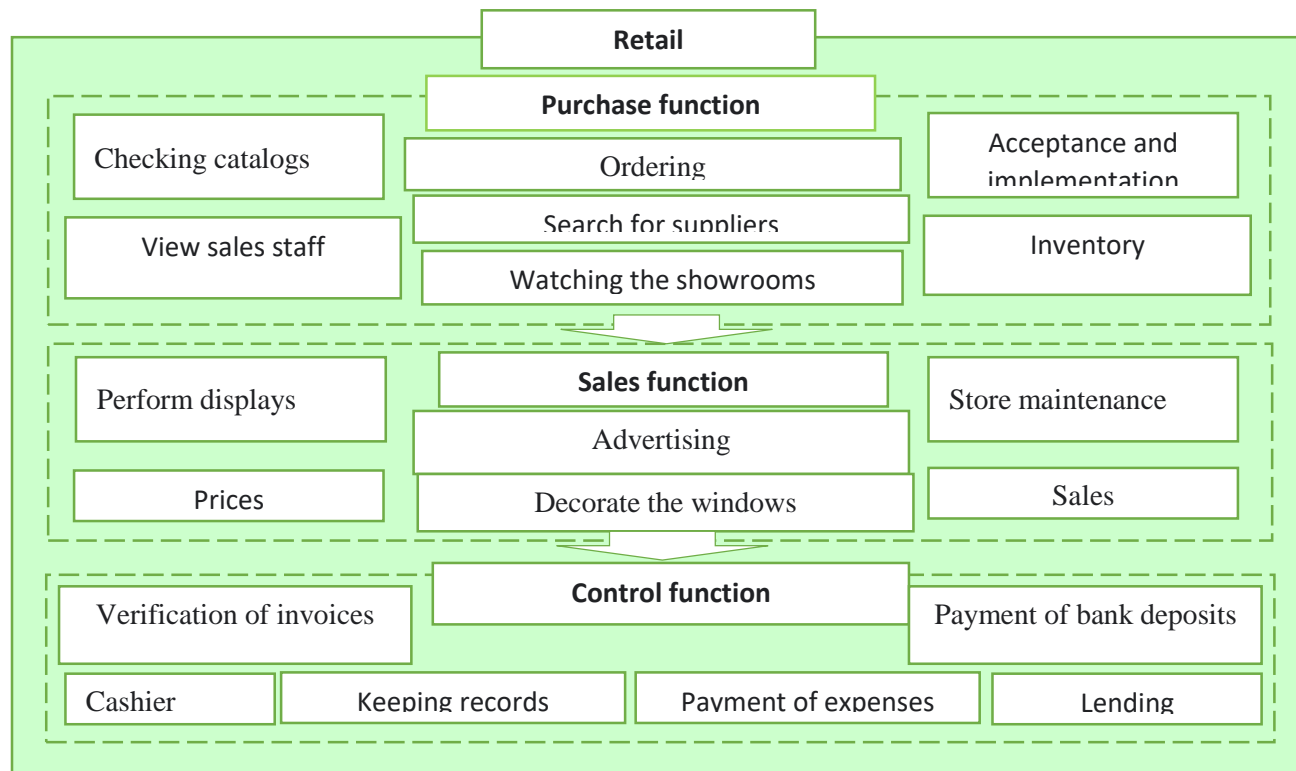


Figure 1. One-man small business organization model

Figure 1 shows the relationship and relative levels of the structure of the organization and its positions. This helps to organize the workplace along with setting the direction of management control for subordinates. Even a small one-person business can use some sort of organizational chart to see what functions

need to be performed, which can help ensure that all the work needs to be done. In this regard, it is appropriate to cite the "Single-person small business organization model", which reflects a simple organizational structure for a single-person retail business.

¹ John Ivancevich, Thomas N. Duening Principles, Guidelines and Practices 2nd Edition. 2018 ISBN-13: 978-1592602827

² William M. Pride, Robert J. Hughes Introduction to Business Paperback – South-Western Cengage Learning (January 1, 2008), 2008. 625 p.

The Organizational Table offers the following advantages:

Effective communication of organizational, personnel and enterprise information;

Allow management to make decisions about resources, lay the groundwork for change management, and provide timely information throughout the organization;

The ability to be transparent about what is going to happen in the business and to predict the future;

Everyone in the organization is also divided with constant information about who manages what and who is accountable to whom.

Of course, there are some limitations in the "Organizational Schedule":

Defined positions are stable and flexible, often becoming obsolete as organizations go through stages of change and growth.

Does not help to understand what is happening in an informal organization;

Due to outsourcing, information technology, strategic alliances, and the network economy, firms cannot cope with changing boundaries.

At the initial stage, a small enterprise may not choose a formal organizational structure. However, for an enterprise to be successful, the organization must also exist without a schedule. Many small businesses find organizational charts useful because they help the owner or manager track the growth and change of the organizational structure. However, the real problem is to create an

organizational chart that reflects the real situation. Small businesses have a clear advantage by creating an organizational chart that reflects the real situation, as their size allows for more flexibility and management.

Knowledge of organizational structures is important for both a small business that is already operating and for the early stages of a small business. Organizations change every day, so small business owners need to be flexible to change the structure that the situation requires over time, perhaps using an emergency approach.

An unforeseen situational approach to the structure of existing organizations suggests that there is no one structure that is best suited for each organization. Rather, this approach goes against the "best" structure for the organization because it fits the needs of the situation at the time. With regard to changes in organizational structures and their impact on management, it should be noted that if a small business employs less than fifteen people, there may be no need to worry too much about its organizational structure.

However, if the business plan envisages hiring more than fifteen people, it makes sense to have an organizational structure, as this will benefit the company owner, employees, investors and lenders.

Typically, small business entities have the same functional, divisional, and matrix structures as other large enterprises, the functional structure constitutes the business or purpose-oriented business in the organization and is most easily recognized by single-function or goal-oriented departments.

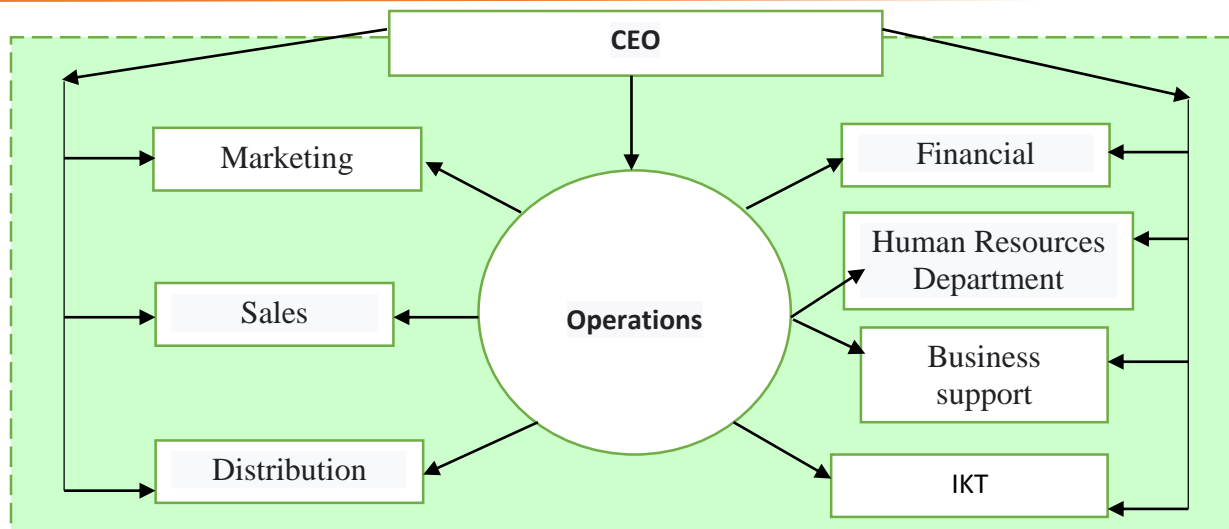


Figure 2 Management model of small business entities with a functional structure

The functional structure gives employees and their respective departments clear goals and their work objectives. People involved in accounting can focus on improving their knowledge and skills to do this job. Experience has shown that this structure works well for enterprises operating in a relatively stable environment. It should be noted that if the purpose and environment of the business requires coordination between departments and various conflicts arise, it can be observed that the functional structure leads to divisions between departments (Division structure).

The divisional structure can be thought of as a decentralized version of the functional structure. The organizational structure of a division is organized around the geographical, market or product and service groups of business activities. Each such subdivision includes a complete set of features. That is, each department has its own accounting activities, sales and marketing, engineering, manufacturing, and so on. Then each section will have its own functional section.

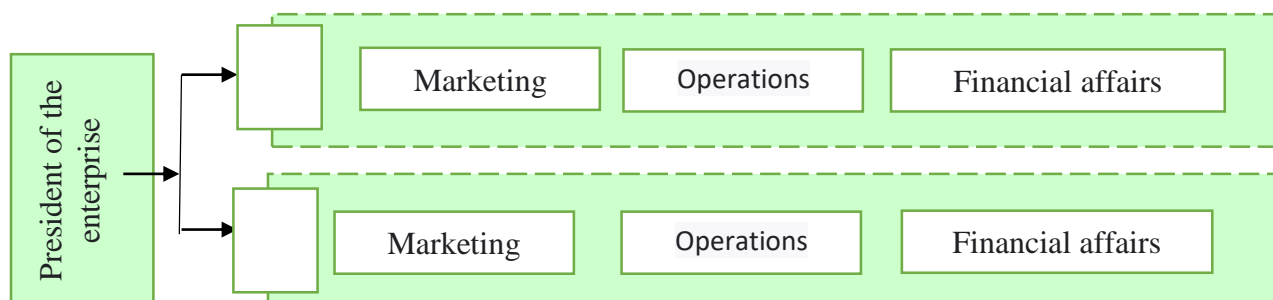


Figure 3 “Example of divisional structure” of small business entities

A small business entity in a division or divisional structure may perform well because it is focused on specific geographic areas, customers, or product manufacturing. This direction allows you to create a common culture that will increase the efficiency of the activity and help to better understand the high culture and the portfolio of the division. Of course, this structure also has some shortcomings.

Competitive divisions may resort to office policy rather than strategic thinking to guide decision-making, and individualism can lead to fragmentation to the point where it leads to

inconsistency of purpose. As a small business begins to grow due to the diversity of its products, the geographical location of its markets, or its customer base, there is an evolution from a functional structure to a divisional structure. However, a significant increase in the activities of small businesses is needed before the divisional structure can be established.

The next structure is a matrix structure, which combines elements of functional and divisional structures, bringing together professionals from different areas of business to work on different projects in the short term.

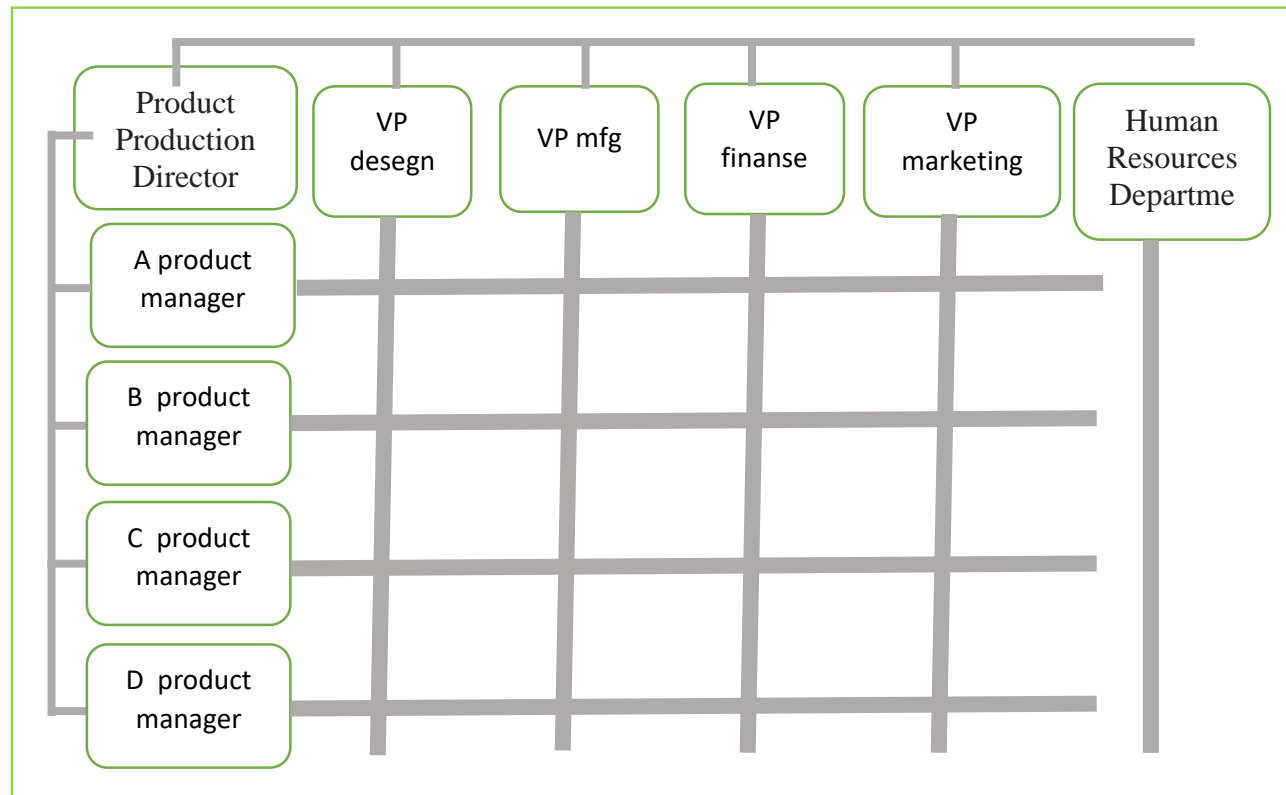


Figure 4. Small business entities in the matrix structure

In this, everyone in the project team reports to two bosses, namely the line manager and the project manager. The matrix structure, which is popular in high-tech, multinational enterprises,

consulting and aerospace firms and hospitals, has several key factors in appointing professionals, such as rapid adaptation to environmental change, ability to focus

resources on key products and challenges, creating an environment with high motivation and satisfaction for employees offers advantages.

To the shortcomings of the matrix structure violation of the principle of unity of command or "sole proprietor" due to the two directions of authority, responsibility and accountability staff confusion and frustration with reporting to two bosses; the emergence of strong struggles between first-line project managers; inconsistency in decision-making between groups, spending too much time; personal conflicts and undefined personal roles.

However, the shortcomings are distributed through many companies with multiple business divisions, operations in multiple countries, and multiple lines. Based on the research, it was found that the effective use of the matrix structure was their only choice.

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Freons, Environmental Aspects And Classification In CN FEA

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ABSTRACT

The article provides data on the history, types, physicochemical properties of freons, applications, ozone-depleting substances, their importance in the economy, their place in the CN FEA as goods and classification problems in the commodity nomenclature.

KEYWORDS

Freon, inert, halogen, ozone, refrigerant, pesticide, aerosol, hypoxia, indicator, CN FEA.

INTRODUCTION

Thomas Midgley Jr. (1928), a chemist at General Motors Research Corporation, was the first to synthesize a chemical compound in his laboratory and call it freon (Latin frigus - cold) [1]. Subsequently, many compounds similar to

this substance were synthesized and expressed by the letter R (R - Refrigerator).

Freons are chemically halogenated derivatives of carbon (CFC – chlorofluorocarbons) [2]. They are colorless and odorless gases or liquids

and are insoluble in water, but are well soluble in organic solvents and some oils. To date, about 100 freons have been synthesized, almost all of which are used in industry. These include freons belonging to different types, which differ in chemical formula and physical properties, including trichlorofluoromethane - freon R-11, freon 11, chladon 11; diphthorochloromethane - freon R-12, freon 12, xladon 12; trifluorochloromethane - freon R-13, freon 13, xladon 13; tetraftormethane - freon R-14, freon 14, xladon 14; difluorochloromethane - freon R-22, freon 22, chladon 22; chlorofluorocarbonate - freon R-410A [3].

Freons are “wonderful” substances with a number of thermodynamic properties. Insoluble in water, does not burn, does not decompose quickly under normal conditions, is relatively non-toxic, does not react with other substances and, most importantly, is well preserved. Due to these properties, they are in high demand in many industries, and since 1930 they have been produced in millions of tons.

They are used as refrigerators, air conditioners, fire extinguishers, paints and varnishes, household appliances, pesticides, organic solvents, cosmetics, perfumes and aerosols in medicine. In countries that produce such goods, there are huge economic benefits from their trade. In the United States, for example, CFC compounds ranked second only to drugs in terms of revenue [4].

RELEVANCE OF THE TOPIC

First of all, freons are environmentally hazardous substances, despite being chemically inert. Because they decompose in the atmosphere and deplete the ozone layer,

as a result, ozone is converted into ordinary oxygen [5]:



Therefore, in 1987, according to the UN Environment Program, the Montreal Protocol on Ozone Depleting Substances was adopted, which provides for a phased cessation of production of freons, including the most dangerous freons (R-12 and R-22) is prohibited for use in household appliances.

Secondly, the creation of new generations of freons requires an improvement in their classification as a commodity. Many alternative refrigerants are being developed, including a number of short-term freons that can replace R-22 freon: R-134a, the original chlorine-free freon, has been used successfully in refrigerators and air conditioners; synthesized R-1234yf (tetraftorpropylene) has been widely used since 2011 (but the substance turned out to be highly flammable); as well as chlorine-free refrigerants R-32, R-125, R-143a were synthesized [6].

Thirdly, although freons are said to be relatively safe, Chladon 22 (Freon 22) is classified as a Class 4 substance on the “harmfulness” scale. In addition, they have narcotic effects, causing fatigue, memory impairment, insomnia, and, worst of all, suffocation under the influence of high concentrations of freon, which can lead to subsequent excitement and nervous excitability in humans. When liquid freon falls on the skin, “freezing” is observed, followed by blistering and necrosis on its place [7,8].

Today, 90% of air conditioners use R 22 Freon. An alternative to R 22 is R 134a, R 407c and R 410A. Their activity, which disrupts the ozone layer, is assessed by the value of the ozone-absorbing potential. The ozone-absorbing potential can range from 0 (ozone safe refrigerant) to 13 (ozone-depleting refrigerant). The ozone-absorbing potential of R 12 is 1,0; R 22 is equal to 0,05, R 134a-0, R 407c-0. Despite the indicators, the ideal freon is not yet available. Freons that do not break the ozone layer are not perfect in terms of their thermodynamic properties. The main factor in

choosing Freon is its thermodynamic and thermophysical properties. They affect the efficiency, performance and design of the instruments. Having the necessary thermodynamic and thermophysical properties, freons with fluoroclude have found their wide application in cooling. In addition to the main environmental, chemical and physical indicators, any freon used in everyday life and in industry has the following important properties: pressure, critical density and boiling temperature.

Freon	Chemical formula	Boiling temperature °C	Critical temperature °C	ODP	GWP	Flammability
R12	CF ₂ Cl ₂	-29.74	112	0.9	8500	NF
R22	CHClF ₂	-40.85	96.1	0.055	1700	NF
R123	CHCl ₂ CF ₃	-27.8	183.7	0.02	90	NF
R134a	C ₂ H ₂ F ₄	-26.1	101.0	—	1430	NF
R125	C ₂ HF ₅	-48.1	67.7	—	3200	NF
R404A	(R134a+R125+R143a)	-47	72.1	—	3922	NF
R410A	(R32+R125)	-51	72.5	—	2088	NF
R407C	(R32+R125+R134a)	-44	87.3	—	1824	NF
R245fa	C ₃ H ₃ F ₅	15.1	157.6	—	930	LF
RE347mcc	C ₄ H ₃ F ₇	34.2	~200	—	368	LF
R365mfc	C ₄ H ₅ F ₅	40.11	~208	—	<1500	LF
R32	CH ₂ F ₂	-51.7	78.1	—	675	LF (A2L)
R161	C ₂ H ₅ F	-37.1	102.2	—	12	LF (A2L)
R152a	C ₂ H ₄ F ₂	-24.0	113.3	—	140	LF (A2L)

R1234yf	C ₃ H ₂ F ₄	-29.45	95.65	—	4	LF
R507	(R125+R143a)	-47	71	—	3900	NF
R508A	(R23+R116)	-86	13	—	12000	NF
R404a	(R125+R143a+R134a)	-46.6	72.1	—	3922	NF
R410a	(R32+R125)	-51.6	70.2	—	1890	NF

These are the characteristics that determine whether the refrigerator is suitable or not to solve the specific task. In the table below are some key features of mass coolers, the same in particular, their "climate" factors – ozone layer distortion potential (ODP) and global the warming potential (GWP) is briefly described [6].

The properties of freons also depend on the structure of the substance molecule, the ratio of molecules of fluorine, chlorine and hydrogen in its composition. Freons with a high content of hydrogen atoms are dangerous to fire. freons with low fluorine content are poisonous, freons with low hydrogen content do not melt in the atmosphere for a long time and are environmentally undesirable. R 32 freon (23%) helps to increase the working capacity), R 125 ((25%) excludes the flammability of the mixture), R 134a ((52%) determines the working pressure in the freon pellet) the mixture received the mark of R 407C. Like R 22 freon, the toxicity of R 407C is low, chemically stable and non-flammable. If freon flies, then the performance of the device will be negatively affected not only by the lack of Freon, but also by the change in its composition, because the variability of these freons is different and they do not go smoothly. The problem is that the assembly of the old Freon is so time-consuming that it requires special equipment, as well as highly qualified personnel. The freon remaining in the

system has a different composition, so during its repair it is necessary to pour it completely and fill the system with a new R 407C freon. The main difference and characteristics of the old freon CHF Cl (R 22) and the new R 407C are the pressure values in the working temperature and the type of oils that are suitable for this refrigerator. With R 22 freon, mineral oil is used, which in combination with R 407C is incompatible. Fresh freon is poorly mixed with mineral oil, especially in low temperatures and forms a separating two-phase mixture with it. Moreover, poorly soluble oil in a refrigerant with high viscosity at low temperatures closes the capillary tubes and disrupts the circulation of freon. In addition, its environmental friendliness can practically bring about an additional burden on the environment. Although R 407C is not dangerous for the ozone layer, it is one of the most powerful "greenhouse gases". Consisting of R 32 (50%) and R 125 (50%), R 410A R is conditionally considered an isotropic, that is, during the leakage, the mixture almost does not change its composition, and therefore it is possible to simply fill the air conditioner with it. At the same time, R 410A has some drawbacks, for example, parts of the air conditioner compressor are greased with a special oil melted in Freon. For each freon, it is necessary to strictly use the oil brand, which is suitable for this refrigerator. Incorrect filling of the oil will raise the probability of the compressor from work to almost 100%. Unlike easily soluble 22 in

ordinary mineral oil, the new freons imply the use of synthetic polyurethane oil. The new R 32 Freon, which runs on the latest models of air conditioners, has an undeniable advantage. This is primarily due to the potential for global warming. If we compare freon R410A and R32, then R410A is distinguished by an increase in the global warming potential by more than 65 percent, which means freon R32 has less impact on the environment. Also, the consistency and density of R 32 is low, hence the consumption of Freon making rate decreases taking into account the same power indicators. The density of diphthermethane is 30% lower compared to freon R 410A. The lower viscosity also helps to reduce pressure losses in the cooling circuit and increase the energy efficiency of the air conditioner. In terms of thermal conductivity, R32 is superior to R 410A. This positively increases the cooling volume, i.e. by 4%. Compared to the R 410A, the R32 is a one-component material that is very convenient to operate due to the possibility of additional charging without completely removing the refrigerator from the system and the need to fully charge it [6].

Freon inhalation of air for a period of time (at least 5 minutes) causes pathological conditions in the cardiovascular and central nervous systems, as well as in the lungs. Moreover, Hypoxia is observed due to lack of oxygen. Freons decompose at temperatures above 250°C to form highly toxic substances, such as phosgene (COCl₂). This substance was used as a chemical weapon during the First World War.

In addition, at temperatures above 400 ° C, freons are decomposed into Class 4 tetrafluoroethylene, hydrogen chloride-2 class, hydrogen fluoride - Class 1 substances with highly toxic properties.

The damage of freon also depends on the degree of purification from other substances added during its production. As a result of thermal oxidation at temperatures in the range of 180-380°C number of substances such as hydrogen fluoride; tetrafluoroethylene; 2-triflormethyl, pentaftorpropen are released into the environment.

Therefore, two aspects must be taken into account while determining the toxicity of freons: the toxicity of the refrigerant itself and, secondly, the toxicity of the substances formed from its decomposition.

Scientists of the Fergana Medical Institute of Public Health are conducting in-depth theoretical and practical research in this area.

The sale of freons and their products in the Republic of Uzbekistan is managed by the State Committee for Nature Protection, the Agency for Foreign Economic Relations and the State Customs Committee. Although they are included in List A, B, C (CFCs) and List D (products containing freon), in some cases, such goods are traded, causing significant economic damage to the state. The reason for this is the classification of freons in the nomenclature of goods of foreign economic activity.

Trade name	Chemical name	Chemical formula	HS codes
Galon-1211	Bromochlordiftormethane	CBrClF ₂	2903 46 100 0
Galon-1301	Бромтрифторметан	CBrF ₃	2903 46 200 0
Galon-2402	Dibrometetraftoretanes	C ₂ Br ₂ F ₄	2903 46 900 0

CFC-13	Chlortriflormethane	$CClF_3$	2903 45 100 0
CFC -111	Pentachlorofluoroethane	C_2Cl_5F	2903 45 150 0
CFC -112	Tetrachlordiflorpropanes	$C_3H_2Cl_4F_2$	2903 49 100 0
CFC -211	Heptaxlorflorpropane	$C_3C_1_7F$	2903 45 250 0
CFC -212	Hexachlordiflorpropanes	$C_3C_1_6F_2$	2903 45 300 0
CFC -213	Pentaxlortriflorpropane	$C_3C_1_5F_3$	2903 45 350 0
CFC -214	Trixlorotetraflorpropane	$C_3HC_1_3F_4$	2903 49 100 0
CFC -215	Trichloropentaflorpropanes	$C_3C_1_3F_5$	2903 45 450 0
CFC -216	Dichlorhexaflorpropanes	$C_3C_1_2F_6$	2903 45 500 0
CFC -217	Chlorheptaflorpropanes	$C_3C_1F_7$	2903 45 550 0

The National Seminar on “Regulation of Import and Export of Ozone Depleting Substances and Products Containing the Ozone Layer” held in Tashkent in 2002 also noted that the classification of freons no longer correspond to current standards [9,10].

It is known that in the nomenclature of commodities of the first foreign economic activity adopted in Belgium (1983), freons were classified in 29 groups in 2903 positions in subheadings 290314, 290319, 290341-290349. The following is a list of freons banned from entering the territory of the Republic of Uzbekistan.

To conclude, the development of trade in freons and their products, the occurrence of many criminal cases related to their sale in practice, resulting in significant economic damage to our country, as well as the above-mentioned views on the solution of this problem, freons' nomenclature should be studied and their classification needs to be improved. The solution to this problem is to study their physical and chemical properties

and propose new codes for classification in order to identify the underlying indicators in the classification.

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Transport Logistics: Current Problems, Development Initiatives

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ABSTRACT

This article determines data about the current problems in the development of transport logistics in the Republic of Uzbekistan and the activities being done in the country in this regard, as well as gives suggestions for the development of transport logistics.

KEYWORDS

Transport, logistics, expenses, cost price, shipping, cargo, passenger, open sea, export, import, LPI, infrastructure.

INTRODUCTION

Transport plays an important role in the socio-economic development of the Republic of Uzbekistan. According to the results of 2020, 1378.8 million tons (104.5% compared to last year) of freight and 5240.4 million people (87.0% of last year) were transported by all

types of transport in the country. Due to the location of the republic, it is not possible to use water transport, which has the lowest cost of direct sea access and transportation. Therefore, the export of goods produced in the country and the import of necessary products

require the use of rail, road, air and pipeline transport.

In his Address to the Oliy Majlis, President of the Republic of Uzbekistan Sh.M.Mirziyoev touched upon this issue: "Improving the transport and logistics system is also the most pressing issue today. "Because of our limited access to the sea, there are many difficulties in exporting the product." [1]

One of the priorities in the development of the transport potential of the country and the expansion of export opportunities, the development of a network of modern roads, taking into account the geographical location of the country, is to increase the competitiveness of the economy.

Over the past years, a number of measures have been taken to improve road infrastructure in accordance with international standards, to build modern highways, to increase the convenience and safety of traffic.

Funding for the construction and repair of roads has increased significantly, which has allowed to almost triple the volume of road construction and repair work performed in recent years.

New approaches to the management of the transport network, in turn, require the use of modern methods and techniques that allow to fully meet the needs of consumers through the rational use of available resources.

MAIN PART

According to experts, a number of problems hinder the development of transport logistics

in our country at the level of developed countries.

First, the lack of development of transport infrastructure in the country. In particular, according to the International Logistics Performance Index (LPI), if we look at the international logistics index of our country, the highest results can be observed in the indicators of infrastructure and timely delivery (Table 1). According to these indicators, Germany (4.20 - 1st place), Sweden (4.05 - 2nd place), Belgium (4.04 - 3rd place) are leading in the world, while Uzbekistan has 160 countries with a rating of 2.58. ranks 99th in the series. The Central Asian countries lag behind Kazakhstan (2.81 - 71st place), Kyrgyzstan (2.55 - 108th place), Turkmenistan (2.41-126th place) and Tajikistan (2.34-134th place). from above. Afghanistan (160th place) finished this ranking with a score of 1.95 (Table 1).

It is known that the logistics index is determined on the basis of several indicators. If we look at the position of Uzbekistan in each indicator: in the customs service - 140 places (that is, out of only 20 countries included in the ranking, the rating of the republic on this indicator is high); on infrastructure - 77th place; 120th place in international transportation; on logistics quality and competence - 88th place; on supervision and control - 90th place; on timely delivery - 91st place.

From the above analysis, in order to increase the role of the Republic of Uzbekistan in the logistics index among the countries of the world, it is necessary to focus primarily on the activities of the customs system in international freight and passenger traffic.

Table 1
LPI (Logistics Performance Index) data for 2018
(Between 160 countries)

Country	LPI place in	Overall rating	Duty room	Infrastr ucture	Internati onal shipme nts	Logistics quality and competenc e	Monito ring and control	Timely delivery
Germany	1	4,20	4,09	4,37	3,86	4,31	4,24	4,39
Sweden	2	4,05	4,05	4,24	3,92	3,98	3,88	4,28
Belgium	3	4,04	3,66	3,98	3,99	4,13	4,05	4,41
Japan	5	4,03	3,99	4,25	3,59	4,09	4,05	4,25
United States	14	3,89	3,78	4,05	3,51	3,87	4,09	4,08
South Korea	25	3,61	3,40	3,73	3,33	3,59	3,75	3,92
China	26	3,61	3,29	3,75	3,54	3,59	3,65	3,84
Kazakhstan	71	2,81	2,66	2,55	2,73	2,58	2,78	3,53
Russia	75	2,76	2,42	2,78	2,64	2,75	2,65	3,31
Armenia	92	2,61	2,57	2,48	2,65	2,50	2,51	2,90
Uzbekistan	99	2,58	2,10	2,57	2,42	2,59	2,71	3,09
Belarus	103	2,57	2,35	2,44	2,31	2,64	2,54	3,18
Kyrgyzstan	108	2,55	2,75	2,38	2,22	2,36	2,64	2,94
Turkmenistan	126	2,41	2,35	2,23	2,29	2,31	2,56	2,72
Tajikistan	134	2,34	1,92	2,17	2,31	2,33	2,33	2,95

Source: <https://lpi.worldbank.org/International> [5].

The second is the high cost of transportation. In particular, the cost structure of road transport services differs significantly from similar indicators in developed countries. In particular, the share of fuel, depreciation costs, taxes and fees in the cost structure is several times higher, while the share of drivers' wages, which is the most effective means of incentives, is less than 3 times (Table 2) [2].

According to Table 2, the main items of transportation costs are accounted for by vehicle maintenance and fuel lubricants. The level of obsolescence of vehicles used in the regional road transport associations of the country remains one of the main reasons for their inability to compete in the market of road transport services.

Table 2
Structure of the cost of transportation by road [3]

Cost name	Percentage of transportation costs	
	Uzbekistan	European Union
Fuel	37-40	16-20
Lubricants	2-2,2	3
Driver's salary	15-16	52-55
Tire costs	2-2,5	1-1,1
Depreciation allowances	10-12	5-6
Taxes and fees	6-7	2
Other expenses	20-21	16

Third, bilateral and multilateral agreements within the region are not at the level of demand. In particular, the absence of the Agreement on International Road Transport between Uzbekistan and Tajikistan and the fact that the existing "unauthorized" agreements do not address issues of transportation to and from third countries have a negative impact on transport between the two countries.

Based on the above, it should be noted that in recent years, international cargo passing through the territory of Uzbekistan has been declining. The main factors influencing the reduction of international cargo transported through the country are the high tariff rates for transport, the complexity of customs control over international goods, in particular transit cargo, and the launch of alternative transport corridors around the country.

One of the most important external factors hindering the development of transport and logistics in Uzbekistan is the underdeveloped transport infrastructure that provides foreign economic relations, which requires the development of the transport network in the country.

RESULTS AND DISCUSSION

Achieving the main goal of sustainable development of the national economy is directly related to solving the problem of developing alternative transport corridors to access world markets.

The National Strategy for Sustainable Development, developed by the Government of the Republic of Uzbekistan, emphasizes the development of alternative transport corridors to enter the world market. Today, Uzbekistan is actively involved in the development and implementation of projects for the joint construction of international roads within a number of member organizations.

These roads will allow Uzbekistan to access southern seaports, international transport networks (automobile railways, sea routes), goods and capital to world markets.

At the current stage of economic reforms, Uzbekistan has confidently entered the world market, solving the task of achieving macroeconomic stability. By increasing its

exports, it has created favorable conditions for attracting large-scale foreign investment. Now, in order to develop export and import relations, our country must in the process of sustainable growth of its economy correctly choose the alternative ways of exporting goods that meet the requirements of the world market. Special attention should be paid to the economic, political and international aspects of this issue.

Given the fact that Uzbekistan's entry into the system of global economic processes is an objective necessity, it is time to identify ways to quickly establish independent relations with foreign countries at the expense of its export-import relations.

It can be said that the problems of freight and passenger traffic between Uzbekistan, Russia, Ukraine, Belarus and the Baltic states are likely to be resolved in the near future within the Commonwealth of Independent States.

Based on the above factors, there is a need to develop, rationally and consistently implement the formed concept of clearly defining the place of Uzbekistan in the world community. This requires, on the one hand, a comprehensive and objective assessment of the challenges and new opportunities associated with the process of globalization, and, on the other hand, the clear internal capabilities to counter emerging risks and the existing potential to realize new opportunities.

The work on the construction and effective use of modern logistics centers in our country is being continued. The basis for consideration of the issue of establishing logistics centers in Uzbekistan was the policy of modernization of the economy of the republic. In this regard,

special attention is paid to the development of the country's transport infrastructure, including the establishment of logistics centers that promote the development of both domestic and export, import and transit trade. The Republic of Uzbekistan has acceded to a number of major transport conventions and international agreements, and in this regard, work is underway to diversify transport corridors.

By 2030, the total amount of investments in the transport sector will reach about 46.7 billion. The annual volume of investments will increase from \$ 2.1 billion in 2015 to \$ 5.1 billion by 2030. It is expected to increase to USD. In order to achieve the goals of economic transformation while increasing investment, transport policy in Uzbekistan should focus on improving institutional issues, further optimizing the consumer-oriented transport and logistics system, improving the quality of services and diversifying transport routes for future export / import and transit of goods. will be required [4].

To develop the segment of transport and logistics services, the network of multimodal transport and logistics centers can be expanded through:

- Harmonization of the regulatory and legal framework, intermodal and multimodal forms of cargo transportation, technical and technological regulations and standards of logistics centers, the activities of freight forwarding companies applying international standards;
- Integration of information bases to ensure the efficient operation of multimodal transport);

- Formation of a network of national transport and logistics centers with the level of transport and logistics operations in them to at least 3 PL.

The development of road transport in the country is aimed at improving the quality of road transport, reducing the negative impact of the road transport sector on the environment and improving the environment, the introduction of modern innovative ideas, developments and technologies in the public administration system to renovate and replenish the Palace of Passenger and Trucks. technical support, state support for the establishment of intelligent transport systems.

In addition, it is necessary to finance projects for the development of the road transport network, improve the system of integration into the global transport space and the country's transit potential, increase the competitiveness of domestic carriers in the international road transport market, as well as create conditions for human resources policy.

CONCLUSIONS

The ongoing work on the development of road transport in Uzbekistan and the implementation of planned tasks in the future will serve to improve the quality and efficiency of transport services, as a result of which the country's transport infrastructure will take its rightful place among developed countries.

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The Medicinal Types Of Scutella (Lamiaceous) Group Spread Over Fergana Valley

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ABSTRACT

The article gives some information about the medicinal usage of scutella (lamiaceous) because of its biologically active substances in it, finding natural storage of the types, defining the modern condition of population, the necessity of saving endangered species.

KEYWORDS

Fergana valley, flora, province, flavonoid, glycoside, glycan, vitalitet, genofond, synopopulation, baykalin, baykalein, vogonin.

INTRODUCTION

In recent years, researches, which study biologically active substances, are being more in consideration. Take Scutella group as an example and over 65 types of their compositions were researched. Some substances like fenol carbon acid, fenilpropanoids, iridoit glycosides, deterpens,

flavonoids, flacumin, rutin, likviriton, datiscan, flaming, silibor are widely used in medicine.

Scutellara L – al large polimorf group belongs to Lamiaceous. According to A. Paton, this group includes approximately more than 350-425 types [1]. It is spread all over the world except The Arctic and Southern Africa, and

have not found in desert or the bank of Amazon. The wide range of the types can be found in Irish-Turon province, mountainous areas of Central Asia, Yunnan and Sichuan provinces of China. (Abdullayeva, 1987; Paton, 1990).

Another necessity of observing *Scutella* L group is the noticeable increase of demand for observing *Scultella* L in the flora of Uzbekistan. According to A.M Karimov (2007) and G'.U Siddiqov (2018), they got new flavonoids, glycosides, aglycones out of *S.sordifrons*, *S.phyllostachya*, *S.comosa*, *S.haematochlora*, *S.immaculata*, Nevski, *S. ocellata*[1]. It is determined that such kind of substances can be equal to parasetamol and geliotrin when it comes to cure inflammation and poisoning, balance blood pressure. On the other hand, with the help of these substances wool and woolen products can be dyed. Scientists get them from right nature when they producing such products. It is more preferable to prove the order of gaining *Scutella*, finding natural resources of them, estimating their future balance theoretically in order to save their genofond, to spread the types, to make charts representing its vitalitet, saving endangered species.

THE AIM AND METHODS OF THE RESEARCH

In this research in 2019-2020 some herbariums collected from all over the Fergana Valley, National herbarium of Uzbekistan, Moscow herbariums' centre, the herbarium centre of Samarkand state university in 1913-2020. The names of these types are taken from International Plants Names Index (www.ipni.org), the World plants Catalogue of Life (www.catalogueoflife.org) and "Authors of Plant Names" R.K. Brummit, C.E. Powell

(1992). In this research list of medicinal flora of Fergana valley is given and making this list Labitae in flora of Kyrgyzstan (2016) monografy, herbariums from all over the archives.

DISCUSSIONS AND RESULT

In our country some improvements are being done to discover new natural medicine instead of imported pills and supplying the public with high quality medicine products. For instance, observing the *Scutella* growing in Uzbekistan, getting flavonoids out of the plants.

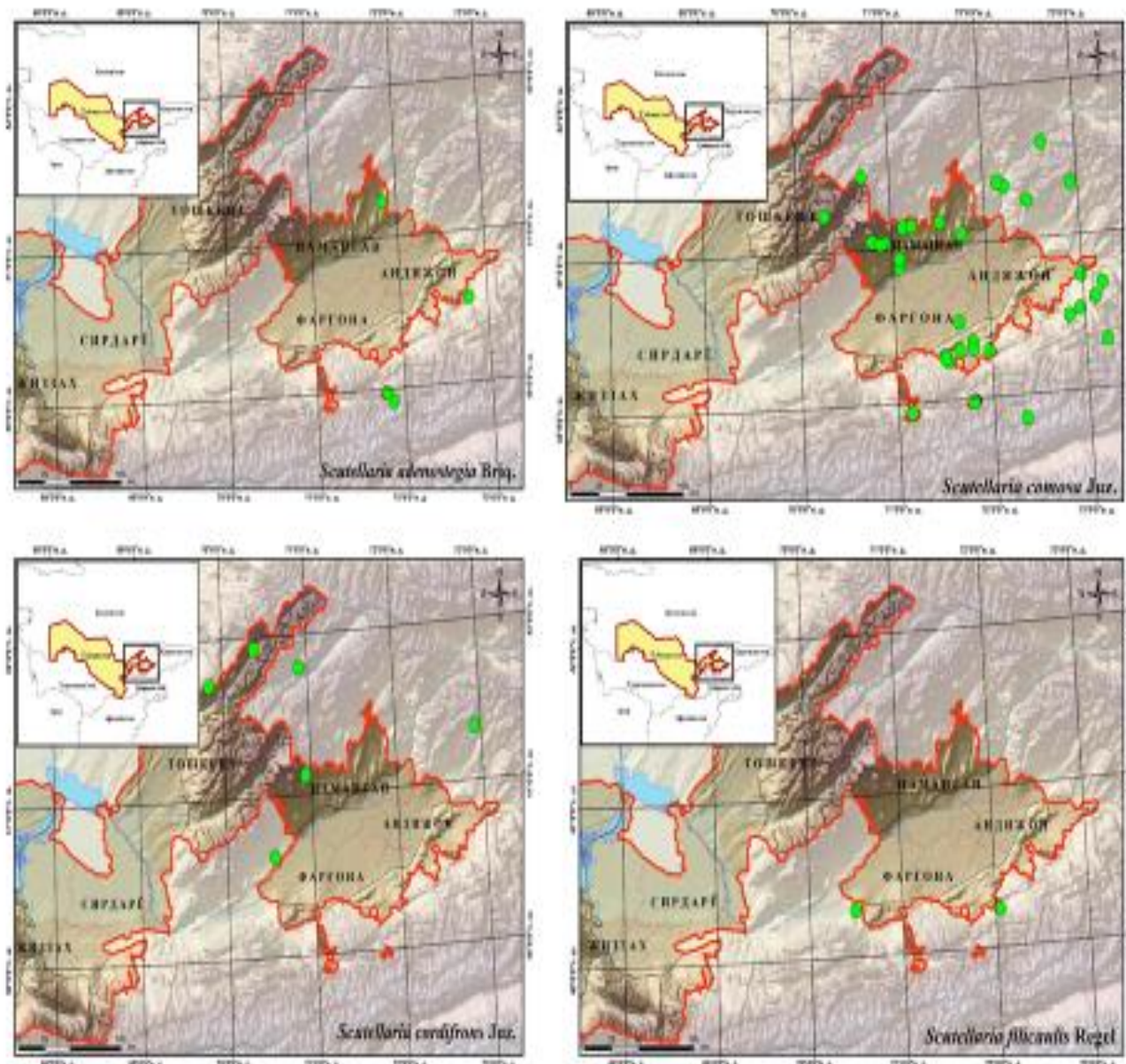
According to researches, in a recent decade, the number of observations devoted to find new types, endemism, morphology, population, ontogenies of *Scutella*. They are more than other researches. More than 65 types were observed and more than 330 fenol-like were taken. Some scientists like Y. Imoto, H.Kizu, T.Namba, N.Joshee, Y.Y. Zhang, C.R. Yang, Z.H. Zhoy, J. Miao, T. Tomimori, S.Shibata, Y. Kikuchi, Y. Miaichi, I.I. CHemesova, D.I. N.K.CHirikova, V.I.Litvinenko, T.P.Popova, M.linuma, A.L.Budansev and etc. researched in abroad. Baykalein, voganin and some other substances are used as antivirus, and cure for OITS and cancer. Some researcher are held in Uzbekistan too, like A.M Karimov (2017) and G'.U. Siddiqovlar (2018). It is determined that such kind of substances can be equal to parasetamol and geliotrin when it comes to cure inflammation and poisoning, balance blood pressure. Karimov (2017) and G'.U. Siddiqov (2018).

1- table. Scutella types spread over Fergana valley

Nº	Scutellaria turlari	Kimyoviy tarkibi
11.	S. adenostegia Briq.	scutellarin , vogonin , oroksilin A (5,7-digidroksi, 6-metoksi flavon), Norvogonin (5,7,8- trigidroksi flavon), Kversetin (3,5,7, 3",4"-penta gidroksiflavon), smola 2.5% gacha pirokatexin, guruhiga kiruvchi oshlovchi moddalar va efir moyi, Flavon, Baykalein.
2.	S. comosa Juz.	apigenin, skutellarein, lyuteolin, gispidulin
3	S. cordifrons Juz.	Flavon, Baykalein, Baykalein-7-O-β-D-Glcp, Baykalein-6-O-β-D-Glcua, Vogonin, Norvogonin, Norvogonin-7-O-β-Glcp, Vogonozid, Orokisilozid, Xrizin, Xrizin-7-O-MeGlcua, Apigenin-7-O-β-D-Glcua, Apigenin-7-O-glyukozid, Skutellarein-7-O-Glcp, Izoskutellarein, Lyuteolin-7-O-Glcua, Rivulyarin, Diosmetin-7-O-β-Glcp, 5,2',6'-trigidroksi -6,7,8-trimetoksiflavon, 5,8-dimetoksi-7-O-Glcua, 5,2',6'-Trigidroksi-7,8-dimetoksiflavon, (±)-5,2'-digidroksi-6,7,6'-trimetoksi-flavanon: R=H (-)-5,2'-digidroksi-6,7,8,6'-tetrametoksiflavanon
4	S. filicaulis Regel	apigenin, skutellarein, lyuteolin, gispidulin
5	S. galericulata L.	xrizin, 7-glyukuronid xrizin, baykalein, 7-glyukuronid baykalein, oroksilin, oroksilozid, vogonin, vogonozid, skutellarin xrizin, apigenin, 7-glyukuronid apigenin, lyuteolin, 7-glyukuronid lyuteolin, 6-gidroksilyuteolin, 7-glyukuronid 6-gidroksilyuteolin, digidrobaykalein, 7-glyukuronid digidrobaykalein, Efir moyi tarkibida kariofillen, trans-fi -farnezen, menton, okten1-ol-Z, r-sabinen, a-gumulen, germatsen D, limonen, baykalin, lyuteolin, skutellarin apigenin, skutellarein
6	S. haemato chlora Juz.	-5,2`-Digidroksi-6,7,6`-trimetoksiflavanon (2.7), rivulyarin (5,2`- digidroksi-7,8,6`- trimetoksiflavon) (2.26), 5,2`,6`- trigidroksi-6,7,8- trimetoksiflavon (2.27), diosmetin-7-O-β-D- glyukopiranozid (2.28)
7	S. immaculata Nevski ex Juz.	Xrizin (5,7- digidroksiflavon) (2.1), apigenin (5,7,4`- trigidroksiflavon) (2.2), skutellarein (5,6,7,4`-tetragidroksiflavon)(2.3), izoskutellarein (5,7,8,4`- tetragidroksiflavon) (2.4), vogonin (5,7- digidroksi-8-metoksiflavon) (2.5), (±)-5,2`- digidroksi-6,7,8,6`- tetrametoksiflavanon (2.6), (±)-5,2`- digidroksi-6,7,6`- trimetoksiflavanon (2.7), xrizin-7-O-β-D-glyukuronid (2.8), kosmosiin (apigenin-7-O-β-D- glyukopiranozid) (2.9), norvogonin-7-O-β-D- glyukopiranozid (2.10), skutellarein-7-O-β-D- glyukopiranozid (2.11), oroksilozid (oroksilin-7-O-β-D- glyukuronid) (2.12), vogonozid (vogonin-7- O-β-D- glyukuronid), (2.13), vogonin-7-O-β-D- glyukopiranozid (2.14), immakulozid (5,8dimetoksi-7-O-β-D- glyukopiranozilflavon (2.15)
8	S. intermedia Popov	apigenin, skutellarein, lyuteolin, gispidulin

9	S. ocellata Juz.	apigenin, skutellarein, lyuteolin, gispidulin, Norvagonin (5,7,8-trigidroksiflavon), Norvagonin 7—O—β—D- galakturonid – nepetozid A, Norvagonin 7—o—β—D- glyukopiranozid
10	S. oxystegia Juz.	Efir moylari 0.1 %. Alkaloidlar 0.21 %. Dubil moddalar 3.65 %.
11	S. pycnoclada Juz.	apigenin, skutellarein, lyuteolin, gispidulin
12	S. ramosissima Popov	apigenin, skutellarein, lyuteolin, gispidulin

The map of spreading Scutellaria types in Fergana valley



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Value Of Local Resources In Increase Of Potential Of Small-Scale Business And Business

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ABSTRACT

Small-scale business and business has great value in economic potential of each state. Uses of local resources in activity of small-scale business and business provides their efficiency. Possibility of manufacture of the competitive goods is as a result provided. In article on the basis of theoretical and analytical materials the basic directions of increase of efficiency of small-scale business and business with use of local resources are defined.

KEYWORDS

Digital economy, small-scale business, business, local resources, competitiveness, efficiency.

INTRODUCTION

Today, in order to ensure the development of the countries of the world, it is necessary, first of all, to increase the middle class and entrepreneurial activity, which is the basis for its formation. According to estimates by the U.S. financial corporation Goldman Sachs, by

2050, 40 percent of world GDP will be formed by the middle class engaged in entrepreneurial activities. Historically, the figure was 23 percent in 1960 and 30 percent in 2007.

At present, the middle class in Western countries makes up 50-70 percent of the population and is mainly engaged in entrepreneurial activities. At the current level of socio-economic development of Uzbekistan, the entrepreneurial activity of the middle class is developing, and in the future, the knowledge will grow even faster. Entrepreneurs are becoming the backbone and backbone of society and the economy. The experience of American, Asian and European countries shows that the basis of any country's development is small business and entrepreneurship.

The pandemic situation in the world requires the use of effective tools to manage the economy in various sectors and industries. In other words, the shadow of this crisis is increasingly covering developed and developing countries. As a result, there is a decline in production, rising unemployment and deteriorating living standards in these countries. As the economies of countries become more deeply integrated into the world economic and economic-financial system, the consequences of the crisis, of course, will affect all countries.

In his Address to the Oliy Majlis of the Republic of Uzbekistan, President Mirziyoyev paid special attention to this issue, noting that despite the problems and difficulties, in 2020 the country's economy was not only stable, but also consistent growth. In accordance with the programs for 2021 and the near future, efforts will be made to further develop small business and entrepreneurship in our country, to further increase the share of the private sector in the country's economy. It is noted that this sector will play a key role in the country's economy, occupying a leading position in the ongoing

market reforms. However, there are a number of opportunities that are not used in small business and entrepreneurship, which are often related to the use of available local resources. Further improvement of operational efficiency can be achieved through the efficient use of available resources.

MAIN PART

Entrepreneurship is developing rapidly in developed economies. The share of entrepreneurs in their gross national product has risen to 70-80%. More than 70% of the country's population is engaged in small business and private entrepreneurship.

Uzbekistan is also working hard to further develop entrepreneurship. Entities engaged in small business and entrepreneurship and their leaders strive to increase the amount of profit they receive along with the development of their activities. Entrepreneurs aim to make large profits while producing the products or services they need for the people of the country, province, city or district where they operate, creating new markets, and creating new jobs for the job-seeking population. . It will ultimately have an impact on improving the living conditions of the people in the country. Provides assistance to the needy part of the population. Entrepreneurs provide a large amount of sponsorship for the population in need of social assistance, distribute free medicines to patients, and the development of entrepreneurship benefits both themselves and those who work in their enterprises and organizations, as well as the population of the region where they are located. Therefore, the development of entrepreneurial activity was accepted as a key priority. For the further development of entrepreneurship, it is

necessary, first of all, to study the theories of entrepreneurship and entrepreneurship from an economic point of view.

People have been engaged in entrepreneurship in our country since ancient times. Areas such as handicrafts and trade also existed before. However, their theoretical foundations have not been sufficiently established. Theoretical views on entrepreneurship, the rules, directions and principles for their development have not been sufficiently studied and adequately covered in the economic literature. After gaining independence, the focus began on entrepreneurial activity and its theoretical foundations. Entrepreneurship is now seen as a major driver of economic development, while at the same time playing an important role in providing employment, filling the market with the necessary consumer goods, developing the country's economy and improving the welfare of the population.

RESULTS AND DISCUSSION

Many scholars have tried to define small business and entrepreneurship. I. Schumpeter has done a lot of research on small business and entrepreneurship and as a result gives the following definition of entrepreneurship:

“Entrepreneurship is neither a career nor a profession, it is a unique ability to bring innovation to the market on a risk basis. Entrepreneur is not a capitalist, entrepreneurial activity is advanced, creative activity and is an important source of competitive reconstruction of the economy”(1). He connects entrepreneurship with innovative activity, believing that entrepreneurs will be at the level of creativity

in creating innovation and bringing innovation to market. He believes that entrepreneurship is characterized by risk. Some business entities today do not pay attention to innovation at all, do not engage in innovative activities. As a result, it becomes difficult to achieve positive results in their activities.

Some time after I. Schumpeter, R., who had done much research in this direction. Hizrich believes that entrepreneurship is associated with creative activity and takes a risk. R. Hizrich described entrepreneurship as follows:

“Entrepreneurship is the process of creating something that has a certain value. An entrepreneur is a person who spends his time, knowledge and skills in the preparation and creation of something, he takes all the financial, mental and physical risks in this work, and as a result has a certain amount of money.”(2) Entrepreneurs are positive based on their risks. achieve results and gain efficiency. Many scholars have tried to define small business and entrepreneurship. I. Schumpeter has done a lot of research on small business and entrepreneurship and as a result gives the following definition of entrepreneurship:

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In recent years, especially after the independence of our country, our scientists and researchers began to study entrepreneurship and began to try to define entrepreneurship. One of the scientists of our country, namely Z.Ya. Khudoiberdiev tried to describe entrepreneurship:

“Entrepreneurship is a multidimensional socio-economic situation, which is based on independent economic activity. It is for profit and arises from the combination of all material, financial and labor resources ”(3). Z.Ya.Khudayberdiev considers entrepreneurial activity as an economically independent activity, and in this activity the integration of economic resources takes place, economic results are achieved.

The encyclopedic dictionary created in our country also defines entrepreneurship: “Entrepreneurship is an independent activity

carried out on its own behalf, within the framework of its property liability or on behalf of a legal entity and with the purpose of obtaining profit or personal income on the basis of legal liability. An entrepreneur may carry out all types of economic activities not prohibited by law. They can be engaged in trade, brokerage, trade, purchase and sale, supply of products, agricultural activities, computer services, communication services and other similar activities ”(4)

Summarizing the definitions and concepts of entrepreneurial activity, it can be described as follows:

Entrepreneurship is a special type of activity that leads to the saturation and satisfaction of market needs with products and services, despite the internal and external risks. Such activities benefit. Entrepreneurship and entrepreneurial activity means the independent activities of citizens aimed at making a profit within their own risks and property responsibilities. They invest their assets and capital in activities that are somewhat risky and risk-based, and seek to make a profit. The development of entrepreneurial activity has a high degree of influence on economic success and ensures high rates of production. Entrepreneurship is the basis of the innovative nature of the country's economy. Entrepreneurship accelerates the creation of innovations and their introduction into production. As their number and type of activity increases, the development of the economy progresses significantly. Through the development of entrepreneurial activity in the country, new, promising industries are developing.

In recent years, as a result of the use of available resources by small businesses and entrepreneurs in our country, the following achievements have been made. In January-March 2020, more than 23.3 thousand small enterprises and micro-firms were established. Most small businesses and micro-firms were established in the trade sector. 39.9% of the total number of established business entities in this area, 18.6% in industry, 11.3% in agriculture, forestry and fisheries, 7.9% in construction, 7.4% in accommodation and catering services, transportation and 2.8% in storage.

Based on the use of available resources, the following results were achieved by small businesses and entrepreneurs in the first quarter of 2020:

- The volume of industrial production amounted to 23630.8 billion. soums, which accounted for 28.7% of total industrial production;
- 18215.9 billion. UZS were invested. This is 54.6% of total investments and the growth rate compared to January-March 2019 was 126.8%;
- 11172.4 billion. soums worth of construction works were completed. Construction works accounted for 72.3% of the total. The growth rate compared to January-March 2019 was 107.1%;
- 25823.7 billion. soums were provided. This is 51.3% of the total volume of services in the country. The growth rate in this sector was 105.2%;

Table 1

Small business and private entrepreneurship

Analysis of key indicators in the sectors of the economy in 2010-2020

Years	Industry (billion soums)	Construction (billion soums)	Employment (thousand people)	Trade (billion soums)	Agriculture, forestry and fisheries (billion soums)
2010	10132,9	4163,2	8643,9	18616,1	31900,4
2011	13586,8	6188,3	8950,7	24741,9	46704,5
2012	17114,6	7925,5	9239,7	32242,9	56926,6
2013	23312,0	10377,7	9604,0	40564,5	67510,7
2014	30907,0	13944,9	9950,8	50197,8	82957,2
2015	39643,5	16954,0	10170,4	61972,3	101197,5
2016	50654,5	19671,0	10397,5	78935,6	118011,4
2017	61367,8	22469,4	10541,5	92973,0	152010,5
2018	87962,0	37451,7	10128,8	114896,4	191759,2
2019	83 344,2	53960,9	10313,4	138920,7	219466,9

2020	42274,4	30526,3	9402,0	75497,5	94634,4
In 2020, compared to 2010,% In 2020, compared to 2010,%	417,0	733,0	108,0	405,0	296,0

In the first quarter of 2020, small business and entrepreneurial activity produced industrial products worth 42,274.4 billion soums (Table 1) and increased by 417.0% compared to 2010. The construction sector achieved the highest growth during these years, with a change of 733.0%. In all other areas, the growth rate of small business was also high. In the past, there have been some untapped opportunities in the export of goods and services. Along with the increase in exports, there has not been a sufficient increase in new modern types of exported products and services. At the same time, there have been some shortcomings in the field of efficient use of all economic resources in the country, and we will contribute to the development of small business and entrepreneurship through their elimination.

CONCLUSIONS

Based on the analysis and observations, we came to the following conclusions:

1. Comprehensive analysis of the economic potential of business enterprises.
2. In determining the goals and objectives of small business and entrepreneurship, take into account the conditions of

globalization of the economy and set goals that are consistent with it.

3. Pay attention to the level of modernization of machine tools and equipment used in business enterprises. Look for modern and high-performance machines and look for financial opportunities to attract them.
4. Establish efficient use of all economic resources.
5. Take measures to increase the productivity of employees of the entrepreneurial enterprise, create the necessary conditions to achieve high productivity.
6. Further development of scientific organization of labor in entrepreneurship and small business.

At present, in order to identify problems in the development of small business and entrepreneurship, it is necessary to analyze their activities in the context of market relations. The market economy places great demands on the activities of business enterprises. The most important of such requirements is the conformity of manufactured products to market demand. This compliance must be ensured both quantitatively and qualitatively. The solution of these tasks depends in many respects on the economic potential of enterprises and the level of utilization of their opportunities.

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Competitive Environment, Quality And Its Management In The Digital Economy

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ABSTRACT

In the context of globalization and digitalization of the economy, the competitiveness of products is important. Improving product quality is required to ensure competitiveness. The article discusses the issues of production of quality products and issues of ensuring competitiveness. The main directions of ensuring the competitiveness of products have been identified and ways to improve product quality management have been proposed.

KEYWORDS

Digital economy, competitiveness, quality, quality management, information technology, export, planning.

INTRODUCTION

Thanks to the large-scale reforms carried out under the leadership of President Shavkat Mirziyoyev to raise the development of Uzbekistan to a new level in the recent stages

of economic development, radical changes are taking place in the life of our people. In these processes, new values and traditions are being formed in our society. The development of

industrial enterprises operating in the country, the formation of a competitive environment among them will further increase the aspirations of enterprises to produce quality products. At the same time, it is necessary to take responsibility for the production of industrial products directly at the enterprise in accordance with the requirements of international quality standards. Improving the mechanism of improving product quality in accordance with the requirements of international quality standards and studying the factors influencing it and the causes of this situation.

One of the important tasks in today's modern enterprises is to study the problems that arise in the production of quality products, taking into account the requirements of the digital economy, and to analyze this situation and improve the management of these processes.

The modern market economy places strict demands on the quality of the products produced. Because the survival of any firm today, its strong position in the market of goods and services is determined by the level of competitiveness. Competitiveness is related to two indicators - price and the level of product quality.

THE MAIN PART

In the current transition to a digital economy, diversification of production is underway. Under such conditions, the competition intensifies. During this period, the second factor, namely the quality of products and services, is gaining priority. Because quality is an important basis for the reputation and further development of the enterprise. Therefore, quality management needs to be

improved and adapted to the conditions in this context. Quality management is the beginning and end of the work for all employees, from the manager to the specific executor. Due to this, the issue of quality plays an important role in the economic, including industrial policy of the state. Improving the quality of a product is, as a result, a matter of saving its quantity and resources used, fully satisfying social and personal needs. That is, any product must meet the highest technical, economic and aesthetic requirements, as well as a number of other requirements, be able to compete in the world market. If the problem of quality is not solved, social production and the needs of the population in goods cannot be met.

Product (work, service) quality is a set of characteristics that determine whether a particular product is perfect for use in all aspects.

The quality of industrial products is one of the main indicators used in planning and determining the activities of the industry, enterprise (firm). It describes the organization of labor, its level of equipment, the qualifications of specialists, the state of production management.

Product quality is economically expressed in the form of a measure of consumption value and the degree of use. Product quality is an economic category that reflects the relationship between producers and consumers, the relationship of the enterprise with the state in the production of quality products, the implementation of planned tasks and product pricing. In addition, product quality represents the relationship between enterprises for material incentives for quality

products and for material liability for the production of substandard products.

When a consumer buys a product in the market as a buyer, he always compares the price of the item to know that it covers the set of properties he has. Economically optimal quality means the ratio of quality and cost or the price per unit of quality, and it is calculated by the following formula:

$$Copt = Bs / Xe$$

Here: Copt - economically optimal quality;

Bs - product quality;

Xe - cost of purchase and operation of the item, UZS.5

Determining the denominator of a formula is not complicated because it includes the selling price of the item, the cost of operation, repair, and disposal. Determining the speed of the formula, on the other hand, is more difficult because the quality of the product is so many and varied. A separate science "Qualimetry"

deals with this. He developed a sufficiently satisfactory method of estimating quality in terms of quantity, that is, the growth of a unit of product quality at a cost of one soum.

So, in modern production conditions, product quality is an important component of the efficiency and profitability of the enterprise (firm). Therefore, it is necessary to pay constant attention to it. Quality should be dealt with by everyone from the CEO to the specific executor. All processes of quality assurance, design, maintenance are integrated into the quality management system.

RESULTS AND DISCUSSION

Improving quality and ensuring competitiveness in the activities of enterprises and organizations are important tasks. All enterprises and organizations in Namangan region are improving their activities in this area.

Through the following analyzes, it is possible to think about the level of quality and competitiveness.

Table 1

Industrial products in Namangan region in 2017-2020

production, billion soums

Nº	Кўрсаткичлар номи	2017 Year	2018 Year	2019 Year	2020 Year	Total share, %
1	By region	4 614,5	6 586,5	8 873,5	10 950,8	100,0
	Growth rate compared to 2017	1	1,42	1,92	2,37	
2	Manufacturing products	4 354,8	6 204,3	8 052,2	9 189,3	83,9
3	Food production	1 162,4	1 272,1	1 776,6	2 227,9	20,3

4	Production of beverages, juices	198,3	239,7	371,6	417,4	3,8
5	Manufacture of textile products	1 775,8	2 132,0	2 465,4	2 448,6	22,4
6	Manufacture of clothing	788,3	821,8	1 173,4	1 439,3	13,1
7	Manufacture of leather and related products	122,3	169,6	199,9	191,3	1,7

Table 1 analyzes the indicators of industrial production in the region in 2017-2020. It can be seen that the volume of industrial production has been growing over the years. Its growth rate was 237% in 2020 compared to 2017.

Table 2 below analyzes the implementation of export operations in the region in 2019-2020. From it it can be seen that in 2020 the export

operations in the region were performed by 6.2% more than in 2019. In 2020, the volume of industrial production increased by 23.0% compared to 2019, and the volume of exports increased by only 6.2%. This means that a number of measures are needed to ensure competitiveness in the region by improving quality.

Table 2

Analysis of the implementation of export operations in Namangan region in 2019-2020

Nº	Cities and districts	2019 Year	2020 Year	Growth rate in 2020 compared to 2019
1	Namangan City	113 265,4	102 048,7	90,1
2	Mingbulak	7 374,7	20 641,8	279,9
3	Kasansay	33 221,3	19 675,3	59,2
4	Namangan	19 845,9	21 959,8	110,7
5	Norin	14 445,2	24 012,6	166,2
6	Pop	13 656,0	12 918,4	94,6
7	Turakurgan	52 818,8	62 589,3	118,5
8	Uychi	28 854,6	23 763,3	82,4
9	Uchkurgan	16 914,8	20 645,0	122,1
10	Charrtak	6 530,7	17 546,8	268,7
11	Chust	20 346,6	16 907,3	83,1

12	Yangikurgan	26 028,5	32 030,8	123,1
13	Individuals	2 743,7	3 277,0	119,4
	By region	356 046,5	378 016,2	106,2

Enterprises and organizations should prioritize competitiveness in their activities. If this were done, the increase in the region's export activities could reach 20.0% and higher in 2020. This means that a number of measures are needed to improve quality and ensure competitiveness, develop an action plan and implement them. The most important of these activities is quality management, which includes:

1. Quality planning to increase competitiveness.
2. Organization of work on quality and its assurance.
3. Establish quality control in the enterprise.
4. Analysis of product quality measures and product quality.
5. Encourage quality improvement.

To improve product quality management, the following issues need to be addressed:

1. Product quality control.
2. Product quality assessment.
3. Implement product quality management and a systematic approach to it.
4. To study the relationship of product quality management with the factors affecting it.

The most important management function in improving the quality of products is the organization of quality control. The essence of quality control is to obtain information about the object to be inspected and compare it with the requirements, standards and requirements of the concluded contracts.

To improve product quality management, the following issues need to be addressed:

1. Product quality control.
2. Product quality assessment.

3. Implement product quality management and a systematic approach to it.
4. To study the relationship of product quality management with the factors affecting it.

CONCLUSIONS AND SUGGESTIONS

1. In the context of digitization and modernization of the economy, the quality factor is becoming more important. Because quality is the reputation and further prosperity of the enterprise, and the work on quality management is the most responsible activity for all employees, from the manager to the specific executor. Due to this, the issue of quality plays an important role in the economic, including industrial policy of the state. Improving the quality of the product - this ultimately leads to an increase in its quantity, saving resources, more complete satisfaction of social and personal needs. That is, any product must meet the highest technical - economic and aesthetic requirements, as well as a number of other requirements, be able to compete in the world market. If the problem of quality is not solved, the needs of social production and the population in goods cannot be met.
2. It is advisable that the product quality management process consists of the following operations:
 - Determining the level of product quality;
 - Collection and study of information on the product and the process of its production, which affects the quality of the product;
 - Decision-making on product quality management and preparation for exposure to the object;
 - Issue management orders;

- Collection and analysis of information on changes in product quality as a result of management.
3. The following tasks are performed in product quality management:
 - Long-term assessment of the technical level and quality of the product;
 - Planning and forecasting of product quality improvement;
 - Product quality certification;
 - Design and implementation of product design;
 - Logistical support of product quality;
 - Technological preparation of production;
 - Organization of product quality measurement;
 - Selection, placement, training and education of specialists;
 - Uniform level of production of quality products;
 - Organization of maintenance, repair of means of production;
 - Encouragement to improve product quality;
 - Product quality control;
 - Compliance with standards, measuring instruments and specifications;
 - Ensuring the right to manage product quality.
 4. Certain costs are incurred by manufacturing enterprises to improve the quality of products. These costs are called quality path costs. As costs increase, so do the prices of products. This is an additional cost for buyers. Therefore, an increase in the price of a product or service requires an increase in the efficiency of that product for the consumer. As the consumer value of products increases, buyers can spend more money on these products. Otherwise, consumers will not spend extra money on these products. As a result, the products produced by the enterprise remain unsold.
 5. If a manufacturing enterprise strives to make more profit for the products it

produces, it must also take into account the interests of consumers, i.e., reduce consumer prices. In this case, the products and services created by the manufacturer can be sold quickly in the market. In this case, both producers and consumers can benefit greatly. Producers can use the profits in the development of science and technology in production, as well as in the expansion of production.

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Research Of Pentosal Hydrolysis Products Of Plant Waste

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ABSTRACT

Due to the depletion of fossil reserves of organic raw materials, serious attention is paid to the issues of chemical and biochemical processing of plant raw materials biomass (phytomass) - timber and agricultural plants around the world. This article examines the products of hydrolysis of plant wastes, their physicochemical properties, their importance in industry and the national economy.

KEYWORDS

Pentose hydrolysis products, catalyst, sulfuric acid, superphosphate, ammonium chloride, furfural, furfuryl alcohol.

INTRODUCTION

Unlike the source of fossil organic matter, phytomass reserves are renewed annually as a result of plant activity. Every year on our planet 200 billion. tons of cellulose-bearing plant biomass is formed. Cellulose biosynthesis is the largest-scale synthesis of antiquity, present

and future. [1] Wood, agricultural crops and coal have been the main forms of organic raw materials for the last 100 years. Worldwide, oil reserves on the planet have been found to be approximately equal to timber reserves, but oil resources are declining rapidly, while timber

reserves are increasing as a result of the natural growth process of plants. A significant increase in timber resource raw materials will increase the productivity of the required timber products. In the near future, the transition from petrochemical production to chemical and biochemical processing of wood and other forms of plant raw materials is expected.

The processing of biomass of plant raw materials is mainly based on the joint performance of chemical and biochemical processes.

Biotechnology is generally understood as the biochemical synthesis of valuable substances in industry and the processing of biologically derived products. The basis of modern biotechnology is the microbiological industry, which includes hydrolyzed production, which is the basis of production. These productions are based on the hydrolytic decomposition reaction of the glycoside bond of polysaccharides of the biomass of woody plant raw material. In this case, monosaccharides are formed as the main products of the reaction, which are subjected to further biochemical or chemical processing, or are included in the product.

THE MAIN FINDINGS AND RESULTS

Hydrolysis of plant raw materials is one of the relatively promising methods of chemical processing of wood. This is because when used in conjunction with biotechnological processes, it allows the production of feed and food products, biologically active drugs, monomers and synthetic resins, fuels for internal combustion engines and various other products used for technical purposes [2]. Hydrolysis of plant waste is a non-food plant

raw materials (wood waste, cotton husk, sunflower husk and similar) interaction of polysaccharides with water in the presence of catalytic-mineral acids. Primary plant raw materials are usually water-insoluble in the form of cellulose and hemicellulose up to 75% consists of polysaccharides. As a result of their decomposition, first intermediate compounds are formed, then simple sugar-monoses. In addition to the formation of monosaccharides, their partial decomposition is observed to form furfural, organic acids, humic acid and other substances. The rate of hydrolysis increases with increasing temperature and acid concentration. Hydrolysis of plant wastes is the main hydrolyzed production to obtain important feed, feed and technical products. Under industrial conditions, solutions of hydrolysates-monosaccharides (pentose, hexose, especially glucose), volatile substances (organic acids, alcohols) and solid residue-hydrolysis lignin are formed as products of hydrolysis of plant wastes. The yield of monosaccharides can be up to 90% higher than that of polysaccharides. The hydrolyzates are subjected to further biochemical or chemical processing, depending on the profile of the hydrolyzed production and the required appearance of the branded products.

Biochemical processing of hydrolysates to obtain protein-vitamin feeds, yeasts is relatively common. One of the most important products of hydrolysis production is ethyl alcohol, which is also obtained by fermentation of hexoses of biochemical path-hydrolysates.

Nutritional glucose and technical xylose are obtained by purification, evaporation and crystallization of hexose and pentose hydrolysates from mineral and organic

compounds, respectively. In the chemical processing of hydrolysates, polyhydric alcohols are obtained by returning the monosaccharides in it: hexoses are formed from hexoses (sorbitol, mannitol, dulcitol, etc.), and pentoses are formed from pentoses (xylitol, arabitol, etc.). Hydrolysis of pentosans in plant products is carried out in the presence of catalysts at 175-190 °C at a pressure of 5-10 atm. In this case, the yield is 5-10% (relative to the obtained raw material). The yield of furfural relative to the total amount of pentosans is 60-65%. The process of separating furfural from hydrolyzate consists of driving it with water vapor, separating the furfural layer from water, and rectifying the raw furfural in a vacuum. This method is one of the most effective methods. In the hydrolysis of pentose products of plants it is possible to produce additional yeast (yeast) and compound feed instead of products that are used as fodder for farm animals. The lignin formed without the use of twigs in horticulture as firewood can be briquetted as an additional fuel. Glycerin, propylene glycol, and ethylene glycol can be obtained by hydrogenolysis of polyhydric alcohols. Furfural is obtained by dehydrating pentoses. Its output depends on the composition of the raw material and the conditions of hydrolysis and dehydration. The dehydration of hexoses results in the formation of levulinic acid, which is used in a number of syntheses.

Pyrolysis of lignin results in the formation of resin and semi-coke. They are subjected to thermal activation to obtain activated gases and decolorizing coals. Hydrolysis of lignin results in the formation of activated carbon-collectivitis when treated with concentrated sulfuric acid. When treated with alkali, lignin dissolves, and then when acid is added,

activated lignin, which is a phase filler for synthetic rubber, is released. Hydrolysis lignin is also used as a fuel.

Pentose hydrolysis products. Furfural, $C_5H_4O_2$, molar weight 96.08 - low color in water, soluble in alcohol and ether, colorless liquid with a peculiar odor. Liquidus temperature - 36 °C, boiling point 161-162 °C / 760 mm, $d_{20}^4 = 1.1594$, $n_{20}^{D20} = 1.5260$. During storage, it turns dark and slowly resin.

Furfural is a fragrant liquid typical of fresh rye bread, a product of furan. It is obtained from the boiling of agricultural waste (sunflower stalks, straw, sawdust) as well as wood with sulfuric acid. In this case, hydrolysis of hemicellulose (one of the polysaccharides in the plant cell walls) occurs, the resulting pentoses (mainly xylose) undergo dehydration under the influence of sulfuric acid, which leads to the formation of furfural. Furfural is a hard-boiling liquid (161.7 °C) with a density of 1.16 g / cm³. It is readily soluble in many polar organic solvents, but its solubility in alkanes is not as significant as in water alone.

Chemical properties. They undergo reactions characteristic of aldehydes. The furan ring of furfural has an aromaticity, so it is somewhat reminiscent of benzaldehyde in its properties. It is characterized by exchange reactions (case 4 with respect to the aldehyde group). Under the influence of alkalis, furfural reacts like Benzaldehyde with Cannizzaro. In this case, the salt of furancarboxylic acid and furfuryl are disproportionate to alcohol. It is hydrogenated and reacts more easily than benzene-ring aromatic compounds. The Diels-Alder reaction enters just like the Diels. When heated to 250 °C, furfural is sometimes decomposed into furan and carbon monoxide by explosion.

When heated in the presence of strong acids, the oxygen in the furan ring attaches to the proton, the aromaticity is disrupted, resulting in the polymerization of furfural.

Application. Furfural is used in petrochemical organizations as a solvent for the extraction of diene from a hydrocarbon mixture (used in the synthetic rubber industry). Furfural is used in industry as a raw material for the production of furfural-acetone monomers, difurfurilidenacetone, furfuryl alcohol, tetrahydrofurfuryl alcohol. These monomers are used to obtain acids, alkalis, oxidants, reducing agents, and oil-resistant monomers.

Furfural and furfuryl alcohol can be used together or separately to obtain solid resins (resins) by reaction with phenol, acetone or in the presence of urea. Such resins are used in the manufacture of fiberglass, some parts of aircraft and automotive brake pads. Furan is obtained from furfural, which in turn is used to obtain the famous solvent - tetrahydrofuran. It also serves as a starting material for the production of antimicrobial drugs in the nitrofur group, such as furatsilin, furazolidone, furadonin, furazoline, furagin.

Furfuryl alcohol $C_5H_6O_2$, with a specific odor of 98.05 molar, soluble in water, alcohol and ether, boiling point $68-69^\circ C / 10\text{ mm}$, $170-171^\circ C / 758\text{ mm}$, $d_{22.74} = 1.1282$, A colorless liquid with $n_{22.7D} = 1.4851$ turns light yellow when in air.

Furan C_4H_4O , molar weight 68.03. It is a colorless liquid insoluble in water, easily soluble in alcohol and ether, with a boiling point of $31-32^\circ C / 760\text{ mm}$, $d_{20.4} = 0.9087$, $n_{20D} = 1.4220$.

A large group of furan oxob compounds obtained from the condensation of furfural with aliphatic aldehydes and ketones (furfurylidenacetone, furylacrolein, 2-ethyl b-furylacrolein, 5-furylpentadienol, 1-furyl-5-oxohexadiene - 1,3 $^\circ C$, nickel at $170^\circ C$) in the liquid phase hydrogenated in a solution of ethyl alcohol at room temperature. The corresponding tetrahydrofuran alcohols were formed with a yield of 76-92%.

Condensation of furfural and furylacrolein with esters of carbonic acids results in the formation of esters of acids exchanged from furfuryl. Ethyl ether of β -furylacrylic acids from furfural and ethyl acetate; ethyl ester of γ -furfurylidencrotonic acid from furylacrolein and ethyl acetate; from furfural and malon ether — furfurylidenmalon ether. It is possible to obtain completely non-hydrogenated products by hydrogenation of these compounds in Renee nickel at different temperatures. The ether of β -furylpropionic acid was converted to β -furylpropionic acid ether at $110-120^\circ C$, and then to β -tetrahydrofurylpropionic acid ether at continuous hydrogenation at $175^\circ C$ (yield 92%).

γ -furfurylidencrotonic acid ether was first hydrogenated in a solution of ethyl alcohol at room temperature and then at $180^\circ C$. As a result of complete hydrogenation, β -tetrahydrofuryl valeric acid ester was obtained (productivity 90%) [3, 4, 5, 6].

Hydrogenation of furan compounds in the vapor phase in nickel catalysts leads to the hydrogenolysis of the furan ring to tetrahydrofuran or its ring with the formation of a grouping of alkylcarbonyl or alkylhydroxyl atoms from carbon atoms. The difference in temperature in the hydrogenation of

furfurylidenmalone ether is the same carbetoxy affects group cleavage. Tetrahydrofurylmalon ether (productivity 96%) is formed at 100-130 ° C, tetrahydrofurylpropionic acid ether at 160-175 ° C.

A good catalyst is a skeletal Ni-Al catalyst. In the Shuikin and Bunin studies [7], hydrogenation of furan and silvanes in the vapor phase at 100–140 ° C and 120 ° C in a Ni-Al skeletal catalyst prepared for incomplete leaching of aluminum was studied. At this temperature, the yield of tetrahydrofuran and tetrahydrosilvane is relatively high, but when the temperature rises to 170 ° C, furan decomposes into gaseous products. Burnett obtained only 50% tetrahydrosilvane and a significant amount of hydrogenolysis products — pentanone-2 and pentanol-2 — at a temperature of 200 ° C in a catalyst prepared by the same method (68% aluminum was lost).

Comparative data on the lattice catalyst and temperatures in the hydrogenation of silvan are given by Wilson [8]. Among the studied catalysts - nickel, copper chromite, So-Si and G'e-Si catalysts were relatively active nickel catalysts, in which 100 ° C support tetrahydrosilvane is formed with 86% yield, and at 185 ° C selective hydrogenolysis results in petanone - 2. 75% yield is formed. Other catalysts undergo hydrogenolysis of the furan ring with relatively less selectivity and at higher temperatures (340–350 ° C). Michromite and So-Si catalysts produce 52 and 60% pentanone-2, respectively, while the G'e-Si catalyst produces about 10% ketone and mainly tetrahydrosilvane.

CONCLUSION

In conclusion, it can be said that various monomers, polymers, copolymers, pharmaceuticals, physiologically active substances, various solvents are obtained in the industry on the basis of furfural, which are products of hydrolysis of plant wastes. These products are effectively used in various sectors of the economy. In view of the above, by studying the data on the extraction of substances from various wastes that may be necessary raw materials for the chemical industry, and considering the unique role of plant wastes and biomass as natural sources of organic compounds, We are conducting scientific research in order to ensure the production of products needed in the national economy. Our next articles will provide information about the results obtained.

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To Learn Of Biological And Productive Indicators Of Imported Mulberry Silkworm Breeds

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ABSTRACT

Biological and productivity indicators of imported Kinsyu and Syova breeds were studied in the conditions of Uzbekistan. In the experiment, it was found that the duration of the worm period of the Kensyu breed was one day shorter than the Asaka breed and the viability of the worms was 6% higher. In the Syova breed, the duration of the worm period was found to be 0.5 days shorter and the survival rate was 9% higher.

KEYWORDS

Cocoon, temperature, humidity, varietal cocoons, spotted cocoons, biological indicators, mulberry leaves, high productivity, preserved live cocoons, cocoon production, live cocoon, productivity, varietal cocoons, technological indicators.

INTRODUCTION

The influence of external environmental factors on the expression of the genetic characteristics of any plant and animal is great. Variability of factors such as air temperature, relative humidity, light, nutrients and its

quantity in the place where the organism lives will inevitably affect the biology, physiology, fertility and ultimate productivity of plants and animals.

Of course, the interaction of organisms with the external environment is not the same depending on the animal and plant species. Warm-blooded animals are more resistant to external factors. The growth and development of mulberry silkworm, which belongs to the class of cold-blooded or poikilothermic insects, and its biological concentration and productivity, of course, depends on the climatic conditions of the place where it lives.

MAIN PART

Darwin (1839, 1841, 1851) was one of the first to substantiate the scientific theory of variability in the population of organisms as a result of changes in the external environment.

Indeed, the living beings around us are constantly changing. Such variability can be observed at any time in crops, farms, experimental fields F.A.Dvoryankin (1964). R.U. Valiev (1993, 1996) argues that on the basis of his experience it is necessary to create nutrition and external conditions regimes to such an extent that they can demonstrate the potential of heredity. A.V. Anuchin (1926) was one of the first to study the variability of mulberry silkworm cocoons, arguing that the influence of external conditions, i.e. feeding and temperature, is extremely important in the care of worms.

A.B. Yakubov (1997), E.H Tadjiev (1997) argue that the growth and development of mulberry silkworms can not be achieved without creating a certain temperature limit. U.N.Nasirillaev, S.S.Lejenko (1994) found that in the process of creating large-cocoon Orzu and Yulduz breeds, there are large and cocoon-wrapped families, as well as families with high

fertility. It should create certain conditions for families with such a genotype to realize their potential.

It should be noted that the high-yielding characteristics of the silkworm are passed from the parental to the next generation through the eggs. In order to breed breeding eggs, the development of breeding worms with their parents should be provided with a certain level of larvae, temperature and humidity regime, as well as feeding for the breeding cocoon.

As mentioned above, the growth, development and productivity of agricultural plants and animals are closely related to external factors. In other words, the manifestation of the characteristics that each organism receives from its parents through the egg cell and sperm takes place under certain conditions.

When high-yielding animals are fed with low and poor quality feed, the opportunities available in their genetics are not realized, and as a result, such animals are among the average individuals in terms of economic performance. This, in turn, leads to errors in the selection process. Similar experiments were conducted by B.F Pilipenko. He writes that hybrids with high silkworm are very demanding to external conditions. High-yielding hybrids may have low yields when feeding and care conditions deteriorate.

Therefore, in order to ensure a high level of productivity, it is necessary to provide a complete and uninterrupted supply of nutrients to the breeding organisms for reproduction and to create the necessary environmental conditions.

Extensive use of agro-technical methods and creation of necessary conditions are of special importance in the cultivation of mulberry silkworms, especially in the breeding of cocoons from breeding worms.

The main purpose of experiments in this area is to create the necessary zootechnical conditions to fully demonstrate the productivity characteristics of silkworm breeders achieved by breeders. In recent years, the country has been importing mulberry silkworm seeds. The origin of imported silkworm hybrids for cultivation of industrial cocoons, maintenance agrotechnics, cocoon yield, quality and technological features are poorly studied in our country. As a result, the quantity and quality of cocoons grown in the country are not in demand. Analysis of the cocoon yield obtained from them shows that the imported mulberry silkworm is not able to demonstrate its domestic potential in the climatic conditions of our country.

The better we understand the relationship between the organism and the external environment, the better we can manage the organism, taking advantage of the opportunity to regulate and create the external environment. Therefore, the interaction between the organism and the environment is of particular importance for agriculture, and good breeds of animals are formed only as a result of the application of good agronomics and good zootechnics.

To solve this problem, to bring the quality and technological parameters of silkworms to the level of world market requirements by improving the yield, quality and technological properties of cocoons by adapting imported

silkworm breeds and hybrids to the conditions of Uzbekistan.

The urgency of the topic is the development of the silkworm industry of the Republic by creating new promising breeds and hybrids, recommending them for production. Based on the above scientific research, we have a theoretical understanding that the biological and productivity of silkworm eggs can be changed for the better through the management of environmental factors in the process of incubation, care, cocooning.

To accomplish this task, we set ourselves the task of identifying the following indicators. In the experiment, to study the biological and productivity characteristics of mulberry silkworms "Kinsyu" and "Syova" imported from Japan, 800 seeds were selected from 4 seeds of 200 replicates and variants were created. In 4 replicates in each variant, a revival rate of 3200 worm seeds was determined.

The revived Kinsyu breed was identified as the first experimental variant, and our Asaka breed was taken as a control variant. The Syova breed was identified as the third experimental variant, and our Marxamat breed was taken as a control variant. Each experimental variant fed 4 silkworms in 4 replicates, and 200 silkworms in each replication and 800 variants in one variant.

RESULTS AND DISCUSSIONS

A total of 3200 silkworms were reared in 4 variants of the experiment. The silkworms in the experiment were cared for on the basis of agrotechnical measures adopted for the white cocoon breeders, all agrotechnical measures were carried out on the same day and at the same time.

The following indicators were identified in the experiment:

- Revival of silkworm seeds, in%.
- The duration of the silkworm by age, in days.
- The duration of the worm period, in days.
- Worm life, in%.
- Average weight of one live cocoon, gr.
- Silk of a living cocoon,%.

In order to study the technological characteristics of the silkworm cocoons of high-yielding mulberry silkworm breeds "China 108" and "China 122" imported from China, 800 seeds were selected from the seeds of "China 108", "Asaka", "China 122" and "Marhamat" breeds in 4 turns. were taken and options were created. In 4 replicates in each variant, a revival rate of 3200 worm seeds was determined.

The revived Chinese 108 breed was identified as the first experimental variant, and our Asaka breed was taken as a control variant. The Chinese 122 breed was identified as the third experimental variant, and our Marxamat breed was selected as the control variant.

The silkworm seeds placed in the incubator for resuscitation were produced for white cocoon

breeders at a room temperature of 24oS and a relative humidity of 75%.

Silkworms were fed in 4 reps of each experimental variant, 200 in each replication, and 800 in one variant. A total of 3200 silkworms were isolated for all variants of the experiment.

The silkworms in the experiment were cared for on the basis of agrotechnical measures adopted for the white cocoon breeders, all agrotechnical measures were carried out on the same day and at the same time. 20 eggs were cast from the Kinsyu silkworm breed and 5 variants were created. Each variant was counted from 200 seeds in 3 repetitions, and the total viability was determined by taking 3000 seeds for a total of Kinsyu breed. In comparison with this breed, three eggs of Asaka breed of silkworm, bred in the district, were obtained and one variant was created to compare the viability of 200 silkworms in 3 replicates for a total of 600 seeds. In the same way, the seeds of the Syova breed were put to life, and the Marhamat silkworm breed, which is bred in the district, was obtained as a comparison.

Table 1.

Biological parameters of silkworm breeds "Kinsyu" and "Syova"

Experiment options	Worm period per day.	The viability of worms %.	Weight of one cocoon, gr	Weight of cocoon shell, gr	Quantity of cocoons %.	Silk%.

Kinsyu breed-experience	24,0	95.0	2.0	0.550	89.8	27.5
Comparative Asaka breed	25.0	89.0	1.8	0.450	81.5	25.0
Syova breed experiment	24.5	93.0	2.0	0.570	90.1	28.5
Comparative “Marxamat” breed	25.0	84.0	1.8	0.425	82.9	23.5

Based on the results obtained, the mulberry silkworm breeds imported from abroad have really shown their productivity. This was evident when we analyzed the biological parameters of the silkworms fed. In both species we can see that the biological parameters of worms are several times higher than those of the comparator. Worms in high-viability variants have been shown to have higher cocoon weight and cocoon shell weight.

The productivity of new silkworm breeds is also reflected in silkworm breeding, which is an important indicator. This figure was 26-27% in live cocoons. The weight of the cocoon shell was 0.550-0.570 grams. These figures show that mulberry silkworms imported from abroad are superior to domestic silkworms, which are now widely fed in production.

Table 2.

Variety indicators of silkworm cocoons in the experiment

Experiment options	Analyzed cocoon, pcs	Percentage of varietal and defective cocoons, %.					
		varietal %	Scarred %	Spotted%	Thin shell%	Atlas %	Blackberry%
Kinsyu breed Experience	100	89.8	2.20	4.60	1.0-	1.20	1.20
Control Asaka breed	100	81.5	3.50	8.50	1.5	2.50	2.5
Syova breed Experiment	100	90.1	1.30	4.80	1.30	1.00-	1.50

Control "Marxamat" breed	100	82.9	2.80	7.5	2.5	1.60	2.70
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Defective cocoons in the experimental variants accounted for 10.2 percent of the cocoons isolated from the Kensyu breed, 18.5 percent of the cocoons grown from the Asaka breed in the control variant, 9.8 percent in the Syova breed, and 17.1 percent in the controlled Marxamat breed.

CONCLUSION

This means that the imported Kensyu and Syova breeds of silkworms had higher biological performance than ours, and were more resistant to various diseases, so the cocoons they wrapped had a high content of quality cocoons. The resuscitation of seeds of Kensyu and Syova breeds imported from Japan is 0.5 days less than that of Asaka and Marxamat breeds.

In both species we can see that the biological parameters of worms are several times higher than those of the comparator. Worms in high-viability variants have proven their productivity in the weight of the cocoon and the thickness of the cocoon shell.

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Methodological Approaches To Analysis Of The Food Industry Cost Chain And Estimation Of Its Efficiency

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ABSTRACT

In this article commented methodological approaches on analysis of value chain, and highlighted an aim and tasks of the methods of analysis, besides developed recommendations about using them on practice.

KEYWORDS

Value chain, competition, production resources, analysis, economic policy.

INTRODUCTION

Scientific approaches to the management of competitiveness in the food industry are being enriched on the basis of new data. The reason for this is an attempt to study the competition based on its results and a correct assessment of the current situation in the industry. To

clarify the essence of the problem, the following question is posed: why are the prices of food products sold on the store shelves high and they are growing, while payments made to suppliers of primary raw materials, that is, farmers and households, are significantly low?

This situation is also typical for the food industry in Uzbekistan, since every year there are fluctuations in the prices of food products and they often change in the direction of growth.

The purpose of this article is to compare two methodological approaches to the study of competitiveness in the food industry by comparing methods of analysis, as well as to develop proposals for their application in practice through the synergy of the most important and useful methods.

ANALYSIS OF THE LITERATURE

To study the above-mentioned problem, specialists pay attention to the study of the competitive environment in the context of the country's territories, or to such effects as an increase in the number of producers and market concentration. Observing the dynamics of market prices makes it possible to clarify many issues regarding the competitive environment where manufacturers operate. Analysis of scientific literature shows that new approaches and methods are being developed to study the competitive situation in the market, however, in some situations, researchers consider it appropriate to use those methods that are well known to many in science.

Management of competitiveness in the value chain in the scientific literature is closest to the theory of "institutional economics" and research in this area was started back in the 30s of the last century. One of the founders of the concept of "Institutional Economics" R. Coase in 1937 analyzed vertical integration structures when studying the activities of firms. R. Coase analyzed the market situation, in which how

firms communicate with each other in the use of available resources in the market and described their behavior [1]. That is, R. Coase's theory showed how firms effectively operate in the market and generate growth. Later, one of the representatives of the theory of "new institutional economics" O. Williamson in 1971 enriched the views of R. Coase in his works, that is, he revealed the essence of the process of the internal organization of production and the peculiarities of its relationship with the market [2]. S. Grosman in 1986 studied those market situations that prevent firms from achieving the optimal level of investment in production and explained their reasons [3]. In addition, the research works of P. Yaaskov and M. Porter reflect new facts concerning the problems of firms' competitiveness in the market at the end of the 90s of the twentieth century.

Summarizing the above facts, we can say the following opinions: the analysis of competitiveness in the value chain of the food industry is a relatively complex process. This is due to the geographic location of product manufacturers, the competitive market environment, and the scale and specialization of supplier firms. The generally accepted approach of the research community is the fact that the methodological approaches to studying market concentration, the desire to oust competitors and join them to oneself are also applicable to the food industry. However, for the study of retail trade, more in-depth and specific methods of analysis will be needed. Below, we will outline two methodological approaches that were selected for studying the competitive environment in the food industry value chain and proposals for their application in practice.

Methodological approaches to the problem. The Canadian Institute of Management Accountants, together with researcher J. J. San Miguel, developed a special methodological guide for conducting value chain analysis and commented on its approach in the following way. The specialists of this institute described their approach to managing the competitive environment in the value chain as follows: “competitiveness is not a desire to gain advantages in price and quality of a product relative to competitors, but the excess of the level of consumer satisfaction with a product is greater than expected” [4]. This approach is well thought out and it pays attention when studying the value chain to link the analysis to the goals and objectives of the company or

firms, as well as strategy. The study of the value chain begins with the identification of all resources that are involved in the formation of the value of products, and ends with an analysis of activities to maximize customer satisfaction. To achieve their goal, they used the philosophical regularity "cause-effect" in the order indicated below in table-1.

In Table -1, the author completes the value chain approach with the information “company relationship with suppliers and customers”. And this confirms the above stated view that it is important for a company in the value chain to achieve maximum customer satisfaction more than expected.

Table 1
An approach to study value creation participants¹

Nº	Group 1: factors that form the structure of value in the chain.	
1	Scale	How big is the investment in production, research, marketing and other resources?
2	Coverage	How high is the level of vertical integration and can horizontal integration be used?
3	Experience and study	How often does a company turn to best practices and know-how?
4	Technology	What type of technology is used at each stage of the value chain of the enterprise?
5	Complexity	How long is the list and range of goods and services offered to consumers?
Nº	Group 2: The formation of a value structure for the execution of operations in the chain.	
1	Participation of workers.	Are the workers of the enterprise involved in the decision-making process to improve the activities of the enterprise?
2	Total quality management.	Are managers and workers responsible for product quality equally?
3	The workload of production facilities.	What is the volume of production capacity of the enterprises according to the plan?

¹ Joseph G. San Miguel. (1996). Value chain analysis for assessing competitive advantage. Practice on Management accounting. Statement of management accountants. Exhibit-3. Process cost drivers. 10 page. www.imanet.org

4	The efficiency of the company's production activities.	How efficient is the company's production activity compared to the established norm?
5	Product configuration.	Is the design and shape of the product effective?
6	Communication with suppliers and consumers.	Does the relationship with the company's suppliers and customers really work according to the value chain?

Another scientific approach that deserves attention to study competition in the value chain belongs to the specialists of the UN “FAO”. The work of FAO specialists is a kind of conceptual methodological tool for studying the value chain in the food industry on a global scale [7]. According to FAO experts, when studying competition policy problems, attention should be paid to the following points:

- a) The study and assessment of factors that influence the state of the value chain, such as: economic, social and environment;
- b) Finding the shortcomings of the value chain and developing measures to eliminate them, that is, making changes to the policy;
- c) Assessment of the influence of economic, social and environmental factors on the choice and consumption of resources.

Based on the above methods of analysis, the information obtained will serve as a basis for improving policies regarding market entities that compete with each other and experience its influence.

Approach to problem analysis. If you consider the value chain as a sequence of operations closely interconnected with each other, then you should consider it from different points of view to understand how the value chains are so well interconnected with each other. FAO's approach helps identify value chains and

develop measures to address them. The analysis method is in fact very similar to the "SWOT" analysis. The analysis is supposed to be carried out in the following areas:

- A) Socio-economic analysis of the value chain.** The analysis of this complex involves the study of the following elements of the value chain: the macroeconomic and social situation in the country where the value chain operates. That is, an answer should be found to the question - how do these factors affect the activity of the value chain?
- B) Demand for value chain results.** In this complex value chain analysis, attention should be paid to the specifics on the part of the consumer. Should be considered - current and future demand for goods produced by participants in the value chain, their tasks, prices, etc.;
- C) Analysis of the institutional environment.** The analysis of this complex of the value chain provides for the study and assessment of the mutual relations of the participants in the value chain. Participants can be enterprises, intermediaries, government organizations, infrastructure facilities, etc. As a result of the analysis, a weak link in the chain is identified and recommendations are developed for the state authorities with the aim of making changes in government policy.
- D) Analysis of the market for production resources.** The analysis of this complex should be carried out to assess the

activities of market agents and institutions. At this stage of the analysis, market laws are analyzed, their effectiveness, and recommendations for the state are developed. Collection of complete and reliable information about the market, segments and existing monopolies is required. Their impact on the value chain is assessed;

E) Functional analysis of the value chain.

Functional analysis provides detailed information about the structure of the industry, about its production technology. In addition, it identifies the production technology, provides quantitative information about raw materials, processing, marketing and final consumption of products.

F) Economic analysis of the value chain. This complex of analysis evaluates the system for creating added value, product distribution based on quantitative indicators. Economic analysis provides an estimate of the gross value in the value chain. At the same time, the amount of added value is estimated for each chain and for each participant. The analysis provides for the assessment of value added in the context of production factors. What matters most in the analysis is the activities of private intermediaries in the value chain, who use market prices and consumer attitudes, that is, reference prices. This means that economic analysis should be carried out on a cost-utility basis.

RESULTS AND RECOMMENDATIONS

Comparison of the above two methodological approaches to the study and analysis of the value chain in the food industry allowed us to highlight the following most important and

useful analysis methods for practical application. In doing so, attention should be paid to the following three most significant problems of the food industry value chain:

- A) Study of the effect of market concentration, that is, the volume of production and sales in the food industry, the number of competitors, their market share, as well as important indicators that characterize the industry;
- B) The process of creating the value of enterprises that manufacture products in the industry, their competitive advantages and characteristics;
- C) Segmentation of the market by manufacturers-enterprises and its influence on the formation of a competitive strategy.

The reason for choosing the above approach is that in order to assess the competitiveness of an enterprise in the value chain of the food industry, it is necessary to take into account the following analysis methods:

- Analysis of the intrinsic value of the enterprise. This type of analysis is used to determine the source and relative positions of value in the value creation process;
- Analysis of internal differentiation. This type of analysis is required to identify the sources of internal product differentiation in a value chain system;
- Analysis of the vertical dependence system. This type of analysis is needed in order to reduce the value of the product, which reaches the consumer, that is, for which people pay money. This should allow you to reduce the amount of cost (expenses) and get more profit.

This type of analysis is beneficial to everyone, since the analysis focuses on the internal operations of firms. Based on this, in the next stage, attention is paid to competitive positions. Thus, a value chain approach to competitiveness is an integral part of strategic planning.

CONCLUSIONS

Based on the above theoretical materials on the management of competitiveness in the value chain of the food industry, the following conclusions can be drawn:

- To assess each value chain, firms must load production capacities at a sufficient level. If long-term levels of capacity utilization differ greatly from the planned one, you will have to look for more reliable sources of information to determine the sensitivity of the analysis results to changes in production volumes. After completing this type of task, enterprise managers should prioritize tasks to make positive changes in the value creation process. At the same time, enterprises must learn the factors that form the value of competitors in order to determine the price advantage;
- Enterprise accountants may have detailed information on costs in the process of creating product value, however, they do not always have information on individual sources of costs, which are a serious source of value. The use of only information that reflects the volume of production (unit of production, working hours, sales volume, etc.) can lead to errors in the calculation. In such cases, multiple creators can provide useful information on the cost structure;
- The constituent elements of the production cost may change. For example,

the elements of execution reflect the operational decisions of the enterprise, showing effective methods that allow you to achieve the desired result. It is defined through the policy, culture and methods of the enterprise about management;

- Some elements of the cost of production in practice can be attributed to the operational level, when the cost analysis is carried out by the managers of the company. However, one should not forget that the elements of the cost of a product provide valuable information for making a strategic decision. The reason for this is that businesses use in the process of manufacturing products to proceed from their actions or operations to create value. And this allows them to understand the essence of the concept of the “resource-cost” proportion.

The practical application of the above analysis methods to study the value chain in the food industry will make it possible to achieve competitiveness not only by increasing production volumes, but also by creating a system for determining the value of products based on the desire and persistence of consumers. This will allow us to develop an “effective competition policy”, to be well prepared for competition in the market, where external manufacturers are expected to appear in the near future.

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The Role Of Free Economics In The Development Of The National Economy

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ABSTRACT

This article reveals the importance and advantages of free economic zones, studies the features, problems and shortcomings of their development in Uzbekistan, develops proposals for the development of free economic zones.

KEYWORDS

Free economic zone, small industrial zones, special economic zone, technopark, cluster.

INTRODUCTION

Strengthening macroeconomic stability in the Action Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021, active attraction of foreign, primarily foreign direct investment in sectors and regions of the economy, state property Many

tasks have been set for the creation of favorable conditions for the development of private entrepreneurship on the basis of privatized facilities, the integrated socio-economic development of regions, districts and cities. In fulfilling these tasks, it is

important to increase the efficiency of free economic zones (FEZ), technoparks and small industrial zones, the creation of new ones.

There is no doubt that the Decree of President Sh. Mirziyoyev dated October 26, 2016 "On additional measures to activate and expand the activities of free economic zones" will serve as a solid basis for the expansion and development of free economic zones.

Small industrial zones are areas for the placement of business entities, including engineering and communication and infrastructure facilities, a specific land area or production area, which accelerate industrial production, increase the investment attractiveness of the region for entrepreneurship, attract new investment and new technologies. It opens up a wide range of opportunities for entrepreneurship, entrepreneurship and their development. Most importantly, it provides a great advantage in the efficient use of vacant space,

which is a deadly burden for society (through the development of the real economic sector), the creation of jobs for the population and the production of new competitive products..

The main part. Today, there are 23 free economic zones and 348 small industrial zones in the country, in which 453 projects worth \$ 2.6 billion have been implemented, which has created about 36,000 jobs. In small industrial zones, 1,497 projects worth 5 trillion soums have been launched and more than 36,000 people have been employed.

In the Navoi, Angren, Jizzakh, Urgut, Gijduvan, Kokand and Hazarasp free economic zones, 62 projects worth \$ 486 million have been implemented and more than 4,600 jobs have been created. 7 new free economic zones specializing in the field of pharmaceuticals, such as "Nukus-farm", "Zomin-farm", "Kosonsoy-farm", "Syrdarya-farm", "Boysun-farm", "Bostanliq-farm", "Parkent-farm" Consistent development work is underway.



Figure 1 In 2020, the number of SIZ, KSZ, technopark and clusters

In order to avoid problems with access to credit and access to banking services, a specific commercial bank is attached to each zone. Based on the study of market requirements and import nomenclature, a list of proposals and promising projects for entrepreneurs has been formed. Entities operating in small industrial zones are exempt from all taxes for 2 years.

It should be noted that small production zones are areas where a special order of financial and economic activities is introduced in order to stimulate entrepreneurship, attract foreign investment in key industries, and introduce promising technologies.

table 1
Industrial production capacity of enterprises included in SIZ, KSZ, technoparks and clusters in 2020

	Number of enterprises	The volume of industrial production, bln. in soums
MIZ	526	12268,8
KSZ	1675	2694,2
Technoparks	484	252,2
Clusters	420	12609,0

As can be seen from Figure 1, in 2020, a total of 18 special economic zones (SEZs), 77 small industrial zones (SIZs), 10 technoparks and 420

clusters will be established, the number of enterprises in which will be 526 in SEZs. , 1675 in KSZs, 484 in technoparks and 420 in clusters.

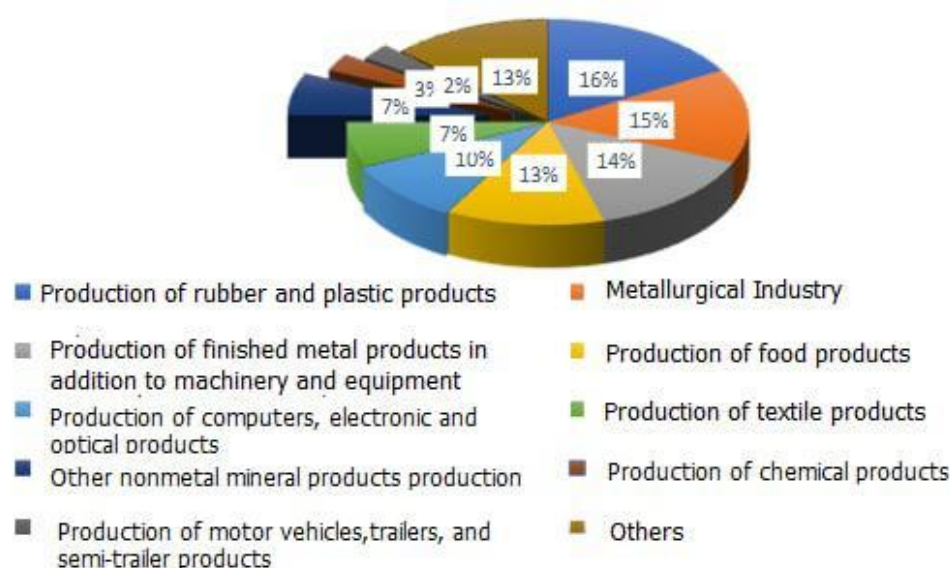


Figure 2. Types of products produced by enterprises that are part of the SIZ in 2020, in%

As can be seen from table 1, in 2020, a total of 18 special economic zones (SEZs), 77 small industrial zones (SIZs), 10 technoparks and 420 clusters will be established, the number of enterprises in which will be 526 in SEZs, 1675 in KSZs, 484 in technoparks and 420 in clusters.

As can be seen from Figure 2, the enterprises of the SIZ provide an advantage over the production of rubber and plastic products, metallurgy, manufacture of finished metal products in addition to machinery and equipment, food production . However, the production of other types of products is relatively low.

RESULTS AND DISCUSSION

It should be noted that now Chinese goods can be seen all over the world, and by the 21st century it has truly become a "world factory". 50% of the world's cameras, 30% of air conditioners, 25% of washing machines and about 20% of refrigerators. It should be noted that free economic zones have played an important role in the development of China. At present, there are four special economic zones - Shenzhen, Zhuhai, Shantou and Xiamen. There are 14 free trade zones, 53 high and new technology zones, more than 70 scientific and technical zones for specialists trained abroad, 38 zones for processing products for export.

In general, in order to increase the competitiveness of the country's economy, the main focus should be on the use of natural resources and industrial potential of the regions and the strengthening of the export system. This is where the creation of modern free economic zones, which are an effective form of attracting foreign investment, is of particular importance. It is worth noting a

number of economic measures that are widely used and effective in the world.

However, if we analyze the role of small industrial zones in attracting investment, developing entrepreneurship, creating new jobs and improving the welfare of the population, they still show a lack of initiative and a weak level of organization for business development.

For example, the process of reviewing and coordinating projects by the relevant ministries and agencies remains complex and formal. Unfortunately, there are still bureaucratic difficulties in resolving the issue of allocating land plots to the participants of the free economic zone.

In particular, in the free economic zones of Urgut, Kokand, Gijduvan and Hazarasp, as well as in the free economic zones in the field of pharmaceuticals, the work on attracting foreign investment to establish new enterprises is slow. There are also problems with the stable supply of electricity, natural gas, water and other communications. However, the period requires the development of comprehensive measures to create more opportunities for investors and entrepreneurs in these regions. First of all, it is necessary to revise the regulatory framework for the activities of these zones, if necessary, to adapt them to the requirements of the time, to create an open and understandable mechanism for all.

It is also necessary to simplify the procedure for allocating land plots and vacant buildings. For example, projects in free economic zones are considered by the Administrative Council under the Cabinet of Ministers. So far, the

council has consisted of 17 ministries and departments. According to the presidential decree, their number is set at four. At the same time, a new system - regional commissions - was established, and their powers to review and approve projects were expanded.

In addition, benefits are created by the government. The criteria for selecting investment projects for placement in economic zones will be revised, and additional measures will be taken to improve the allocation of loans to participants and provide them with engineering support. There are a number of other issues that are causing problems at work. For example, in some free economic zones, the issues related to the connection to engineering and communication networks and the construction of production infrastructure have not yet been resolved. This makes it difficult to attract investors. The directorates of free economic zones do not show enough initiative to submit proposals to commercial banks for the implementation of new investment projects.

CONCLUSIONS

Sometimes the placement of projects in free economic zones without clear calculations leads to artificial preferences for certain activities, which in turn leads to a violation of the competitive environment in the market. Therefore, strengthening the organizational and legal framework of additional opportunities, benefits and preferences provided to business entities and entrepreneurs operating in the existing free economic zones and small industries, as well as pharmaceutical zones, exporting products, creating innovative, high-tech industries. is one. In particular, in order to attract foreign investment, it is necessary to focus on the

development of normative and legal documents that provide a comprehensive approach to the formation of investment projects in the regions and sectors for investors seeking to invest, aimed at fully demonstrating the country's investment potential to the world business community. At the same time, the law on free economic zones needs to be revised in accordance with today's requirements and further improved in line with the spirit of the times.

Based on the above comments, we consider it appropriate to implement the following recommendations:

- Increasing the efficiency of small industrial zones in our country;
- Organization of new ones;
- No problems with access to credit and banking services to improve the activities of small industrial zones;
- Formation of a list of proposals, promising projects for entrepreneurs based on the study of market requirements and import nomenclature;
- Full study of the potential of the regions.

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Criteria For Assessing The Efficiency Of Laboratory Works

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ABSTRACT

This article discusses the problem of criteria for assessing the effectiveness of laboratory work. To assess the effectiveness of laboratory work, it is necessary, first of all, to determine the level of mastering the necessary practical skills and abilities achieved as a result. The article reveals the criteria and content of the methodology for the quantitative assessment of students' works in laboratory classes. Conclusions are made about the possibility of optimizing the use of quantitative assessment to improve the efficiency of laboratory work.

KEYWORDS

Assessment, implementation, preparation, criteria, restructuring, formation, principle.

INTRODUCTION

The development of our society largely depends on the initiative, knowledge, abilities, creativity of each person. In this regard, the improvement and use of laboratory facilities is of great importance, the basis of which would

be high professional skill, dedication, initiative and creativity. This means that a restructuring is required as a system of value measures in the preparation, education and upbringing of students. In turn, laboratory work is also a

school for the formation of high professional qualities of future specialists.

MAIN FINDINGS AND RESULTS

The widespread use of various laboratory works is primarily due to the fact that the process of practical training (preparation) in laboratory facilities, in principle, assumes greater efficiency than other methods. However, the effectiveness of such practical training can be said only when laboratory devices are created and applied taking into account certain didactic requirements, while it is necessary to mean not the fundamental effectiveness of practical training (practical training) on laboratory facilities.

A hands-on learning process in laboratory facilities should be considered effective if:

1. The range of practical knowledge, skills and abilities that form with the help of laboratory installations is the largest and covers those types of theoretical knowledge that are necessary for further work;
2. There is a gain in time in the formation of special practical knowledge, abilities, skills in the process of practical training in a laboratory installation;
3. If the knowledge, skills, and abilities formed in the laboratory setting have high pedagogical efficiency, namely: their level is high enough, they have accessibility, variability.

One of the methods of conducting laboratory work in the educational process is that after a short introductory speech by the teacher (or laboratory assistant), the students get to know them and begin to independently perform work on the simulator. In the course of

performing the work, students systematically monitor the sequence and correctness of their actions, using the reference system contained in the description of tasks.

This method of conducting laboratory work is also possible: students study in advance a programmed task (indicates the content of the problem to be solved concerning a given topic of laboratory work, literature for preparation, control questions on theory, equipment of workplaces, safety rules, the order of work and the form reporting) and answer some of the questions contained in it one day before the laboratory classes as homework.

Each of these methods of conducting laboratory work provides a different pedagogical impact on students and has its own advantages and disadvantages. In this regard, it becomes necessary to determine a rational methodology and criteria for assessing the effectiveness of laboratory work, depending on the nature of the topic.

To assess the effectiveness of laboratory work, it is necessary, first of all, to determine the level of mastering the necessary practical skills and abilities achieved as a result of the conduct.

Below are the content of the methodology for quantitative assessment of students' works in laboratory classes.

Considering the question of the quality of testing and assessing knowledge and skills, it should be noted that the existing methods of controlling knowledge in laboratory classes, along with advantages, have certain disadvantages.

Determining the quality of assimilation of knowledge, skills and abilities is an old problem

in pedagogical science, but the search for its solutions encounters serious difficulties associated with insufficient knowledge of the very process of the formation of human experience.

The most noticeable is the subjectivity of the assessment: the teacher, who does not have precise requirements and criteria, gives an assessment based on his personal impressions and opinions. The subjectivity of the assessment is also manifested in the fact that one and the same work estimates differ from each other by one, and sometimes by two points. A similar phenomenon is observed in exams. One person of the commission evaluates the knowledge of the material, the other the manifestation of independent thinking, the third - the possession of practical skills. However, for any type of teaching, the cornerstone in the scientific organization of pedagogical work is the unification of methods of knowledge control, which ensures a unity of approach to the teaching process.

The final stage of laboratory and practical work is the credits provided by the curriculum in the form of written reports.

Unfortunately, along with certain positive aspects, the existing method of accounting for knowledge (credits based on undifferentiated assessments) also has its own drawbacks: the main one is that knowledge is assessed superficially, this is due to the fact that despite what level he knows or answers the questions posed (can answer with excellent, good or satisfactory), only the marks are inserted about the test or, on the contrary, not the test. For example, one in the course of the test showed a more independent and deeply knowledgeable of theory, practice, explain the

scheme of the experiment, calculations, etc., and the other did not answer deeply enough, not seeing the specific focus of this work on mastering the foundations of theoretical knowledge and practical skills and abilities ... Although answering them according to the result of the work is not the same, the prize is not the same. assessed the same, it does not make it possible to first compare the availability of knowledge and the answers, analyze their work more deeply and objectively evaluate the acquired professional skills and abilities, identify the quality of knowledge, their correctness, accuracy, realize, etc. Therefore, based on the results of laboratory work, it is advisable to set off tests with a differentiated assessment, that is, by the method of quantitative assessment of knowledge.

The quantitative method of assessing the skills and skills acquired by the student, professional skills and abilities, is based on the assessment of the rating (the method of competent judges). For this, a three-point system is used. Complete fulfillment of requirements is indicated by the number- "2" partial- "1" non-fulfillment "0". "Fulfillment", "partial fulfillment" and "" non-fulfillment have rather clear boundaries and are well defined. An important point in this is for the teacher to establish what the basic requirements will be presented during the test.

Efficiency in laboratory classes can be most assessed approximately after the duuluzim factor of knowledge, which can be divided into two groups:

First group:

1) Theories, 2) Practices; 3) safety regulations; 4) technically competent colleague of the scheme 5) the ability to explain the scheme; 6) qualitatively perform experiments; 7) calculations.

Second group:

1) attitude to work; 2) skill; 3) determination in memory; 4) the ability to learn the current situation; 5) self-work; 6) diligence; 7) initiative and so on.

For sure, such a division may not be enough; it can be changed (revised) depending on the needs.

If in the test scheme for the laboratory work I am considered in two groups of 14 remaining requirements, then their full fulfillment can be maximum 28 points (points), which will correspond to 100% (table 1).

Main requirements	Knowledge factor group	
	First group	Second group
1	2	0
2	1	1
3	0	0
4	1	1
5	1	0
6	2	2
7	0	2
Points	7	6

This table is filled in immediately when checking knowledge.

In this case, the overall level of prioritization of laboratory navigation and skills is $B = \frac{13}{28} \cdot 100\% = 47\%$.

If these requirements are met 90% higher, then they correspond to a high level, excellent, if these requirements are met in the range of 70-89%, they can be considered optimal (good); when performed at 50-69%, it can be considered average (satisfactory).

The name of such a plate what recommendations (advice) can be given to the teacher. These conclusions and recommendations clearly follow from which requirements for a modern occupation of concrete implemented in practice are the weakest, and which are not at all implemented (score) "0". Noting the positive aspects (full) fulfillment of the requirements of the estimated scores "2", the teacher indicates that he needs to improve specifically in the first order, which is rated "0".

Here you need to pay attention to the safety rules (s.r.), as well as the attitude to work (p. 1), and so force. Afterwards, advice is given to improve the fulfillment of those requirements that are partially implemented in the classroom (rated "1").

CONCLUSION

In conclusion, we note that based on the abovementioned requirements, the teacher can loudly, objectively and competently check and evaluate the understanding of practical skills in laboratory classes.

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Important Aspects Related To Foreign Exchange Operations Of Commercial Banks

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ABSTRACT

This article provides analytical, critical and econometric analysis of the factors influencing the off-balance sheet operations of commercial banks of the Republic of Uzbekistan. Factors influencing documentary letters of credit, currency forward transactions, bank guarantee-related transactions, currency spot, currency futures and options from off-balance sheet operations, which are highly profitable for commercial banks, were studied.

KEYWORDS

Off-balance sheet transaction, forward, futures, options, currency, letter of credit, currency swap, currency spot, deficit, inflation, uncovered letter of credit.

INTRODUCTION

A number of financial institutions, such as the Central Banks of the developed countries of the world, the International Monetary Fund, the Basel Committee, have conducted research on the development of off-balance sheet

operations of commercial banks. These studies are scientifically based on the integrated use of documented forms and types of letters of credit, the expansion of commercial bank guarantee operations, foreign exchange

options and futures, the role of off-balance sheet operations in risk management of commercial banks. However, in these studies, the issues related to the lack of opportunities for the development of off-balance sheet operations in the context of high levels of financial risk in the activities of commercial banks, low level of diversification of foreign exchange reserves of banks remain relevant.

Several factors simultaneously affect the off-balance sheet operations of commercial banks. However, while the factors that affect each type of off-balance sheet transaction have specific characteristics, some factors can affect all off-balance sheet transactions.

The ultimate goal of radical reforms in the banking system of Uzbekistan is to increase the financial stability of banks, strengthen the competitive environment of commercial banks in the digital economy and, as a result, provide modern banking financial services to customers. Although off-balance sheet operations are an important factor in ensuring the financial stability of banks, there is almost no scientific and theoretical research in this area in the country. In particular, in the practice of commercial banks, there are no foreign exchange options and futures, and more than 90% of the documented letters of credit opened by banks are covered by secured letters of credit. "Taking measures to improve foreign exchange policy and foreign trade, attract foreign investment into the economy, increase export potential, sustainable development of modern, export-oriented industries, small businesses and private entrepreneurship" [1] is one of the priorities. Ensuring the fulfillment of these tasks remains one of the most pressing issues today.

MATERIALS AND METHODS

Several factors simultaneously affect the off-balance sheet operations of commercial banks. However, while the factors that affect each type of off-balance sheet transaction have specific characteristics, some factors can affect all off-balance sheet transactions. (shu joyi tepadagi gap bilan bir xil bo'pqopti)

Below we assess the impact of these factors on the off-balance sheet operations of commercial banks.

In our opinion, the main factors influencing the off-balance sheet operations carried with documented letters of credit of commercial banks of the Republic, are:

- a) The level of solvency of customers who have the status of a legal entity using the services of a letter of credit of commercial banks.

Due to the high risk level of uncovered letters of credit, commercial banks only issue uncovered letters of credit to customers with a high level of solvency. Therefore, the level of solvency of customers plays an important role in increasing the volume of documented letters of credit opened by commercial banks on the payment obligations of customers.

- b) Commercial banks have the opportunity to repay documented letters of credit at the expense of their loans.

In developed countries, if there are no funds available in the payer's current account at the time of receipt by the letter of credit, then the amount of the letter of credit is paid from the term or overdraft loan of the letter of credit [2].

In order for a commercial bank to repay documented letters of credit on time from their loans, they must not have an unbalanced liquidity problem. The results of scientific research by a number of Uzbek economists have shown that there is a problem of unbalanced liquidity in commercial banks of the country [3].

One of the main factors influencing the bank guarantee operations of commercial banks is the solvency of customers guaranteed by the bank. This is because if the guaranteed customer is unable to pay due to payment obligations, the bank will be forced to make the payment at its own expense.

Also, the ability of the bank-guaranteed customer to fulfill its obligations in a timely manner is one of the main factors influencing the bank guarantee operations of commercial banks.

One of the main reasons for the mass bankruptcy of U.S. banks during the Great Recession was that commercial banks provided large amounts of guarantees on customers' payment obligations and payments were made by banks as a result of their insolvency [4].

In our opinion, one of the main factors influencing the development of forward operations of commercial banks of the Republic of Uzbekistan is the large difference between the interest rate on loans in the transaction currency and the interest rate on deposits in the appraisal currency.

It is known that in our Republic our national currency is the soum, and for us all foreign currencies are transaction currencies.

Banks in Uzbekistan currently use market interest rates, mainly London Inter-Bank Offered Rate (LIBOR) as the interest rate of the transaction currency. The IZIBID rate is used as the market rate for UZS deposits.

There are no currency options and futures in the banking practice of the Republic of Uzbekistan. Therefore, it is not possible to perform an analysis of the factors affecting them.

The main part of off-balance sheet operations of commercial banks of the Republic in foreign currencies is currency swap operations.

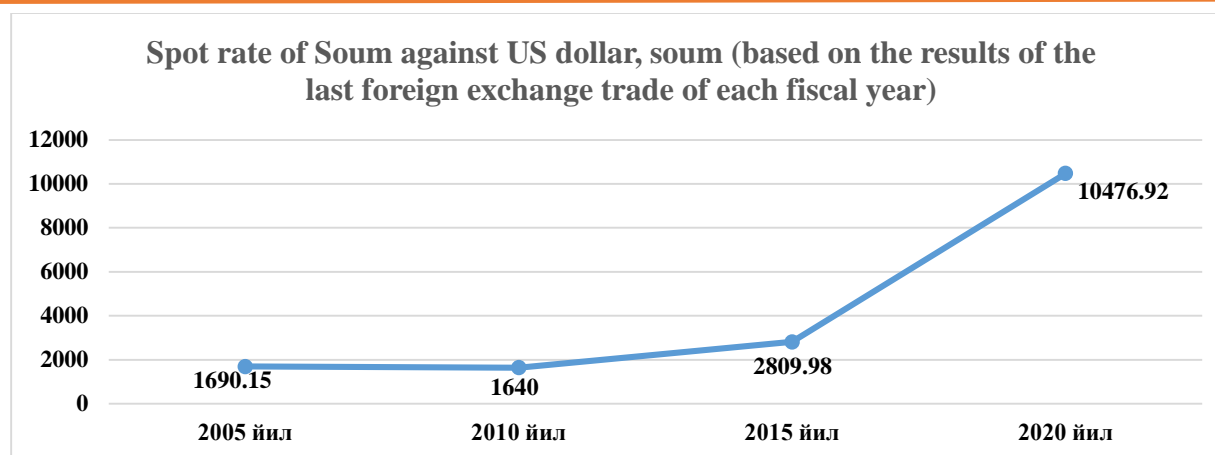
In our opinion, the factors influencing the currency swap operations of commercial banks of the Republic are:

1. The degree of volatility of the spot rate of the national currency.

Since currency swap transactions are a combination of spot and forward transactions, the volatility of the national currency spot rate is one of the main factors influencing currency swap transactions.

In turn, the high level of volatility of the national currency spot rate is explained by the following factors:

- High inflation rate (in 2020, the annual inflation rate in the country was 11.1% [5]);
- High growth rate of money supply;
- Execution of the state budget with a deficit;
- The country's foreign trade balance has a large negative balance (in 2020, the country's foreign trade balance had a negative balance of 6 billion US dollars [6]).



1-figure. Spot rate of Soum against US dollar, soum (based on the results of the last foreign exchange trade of each fiscal year) [7]

Figure 1 shows that in 2010-2020, the volatility of the spot exchange rate against the US dollar was high. This has a negative impact on the development of currency swap transactions.

2. The fact that the Republic of Uzbekistan has a large deficit of foreign trade balance;

Having a large deficit of the balance of foreign trade creates a strong pressure on the spot rate of the national currency.

3. High inflation rate;

In 2020, the inflation rate in the country was 11.1% [8].

It should be noted that the existence of a direct and strong link between inflation and the state budget is scientifically substantiated. In particular, the reduction of the state budget deficit to 1 percentage point of GDP has been shown to lead to a decrease in inflation to 8.75 percentage points [9]. It is also based on the existence of a strong correlation between inflation and fiscal policy parameters in short-term cycles [10].

The practical significance of currency swap operations for commercial banks is reflected in the following:

While the sale of foreign currency under a swap operation allows you to reduce the long currency position in that currency, the purchase of foreign currency allows you to reduce the short currency position in that foreign currency.

Placement of foreign currency funds in "Nostro" correspondent accounts in foreign currencies of commercial banks, for example, placement of funds in "Nostro" correspondent accounts in US dollars by swap is carried out in the following order:

- Funds available in the bank's dollar account "Nostro" are sold at the spot rate in one of the leading currencies, for example, the Swiss franc;
- Proceeds received in francs are placed as a deposit in one of the Swiss banks for a certain period, for example, for a period of 3 months;

- Enters into a 3-month forward contract to purchase the same amount of dollars as the commercial bank sold on the spot;
 - At the end of the 3-month period, the commercial bank repays the deposit in Swiss francs with interest accrued on it and buys US dollars for this amount under a forward contract.
4. Swap operations allow diversification of foreign exchange reserves of a commercial bank and its customers.

The results of research by a number of Uzbek economists show that the level of diversification of foreign exchange reserves of commercial banks in the country is very low, they make up the bulk of foreign exchange reserves (more than 90%) in US dollars [11].

Documentary letters of credit opened by JSC "Aloqabank" and the factors influencing them [12].

Implementation of currency swap operations will reduce the share of the US dollar in the foreign exchange reserves of commercial banks and increase the share of other currencies, which will increase the degree of diversification of foreign exchange reserves of banks. In turn, increasing the level of diversification of foreign exchange reserves plays an important role in reducing the level of currency risk.

RESULTS

We conducted an econometric analysis in order to examine the extent to which the volume of off-balance sheet transactions of commercial banks is impacted by factors.

№	Кўрсаткичлар	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1.	The amount of letters of credit opened by the bank (in bln. soums)	7,6	9,1	15,5	9,6	21,5	6,6	12,3	39,4	73,8	87,1
2.	The amount of tokens until the bank receives the request (in bln. soums)	118,0	134,0	177,0	223,0	271,0	339,0	405,0	1314,0	1036,0	1067
3.	Inflation rate,(%)	7,3	7,6	7,0	6,8	6,1	5,6	5,7	14,4	14,3	15,2
4.	Depreciation rate of the national currency against the US dollar, (%)	8,5	9,5	10,5	11,0	10,0	16,0	15,0	92,4	2,7	14,0
5.	Average annual interest rate on loans in national currency, (%)	13,4	12,5	13,5	13,0	12,5	11,4	11,5	18,5	20,5	24,2
7.	Import, (in bln. dollars)	8,8	10,5	12,0	13,8	13,9	12,4	12,1	14,0	19,4	24,3

This econometric analysis was performed on a multi-factor regression and correlation method based on data from 2010-2019. As a result factor, the amount of letters of credit opened by JSC "Aloqabank" was taken, and the causal factors were the deposits of commercial banks in the country, the annual inflation rate, the annual devaluation of the soum against the US dollar, the average interest rate on loans in national currency and imports.

The following was observed in the correlation analysis performed to study the dependencies.

In this case, the resulting character – Y;

Amount of letter of credit of JSC "Aloqabank", (in bln. soums) – AS;

Characters of factors

X1 - DS- Amount of deposits, in bln. soums;

X2 - IF- Annual rate of inflation, %;

X3 – DV - Annual devaluation rate of the soum against the US dollar, %;

X4- KF- Average annual interest rate on loans in national currency, %;

X5- IM – Volume of import, in bln. Soums

Correlation table

	Y	x1	x2	x3	x4	x5
y	1,000	0,823	0,903	0,091	0,966	0,938
x1	0,823	1,000	0,920	0,602	0,847	0,718
x2	0,903	0,920	1,000	0,425	0,960	0,762
x3	0,091	0,602	0,425	1,000	0,231	-0,019
x4	0,966	0,847	0,960	0,231	1,000	0,880
x5	0,938	0,718	0,762	-0,019	0,880	1,000

As can be seen from the table above, almost all factors affect the change in the size of the letter of credit (except for the change in the exchange rate of the soum against the US dollar). In particular, the correlation between the average interest rate of the loan and the volume of the letter of credit is very high, i.e. the correlation coefficient is 0.966.

In the econometric analysis of these factors, a correlation matrix test of the variables was performed to form a selective multifactor econometric model with a high effect of the

selected outcome variables so that the effect of the free variable on the inverse variable does not lead to loss. The mathematical function view of this model is represented as follows.

$AS = F(DS, IF, DV, KF, IM) (1\text{- formula})$

In this case: AS-AT - the amount of the letter of credit of "Aloqabank", bln. sum; DS - the amount of deposits in billions of soums; IF- annual inflation rate, in percent; DV - annual devaluation rate of soum against US dollar, in percent; KF - average annual interest rate on

loans in national currency, in percent; IM - import volume, bln.doll

Based on the above mathematical formula, we have formulated our econometric model in our study. In the development of a multifactor regression model, the amount of the letter of credit of a commercial bank and the factors influencing it were taken as follows:

Results of the multivariate regression and correlation analysis based on the Eviews program [13].

Dependent variable : <i>ln AS</i>				
Method: The smallest squares				
Variable	Coefficient	Default error	t-statistics	Probability (P-value)
<i>Ln DS (x1)</i>	0,030	0,017	1,786	0,149
<i>Ln IF (x2)</i>	0,340	3,233	0,105	0,921
<i>Ln DV (x3)</i>	-0,345	0,131	- 2,623	0,059
<i>Ln KF (x4)</i>	3,076	2,909	1,058	0,350
<i>Ln IM (x5)</i>	1,066	1,375	0,775	0,482
C	- 44,914	11,806	- 3,804	0,019
Determination coefficient	0,988643	The corrected coefficient of determination		0,974446
	0,974446	Standard regression error		4,686292
The value of the maximum similarity function	-25,05435	F-statistics		69,63895

Based on the above calculations, the following multifactor regression model was formed.

$$\ln AS = -44.914 + 0.030 \ln DS + 0.340 \ln IF - 0.345 \ln DV + 3.076 \ln KF + 1.066 \ln IM + \varepsilon$$

The corrected coefficient of correction in the formed model shows that 97% of letters of credit of commercial bank (AS) are depends on the factors formed in the model: DS- the amount of demand deposits of bank, IF-annual inflation rate, DV-soum annual devaluation rate

A multifactor regression model was constructed with DS - the amount of deposits; IF - annual inflation rate; DV- annual devaluation rate of soum against US dollar; KF - average annual interest rate on loans in national currency; IM-import volume (Table 3).

against US dollar, KF-loans in national currency, IM - imports. The remaining 3 percent is due to other factors, which are not taken into account.

Discussion: A number of economists have expressed their views on the off-balance sheet operations of commercial banks. А.Малых has formed his conclusions on letters of credit, which are one of the most widely used forms of accounting in off-balance sheet banking operations. According to him, “A documented

letter of credit has the following advantages for the buyer:

- Documented letter of credit allows the buyer to receive the payment in full after the shipment of the goods;
- A documented letter of credit guarantees the buyer the necessary transport and commercial documents;
- The documented letter of credit allows the buyer to receive additional financing from the issuing bank "[14].

Another economist, J. Zinki, concluded that if a commercial bank, for some reason, "fails to hedge, it can use off-balance sheet methods for hedging, such as futures, forwards, options, and swaps" [15].

CONCLUSION

The factors influencing the off-balance sheet operations of commercial banks of the Republic of Uzbekistan are as follows:

- The level of solvency of customers with the status of a legal entity using the letter of credit services of commercial banks;
- Possibility of commercial banks to repay documented letters of credit at the expense of their loans;
- Solvency of bank-guaranteed customers;
- Timely fulfillment of obligations by client, which are guaranteed by the bank;
- The negative impact of the global financial and economic crisis on the guarantee operations of commercial banks;
- Large difference between the interest rate on loans in the transaction currency and the interest rate on deposits in the appraisal currency;

- High level of volatility of the spot rate of the national currency.

Summing up our econometric model, it should be noted that, taking other factors into account, a 1% increase in deposits would increase the volume of letters of credit of JSC "Aloqabank" by 0.03%, an increase in inflation by 1%, the volume of letters of credit of commercial banks by 0.34% and an increase in the annual interest rate of loans in national currency by 1% will lead to an increase in the amount of the commercial bank's letter of credit by 3.08%. However, an increase in the annual devaluation of the soum against the US dollar by 1% leads to a decrease in the amount of letters of credit of commercial banks by 0.34%. In general, excluding other factors, the simultaneous growth of DS - the amount of deposits, IF - the annual rate of inflation, DV - the annual devaluation of the soum against the US dollar, KF - the average annual interest rate on loans in national currency, IM - imports by 1% leads to an increase in the amount of the letter of credit of a commercial bank by 4.167%.

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Stability Of A Cylindrical Shell

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ABSTRACT

Results of researches of stability of the cylindrical cover of circular cross section consisting of several layers at a zagruzheniye the external evenly distributed loading are given in this article. Settlement dependences are offered, critical loadings, opkredelena of a form of loss of stability of a cover are found.

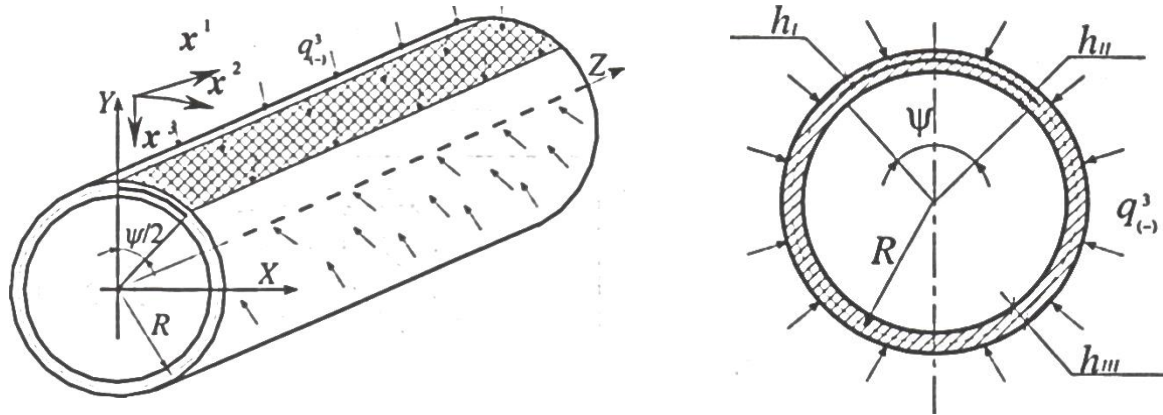
KEYWORDS

Cylindrical shell, cross section, stability, critical loads, Poisson, symmetric, defect, cracks.

INTRODUCTION

The problem of stability of a hingedly supported cylindrical shell with a circular cross-section containing a longitudinal bundle is considered. The load is taken to be a uniformly distributed pressure applied to the outer

surface of the shell. The general view and cross-section of the shell are shown in fig. 1.



ab

Figure: 1. General view (a) and cross-section of a cylindrical shell with delamination (b)

Delamination divides the shell by thickness into several characteristic sections with thicknesses h_I, h_{II}, h_{III} . The introduced parameter $h^* = h_I / h_{III}$ determines the location of the crack along the shell thickness. For a neutral surface $h^* = 0,5$. The change in the size of the crack in the transverse direction is characterized by the parameter $\psi^* = \psi / \pi$. For this problem, there is a well-known solution obtained by V.P.Troshinin [1-8].

The influence of the size and location of the interlayer crack along the shell thickness on the value of the critical external pressure is investigated. The calculation of the shell was carried out with the following initial data: modulus of elasticity $E = 210$ GPa; Poisson's ratio $\mu = 0,25$; the ratio of the radius of the middle surface of the shell to its thickness $R / h_{III} = 100$; the crack opening angle ψ varied in the range from 0 rad to 0.754 rad; the ratio of the shell length to the radius of the middle surface was taken equal to $l/R = 1; 2$. The ratio of layer thicknesses h_I/h_{III} varied from 0.1 to 0.9.

A fragment of the shell bounded by contour lines $x^1=0, x^2=0$ and symmetry lines $x^1=l/2, x^2=\pi$ was taken as a calculated one. A finite difference mesh of 15×37 nodes (15 nodes in the length direction and 37 in the x^1 direction; 20 out of 37 nodes were superimposed on the defective area) was applied to the fragment selected in this way, at which the calculation error does not exceed 3%.

Calculation results for a shell with a defect located on the middle surface (see Fig. 1) in the form of dependences of dimensionless loads $q^* = q_{cr}/q_0$ on the parameter $\psi^* = \psi/2\pi$, where q_{cr} is the critical load for a shell with a defect; q_0 is the critical external pressure for a defect-free shell with a length of $l=1$ m, which was determined by the formula:

$$q_0 = \frac{1.75\pi E}{lR^2} \sqrt{\frac{h_{III}^{10}}{12^3(1-\nu^2)^3}} [1].$$

The calculation results were obtained without taking into account the one-sided interaction

between the layers within the boundaries of the defective areas.

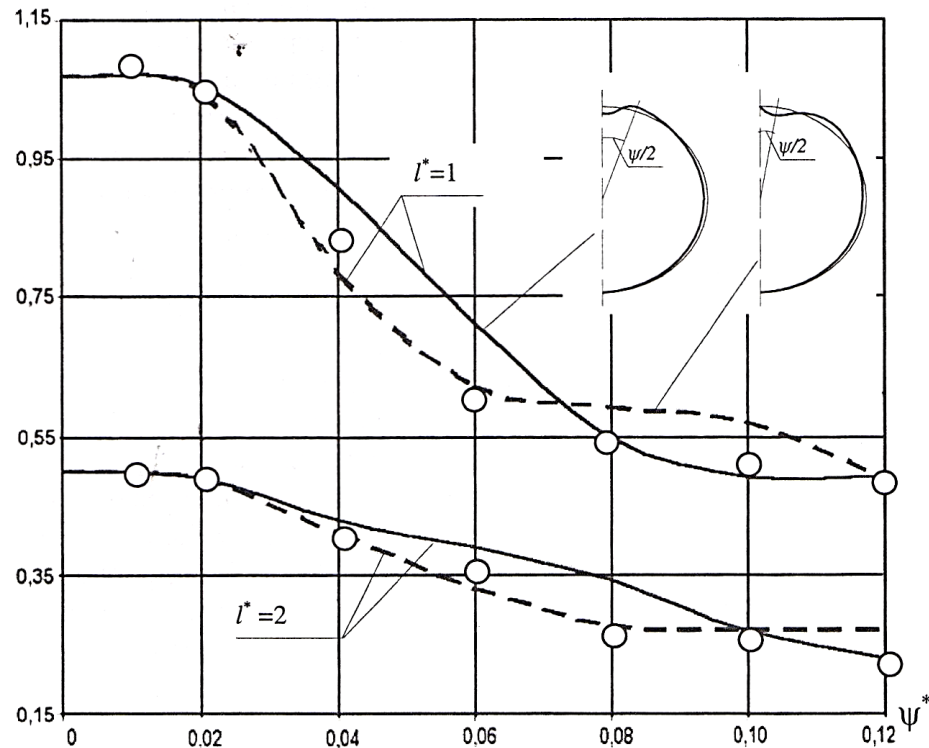


Figure: 2. To the calculation of a cylindrical shell with a defective section (solid lines - critical loads corresponding to symmetric forms of buckling; dotted lines - the same, skew-symmetric; round markers - results obtained by the proposed method)

The performed calculation shows a good convergence of the critical load values (the maximum discrepancies do not exceed 5%).

a decrease in the critical external pressure and localization of the general form of wave formation.

As seen from Fig. 2, a change in the shell length significantly affects the absolute values of the critical external pressure. However, the general character of the curves remains the same with varying the shell length. All the above dependences, when changing ψ^* from zero to $\psi^* = 0.015 - 0.02$, have a horizontal section, within which the critical parameter q_{cr} remains constant. Therefore, the parameter $\psi^* = 0.02$ determines the limiting width of the admissible bundle opening. Smaller delamination does not reduce the initial critical load. Large-sized stratifications lead to

An analysis of buckling patterns shows that with a symmetric shape and small sizes of initial defects, crack opening can occur. Depending on the size of the delamination, alternating forms of buckling occurs - symmetric and skew-symmetric. The order of changing the buckling forms can vary depending on the length of the shell.

Investigation of layers asymmetric in the thickness of the shell showed that their location near the inner surface of the shell can lead to buckling of one thin layer. With a large

thickness of a thin layer, the shell loses its stability in mixed forms.

It should be noted that contact interactions between the layers are possible at large delamination sizes (this fact was determined from the intersection of layers when constructing forms of loss of stability).

In contrast to the general forms of buckling, the critical loads for local forms of buckling depend little on the shell length. Obviously, for shells of relatively long length, the level of the critical external pressure of a defect-free shell can be lower than the lowest value of the critical load of the local form of buckling of the shell with delamination.

The calculation showed that delamination located symmetrically from the neutral surface of the shell in the interval $h^*=0.35-0.65$ is equally dangerous. In the general case, the surface curvature affects the critical

parameter and the size of the limiting bundles. For this reason, a delamination located closer to the inner surface of the shell reduces the critical pressure to a greater extent than a delamination closer to the outer surface.

The limiting size of the delamination is determined based on the degree of reduction in the critical load. Since in the case of a local form of loss of stability one should expect instability of only one thin layer, the loss of stability of the entire shell in this case does not occur (provided that the separation does not propagate). Consequently, the limiting dimensions of the delamination found on the basis of the local form of buckling are not restrictions on the bearing capacity.

In the development of the research, an analysis of the stability of a hingedly supported three-layer cylindrical shell with a defect in the central part located between the inner bearing layer and the filler was carried out (Fig. 3).

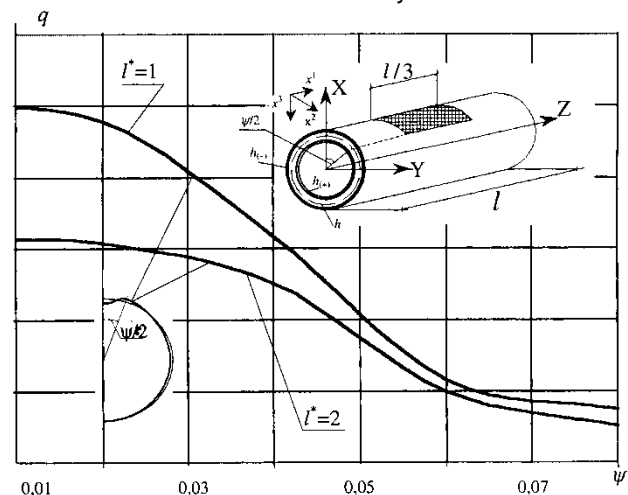


Figure: 3. To the calculation of the stability of a three-layer cylindrical shell with a defect in the central part

The shell was loaded with a uniformly distributed pressure applied to the outer surface of the carrier layer. The part of the shell bounded by lines along the $x^1 = 0, x^1=l/2$

axis and by symmetry lines in the $x^2 = 0, x^2=\pi$ direction was taken as the calculated fragment.

The following parameters were taken as the initial ones: the modulus of elasticity of the bearing layers $E(\pm) = 210 \text{ GPa}$; the modulus of elasticity of the filler $E = 2.10 \text{ GPa}$; Poisson's ratio for all three layers is taken $\nu(\pm) = \nu = 0.25$. The thickness of the outer bearing layer $h(-) = 0.002 \text{ m}$, the filler $h = 0.018 \text{ m}$, the inner layer $h(+) = 0.001 \text{ m}$. The ratio of the radius of the middle surface of the three-layer shell to the thickness of the three-layer package $R/H = 100$; the size of the defect ψ in the direction of the x_2 axis varied in the range from 0.1 rad to 0.754 rad ; the ratio of the length of the shell to the radius of the middle surface is $l/K = 1:2$.

As a result of the calculation, the critical loads were found, the forms of buckling were determined.

The main results of the calculation (see Fig. 3) in the form of the dependence of the dimensionless value of the critical load $q^* = [q_{cr}/(E(\pm))]10^6$ on the parameter $\psi^* = \psi/(2\pi)$. The typical form of loss of stability is also shown here. The resulting critical loads correspond to symmetric buckling patterns.

It was found that a change in the size of a defect in the direction of the x^2 axis in the range from $\psi^* = 0.01$ to 0.015 does not reduce the critical load. Defect opening angles exceeding $\psi^* = 0.015$ lead to a decrease in the critical load and localization of the general form of buckling of a three-layer cylindrical shell.

The results of studies of the stability of a cylindrical shell of circular cross-section, consisting of several layers when loaded with an external uniformly distributed load, made it possible to establish the actual operation of the shell. The proposed calculated dependences give good convergence of the

found critical loads, made it possible to determine the forms of buckling of the shell and can be used in practical calculations.

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Regulation Of The Resistance Of Cement Concrete With Polymer Additive And Activated Liquid Medium

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ABSTRACT

The article presents the results of studies of cement concrete with a polymer reagent and an activated (magnetically treated) liquid medium. A decrease in the total and capillary porosity of the cement stone and an increase in microporosity up to 18% indicate an increase in the resistance of concrete in aggressive environments.

KEYWORDS

Cement concrete, polymer additive, magnetically treated water, aggressive environment, increased durability.

INTRODUCTION

As you know resistance of concrete - its ability to resist the action of the external environment is determined, first of all, by its structure. In this case, special attention is paid to excess moisture, as the most important factor in terms of the formation of porosity of the cement stone and its strength. It is the porous

structure of the cement stone that determines its permeability and resistance to aggressive media [1-11].

Thus the structure of the pore space of concrete, the permeability of concrete was studied by V.M. Moskvina and he classified the

pores in concrete according to their location in its volume into three types: pores of cement stone, pores of aggregates and contact pores at the interface between cement stone and aggregate.

According to the size of the pores in concrete, they differ in groups [2]: the first group of pores <50 Å; the second group - micropores 50-1000 Å; the third group consists of micropores with a radius > 1000 Å - such pores are the main pathways for the movement of the liquid and gaseous phases in concrete. According to [3-8], under the aggressive action of sulfate solutions, destructive processes occur mainly in pores with an equivalent radius of more than 5000, and sufficient corrosion resistance can be achieved by creating a finely dispersed structure with a predominant content of microcapillaries less than the specified size.

V.M. Latypov [4] studied the effect of porosity on the sulfate resistance of cement stone and concrete and concluded that capillaries and macropores practically do not participate in the accumulation of salts and most of them are deposited in microcapillaries that form "effective porosity".

However, the resistance of concrete under conditions of salt crystallization during capillary absorption and evaporation is inversely proportional to open porosity. Closed pores increase the resistance of the material. That is, replacing open porosity with small closed pores and reducing the value of through porosity should significantly increase the resistance of concrete under conditions of capillary suction and intense evaporation of saline solutions. Studies [4-11] have shown that the increased corrosion resistance of concretes

based on porous aggregates is explained, first of all, by the fact that the pores of this concrete are mostly closed and have a size of 1 micron; waterproof pores. Thus, the distribution of pores in concrete should be considered not only by size and shape, but also by the nature of porosity: closed, capillary, through.

Besides one of the important methods of controlling the structure formation of cement stone, improving the characteristics of concrete obtained on its basis is a directed change in the physicochemical properties of mixing water.

Moreover the liquid phase, which is a saturated aqueous solution of an alkaline composition, is the main structural unit of the dough, which ensures its adhesion to wetting and sticking to the filler [5]. The adsorption of water molecules by the surface of mineral particles is realized due to hydrogen bonds and donor-acceptor phenomena. Water is an active chemical component, which, together with cement, participates in all processes of structure formation of a cement gel. Its structure depends on its properties, which are manifested at all stages of interaction with Portland cement particles. The study of the rate of cement hydration showed that when using magnetized water, cement is hydrated to a much greater extent than when using ordinary water, which contributes to obtaining a denser stone structure [6]. The efficiency of magnetic water treatment increases when combined with other technological methods [6].

It was found that the mode of electrochemical activation has a great influence on the hardness of water and the concentration of hydrogen ions. So, when water is treated with

only a magnetic field or only with an electric current, the pH rises and the hardness decreases.

With joint action, the sequence of treatment has a great influence: if first the treatment is carried out with an electric current, and then with a magnetic field, the pH of the water decreases, in the reverse order, it increases. The increased operational stability of materials prepared using magnetically and electrochemically activated aqueous solutions has been established.

Revealed increased resistance in an aggressive environment of materials obtained in water treated with a magnetic field. When using mixing water, activated by an electric current, as well as jointly by an electric current and a magnetic field, the frost resistance of materials increases by 18 - 40%.

The researches of S.A. Vshivkov. and others [7] found that the imposition of a magnetic field leads to an increase in viscosity, which indicates the orientation of macromolecules and their associates relative to the lines of force and the aggregation of these particles. The degree of swelling of hydrogels in water is determined by the density of the polymer network, which is set during the synthesis.

Thus, in the formation of systems consisting of cement, filler, additives and water, the concept of P.G. Komokhov should be considered as important parameters for their study. [11]: the

chemical nature of the solid phase surface; type and amount of impurities; size, shape and distribution of hardening particles; thermodynamic state of the solid phase system; internal residual stresses and stored elastic energy during cement hydration; adhesion and interaction between particles in the composite matrix; the degree of predominance of adhesion or cohesion forces between the matrix and concrete aggregates; the degree of porosity, taking into account the size, geometry and distribution of pores in the matrix and in the volume of the entire concrete structure.

METHOD OF TESTING CONCRETE FOR CAPILLARY PERMEABILITY. COMPARATIVE EXPERIMENTS.

The pore structure of the cement stone was investigated with the addition of POLY-ANS polymer reagent and magnetically treated water. The activation of water was carried out with discrete magnetic treatment, which is associated with the rupture of shells of hardening products on the surface of the grains. The porosity was investigated using a mercury porosimeter.

The characteristics of the pore structure of the cement stone were determined after 28 days of specimen hardening under normal conditions Table 1.

Influence of POLY-ANS additives and an activated liquid medium on the characteristics of the pore structure of a cement stone.

Table 1.

1	Supplement type and dosage	Total porosity, $\text{cm}^3/\text{r.}10^2$	Radial distribution of pores					
			10^{-10^2}		10^2-10^3		10^3-10^4	
			cm^3/r	%	cm^3/r	%	cm^3/r	%
Norm.	-	7,6	0,25	3,2	5,1	67,1	2,25	29,6
	0,04% POLY- ANS	6,3	0,33	5,4	4.06	64,5	1,90	30,1
	0,02% POLY- ANS	5,9	0,38	6,4	3,7	62,4	1,87	31,2
With activator By water	0,04% POLY- ANS	5,4	0,31	5,9	4.36	62,0	1,93	31,1
	0,02% POLY- ANS	5,0	0,30	6,8	3,95	61,4	1,95	33,2

DISCUSSION OF RESULTS OF EXPERIMENTS

The analysis of the data obtained indicates that the improvement in the characteristics of the pore structure of the cement stone is associated with an increase in the specific surface of the neoplasms in combination with a reduced water demand due to the effect of “structure ordering” during magnetic treatment of water. The imposition of a magnetic field leads to an increase in viscosity, which indicates the orientation of macromolecules and their associates relative to the lines of force and the aggregation of

these particles. The study of the rate of cement hydration showed that when using magnetized water, cement is hydrated to a much greater extent than when using ordinary water, which contributes to obtaining a denser stone structure. The plastic strength of the cement composition in the case of mixing with magnetized water begins to actively grow almost immediately after mixing. At the same time, a faster dispersion of particles to micron sizes was noted. The study of the rate of cement hydration showed that when using magnetized water, cement is hydrated to a much greater extent than when using ordinary

water, which contributes to obtaining a denser stone structure

Nevertheless the total and capillary porosity of the cement stone decreases the more, the higher the plasticizing ability of POLY-ANS additives, and the microporosity increases according to their stabilizing effect. In particular, the total and capillary porosity of the cement stone with POLY-ANS additives in comparison with the standard is reduced by about 1.5 times. The increase in the volume of micropores in this case is up to 18%.

SUMMARY

Thus, the possibility of adjusting the resistance of cement concrete with a polymer additive and an activated liquid medium has been shown in order to increase its resistance in aggressive environments.

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The Role Of Hotel Industry In The Development Of The Economy Of Our Country And The Theoretical Issues Of Their Study

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ABSTRACT

This article describes the conceptual directions of improving the quality of service in hotels and scientific-theoretical and methodological issues of its evaluation. It shows the factors affecting the quality of hotel services, the specifics of hotel services, the system of indicators that reflect the quality of service in hotels, the content and ways to determine them.

KEYWORDS

Hotel, service, quality, quality of service, quality of service in hotels, a system of indicators representing the quality of service in hotels.

INTRODUCTION

Tourism and hotel management are components of an industry. The growing demand for hotels is directly related to the development of tourism. The expansion of hotel activities does not happen by itself. It is

known from the world practice that the development of tourism leads to the growth of the country's economy, the development of underdeveloped regions, the growth of

employment, the growth of the culture of the population.

Tourism is an industry in which the economy of the country develops, and the social life of the country improves. As a result, many countries have become tourist centers. The economic development of such countries is mainly due to tourism. The hotel management system, which is an integral part of the industry, has also been formed as a network.

It is known that our country has a great tourist potential. This is a huge opportunity to boost the economy. However, such opportunities have not been fully exploited. According to some scientists and the media, the share of tourism in the country's GDP is 1.8%¹. However, the share of this indicator is much higher in developed countries. For example, 12% in Spain, 10% in the Arab Republic of Egypt, 8% in Greece, 8% in the Federal Republic of Germany, 6-7% in France, 6.2% in India, 5% in Singapore, Belgium, USA 3%². It is obvious that our country, which has rich tourist resources, still has great potential for the development of tourism and the hotel industry.

Another important aspect of the development of this sector for Uzbekistan is that it is also a decisive factor in the employment of the

unemployed in rural areas of the country. This is because many traditional types of services that are attractive to private entrepreneurship are gradually developing in both urban and rural areas. However, until recently, no effective measures have been taken for the development of tourism and hotel industry in rural areas. In this regard, on April 17, 2006 the President of the Republic of Uzbekistan adopted a resolution "On measures to accelerate the development of the service sector in the Republic of Uzbekistan in 2006-2010."

In this decision, he gave a strong task to the local authorities, which was a great impetus for the development of the industry. In particular, the resolution reads: "It is absolutely intolerable that the heads of local authorities do not pay enough attention to this important sector"³, it was pointed out. Of course, the efficiency of the neglected industry will also be commensurate. The share of the service sector in GDP in 2005 was 38.3%⁴. By 2010, this figure was set at 49.0 percent, and we have achieved this. But this is still rare. Because, as we have seen above, in the developed countries of the world, the share of service industries in GDP is 60-80%. 70% of the population employed in the economy of these countries work in this service sector⁵.

¹ Kudratov G'H., Musaev H.H. Uzbekistan's investment policy and its role in the development of the tourism services market. // Socio-economic problems of tourism market development in Uzbekistan. Monograph. - T.: "Economy" Publishing House, 2012. - Pages 288-289.

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the hotel industry" (T.: "Economy" Publishing House, 2013. - p. 44).

³ Resolution of the President of the Republic of Uzbekistan dated April 17, 2006 "On measures to accelerate the development of the service sector in the Republic of Uzbekistan in 2006-2010". "People's word". April 18, 2006. p.1.

⁴ Statistical Bulletin of Uzbekistan. 2005. Page 5.

⁵ Khalikulov N.N. Opportunities to improve the quality and efficiency of service in hotels. Dissertation for the degree of Candidate of Economic Sciences. SamISI. - 2011. - Page 11, Pardaev M.Q., Khalikulov A.N., Rahimov H.A. Problems of increasing efficiency in hotel farms.

The underdevelopment of the service sector in our country has also affected the structure of consumer spending. The share of services in the structure of consumer spending of the population of the country in 2005 was only 15.4%⁶. However, the rate of this figure is not less than 50-60% in developed countries⁷.

The establishment of tourist centers in mountainous and rural areas will help to develop these areas and improve the living standards of the population.

In recent years, in many countries, especially in our country, it has become customary for people living in cities to go to the countryside on weekends. This has led to the fact that the rural population is required to have a second specialization related to tourism and to build and operate tourist complexes in the picturesque areas of the village. This, in turn, will improve the living conditions of the rural population.

With the expansion of tourism, the number of service enterprises, including hotels, will continue to grow. In addition, the field related to the development of tourism includes many enterprises, businesses (restaurants, transport, entertainment facilities, etc.), which operate during the tourist season. Their turnover increases depending on the number of tourists.

To determine the place of tourism and hotel services in the service system, we provide the following data (Table 1.1).

Table 1.1

Structural changes in the field of services in the Republic of Uzbekistan for 2010-2011⁸

Monograph. - T.: "Economy" Publishing House, 2013. - 44 pages.

⁶ Social development and living standards of the population in Uzbekistan 2004. T.: Goskomstat of Uzbekistan. 2005.-C 72.

⁷ Resolution of the President of the Republic of Uzbekistan dated April 17, 2006 "On measures to accelerate the development of the service sector in the

Republic of Uzbekistan in 2006-2010". "People's word". April 18, 2006. p.1

⁸ "2012 will be a year that will take the development of our country to a new level." It was calculated by the authors of the study complex on the main results of 2011 and the speech of the President of the Republic of Uzbekistan Islam Karimov at a meeting of the Cabinet of Ministers on the priorities of socio-economic development of Uzbekistan in 2012.

№	Types of services	2010-year			2011-year		
		billion soums.	Growth (percent)	Composition (percent)	billion soums.	Growth (percent)	Composition (percent)
	Services, total	32749,8	113,2	100,00	41083,4	125,4	100,00
	Including:						
1.	Trade services	6134,4	120,9	18,73	8607,5	140,3	20,95
2.	Transportation services	10547	113	32,20	12350,2	117,1	30,06
3.	Communication and information services	2062,5	128,7	6,30	2630	127,5	6,40
4.	Financial and banking services	2753,8	119,4	8,41	3507,5	127,4	8,54
5.	Tourist and excursion services	44,7	115,3	0,14	64,1	143,4	0,16
6.	Hotel services	97,5	107,8	0,30	112,4	115,3	0,27
7.	Utilities	3852,1	99	11,76	4780,5	124,1	11,64
8.	Household services	561,4	122,8	1,71	534,5	95,3	1,30
9.	Car repair services	314,2	124,6	0,96	367,8	117,1	0,90
10.	Others	6382,2	116,6	19,49	8128,9	127,4	19,79

Tourism has a significant economic growth in our country. In 2011, it increased by 143.4%. However, the development of the hotel industry lags behind tourism, reaching 115.3% this year. This shows that the growth of all services in the Republic of Uzbekistan (125.4%) was more tourism services. The second most developed services were trade services, which grew by 140.3%. The growth rate of communication and information services, which is one of the leading services, was 127.5% during this period.

Tourism belongs to the service sector and is one of the fastest growing sectors of the economy. The rapid growth of tourism in Uzbekistan will have a positive impact on the

economy by providing large amounts of foreign exchange earnings, as well as the development of the country's tourism industry. Because if we look at the history of tourism, it is based on hospitality. This has been and remains the ancient custom of mankind. Previously, guests were greeted in their own home, apartment. Now its content has changed. Usually, people have to live away from home for days, weeks, months. He will need the support and help of "strangers". This is done through hospitality.

According to the Uzbek dictionary, hospitality means "hospitality, behavior, hospitality".⁸. Nowadays, hospitable visits are also made in connection with spending the night and relaxing in hotels, not in someone's apartment.

⁹ Explanatory dictionary of the Uzbek language. J. 2 E-M

¹⁰ Papiryan G.A. Management in the hospitality industry (hotels and restaurants). M.: OAO NPO: Izd-vo "Ekonomika", 2000., Walker Dj. Introduction to hospitality: Textbook / per. s angl. M.: UNITI, 1999., Basics of management of enterprises and

Because of this, the terms hospitality and tourism are used interrelatedly in the economic literature.⁹. Scientists of our country use the term "mehmonnavozlik(hospitality)" instead of hospitality¹⁰. It is also clear that revealing the nature of the concept of hospitality is important in the study of theoretical issues of tourism. This requires the development of a definition of each concept. Hospitality is now a type of service provided in tourism and also has some business characteristics. Based on this content, we found it appropriate to define hospitality as follows: Hospitality is a set of relationships related to the provision of services such as accommodation, catering, transportation, excursions, conferences, entertainment.

Hospitality as a part of tourism is of great importance for the development of this industry. Due to this, the establishment of the hospitality industry will also ensure the sustainable development of the industry. With this in mind, it was considered expedient to develop a definition of the hospitality industry as well. The hospitality industry is a business activity aimed at the formation and development of the market of services related to the implementation of hospitality.

The term "tourism and hospitality industry" is widely used in the tourism literature¹¹. It acknowledges that hospitality is seen as a broader and more general concept than tourism. It is said that its task is to meet not only the needs of tourists, but also the needs of all consumers. In our opinion, tourism and

organizations of the hospitality industry / Under red.A.Braymera. - M., 1994.

¹¹ Mamatkulov X.M. Explanatory dictionary of tourism and service. Samarkand: SIES, 2010. - 151 p.

¹² Tourism and hospitality. Textbook / Ed. prof., d.e.n. A.D. Chudnovskogo. - M.: Association of Authors and Publishers "Tandem". EK MOS Publishing. 2001, - 400 p.

hospitality cannot be considered in isolation. Due to this, the hospitality industry cannot be considered separately. Because tourists are also consumers with specific needs depending on the purpose of the trip.

The hospitality industry has historically been shaped by various hotel businesses, i.e. accommodation services. In general, a hotel is a building that is furnished for visitors and consists of rooms that are ready for living. In modern conditions, a hotel is an enterprise that provides hotel services to citizens, as well as individual tourists or special groups. But there are also different views on this concept. Summarizing them, it is expedient to give the hotel the following description:

A hotel is a special farm designed to provide the necessary additional services, creating the necessary conditions for temporary residence, ie rest and work of guests (tourists). In our opinion, this description fully reflects the content of the hotel.

The modern hotel business offers consumers not only accommodation and catering services, but also a wide range of services such as transport, communications, leisure excursion services, medicine, sports, beauty salons. In practice, the hotel business performs key functions in the tourism and hospitality industry, offering consumers a hotel product with complex features. All sectors and elements of the tourism and hospitality industry are involved in the formation and sale of this product. In this context, we found it expedient to consider the hotel business independently as an integral part of the tourism and hospitality industry. Therefore, some issues have been studied to some extent in close connection with the tourism and hospitality industry.

As a result of the development of science and technology, the hospitality industry has become a powerful industry employing millions of employees who create convenience for people. The hospitality industry combines different areas of human professional activity: tourism, hotel and restaurant business, catering, recreation and entertainment services, organization of conferences and exhibitions, sports, museums, exhibitions, excursions, as well as professional areas in the field of hospitality. takes

Due to the fact that tourism belongs to the service sector and is one of the fastest growing sectors of the economy, its rapid growth in our country has a positive impact on the economy by providing large foreign exchange earnings and contributes to the development of the tourism industry. In recent years, along with the increase in supply in the hotel market, there has been a decline in demand for accommodation services. This situation has led to increased competition. One of the main ways to gain a competitive advantage in the hotel business is to offer high quality services to competitors.

Provision of regional tourist services in Uzbekistan requires certain costs. It can be seen that the share of hotel expenses in their structure is high (Table 1.2).

The data in this table provide sufficient information to assess the state of development of tourist excursion services in the regions of the Republic of Uzbekistan in 2007-2011. The provision of tourist services in the country was mainly carried out in 2007-20011. However, in 2010 it was planned to increase this service by 127.5%. However, this figure was fulfilled by 110.6%. This growth trend was influenced by the next wave of the global financial and economic crisis that continued in those years. Because the influx of tourists to

our country has slowed down for a while. A similar situation has occurred in many provinces. Only in the Republic of Karakalpakstan, Andijan, Jizzakh, Tashkent and Kashkadarya regions can it be seen that it has

exceeded the plan. Although the plans for tourist excursion services have been implemented throughout the country, in many regions (such as Bukhara, Syrdarya, Khorezm) they are systematically implemented.

Table 1.2

Development status of tourist excursion services in the regions of the Republic of Uzbekistan in 2007-2011 (in comparable prices)¹²

Percentage compared to last year

№	Name of regions	Growth of service volume									
		2007-year		2008-year		2009-year		2010- year		2011- year	
		Plan	in practice	plan	in practice	plan	in practice	plan	in practice	plan	in practice
	Republic of Uzbekistan	119,3	122,3	121,3	126,3	123,4	130,4	127,5	110,6	117,7	127,3
	<i>Including:</i>										
1.	Republic of Karakalpakstan.	109,1	129,3	110,5	167,1	111,3	126,7	113,5	125	105,3	205,6
2.	Andijan region	115,6	483,6	118	138,1	119,5	128,8	120	132	116,5	105,3
3.	Bukhara region	119	118,7	120	127,2	120,2	101,2	128	105	108,0	103,2
4.	Jizzakh region	118	218,2	118,5	177,4	120	106,2	122	125	104,0	71,3
5.	Kashkadarya region	118	123,4	119,5	126	124	116,3	130	130	112,0	112,3

¹³"2012 will be a year that will take the development of our country to a new level." It was calculated by the authors of the study complex on the main results of 2011 and the speech of the President of the

Republic of Uzbekistan Islam Karimov at a meeting of the Cabinet of Ministers on the priorities of socio-economic development of Uzbekistan in 2012.

6.	Navoi region	122	170,5	123,5	139,1	124	130,7	125	107	105,0	109,0
7.	Namangan region	115	117,7	118	0	122	127,6	125	115	103,0	119,2
8.	Samarkand region	118	128	122	158,4	125	141,8	129	103	112,0	112,0
9.	Surkhondaryo region	116	226,6	116,5	125	118	175,2	120	115	112,0	105,6
10.	Syrdarya region	110	18,3	120	0	130,5	113,1	135	2,6	-	-
11.	Tashkent region	120	127	122	177,4	123,5	191	125	140	108,0	122,3
12.	Fergana region	118	118,1	119,5	113,2	122	123	123	103	105,0	105,3
13.	Khorezm region	115	126,2	120	200	121,1	105,1	130	105	105,4	112,4
14.	Tashkent city	121	124,4	122	118,3	123,5	135,3	128	115	120,5	136,7

It is clear that tourism services will need to be planned based on the real capabilities of each region.

It should be noted that the State Program for the development of tourism in our country and in each of its regional branches has been developed. Very large are focused on fulfilling the parameters provided in these programs. All governmental and non-governmental organizations in the field are engaged in this. Due to this, there are positive changes in the development trend of tourist excursion services. These types of services will also

develop rapidly in the future. Because of the great attention paid to this area, the relevant infrastructure has been created and is being improved. All this is a great opportunity for the development of tourism in the future.

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Developing Creative Activities In Technology Lessons: Using Some New Interactive Methods

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ABSTRACT

At the time being, special attention is paid to teaching students a creative thinking in technical science in general secondary schools. This can be seen in the example of curricula, timetables and textbooks published on this subject. In particular, in the curriculum and textbooks for grades 8-9 there is a section "Technology for preparing creative projects", which helps how to perform creative work.

It should be noted that teaching pupils and students to think and work creatively is not an easy task. To do this, it is necessary periodically to inform them about creative works, methods and stages of their implementation. However, using some of the interactive methods in practice is also effective. Regarding this, to use certain interactive methods, we have created and improved several new interactive methods and applied them into a practice. We would like to recommend several interactive methods aimed at organizing and developing students' creative activities in technology classes which are given below.

KEYWORDS

Implementation, morphological analysis, designations, learning phase, teaching phase.

INTRODUCTION

1. Method for determining the future view of the object according to available data. This is useful for figuring out how an object or mechanism will look like in the future, and on what principles they will work and be

used, based on historical and current data. For example, you can use the following table (the method is proposed by the author):

Item	Existed in the past (historical info)	Existing now	Future expectation
Pen	Straw, feather, ink, pens	Ballpoint pens	Electronic pens
Watch	mechanical, electronical	mechanical, electronical, smart watches	Smart watches, etc.
TV set	With lamps	With micro schemes, LCD	Three dimensional, without electric, air converting powered
Computer monitor	Electronic beam	Electronic beam, plasma, LCD	Three dimensional, without electric, air converting powered
etc.	...	...	...

2. **Morphological table in solving creative problems.** Nowadays, there are many methods of the theory of inventive problem solving, such as the algorithm for solving inventive problems and brainstorming, morphological analysis and synthesis, synergetics, functional analysis.

In particular, the method of morphological analysis and synthesis (a short morphological table) is effective in organizing the creative works corresponding to the age and cognitive

characteristics of students as well as in choosing a suitable form for students. It is very useful when comparing with other appearances (this is improved by the author based on the method of morphological box). So how can this method be used in technology lessons?

Let's say we are given the task of making well-shaped stand for telephone set can be put on (or other object). To solve this problem, the work of students can be organized in the following stages:

Step 1. Analysis of the assignment state. It is well known that the telephone is an important means of communication that keeps us close together and makes easier to get in touch each

other. For the convenience of using telephone devices and extending their service life, various extensions are used. Figure 1 shows three types of such stands.

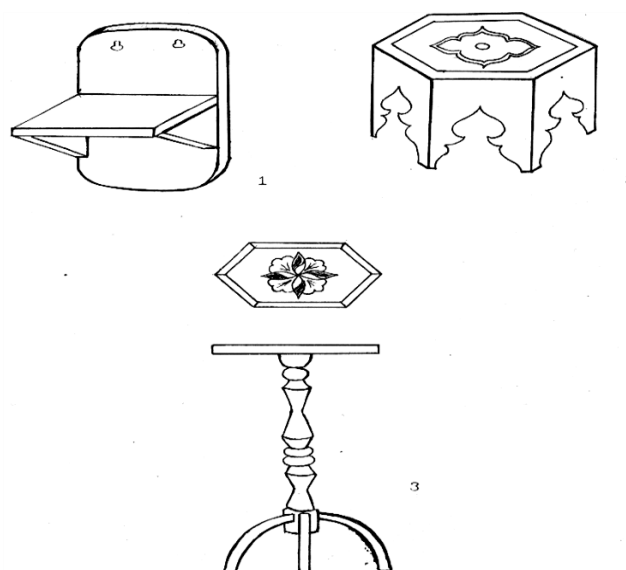


Figure 1. Phone stand:

1 - wall-fixed base; 2 – national small course; 3 - shaped table.

The first of them, namely the wall-fixed stand is much more convenient to use. But according to the assignment, we are asked to prepare a phone stand in the form of a stool. The second stand in the form of a national chair is good. But for doing this takes a lot of time, material and higher skills. In addition, the most important thing is that most students in grades 5, 6 and 7 do not know how to make such chairs beautifully and gracefully.

Therefore, in our opinion, the solution that satisfies the condition of the problem is the

preparation of the stand in Figure 3. This is due to the fact that in addition to working on a lathe on wood, indicated in the curriculum, you can also perform work related to folk art, for example, painting and carving. Besides, the structure of this stand is not so complicated. It consists of a top board, a column (foundation) and legs. This analysis is called morphological analysis.

In order to organize the creative work of students the teacher proposes them to choose a table that looks different from the one shown

in the picture that is each child has a table that he likes. To facilitate the work of students a special morphological table has been created. The table serves as the main tool in solving the problem. Therefore, special attention should

be paid to the developing and using such tables (stools). These ideas are reflected in Table 1.

Table 1

MORPHOLOGICAL TABLE FOR MAKING A FIGURED TABLE TO PLACE

A TELEPHONE SET

Parts of the product	Alternative views					
	1	2	3	4	5	6
I. Top panel						
1. Material types	board	plastic	metal	plywood	ceramics	...
2. Forms (shapes)	round	oval	5-faced	6-faced	8-faced	...
3. Decoration	without image	with image	no pattern	carved pattern	instructional (inlaid)	...
II. Column						
1. Material types	wood	plastic	org. glass	metal	ganch (uzbek national carving)	...
2. Forms (shapes)	round	3-facets	4- facets	6- facets	8- facets	...
3. Decoration	shapeless, smooth	Shaped, (formed)	burned pattern	carved pattern	inlaid	...
III. Legs						
1. Material types	wood	plastic	metal	org. glass	plywood	...
2. Forms (shapes)	round, arched	round straight	3-cro-lobular straight	4-cro-lobular straight	polygonal straight lines	...

3. Decoration	no picture	formed	carved pattern	...	...	..
4. Number of legs	3	4	5	6	8	...
IV. Additional functions						
To put flowers	to put notepads	to lay down book	to put chess	etc.		

Parts of the table: board, base and legs - are recorded in separate cells in the form of a column. To clarify the content of the issue, the words “material, shape, decoration” are written in the squares with details. After that, the corresponding information is recorded before each of them in alternative representations (table 1). Morphological table #1 has the following structure and contains information for developing of a decorative table. It should be considered that the described table may not only consist of these views, but may also have a broader or narrower meaning. It depends on the structure of the elements and the skill of the compiler.

Step 2. Design of the table. After the table is filled with the necessary information (or it can be a prepared in advance) students are asked to choose one in the form they like. In this case, the data pertaining to the parts of the table are represented by numbers marked in the vertical and lateral directions respectively. In this case only one view is selected for the work related to each part. That is, the synthesis work is done. For example, the table shown in Figure

#1 can be selected or defined as follows: **I:** 1-1; 2-4; 3-2. **II:** 1-1; 2-1; 3-2. **III:** 1-1; 2-1; 3-1; 4-4. **IV:** 1-2.

These designations are read as follows:

(I) Board: material (1) - board (1); shape (2) - hexagonal (4); decoration (3) - drawing (2).

(II) Column - base: material (1) - wood (1); shape (2) - round (1); decoration (3) - shaped (2).

(III) Legs: material (1) - wood (1); shape (2) - arched (1); decoration (3) - no pattern (1); number (4) - four (2).

An additional function (IV) is that the table is designed to hold a laptop and a pen in addition to a telephone set (1-4).

Step 3. Preparing the table. After the students choose a table for the telephone set with a shape they prefer they proceed to make it. As we see above, this process is also consisted of several stages according to which table shape

is selected. In general, the creative activity of students can be summarized as follows:

1. Determination of the dimensions of the stand parts and corresponding proportions:
2. Selection of materials for stand parts.
3. Select the necessary instruments and devices and set up for work.
4. Planning and execution of processing of stand parts (sawing table parts to the required size, grinding, artistic processing - drawing, pattern making or carving, varnishing or painting, etc.).
5. Assembly and decoration of stand parts (grinding, varnishing, painting some parts and places of the table).
6. Check the stand. Analysis of the design and the work done - elimination of its shortcomings by improving the structure, finding ways to expand the scope of services.

This assignment can be performed by students in grades 6-7 in technology lessons or extracurricular activities. The use of such morphological tables allows students to save time, broadens their thinking, improves their creative skills according to an exact knowledge, a scientific basis through observation and helps to learn problem solving in various ways.

Such tables are especially useful in organizing and conducting creative work of students in grades 5-7. Besides they can be compiled based on the preparation of various simpler subjects, drawing them on large sheets of paper, writing them down and using them in the classes in accordance with the topics studied.

It is worth developing such kind of morphological tables simply at first. Tables #2 and 3 are designed for this purpose. The rest of the tables can also be used to organize independent creative works of students.

Table # 2

MORPHOLOGICAL TABLE FOR CONSTRUCTING A STAND, INTENDED FOR PLACING A TELEPHONE SET (SIMPLIFIED VIEW)

PARTS OF THE PRODUCT									
PANEL			COLUMN			LEGS			
						shape	number		
I	a	b	II	a	b	III	a	b	c d
1) Round	with image	without image	round	no pattern (shapeless)	with pattern (shaped)	round	3	4	5 6
2) Oval faced	with image	without image	3 facets	no pattern (shapeless)	with pattern (shaped)	3 facets	3	4	5 6
3) 3 facets	with image	without image	4 facets	no pattern (shapeless)	with pattern (shaped)	4 facets	3	4	5 6
4) 3 facets	with image	without image	5 facets	no pattern (shapeless)	with pattern (shaped)	5 facets	3	4	5 6
5) 5 facets	with image	without image	6 facets	no pattern (shapeless)	with pattern (shaped)	6 facets	3	4	5 6
6) 6 facets	with image	without image	8 facets	no pattern (shapeless)	with pattern (shaped)	8 facets	3	4	5 6
...			

Table # 3

MORPHOLOGICAL TABLE FOR MAKING A CUTTING BOARD FOR VEGETABLES

Parts of products	Alternative variants				
	1	2	3	4	
I. Board:					
1. Material type	wood	plastic	org.glass	metal	eramics
2. Form	round	oval	3 facets	4 facets	rhombus-shaped
3. Decoration	with image	without image	carved pattern	inlaid	pattern burned
II. Additional functios:	For the the supply of hot meals	to supply other things	to decorate the room	etc.	etc.

Table # 4

MORPHOLOGICAL TABLE FOR MAKING A KNIFE FOR CUTTING PRODUCTS

Parts of products	Alternative variants				
	1	2	3	4	5
I. Blade					
1. Material	metal	plastic	stone	bone	Electronic beam
2. Form	straight	long, covered	round, toothed	blades on both sides	straight short
3. Decoration	without image	With image	with an inscription	without an inscription	...
II. Handle					
1. Material	wood	plastic	org.glass	bone	metal
2. Form	straight	With limiter	place for fingers	...	...
3. Decoration	with image	without image	with an inscription	without an inscription	inlaid
III. Storage					
	with case	without case	suspension	...	...
IV. Additional functions:	cutting of bulky things	open up bottles	screwing (unscrewing) screws	Open the locks	Other functions

Table # 5

MORPHOLOGICAL TABLE FOR MAKING A CHALK-BOARD

Parts of products	Alternative variants				
	1	2	3	4	5
I. Panel					
1. Material	wood or plywood	plastic	org. glass	plywood and linoleum	linoleum
2. Form	round	oval shaped	spherical shaped	square-shaped	trapezoid figured
3. Design	folding (collapsible)	mobile	stepped	combined	...
II. Mounting					
	using nail fixing	with roller	with bracket	using magnetic fields	...
III. Additional Functions					
	placing TV-set	placing the fan	placing power supply box	placing loudspeakers	placing other devices

So, with the help of a morphological table, students can be easily taught to solve creative assignments. Therefore, it is appropriate in a sense to call this method a transition to creativity. It should also be noted that this method is only included in our schools, it is simply used in our activities. Therefore, we hope that this method will still be repeatedly

tested in experiments, will be improved and will take a firm place in technology lessons.

Using the mosaic method in teaching technology lessons. It is important to inform students about the structure and appearance of a part or an object before preparing them in a hands-on technology lesson. The role of

drawings in explaining the structure and appearance of any detail or object is invaluable. Therefore, in technology lessons, it is appropriate to give students in advance some concepts on the subject of drawing, including such as working on drawings, sketches, technical drawings. These concepts are relevant to students and can be described as follows:

1. A clear hand-drawn image of an object is called a **technical drawing**. In this case, on the basis of axonometric rules, the three sides of the product are shown and the proportions between the parts of the product are preserved, the exact size or scale is not strictly observed.
2. Manually describing the appearance of an object in three planes is called **a sketch**. This also maintains the proportions between the parts of the product, but does not require strict adherence to the exact size or scale.
3. A clear and rigorous representation of an object in three planes based on a given size or scale using drawing tools is called **a working drawing**.

In this case, the technical drawing and sketch are used for the initial presentation of the

object, and the working drawing is used directly in the manufacturing the product. The item information is also accompanied by a drawing of the item. These concepts can also be explained directly by the teacher through various exhibitions. In addition, the use of small group work to make students more active in the classroom has been beneficial. To apply this method, the class is divided into three groups, and the lesson is also conducted in three stages.

In phase 1, the first group of students studies a technical drawing, the second group of students studies sketches and the third group of students is asked to work on the information about the working drawing and draw the necessary images. **This is called the learning phase.**

In phase 2, one student is separated from each group and they come together to form new groups. Students in this newly formed group teach each other what they learned in the first phase. **This is called the teaching phase.**

In Phase 3, students join their groups in Phase 1 and exchange ideas about what they did and learned in Phase 2. **This is called the Discussion Phase** (see illustration). At the end of the lesson, the teacher reviews the completed works and gives marks.

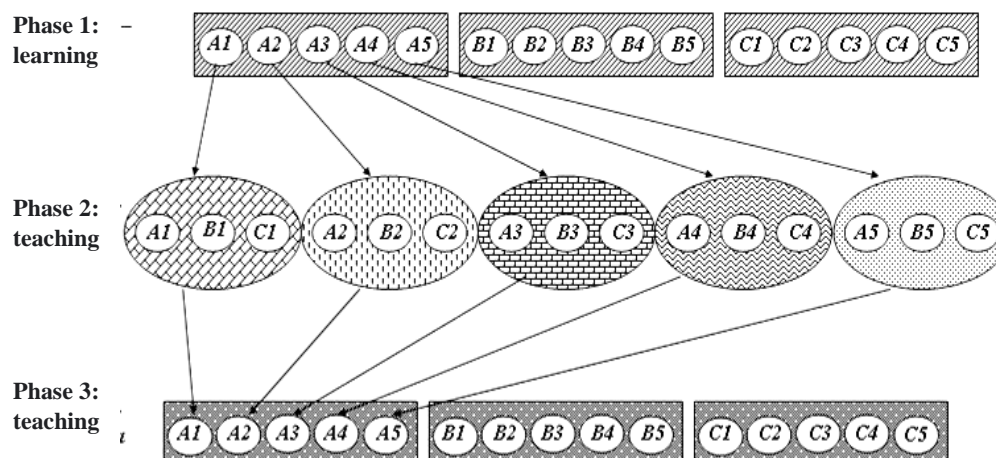


Table for working in small groups

The advantage of this method is that students will be able to study large amount of data in a short period of time. Students develop skills on independent and creative works, explaining their ideas to each other, asking questions, reminding, communicating, etc. Therefore, the use of this method is also effective when studying larger topics after some preparatory work. To make this work more fun, you can name the groups; offer the group members cards of different colors, symbols, etc. This method in the literature is also called the mosaic method due to the use of cards of different colors in the work.

In short, using of interactive methods in technology lessons described above can motivate the students to be active in the lessons by improving their creative skills.

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Khorezm Dutor Moments

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ABSTRACT

Issues related to the classical samples of Uzbek classical music heritage occupy one of the leading places in the modern music culture. In this regard, among the Bukhara Shashmakomi, Fergana-Tashkent status roads, Khorezm status categories, Dutor status, in our opinion, are of great interest. In particular, the study of the generality and differences in the interpretation of their old rare and diverse new performance, in full case or in the recording of parts into a note, is of paramount importance.

This article is about the status of Khorezm

KEYWORDS

Status, Khorezm, dator status, shashmakom, Peacock of dator status, instrumental ways.

INTRODUCTION

The status was considered "Palace music" from time immemorial. In order to understand deep philosophy in the status of Uzbek classical music, which is required to have a high

level of the worldview, musical knowledge and potential of the listener, "Buxoro shashmakomi", "Khorezm status", "Fergana-Tashkent status roads", "Wild status", ""

Surnay and Dutor status roads " have emerged. Over the centuries, these masterpieces of heritage have been delivered to us as far as possible. As long as it has reached our era, in the direct transition of the musical heritage from the master to the shogird, the tabarruk beings, together with the transition of the bridge function, have also been able to sing with their own performances. When we say the status of Dutor, on the one hand, classical music, on the other hand, the so-called folk tunes, are understood as acting whole-headed works. Later, a new generation of musicians turned to this topic, collecting information on the meaning and development of Dutor's status, a little silenced the promotion of Dutor's status.

Khorezm is one of the oldest cultural centers, and the peoples of Central Asia have played a decisive role in many aspects in the history of development. Speaking about the status in the teacher's conversations, there were opinions that for the first time our status was improved by scientists from the Makhmun Academy. Because at that time, teachers who did not pass the exam from the theory of music at the Academy of Management said that the scientist was not given a degree of maturity. This is due to the assumption that from that time on, scientists began to write treatises on music.. Statuses are one of the famous monuments of Khorezm music. Khorezm status also came into existence many centuries ago, like the Bukhoro shashmakoms, and has been preserved so far on the basis of folk tradition.

Matyusuf Harratov (1881-1953), one of the famous Khorezm musicians, stated in his book "Khorezm musical history" that the creation of Khorezm status was directly associated with

Bukhara shashmakomi. He said that " Khivalik musikunos Niyazjon Hodja will go to Bukhara to study his classical propaganda in the performance of tanbur in our music. The origin begins to teach the iqtidor shogirds in tanbur"" Because before that, in the status of Khorezm, dator was the leader. Since the beginning of the XIX century in the status of Khorezm, tanbur Suz began to lead.

Dutor status is one of the most ancient terms in the com system. To be more precise, it is a mythical concept that has been well-united and is now coming back into musical infancy. Two parts of this word combination – "dutor" and "maqom" are phraseological units of the word olam-olam.

The first written makhlumat about the status of Dutor is "Khorezm musical history" (Moscow, 1925. In the Uzbek language, the Arabic alphabet). "In Khorezm, before the Mongol invasion, dator was one of the most famous and most used musical instruments, " he said in the game. Just before the invasion of Genghis Khan there are specimens that say that in a blindfold the number of those who sell Harras to dutore reaches a thousand.

It is possible to know that the dator Sazi was popular among the general Turkish Saz in Khorezm from a very ancient time when it was more common among the people than tanbur. But it is not arranged lazily. Mullo Mohamed SHarif, nicknamed" grandfather", made a rather sexy move, thinking about transferring the nags of dator to a special line. However, due to the difficulty in clicking and the narration of the slices, the dator nags were not transferred to the paper, as the narration ceased in the past times.

The letter of Dutor, one of the roots of the musical heritage of Khorezm, has become the noble intention of the fidai artist to draw the attention of generations to the order and order of this noble heritage as perfectly as possible. Zaki artist Kamil Devoni, who successfully mastered the status system, chose a different way in this work than the previous Masters. It turned out that all the components of the Dutor statuses were written in the style of the circle method, the text of the word and the General History of sentences according to them in a solo.

The first period of the development of the dator instrument can be attributed to the periods of liberation of the blindfold. During this period, dator was able to make a lot of progress. We can show the famous Yusufbek from the datorists who reached this period.

The second period is Said Muhammadhan and Muhammed Rahimkhon's second period, during which the previous state of the dator Saz changed. The value of the dator instrument has increased. Among such instruments as tanbur, fiddle, sledgehammer, circle, dator sozi took the first place during the singing sessions of the choir and the tambourine, Beck and Beck.

For this reason, local mohir datorists began to grow. Shular in the sentence Khivalik khujanazar the Uzbek datorist named Kurd was a classical datorist of his time. Such a person as khazaraspian Pahlavonboy from this Khujanazar Wolf and grandfather Miton from Khazarasp's Mitonmavze fenced off datorism. Usmonjon and Jacob datorists received training from grandfather Miton.

It is known that the center of the Khorezm Oasis is distinguished by its unique cultural and

spiritual values in Asia. Famous artists, especially composers, honanda and musicians, who were born and worked creatively here, were also famous in the regions of the far-near Army from ancient times.

It is necessary to recognize that the status of Dutor and Tanbur was decided as an independent genre of music, which arose from various social needs. There are scientific studies on the internal structure of shashmakom and monand Khorezm Tanbur statuses, the basis of lad, rhythm, and form. A.Fitret, I. In the books of such status scientists as Rajabov, valuable information about these issues is presented.

According to the scientific description in "Khorezm music history": "although Dutor sozi is known among the people of Khorezm country in the form of tanbur estikmach, tanbur was not disciplined in order until. Although the dator nags were as much as the tanbur nags, they could not give the importance given to the tanbur to the dator nags. Because the click is harder than the tap than the tap. Until na Sayidmuhammadhon and Muhammad Rahimkhon in particular Mullo Muhamad Sharif mulla Qabar Baba Qanbardek datorists thought to make a special line of Nag'malirini from the hand situation and sometimes nag'malarini paused from the click of the same number and zeal of those who were thinking of making a special line of Nag'malirini tavvaquf in times and some nashms quickly and quietly transfer the Nag'malarini to paper the O's SA and the additions were left empty."

Proceeding from this, we can say that getting the status of dator into a special line has brought a lot of complexity, although it is

difficult to please the classical music of Khorezm without a dutor instrument. In this regard, the author of the monograph "Maqomot" Atanazar Matyokubov, who conducted historical and theoretical studies on several Khorezm statuses, commented on the issue as follows: "the mention of tanbur as a leading Saz is not just a superficial discourse, but rather a concept that represents a turn in the history of Khorezm statuses. Their predecessors were the chief instrument of classical music of Khorezm and the "key" dutor. And with the penetration of the principles of shashmakom, tanbur comes out into the field. In Khorezm, the division of categories into tanbur and dutor status also starts from this point."

Thus, the status of Khorezm Dutor has been living as one of the most beautiful and life-giving examples of the ancient and Navkiran art of this oasis.

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Pedagogical Mechanisms Of The Formation Of The Social Outlook Of Future Teachers In The Context Of The Informatization Of Education

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ABSTRACT

The formation of the right outlook for the future teachers is an important aspect of higher education system since the provision of theoretical knowledge is not enough for those students to become competent teachers who can manage the class successfully. The following article looks into the formation of mindset in future teachers.

KEYWORDS

Pedagogy, professional worldview, classification criteria, innovative teaching.

INTRODUCTION

Currently, the problem of forming a professional and pedagogical worldview is actually normal, because past years of change in education make you take a fresh look at the personality of the teacher. Today the teacher must not just good to know and be able to teach study your subject, be able to

develop and implement educational discipline, but also perform a number of other actions activities aimed at shaping motivation to learn, to be brought up by children of patriotism, love for the Fatherland, tolerance, to create goodwill- atmosphere for learning. also in teacher's responsibilities include designing the

creation and creation of situations that develop emotional and value sphere of the child (culture of experiences and value orientation of the child). Today education redefines its main task whose upbringing of personality and citizen, and this means the formation of school first of all value orientations. Thus, it becomes it is clear that the formation of value landmarks can only be achieved professional, master of his craft, teaching body with a formed professional and pedagogical world view. Formation problem professional and pedagogical the outlook of students future teachers is directly related to the formation of professionally pedagogical value system.

Values are backbone component, "content core" the worldview of the individual, and the cheat, directly affect other components of the worldview of the individual.

The problem of forming a professional and pedagogical worldview students - future teachers of is considered important both socially and a pedagogical problem, since outgoing in modern society, change requires teaching the head of the school had certain qualities, was morally developed, focused on reproduction removal and creation of values, defining sharing the meaning of human life, orienting tending him to spiritual and practical mastering reality.

Science has come to understand that values are the tool with the help of which you a range of attitudes towards the world and towards people. Names but values are a guideline for personality in society, allow the implementation make moral choices. Value The "base" of the future teacher is being formed as a result of his interaction with comes from which he "gets" values.

Currently, there are two directions for the development of teacher education - traditional and innovative. In our research, we rely on both directions, but we prefer the traditional - innovative: it is based on taking into account real changes in the nature of the public demand for the individual and the changing role of the individual in the social process. Traditional education is characterized by a disciplinary model of education, which is distinguished by the fundamentalization of education, which, of course, is very important and relevant. However, the ongoing socio-economic transformations require more pragmatism in the field of education. This is possible with a systematic and active approach to the study of academic subjects. This factor is manifested to a greater extent in the innovative direction. We believe that a reasonable combination of fundamentalization with pragmatism can modernize the model for the formation and development of a teacher's professional and pedagogical worldview. We are implementing this approach in our study.

Traditional teaching technologies include lectures, practical exercises, laboratory exercises, course work, thesis, teaching practice, and independent work. Innovative pedagogical technologies include: problem-based learning, concentrated learning, modular learning, developmental learning, differentiated learning, active (contextual) learning, game learning.

There are various classifications of educational technologies. AND I. Savelyev classifies technologies according to their direction of action; by learning objectives; on the subject environment; by the technical means used; on a methodological task. V.F. Basharin proposes to classify technologies on the basis of generality and applied orientation.

Generalized pedagogical technologies are defined by him as “synthetic theories built on certain psychological and pedagogical foundations”; applied (specific) pedagogical technologies are those that, at the methodological level, solve the problem of constructing a vocational training process aimed at achieving a pre-planned result.

In the practice of universities, all generalized pedagogical technologies are used to one degree or another. The dominance of a particular approach is determined by the type of institution, the goals of training, the commitment of teachers to certain pedagogical concepts. Unfortunately, in pedagogy there is no classification of generalized pedagogical technologies and the development of a system of applied technologies on their basis.

Let us dwell on the characteristics and analysis of traditional and innovative pedagogical technologies that actualize the process of formation and development of the professional worldview of a primary school teacher. In our opinion, in the system of lifelong pedagogical education, both traditional and innovative pedagogical technologies should be used in a reasonable combination. Therefore, we do not reject the traditional direction, especially well-proven forms and methods of teaching, which solve a wide class of didactic problems in this direction. These are forms of organization and forms of control. Various forms of organization and control of the educational process carry different functional loads in the formation and development of the teacher's professional and pedagogical worldview.

Lectures provide replenishment of information resources, seminars, practical classes

contribute to the "crystallization" of cultural and value attractors, laboratory studies, practice, pedagogical tests stimulate the mobilization of adaptive and communicative resources of the professional and pedagogical worldview, the inner activity of the individual, leading to a restructuring and qualitative change in its worldview.

The integrativeness of the professional and pedagogical worldview requires the use of adequate teaching methods and excludes the use of a local method focused on the formation or development of some particular traits. The teaching method itself, therefore, must be multifunctional. Specific methods, note A.M. Matyushkin and A.A. Ponukalin, are planned depending on the choice of psychological mechanisms for securing the formed connections, which are determined by the initial motivational characteristics of the trainees.

One of the means of implementing an innovative direction in the practice of professional training of students and advanced training of teaching staff are active teaching methods (technologies of active or contextual learning). A.A. Verbitsky gave a definition of contextual learning as a conceptual basis for the integration of various types of student activities: educational, scientific, practical. Scientists have identified the forms of organizing students' activities in contextual learning: educational activities of academic type - quasi-professional activities - educational and professional activities. A special role in contextual learning is played by active forms and methods of learning or active learning technologies (TAO), which rely not only on the processes of perception, memory, attention, but, first of all, on creative, productive thinking, behavior, communication.

Technologies are called active, since the roles of the learner, learners, and information change significantly in them. The classification of active learning technology is based on two features: the presence of a model (subject or process of activity) and the presence of roles (the nature of communication between students). On the basis of recreation (imitation) of the context of professional activity, its model representation in teaching, all active learning technologies are divided into non-imitation and imitation technologies. Non-imitative ones do not imply the construction of models of the studied phenomenon, process or activity. Activation is achieved here by selecting the problematic content of training, using in a special way the organizational procedure for conducting a lesson, using technical means and ensuring dialogical interactions between a teacher and a student. To non-imitative forms and methods, we attributed a problem lecture, a practical lesson with a "brainstorming", coursework, thesis. The listed teaching technologies create opportunities not only to transmit certain information to students, but to create prerequisites for the formation and development of a professional and pedagogical worldview.

Simulation methods and forms are based on imitation or imitation-game modeling, that is, reproduction in learning conditions with varying degrees of adequacy of the processes occurring in a real system. The construction of models and the organization of work with students make it possible to reflect in the educational process various types of professional context, to form and develop a professional-pedagogical worldview in conditions of quasi-professional activity.

In accordance with the second classification criteria - the presence of roles - a game procedure is proposed in working with the model, that is, the communication of students with each other and with teachers in the process of imitation. On this basis, all imitation technologies are divided into gaming and non-gaming. Non-play forms and methods include specific situations (CS).

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Life Safety As A Secure Way Of Interaction With The Environment

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ABSTRACT

Life safety is an area of scientific knowledge covering the theory and practice of protecting a person from dangerous and harmful factors in all spheres of human activity, maintaining safety and health in the environment. The Belarusian Railways is an integral part of the system of state, social and defense measures carried out in order to protect the population and economy of the country from the consequences of accidents, disasters, natural disasters, and means of destruction of the enemy. The following article looks into the types of defense and safety.

KEYWORDS

Life safety, defence, panic, danger, risk.

INTRODUCTION

Life safety - 1) a favorable, normal state of the human environment, working and study conditions, food and recreation, in which the possibility of the occurrence of hazardous factors that threaten his health, life, property, legitimate interests is reduced; 2) the science

of safe human interaction with the environment; 3) an academic discipline in the system of secondary vocational and higher education, which forms knowledge, skills and abilities to ensure their own safety, actions in

dangerous conditions, including emergency situation

The purpose of mastering the discipline is the formation of a professional safety culture, which is understood as the readiness and ability of an individual to use in professional activities the acquired body of knowledge, skills and abilities to ensure safety in the field of professional activity, the nature of thinking and value orientations, in which safety issues are considered as a priority. human habitat, that is, the conditions of its existence.

Life expectancy is an integral indicator of life safety. The development of civilization, by which we mean the progress of science, technology, economics, the industrialization of agriculture, the use of various types of energy, up to nuclear energy, the creation of machines, mechanisms, the use of various types of fertilizers and means for pest control, significantly increases the number of harmful factors, negatively affecting a person. Protection from these factors becomes an important element in ensuring human life.

Throughout its existence, the human population, developing its economy, has also created a socio-economic security system. As a result, despite the increase in the number of harmful effects, the level of human safety increased. Currently, the average life expectancy in the most developed countries is about 77 years.

Safety is a state of activity in which, with a certain probability, the manifestation of hazards is excluded, or the absence of excessive danger.

Vital activity is a complex biological process that takes place in the human body, which allows you to maintain health and

performance. A necessary and indispensable condition for the course of a biological process is activity. In turn, activity means a versatile process of creating conditions for his existence and development by a person, the process of transforming natural and social reality in accordance with individual needs, goals and objectives.

Health is the natural state of the body, characterized by its balance with the environment and the absence of any painful changes. A necessary and indispensable condition for the course of a biological process is activity.

Activity is a specific human form of active attitude to the surrounding world, the content of which is its purposeful change and transformation. Any activity includes a goal, a means, a result and the process of activity itself. The forms of activity are diverse. They cover practical, intellectual, spiritual processes taking place in everyday life, social, cultural, labor, scientific, educational and other spheres of life.

A person plays a special role in life safety:

- It is an object of protection (along with the environment);
- It is a source of danger (mistakes, fatigue, emotional imbalance);
- This is a safety specialist.

Activity is a necessary condition for the existence of human society.

Habitat - the immediate environment of an organism at a given moment (a combination of physical, chemical, biological, social factors), which has a direct or indirect effect on the organism itself or its offspring.

A habitat is a part of the environment that includes:

- Components of the natural environment (atmosphere, hydrosphere, lithosphere, bowels, etc.);
- Natural objects (ecosystems, landscapes, etc.);
- Natural and anthropogenic objects (ponds, gardens, etc.);
- Man-made objects (buildings, roads, technical means, works of art, etc.).

From the standpoint of life safety, such environmental components as the homosphere and the noxosphere are of interest.

Safety and risk concept. The term life activity in a broad sense means the ability of a person to carry out an activity (including one's own existence) in a manner or within the framework usual for a person. The synonyms of vital activity can be considered daily activity, adaptive activity, work capacity in a broad sense.

Vital activity is an indicator of the state of the organism as a whole, reflecting a person's performance of complex biosocial functions, such as orientation, communication, behavior, ability to work, etc. Restriction of life activity raises barriers in his relationship with the environment, prevents access to various social institutions, worsens the quality of life - leads to consequences at the social level.

With the development of energy, industry, transport and other elements of the technosphere, the problem of ensuring life safety has become aggravated, including due to the growth of dangers and threats of natural and man-made origin, including the threat of terrorist influences.

Danger is a phenomenon, process, object, properties of objects that, under certain conditions, can cause damage to human health.

Natural processes and phenomena, man-made environment and human actions can be sources of hazards. The variety of hazards, the sources of their occurrence, the consequences of exposure led to the need to systematize them according to a number of signs in order to better understand the nature of hazards, organize scientific knowledge about them.

In particular, the following classifications of hazards can be found in the educational literature:

By origin - natural, man-made, anthropogenic, ecological, social and biological;

By the nature of the impact on a person - mechanical, physical, chemical, biological and psychophysiological;

By the time of manifestation of negative consequences - impulsive and cumulative;

At the place of manifestation - associated with the lithosphere (underground), hydrosphere, atmosphere and space;

For inflicted damage - causing social, technical, environmental and economic damage;

In the sphere of manifestation - arising in the household, road transport, industrial, military and other environments.

The number of signs that characterize the hazard can be increased or decreased depending on the objectives of the analysis. In some educational publications, there is a division of hazards into active and passive, simple and derivative, probable and unlikely, spontaneous and deliberate, etc. In general, it

should be noted that at present the systematization of hazards continues, since the very theory of safety, within which all potential hazards are considered, is in the stage of active development.

Axiom about the potential hazard of activity

Human practice provides a basis for the assertion that any activity is potentially dangerous.

It is impossible to achieve absolute safety in any kind of activity. Therefore, we can formulate the following conclusion: any activity is potentially dangerous. This axiom is of exceptional methodological and heuristic significance. From this axiom it follows that, despite the protective measures taken, there is always some residual risk.

In other words, there is no absolutely safe type of activity, it is impossible to create an absolutely safe technique or technological process, to predict any dangerous natural phenomenon. Dangers can be realized in the form of illness, physical injury, mental trauma, death. This approach became possible after the revision by the scientific community at the end of the twentieth century. the so-called concept of absolute safety (or the concept of zero risk) and the transition to the concept of relative safety (acceptable risk).

Therefore, safety is directly related to all people and there is a close connection between various types of activities and spheres of human habitation. On the other hand, the results of labor activity performed at a particular workplace can have adverse effects through manufactured products on a large number of people who are in no way connected with this workplace.

Potential danger is a universal property of the process of human interaction with the environment at all stages of the life cycle. The presence of a potential hazard in the system is not always accompanied by its negative impact on a person. To implement such an impact, three conditions must be met:

- The danger really exists;
- The person is in the danger zone;
- The person does not have sufficient means of protection.

Any professional activity contains dangerous and harmful factors. Dangerous factors are those that cause injury or a sharp deterioration in health. Harmful factors cause a person's illness or a decrease in his performance. By danger we mean phenomena, processes that, under certain conditions, can damage human health directly or indirectly, i.e. create consequences that do not correspond to the conditions of human life.

The signs that determine the danger are:

- Threat to life;
- The possibility of damage to health;

Violation of the conditions for the normal functioning of human organs and systems The conditions under which the hazards are realized are called causes. Prevention is precisely based on the search for the causes of the dangers. The danger is fundamentally material: objects of labor, means of labor, energy, products of labor, the natural environment.

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Mineral Fertilizers

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ABSTRACT

Importance of mineral fertilizers. Mineral fertilizers and their types. Nitrogen fertilizers and their types. Potassium and phosphorus fertilizers. General rules of application of mineral fertilizers.

KEYWORDS

Mineral fertilizers, nitrogen, potassium, phosphorus, trace elements, natural salts, sodium nitrate, and soil.

INTRODUCTION

About 10% of the earth's surface is planted with agricultural crops. It is impossible to expand the sown areas further. But the population of our planet is constantly growing, and it is necessary to further increase productivity to provide them with food. One of the most important ways to do this is to use mineral

fertilizers. Fertilizer is a substance designed to improve plant nutrition and increase soil fertility.

Mineral fertilizers are salts and other inorganic, industrial and mineral products that contain elements necessary for plant development and

soil fertility, used for sustainable and high yields.

More than 70 chemical elements are involved in the formation of plant tissue, its growth and development. The most important of these are carbon, oxygen, and hydrogen, which make up 90% of the dry mass of a plant; Nitrogen, phosphorus, potassium, magnesium, sulfur, sodium and calcium make up 8-9% of the plant mass. These ten elements are called macronutrients. The remaining 1-2% is iron, copper, manganese, zinc, molybdenum, cobalt and others. These plants need very small amounts (0.001-0.0001%). That is why they are called trace elements.

Plants get most of the carbon, oxygen, and hydrogen from these elements from air and water, while they get the rest from the soil. Most of the elements that the plant receives do not return to the soil, but are removed by the crop. For example, 1 ton of corn carries 14 kg of nitrogen, 2.5 kg of phosphorus, 3.5 kg of potassium, 1.5 kg of sulfur from the soil. Much of the soil elements are washed away by water and interact with soil components to make the plant unable to assimilate. As a result, there is a shortage of plant nutrients in arable lands, soil fertility decreases. If these lost elements are not replaced by fertilizing the soil, the yield will decrease sharply.

Mineral fertilizers have been spread since the 19th century. From the middle of the 20th century, the production and application of mineral fertilizers grew rapidly. Prior to that, manure, ash and other wastes were used as fertilizers. Mineral fertilizers have a strong effect on the soil (its physical, chemical and biological properties); they enrich the soil with nutrients, change the reaction of the soil solution, affect microbiological processes, and

so on. When mineral fertilizers are applied to the soil, mainly due to root nutrition, they actively affect the growth and development of plants and, consequently, the overall biological productivity of fields and meadows. Mineral fertilizers increase crop yields, improve quality: increase the technological properties of cotton, hemp, flax and crop fiber, sugar beet, grape sugar, potato starch, grain protein. Mineral fertilizers give better results when used in combination with organic fertilizers. For agronomic purposes, mineral fertilizers are divided into direct and indirect fertilizers. Directly applied fertilizers contain elements such as nitrogen, phosphorus, potassium, as well as magnesium, boron, zinc, copper, molybdenum, manganese, and sulfur, which are necessary for plant nutrition. Fertilizers in this group are mainly single-nutrient, nitrogen, phosphorus or potassium, and complex, mixed and complex fertilizers. Mixed mineral fertilizers are made in the factory or on the farm by mixing several different fertilizers, and complex fertilizers are made in the factory. Indirectly used mineral fertilizers (lime fertilizers, gypsum, etc.) are mainly used to improve the agrochemical and physicochemical properties of the soil removed.

The effectiveness of mineral fertilizers depends on the biological properties of the plant, the rate of fertilizer applied each time, its use in combination with organic fertilizers, the quality of applied agro-technical measures, and so on. Proper determination of the rate of mineral fertilizers applied to the soil for maximum yield from agricultural crops is important in the use of mineral fertilizers, and this rate is determined by the amount of pure active nutrients in the fertilizer per kg / ha. Mineral fertilizers should be applied taking into

account the biological properties of the plant, their nutrient requirements, the amount of nutrients in the soil, the nature of the fertilizers used, the conditions necessary for normal plant growth and development. It is applied in early spring (basic fertilization), during planting and during the growing season (feeding plants). Improper use of mineral fertilizers can cause significant damage to the biocenosis and environmental pollution. Mineral fertilizers undergo various changes in the soil, which affect the solubility of nutrients, their movement in the soil and their absorption by plants.

Mineral fertilizers are divided into nitrogen, potassium and phosphorus. This is due to the fact that the leading elements of nutrition that have a dominant effect on the proper growth and development of plants are nitrogen, potassium and phosphorus. Of course, no one underestimates the importance of other elements such as magnesium, zinc, iron, but the three things listed are the basis. Let's look at them in order.

Nitrogen fertilizers. Signs of nitrogen deficiency in the soil

Often a lack of nitrogen fertilizers occurs in plants in the spring. Their growth is controlled, the effects are weakly formed, the leaves are atypically small, and the inflorescences are small. In the next stage, this problem is recognized by the illumination of the leaves, starting from the veins and surrounding tissues. Typically, this effect manifests itself in the lower part of the plant and gradually rises, completely illuminated leaves fall.

Types of nitrogen fertilizers

The most common nitrogen fertilizers are ammonium nitrate and urea. However, this

group includes ammonium sulfate and calcium nitrate and sodium nitrate and azoth's and nitroammofosk and amorphous and ammonium phosphate. They all have a different composition and have different effects on the soil and crops. Thus, urea acidifies the soil, while calcium, sodium, and ammonium nitrate alkalize it.

Methods of application

Nitrogen fertilizers are the most dangerous of all mineral fertilizers. This is because as they multiply, plants accumulate large amounts of nitrates in their tissues. Therefore, nitrogen should be used very carefully depending on soil composition, nutrient yield and fertilizer center.

Since nitrogen has the ability to evaporate, nitrogen fertilizers should be made as soon as it is added to the soil. It is not practical to fertilize the soil with nitrogen in the fall, as most of it is washed away by rain during the spring planting period.

Types of potassium fertilizers.

On sale we can find several types of potassium fertilizers, in particular: potassium nitrate, potassium chloride (good for spinach and celery), potassium sulfate (also contains sulfur), kalimagnesia (potassium + magnesium), kalimag. In addition, potassium is part of complex fertilizers such as nitroammofosko, nitro fox, carboammophosk.

Methods of application of potassium fertilizers.

The use of potassium fertilizers should be in accordance with the instructions attached to them - this simplifies the approach to feeding and gives a reliable result. They should be immediately covered with soil: in the fall - to

dig, in the spring to plant seedlings. Potassium chloride is introduced only in the fall, as it allows the chlorine to be stored in the weather.

Root crops are best suited for the application of potassium fertilizers - under them should be applied high doses of potassium.

Types of phosphate fertilizers.

One of the most common phosphate fertilizers used in any soil is superphosphate, potassium monophosphate reacts very quickly and is a very good option for phosphorus.

General rules of application of mineral fertilizers.

It is important to understand that mineral fertilizers can be used both as a basic fertilizer (for digging the soil in the fall, or before planting in the spring) and as an option for spring-summer fertilization. Each of them has its own dating rules and norms, but there are general recommendations that cannot be ignored.

1. Under no circumstances should fertilizers be grown in containers used for cooking.
2. It is better to store fertilizers in vacuum packaging.
3. If mineral fertilizers are cooked, they should be crushed or sieved before application, with a hole diameter of 3 to 5 mm.
4. The application of mineral fertilizers to the crop should not exceed the dose recommended by the manufacturer, but it is better to calculate the required rate with laboratory testing of the soil. In general, the amount of nitrogen fertilizers: ammonium nitrate - 10 - 25 g per square meter, urea spraying - 5 g per 10 liters of water; potassium fertilizers: potassium

chloride - 20 - 40 g per square meter (as a basic fertilizer), for top dressing of leaves with potassium salt - 50 g per 10 liters of water; phosphorous ores: potassium monophosphate - 20 g per 10 l of water, for a leafy top sheet with superphosphate - 50 g per 10 l of water.

5. If high burning is done through the soil, care should be taken not to let the solution fall on the vegetative mass of the fertilized crop, or after high burning, wash the plants thoroughly with water.
6. Fertilizers applied in dry form, as well as nitrogen and potassium fertilizers should be immediately absorbed into the upper part of the soil, but they should not be too deep for the main mass of roots.
7. To soften the mineral fertilizer concentrate introduced into the soil, it should be thoroughly moistened before applying it.
8. If there is a lack of nitrogen in the soil, then phosphorus and potassium fertilizers should be applied only in combination with this missing element, otherwise they will not give the expected result.
9. If there is clay soil - the dose of fertilizer should be slightly increased; sand - decreases, but increases the number of fertilizers. It is better to choose superphosphate from phosphate fertilizers for clay soils; any phosphate fertilizers are suitable for sandy soils.
10. In areas with high rainfall (medium branch) one-third of the main fertilizer is used for direct sowing of seeds or planting holes in the soil and sprinkling in the grooves is recommended. To ensure that the plants do not accept root rot, the included composition should be thoroughly mixed with the ground.

11. The greatest effect in increasing soil fertility can be obtained by alternating mineral and organic fertilizers.
12. If the seedlings in the ground are so numerous that they are covered, the best option for the best dressing would be the best dressing on the leaves (leaves).
13. Top dressing of leaves is carried out on young leaves in spring. Root dressing with potassium fertilizers is carried out in the fall, covering the fertilizer to a depth of 10 cm.
14. The application of mineral fertilizers as the main fertilizer is carried out by spreading it on the surface and forcibly adding it to the soil.
15. If mineral fertilizers are applied to the soil together with organic fertilizers and this is the most effective method, the dose of mineral fertilizers should be reduced by one third.

CONCLUSION

In conclusion, in order to increase the efficiency of the applied mineral fertilizers, proper organization of storage, prevention of waste when transporting them from one place to another, the specific physical properties of mineral fertilizers, chemical and mechanical properties. Such properties include water solubility, hygroscopicity, viscosity, moisture content, grain composition, as well as grain strength, etc. of mineral fertilizers. When storing mineral fertilizers, it is necessary to know a number of properties, such as their density, whether they are hazardous to fire and explosion or acid, and the release of ammonia.

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Life Safety Standards

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ABSTRACT

A person's personal safety in everyday life largely depends on himself, on his ability to comply with generally accepted rules of safe behavior and respond correctly to various dangerous and emergency situations that may arise in everyday life. The following article looks into the safety procedures and potential risks.

KEYWORDS

Life safety, panic, emergency service, natural disasters, safety standards.

INTRODUCTION

The impact of anthropogenic hazards disrupts the normal life of people, causes accidents leading to emergency situations (ES) and disasters, including environmental ones. At present, an alarming tendency has been formed of an increase in the destructive impact

of dangerous natural phenomena and processes. For all the specifics of situations in specific countries and regions, they are due to population growth, the concentration of population and material wealth in relatively limited areas, as well as a change in the nature

of the genesis of natural disasters. Invading nature and creating ever more powerful engineering complexes, humanity forms a new, extremely complex system, including the techno sphere, the laws of development of which are still unknown. This leads to an increase in the uncertainty of information about the functioning of the techno sphere, the entropy of the processes occurring in it, to the risk of technological disasters - large-scale accidents in industry, energy, transport, pollution of the biosphere with highly toxic and radioactive industrial wastes that threaten the health of millions of people.

Life safety includes the civil defense system.

The Civil Defense Institute begins to operate after the declaration of martial law, that is, in wartime. In Russia, in peacetime, all issues of protecting citizens are dealt with by the Commission for Elimination of Consequences of Emergencies and Natural Disasters (RSChS). To prevent the death and injury of citizens in emergency situations, which is the main damage to the state, on the territory of Russia, the RSChS authorities have developed, adopted and are operating regulated principles and methods of protecting the population.

The safety of a person's life is such a state of his body throughout life when the action of external and internal factors does not lead to death or disease and does not interfere with the achievement of certain goals desirable for a person.

The solution to the problem of life safety is to ensure comfortable living conditions for people, to protect a person from the effects of harmful environmental factors that exceed the normative - permissible levels. Maintaining optimal conditions for human activity and rest

creates the preconditions for high efficiency and productivity!

Ensuring safety at work and rest contributes to the preservation of life and health of people by reducing injuries and morbidity. Therefore, the object of studying the safety of human life is a complex of negatively influencing phenomena and processes in the system "Man - environment". The fundamental formula for the safety of human life is to prevent any potential danger.

There are the following types of security:

National security;

Environmental Safety;

Industrial Safety;

Fire safety;

Information Security;

Economic security;

Military security;

Internal security;

External security.

National security is a set of officially adopted views on the goals and state strategy in the field of ensuring the security of the individual, society and the state from external and internal threats of a political, economic, social, military, technogenic, environmental, informational and other nature, taking into account the available resources and capabilities. Ensuring national security is a complex of political, military, economic, social, health and legal measures aimed at ensuring a normal existence and eliminating possible threats to the individual, society and the state.

Ensuring national security is a complex of political, military, economic, social, health and legal measures aimed at ensuring a normal existence and eliminating possible threats to the individual, society and the state.

Ensuring national security includes:

Protection of the state system;

Protection of the social order;

Ensuring the territorial inviolability and sovereignty of the state;

Ensuring the political and economic independence of the nation;

Ensuring the health of the nation;

Protection of public order;

Fighting crime;

Ensuring safety from emergencies.

To ensure national security, special bodies are created in the state.

Bodies ensuring national security:

Military establishment;

Intelligence and counterintelligence services;

law enforcement agencies;

Sanitary and epidemiological service.

Environmental safety is the prevention of the existing threat of significant deterioration of the factors of the biosphere, the species composition of the animal and plant world, as well as the danger of depletion of non-renewable natural resources as a result of human activities. It is also the process of ensuring the protection of the vital interests of the individual, society, state and all of humanity from real or potential threats posed by the

anthropogenic or technogenic impact of man on the environment.

Industrial safety is a state of protection of the vital interests of the individual, society and the state from emergencies at hazardous production facilities and their consequences. This is achieved with the help of labor protection, improvement of working conditions, mechanization and robotization of production, increasing the professionalism of workers. The main goal of labor protection is to preserve the life and health of employees.

Emergencies are quite possible that do not harm the life and health of employees, and, conversely, harm to the life and health of employees can be caused without emergency situations. This can happen, for example, when the sanitary and hygienic requirements for the production process are violated.

Fire safety is the state of an object, characterized by the possibility of preventing the occurrence and development of a fire, as well as the impact on people and property of hazardous fire factors.

Fire safety of the facility must be ensured by fire prevention and fire protection systems, including organizational and technical measures.

Information security is the state of security of the information environment. Information protection is an activity to prevent leakage of protected information, unauthorized and unintentional influences on protected information. The purpose of implementing the information security of an object is to build a system for ensuring the information security of this object.

Economic security is the state of an economic entity, characterized by the presence of a stable income, which allows you to maintain an acceptable standard of living at the current moment and in the foreseeable future. It includes:

Preservation of solvency;

The ability to plan future cash income;

Employment security.

Military security is the protection of the individual, society and state from military threats. It is also a state where the possibility of war is minimized due to the lack of motives for the use of military force, as well as the implementation of measures to prevent a military threat. Military security has external and internal aspects:

External aspects - reflect the ability to contain military force from the outside;

Internal aspects - cover a system of measures to create and maintain the readiness of the individual, society and state to prevent military threats by creating a military organization for the implementation of mobilization preparation of the economy and population of the country.

External security is the absence of dangers emanating from threats outside the state aimed at destabilizing it, losing its sovereignty and even destroying it.

The main subjects of security are:

- Human; organizations (for example, human rights organizations, the committee of soldiers' mothers, etc.); subjects of the federation; the state (represented by public authorities), which

solves the main part of the tasks to ensure all types of security;

- Intergovernmental bodies - the United Nations (UN), the Collective Security Treaty Organization (CSTO), the Organization for Security and Cooperation in Europe (OSCE), the European Parliament, the European Court of Human Rights, etc.

Modern concepts and approaches to solving the problems of ensuring the protection of man, society and the environment in relation to the conditions of Russia with the rapid changes in the socio-political situation characteristic of it in recent years require the development of new conceptual provisions, a system of goals, criteria, methodology and methods aimed at minimizing natural and anthropogenic impacts on the population and the environment while maximizing economic benefits.

Danger really exists but it is not good to get in panic in such situations. Panic Attributes:

The stampede is always directed away from danger;

The direction of flight in case of panic is not accidental (the choice is behind a familiar road or the one that others are running);

By its nature, the stampede is asocial (the strongest ties can be interrupted: the mother can abandon the child, the husband can abandon his wife, etc.); people become an unexpected source of danger to each other;

A person in panic always believes that the situation is extremely dangerous (the panic flight stops when the person thinks that he is outside the danger zone);

A panic-stricken person does not understand well, but his thoughts are not unreasonable

(the problem is rather that he is not looking for alternative solutions).

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Kompl Eyler's Formula In Hex Analysis And Some Results In Elementary And Higher Mathematics

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ABSTRACT

This article is devoted to solving some of the problems of elementary mathematics with the help of a conformal invariant, which has its own advantages, applied in the theory of modern functions, as well as some important issues of mathematical analysis with the help of Komplex numbers, several results obtained with the help of the Eyler formula and their application in practice.

KEYWORDS

$$z_n, \quad z_n = \lim_{n \rightarrow \infty} \left(1 + \frac{z}{n}\right)^n, \quad \text{Eyler formula, aggregate, integral,} \quad \sin x = \frac{1}{2i}(e^{ix} - e^{-ix}),$$
$$\cos x = \frac{1}{2}(e^{ix} + e^{-ix})$$

INTRODUCTION

1. Eyler formula
2. Kompl let's look at the following sequence by taking an optional z number in the plane of hexadecimal numbers
- 3.

$$z_n = \left(1 + \frac{z}{n}\right)^n$$

4. It is known that Komplex sequence of numbers $n \rightarrow \infty$ has a limit.

5. From the course of mathematical analysis we know that this $z_n = \lim_{n \rightarrow \infty} \left(1 + \frac{z}{n}\right)^n$

6. sequence limit e^z the function is called.

$z \in \mathbb{C}$ Komplex number this $z = r(\cos \varphi + i \sin \varphi)$ given in appearance n . Komplex is one of the following important formulas known from the course of analysis

$$e^{i\varphi} = \cos \varphi + i \sin \varphi$$

With the help of the Eyler formula Komplex number we can write the following

$$z = re^{i\varphi} \quad (1)$$

We know that given two $z_1 = x_1 + iy_1$ va $z_2 = x_2 + iy_2$ Komplex numbers to be equal $x_1 = x_2$ va $y_1 = y_2$ be necessary and sufficient

Let's go through the solutions of the results obtained using the Eyler formula and a few examples that are important.

7. Results obtained using Eyler formula

1-example. Calculate the given sum

- a) $1 + \cos x + \cos 2x + \dots + \cos nx$
- b) $\sin x + \sin 2x + \dots + \sin nx$

$S_1 = 1 + \cos x + \cos 2x + \dots + \cos nx$ and $S_2 = \sin x + \sin 2x + \dots + \sin nx$ let it be. Let's look at the sum as follows

$$S_1 + iS_2 = 1 + \cos x + i \sin x + \cos 2x + i \sin 2x + \dots + \cos nx + i \sin nx$$

According to Euler's formula, we can write this sum as follows

$$\begin{aligned} S_1 + iS_2 &= 1 + e^{ix} + e^{i2x} + \dots + e^{inx} = \frac{e^{i(n+1)x} - 1}{e^{ix} - 1} = \frac{\cos(n+1)x + i\sin(n+1)x - 1}{(\cos x - 1) + i\sin x} = \\ &= \frac{(\cos(n+1)x + i\sin(n+1)x - 1)((\cos x - 1) - i\sin x)}{(\cos x - 1)^2 + \sin^2 x} \end{aligned}$$

As a result of simplification of the formed expression, we get the following

$$\begin{aligned} S_1 + iS_2 &= \frac{\cos(nx) - \cos((n+1)x) - \cos(x) + 1}{2 - 2\cos x} + \\ &+ i \frac{\sin(nx) - \sin((n+1)x) + \sin(x)}{2 - 2\cos x} \end{aligned}$$

Komplex according to the theorem on the equality of numbers

$$\begin{aligned} S_1 &= \frac{\cos(nx) - \cos((n+1)x) - \cos(x) + 1}{2 - 2\cos x} \\ S_2 &= \frac{\sin(nx) - \sin((n+1)x) + \sin(x)}{2 - 2\cos x} \end{aligned}$$

2-example. Calculate the sum given below

$$S_n = \cos x + 2\cos 2x + 3\cos 3x + \dots + n\cos nx$$

Solution Initially, we calculate the following sum

$$T_n = \sin x + \sin 2x + \sin 3x + \dots + \sin nx$$

Through the above examples, it is known that the sum is equal to

$$T_n = \frac{\sin nx - \sin(n+1)x + \sin x}{2 - 2\cos x}$$

From what is known, the first orderly harvest will be equal to. All in all

$$S_n = \left(\frac{\sin nx - \sin(n+1)x + \sin x}{2 - 2\cos x} \right)' = \left(\frac{\sin\left(\frac{nx}{2}\right)\sin\left(\frac{n+1}{2}x\right)}{\sin\left(\frac{x}{2}\right)} \right)' =$$

$$= \frac{n\sin\frac{x}{2}\sin\left(\frac{2n+1}{2}x\right) - \sin^2\frac{nx}{2}}{2\sin^2\frac{x}{2}}$$

3- example. Calculate:

$$I_1 = \int e^{ax} \cos(bx) dx$$

$$I_2 = \int e^{ax} \sin(bx) dx$$

Solution: we write the above two integers as follows

$$I_1 + iI_2 = \int e^{ax} \cos(bx) dx + i \int e^{ax} \sin(bx) dx \quad (1)$$

We look at the integral below.

$$\int e^{ax} e^{ibx} dx = \int e^{(a+ib)x} dx = \frac{e^{(a+ib)x}}{a+ib} + C = \frac{a-ib}{a^2+b^2} e^{(a+ib)x} + C =$$

$$= \frac{a-ib}{a^2+b^2} e^{ax} e^{ibx} + C$$

Now according to Euler's formula $e^{ibx} = \cos bx + i \sin bx$ we can write the above example as follows

$$\frac{(a-ib)(\cos bx + i \sin bx)}{a^2+b^2} e^{ax} = \frac{a \cos bx + b \sin bx}{a^2+b^2} e^{ax} + i \frac{a \sin bx - b \cos bx}{a^2+b^2} e^{ax} \quad (2)$$

As a result of the equation of (1) and (2) expressions according to the above theorem, we get the following

$$\int e^{ax} \cos(bx) dx = \frac{a \cos bx + b \sin bx}{a^2+b^2} e^{ax} + C$$

$$\int e^{ax} \sin(bx) dx = \frac{a \sin bx - b \cos bx}{a^2+b^2} e^{ax} + C$$

4-example. Calculate:

$$\int_0^{\pi} \frac{\sin nx}{\sin x} dx$$

Solution: according to the known Eyler formula $\sin x = \frac{1}{2i}(e^{ix} - e^{-ix})$ and

$$\sin nx = \frac{1}{2i}(e^{inx} - e^{-inx}) \text{ all in all}$$

$$\frac{\sin nx}{\sin x} = \frac{e^{inx} - e^{-inx}}{e^{ix} - e^{-ix}} = \sum_{k=1}^n e^{i(n+1-2k)x} = e^{i(n-1)x} + e^{i(n-3)x} + \dots + e^{-i(n-3)x} + e^{-i(n-1)x} \quad (1)$$

$\cos x = \frac{1}{2}(e^{ix} + e^{-ix})$ given that (1) we can write the expression as follows

$$\begin{aligned} & e^{i(n-1)x} + e^{i(n-3)x} + \dots + e^{-i(n-3)x} + e^{-i(n-1)x} = \\ & = \begin{cases} 2(\cos(n-1)x + \cos(n-3)x + \dots + \cos x), n - \text{juft} \\ 2(\cos(n-1)x + \cos(n-3)x + \dots + \cos x) + 1, n - \text{toq} \end{cases} \quad (2) \end{aligned}$$

Now we look at the following integral

$$\int_0^{\pi} \cos(n-k)x dx = \frac{\sin(n-k)x}{n-k} \Big|_0^{\pi} = 0 \quad (3)$$

Hence (3) according to the expression

$$\int_0^{\pi} \frac{\sin nx}{\sin x} dx = \begin{cases} 0, n - \text{juft} \\ \pi, n - \text{toq} \end{cases}$$

5-example. Calculate:

$$I = \int_0^{\pi} \frac{\cos((2n+1)x)}{\cos x} dx$$

Solution: according to Eyler formula $\cos x = \frac{1}{2}(e^{ix} + e^{-ix})$ furthermore

$$\frac{\cos((2n+1)x)}{\cos x} = \frac{e^{i(2n+1)x} + e^{-i(2n+1)x}}{e^{ix} + e^{-ix}} = e^{i2nx} - e^{i(2n-2)x} + \dots + e^{-i2nx} =$$

$$= 2 \sum_{k=1}^n (-1)^{k-1} \cos(2(n-(k-1))x) + (-1)^n$$

(1) through the expression, we can write the above given integral as follows

$$I = 2 \sum_{k=1}^n \int_0^{\pi} \cos(2(n-(k-1))x) dx + (-1)^n \pi = 2 \sum_{k=1}^n \frac{\sin(2(n-(k-1))x)}{2(n-(k-1))} \Big|_0^{\pi} + (-1)^n \pi =$$

$$= (-1)^n \pi$$

6- example. Calculate:

$$S_1 = q \sin x + q^2 \sin 2x + q^3 \sin 3x + \dots + q^n \sin nx + \dots$$

$$S_2 = q \cos x + q^2 \cos 2x + q^3 \cos 3x + \dots + q^n \cos nx + \dots \quad |q| < 1$$

Solution. Let's look at the sum below

$$S_1 + iS_2 = q(\cos x + i \sin x) + q^2(\cos 2x + i \sin 2x) + \dots + q^n(\cos nx + i \sin nx) + \dots$$

According to Euler's formula

$$S_1 + iS_2 = qe^{ix} + q^2e^{i2x} + \dots + q^ne^{inx} + \dots = \frac{qe^{ix}}{1 - qe^{ix}} = \frac{q(\cos x + i \sin x)}{1 - q \cos x - iq \sin x}$$

As a result of simplifying this generated sum, we will have the following

$$S_1 + iS_2 = \frac{q \cos x - q^2}{1 - 2q \cos x + q^2} + i \frac{q \sin x}{1 - 2q \cos x + q^2}$$

According to the theorem about the equality of complex numbers

$$S_1 = \frac{q \cos x - q^2}{1 - 2q \cos x + q^2}$$

$$S_2 = \frac{q \sin x}{1 - 2q \cos x + q^2}$$

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Affect Of External Factors And Non-Native Community In Children's Personality And Its Impact In Second Language Acquisition

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ABSTRACT

The research presented in this article is about the challenges young learners may face when they are exposed to non-native communities, and introversion which stems from these kinds of situations. This paper focuses on three different problems: (1) the effect of external factors and non-native community in a child's personality: (2) the impact of changing schools with different medium instructions frequently (3) the effect of introversion on the children's Second Language Acquisition. This case study is based on three research tools, such as an interview, lesson observation, personality test to affirm the feeling the subject underwent because of the mobile lifestyle of his parents.

KEYWORDS

Culture, mobile child, residential mobility, personality, introversion, extroversion, L2, language acquisition.

INTRODUCTION

Families change their residence for several reasons, such as job responsibility, preferring an alternative lifestyle, unsatisfactory living

conditions, and adult relationships. Not only do people have to change their residence but also their languages if they move to a country

where their native language is not an official language. Frequent exposure to various cultures and languages affects children's personality, as well as their language acquisition. Changing schools with different medium instructions may demotivate and discourage a child, leading to a lack of confidence in the child.

LITERATURE REVIEW

Leading a mobile lifestyle has several drawbacks, as well as benefits. Adults can adapt to different situations quickly; however, children are not as versatile as adults, and they may encounter many hindrances. Parents hope that moving to a foreign country may be useful for their children to be multilingual and multicultural. However, residential mobility has more negative sides rather than positive. First, because of moving to a foreign country, a child loses ties with relatives, friends, and close adults. Social Capital theory (Coleman, 1988) argues that this relationship is crucial in the child's development, cognitive capacity, and social functioning. Because of the feeling of loss, a child may encounter psychological distress following the atmosphere of alienation. In adjusting to an unfamiliar environment, a child suffers from homesickness, loneliness, and anxiety, and it can bring to lower mental prosperity in the long term (Oishi and Talhelm, 2012). In every culture, there are their own rules and norms, and a newcomer has to cope with the demands of the situation. Besides, it is more challenging when a child has to change schools with different medium instructions each time. Changing schools may bring about reduced educational accomplishment (Boon, 2011). In most cases, residential mobility and exposure to new languages may activate introversion in a child's personality and affect his/her second

language acquisition. Human personality has been the principal subject for researches, and I have conducted substantial studies on this theme so far. Scholars like Krashen (1985), Skehan (1989), Gass and Selinker (1994), have worked on the effect of personality in SLA. Many personality characteristics can either help or influence negatively on the learning process. The consequence of introversion and extroversion was first studied by Eysenck. He argued introverts were better learners than extroverts. However, many SLA researchers believe extroverts can gain language properly since they prefer the communicative approach (Cook, 2001), which is the principal means of language learning. Extroverts are sociable, talkative, energetic, and actively take part in classroom activities. They are thought to be successful in L2 Communication and interaction help students to receive a language thoroughly and increase the students' output in L2 (Swain, 1985). Introverts are defined as being reserved, shy, thoughtful and show a passive engagement in the classroom projects. Introversion does not always lead to language deficiency, since an introverted student can be a quiet observant learner and achieve brilliant success in language learning (Lily Wong-Fillmore, 1979).

MATERIAL AND METHODS

Living and studying in diverse, multicultural, non-native communities, the subject confronted various problems such as adapting new culture and environment, learning to study in different schools with Russian medium instruction and English medium instruction, and finding new friends each time when they moved to a new foreign country. His reoccurred exposures to several languages and cultures has changed his personality from extrovert to introvert and made him an

introverted-extrovert person. His multilingual learning experience has helped him to be multilingual and flexible in any learning environment. It is visible from the fact that he knows several languages, including English, Russian, Spanish, and Uzbek.

The student I worked with is a freshman student at the academic lyceum under the Uzbekistan State World Languages University (UzSWLU). B (the name is changed) is a 16-year-old boy who has been living for approximately four years in Uzbekistan. Other times, he had to lead a mobile lifestyle in different countries like Malaysia and the USA because of his parents' job. For the first time, he moved to New-York, one state of America. It was a hard period for him as he did not know the English language at all. His parents gave him to a kindergarten so that he could learn English better. Because of the unfamiliar environment and non-native community, B felt anxious, lonely, and unsafe. Not knowing any word in that language, he had to go to extra two-hour tutorial courses after studying in the kindergarten for six hours in the mornings. It was hard for him to find new friends in a foreign city, as he could not interact with local children in their language. After six months of attendance at kindergarten, he was at the age of studying at school. He could not join school because he was still not ready for starting the study. Therefore, his parents decided to postpone the commencement of the school by prolonging the kindergarten duration. Next year, he eventually began studying at a local American school with English Medium Instruction (EMI). B attended American school until 3rd grade and then, he again faced a new difficulty since his parents had to return to Uzbekistan. Coming to the native country, B had to continue studying in a local school with

Russian Medium Instruction since his parents could not afford the international school. Now, it was a real challenge for B as he was used to the American environment and its language. Even though B had attended this school for a year, he could not get accustomed to a new atmosphere. The first week at school was so stressful that he even refused to go to a new school; however, he had no option but attending. After one-year of attendance, B had to move to Malaysia with his family. In Malaysia, his parents attempted to give him to the local school with English Medium Instruction. Thus, he continued studying in English school again and stayed in Malaysia for almost two years. After all, B returned Uzbekistan with his mother and went on attending to his former school in the previous local Uzbek school. From 7th grade till 9th grade, he studied in that school with Russian Medium Instruction. In August 2019, B entered the academic lyceum under UzSWLU and now, he is one of my diligent students. Having been teaching B for two months, I observed and evaluated his attendance and performance during the lesson. At first, based on his averse behavior in class, I thought that he did not know English adequately. Knowing more about his past, I realized that many external factors from his childhood background precluded him from being a sociable and active student. Even though he is reserved and introverted in personality, I would describe him as a talented, deep-observant, and intelligent student.

From the beginning of the semester, B's sitting at the back without talking to anyone drew my attention as a teacher. Even though his English was quite well, he did not want to join activities. The reason why I was surprised at his behavior is that he was the only student I have ever seen, who avoided showing off his

language abilities even though his English was quite well. He would not make effort to take higher grades and answer the questions during the English classes. However, from time to time, he performed his willingness to be close to his group-mates. Therefore, this study triggered curiosity in me and started to scrutinize B's personality. Three-step research has been planned: an oral interview, Eysenck's Personality Inventory test, and a two-week observation of the student at English lessons.

STAGE 1.

The interview was conducted to collect data about the subject's background, English level, the reason for his introversion. The interview consisted of 20 main questions: 6 questions about his background, family, and personality; 4 questions about his English learning experiences; and 11 questions about his residential mobility. The interview was conducted one-by-one in a classroom of the lyceum that I work.

STAGE 2

To define the subject's personality, I used two types of personality tests. First, I applied a simple quiet quiz, and it consisted of 20 questions. The questions were formed to determine the level of introversion and extroversion. The subject should have to answer by choosing true or false. The second personality chosen was 'Eysenck's Personality Inventory' test, which was invented in 1964 by Eysenck.

STAGE 3

In order to identify my learner's level and his performance during the lesson, I conducted a two-week lesson and observed my student. The course-book used for the 1st-semester

course is the B2-level of Complete IELTS published by Cambridge University Press. However, his level is higher than B1. Therefore, I decided to give him extra materials for homework. During the lessons, I used activities that require individual work, pair work, and group work to identify his reaction in different approaches. It was intensive two-observation and totaled to six lessons.

1-lesson: interactive game "Like Dislike and Neutral" was implemented to create an active friendly environment. The aim of the game was to promote students speaking and critical thinking skills.

2-lesson: "debate" lesson. The topics were distributed to students to let them choose one interesting topic and students worked in groups.

3-lesson: online game "Quizlet" used to revise the previous lessons vocabulary and grammatical rules. Students worked in groups.

4-lesson: students presented "the project works" they prepared. The free topic presentation was given to the students in the previous lesson as homework.

RESULTS

Based on the collected data as an interview form, it became clear that the subject had experienced difficult times before starting to study at the lyceum. Living and studying in different cultural situations affected his personality. He acknowledged several times how difficult it was for him to change places and schools. This is the part of the interview-Feruz Jumaniozova (FJ) is an interviewer and the student is BR:

FJ: So, where do you study? And what do you study?

BR: I study in a lyceum under UzSWLU. I study in a exact science class. So Physics, Mathematical science, and Geometry. I am a freshman. I got accepted in the beginning of this year.

FJ: How do you feel know?

BR: I feel motivated and energetic. In the past, studying in different countries and in different schools, I was lost and confused. However, now I realized I also can be a leader and important person.

Because of his parents' job, B had to change his home and friends several times and adapt to a new environment each time. As Lenneberg (1967) claimed, if a child is not exposed to a language in a critical period, he/she can not learn his/her native language fluently. However, from my student's experience, it can be seen that the child's exposure to different languages, also affects his personality. This is the part of the interview:

FJ: So, how did it happen?

BR: When I was 5, we moved to America because of my father's job.

FJ: Did you know English when you went there?

B: Not at all. I did not know even a word.

FJ: can you tell me more about it?

BR: Sure... Well, as I said, when I moved to America I did not know any word in English. My parents gave me to the local kindergarten and I started learning English in this way. For the beginning, it was really difficult for me to adapt to a new environment. I could not make friends with local children since I did not know their language. I used to cry every day asking my parents to return our home. In the mornings, I used to go to the kindergarten for 5 years and

in the afternoons to the English tutorial courses for two hours. After six months, it was time for me to go to school, but I did not go to school. Instead I left at the kindergarten one more year to learn English better. Next year I went to school and studied there for three years. Then, we came back to Uzbekistan.

FJ: Did you study in English school here, too?

BR: No, unfortunately... (smiles). I studied here in Russian school. Because international school costs a lot, and my parents could not afford it. So I had to study in Russian school and learned Russian language too. It was really confusing, and I did not know whether I should learn Russian or my school subjects. I studied in that school for a year and left for Malaysia with my family. My parents saw how difficult it was for me to study in Russian after studying in English for three years and gave me to an international school in Malaysia. I studied in an English school for three months and it was difficult for my parents to afford it, so they had to give me to a Russian school again. I studied in a Russian school for two years in Malaysia. After miserable two years in Malaysia, I returned to Uzbekistan with my mom and continued my study in my previous Russian school. The hardest part of everything that I have done was not learning new languages, it was adapting to new environments and always leaving soon.

According to Social Capital Theory developed by Coleman (1988), children have to lose their relationship with their friends and close people when they move abroad, and it affects their personality, hindering their social functioning, cognitive capacity, and development as a child.

Even though the subject started learning English when he was 5, and studied in the EMI school, he was not confident to show his

language ability. During the lessons, he sat at the back, being reluctant to join classes and his group-mates. The reason why he did not follow the class was he considered this lyceum was also one of the transient situations. As a result of the movable lifestyle, he de-motivated to perform his leadership abilities in classes. This is the part what he said about friendship:

FJ: Bobur, you have lived in different countries and been different situations. What do you think you learned from these all?

BR: Living abroad or in Uzbekistan, I have learned that having friends is important but being a good friend is even more important than that. And to be a good friend I have to be dependable. I have to be someone who will try their best to do as my friends asked me to. Being a good friend does not mean being dependable, it also means being honest to the point of being veracious.

According to many linguists, extroversion is helpful in language learning, and extrovert learners can learn more during the lessons. Extrovert learners can demonstrate themselves in the activities that require communicative skills, however, this study shows that introvert students can be also successful in language learning since they are more observant and can learn a language deeply. This interview with B gave thought-provoking information.

To check my hypothesis on whether the subject's introversion is intrinsic or extrinsic, I decided to investigate his introversion and extroversion level as the second stage of my research. The first personality test was named "Quiet Quiz", and his answers to 14 from 20 questions showed that he is introvert. The second personality test was called "Eysenck's Personality Inventory", and in this test, B's

answers performed that he is choleric, which is the division of extroversion. We also used many online personality checkers, and in many of them, he was extrovert. From this information, I can conclude that B is introverted-extrovert, which means he is extrovert inside.

The third step was lesson observation and in the lessons, to check the reaction of the subject to different activities: I used individual work, pair work, and group work activities. In the first lesson, after teaching the grammar topic "present perfect tense" and the 3rd unit from the book "Complete IELTS", I used the group activity to enhance students' speaking ability. The students' job was to choose a topic and justify that it is a spectacular place to go and convince others to join them. However, I saw a lack of interest in B and he rarely spoke even though his English was better than others.

In the second lesson, explaining the main theme, I drew students' attention to the online "Quizlet" game. This game was based on the vocabulary and grammar rules which the students learned during the previous lessons. The students were remarkably inspired to finish this game first and B was also highly enthusiastic to complete it before others. Then, I realized that B was good at solitary work. To solidify my hypothesis, I told all the students to prepare a presentation for the next lesson individually.

In the third lesson, B prepared a presentation about New-York. He explained everything thoroughly with enthusiasm. In order to motivate him, I praised him among the students, telling others that he had perfect English.

In the last lesson, I organized a debate on the theme "Benefits and drawbacks of studying abroad" and this time B also participated in the discussion with interest.

CONCLUSION

Concluding, great attention is important in children's development and Second Language Acquisition. As the importance of speaking and interacting with children in the Critical Hypothesis Period, caring for children's psychology and their cognitive development is also an indispensable factor. Before moving to other countries, first of all, parents should think carefully about their children's future and their adaptation to a new environment. Each child has different psychology and character, and their adaptation to a new culture may affect them seriously. Dealing with introverted or ambivert students is not the only responsibility of parents but also teachers' duty.

As Coleman (1988) proved the relationship with relatives and close people is vital in children's being well-nurtured, psychologically healthy individuals in the future.

One more important factor that should be mentioned here is the motivation which a child can take not only from teachers but also from their parents. It is an indispensable part of their life and with the motivation, they can achieve success in learning languages and gain their goals in life.

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Change Of Cotton Fiber Quality Indicators Under Technological Processes

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ABSTRACT

In this article, the quality indicators of fiber under the influence of various technological processes of Sultan selection cotton were determined and the optimal variant of the technological process for production was recommended.

Basic expressions tangled fiber, cortical fiber, knot, staple mass length, specific tensile strength, fiber maturity.

KEYWORDS

Flagella, skin with fiber, nodules, staple mass length, relative breaking load, fiber maturity.

INTRODUCTION

Cotton entering the primary processing plant consists of impurities and mineral defects. Pollution includes flowers, leaves, twigs, stones, sand, etc. [1].

The amount of contamination is divided into large and small defects. If the size of the

defects is greater than 8 mm, they are considered large defects. These impurities are located on the surface and inner layers of the seed cotton, as well as have adhesive strength with different fibers. If there are impurities on

the surface of the seed cotton, the adhesion strength to the fiber will be low [1].

The effectiveness of cleaning cotton from impurities depends on selection variety, moisture, variety, fiber length, the nature of impurities and other indicators [2-4].

The amount of contaminants in the cotton is cleaned using ginning equipment at ginneries. The impact efficiency of the cleaning equipment workpieces, in turn, depends on several factors, namely the cleaning efficiency, the speed of movement of the workpieces, the design of the workpieces, the repetition of cleaning and the degree of airflow cleaning [5].

Moisture is very important during cotton cleaning. This is because the more moisture there is, the more difficult it is to separate the defects, leading to an increase in the number of seeds that are hit or injured. Therefore, the moisture content of cotton received at ginneries and ginning plants should not exceed 11% for grade I and 13% for sub-varieties. If the moisture content of the gin equipment is in the range of 7-8%, the quality of cotton fiber is maintained [6-7].

Cotton with high moisture content has a large amount of defects and waste, the cleaning rate of cotton is low, leading to a deterioration in fiber quality. As a result, the quality of the finished product obtained from the fiber will be negatively affected. In addition, the cotton gets stuck between the working parts of the machine, and the seeds that are hit or injured cause an increase in the amount of fibrous fiber in the shell [8].

During the initial processing of cotton, the amount of defects and waste in the composition of cotton fiber increases under the influence of high humidity and

technological processes above the standard requirements. If the moisture content of the seed cotton is higher than the standard values, the amount of fiber, complex twisted fiber, contaminants in the fiber content will increase, and the amount of husk fiber, beaten or injured seeds will decrease. In addition, the more technological processes the seed cotton undergoes, the better it is to be cleaned of contaminants, leading to an increase in the amount of some beaten or injured seeds, tangled and complex tangled fiber, husk fiber. At the same time, due to the low moisture content leads to an increase in the total amount of waste and waste in the composition of cotton fiber due to an increase in the amount of bark fibers and nodules, beaten or injured seeds. In addition, some selection varieties have a low degree of purification and do not meet the demand. It follows that not all varieties created may meet the demand [9].

Defects and wastes in cotton fiber were determined in different technological process sequences, and the test results are given in Table 1.

One of the main quality indicators of cotton fiber is the change in the composition of the defect and the amount of waste under the influence of moisture. When the amount of defects and waste in the composition of cotton fiber is higher than the standard values, the quality of the fiber deteriorates, and the physical and mechanical properties of the yarn obtained from it are negatively affected. According to the state standard, cotton fiber is divided into a number of classes, that is, higher, good, medium, dirty and bad, depending on the amount of pollution, and the price varies according to these classes [1].

The impact of different selection varieties of cotton on technological processes, which are initially processed in ginneries, varies. While some selection varieties are well cleaned of contaminants, some are the opposite. Therefore, it is necessary to create optimal conditions for each variety grown in our country. In addition, the seeds of some

selection varieties are brittle, and there is a possibility of injury under the influence of technological processes [2].

Defects in cotton fiber and changes in the amount of waste in the sequence of different technological processes

Table 1.

τ/p	Defect in fiber content and amount of waste,%	Options		
		1	2	3
Before the technological process				
1.	Common shortcomings	2,80	3,00	2,51
2.	A handful of uncooked fiber	0,14	0,16	0,12
3.	Fiddly fiber	-	-	-
4.	Complex tangled fiber	-	-	-
5.	Shell fiber	0,34	0,38	0,28
6.	Beaten or injured seeds	0,50	0,54	0,43
7.	Knots	0,10	0,08	0,08
8.	Dirt	1,62	1,84	1,50
After the technological process				
1.	Common shortcomings	2,42	2,60	2,00
2.	A handful of uncooked fiber	0,12	0,15	0,11
3.	Fiddly fiber	-	0,02	-
4.	Complex tangled fiber	-	-	-
5.	Shell fiber	0,74	0,69	0,60
6.	Beaten or injured seeds	0,62	0,72	0,50
7.	Knots	0,20	0,18	0,12
8.	Dirt	0,74	0,84	0,67

The results of the study showed that compared to the fiber obtained before the technological process sequence in Option 1, the total amount of defect or waste in the fiber obtained after the technological process sequence decreased by 13.6%, the amount of cortical fiber 54.1%, the amount of crushed or injured seeds increased by 19.4%, the number of nodules increased by 50.0%, the amount of contaminants decreased by 54.3%, compared to the fiber obtained before the sequence of the technological process in option 2 Thus, after the sequence of the technological process, the total amount of defects or waste in the fiber content decreased by 13.3%, the amount of cortical fiber by 44.9%, the amount of crushed or injured seeds by 25.0%, the amount of knots by 55.6%. contaminants, the amount of impurities decreased by 54.3%, compared with the performance of the fiber obtained before the sequence of the technological process in option 3, the technological the total amount of defect or waste in the fiber content obtained after the sequence of the process decreased by 20.3%, the amount of cortical fiber increased by

53.3%, the amount of crushed or injured seeds increased by 14.0%, the amount of nodules increased by 33.3%, impurities the amount decreased by 53.3%.

The high performance and quality of sewing products are inextricably linked with the body and back yarns in the fabric that make it up. One of the main indicators of raw materials - textile fabrics in the production of garments is the hardness or softness of the fabric. Applying the abrasion resistance of a garment to a part of the fabric knowing the virginity level of the fabric will result in a longer shelf life and an increase in the quality index [10].

Quality indicators of suit fabrics with different fiber content increase the chances of producing a quality product if the fibers in the study are used for the products studied [11].

Based on the results of the study, histograms of changes in fiber properties under the influence of technological processes were constructed in Figures 1-3

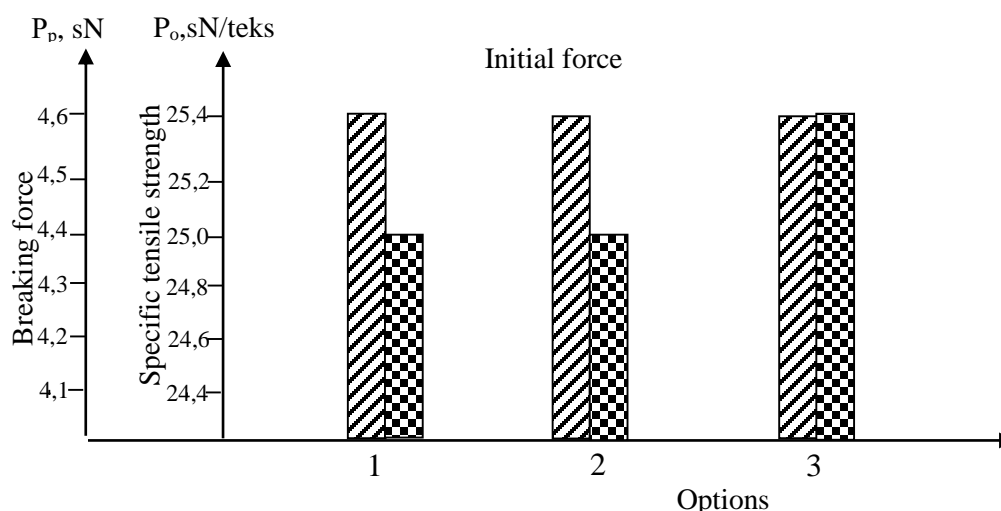


Figure 1. Influence of technological processes on fiber tensile strength and specific tensile strength.

▨ - breaking force;
▣ - specific tensile strength.

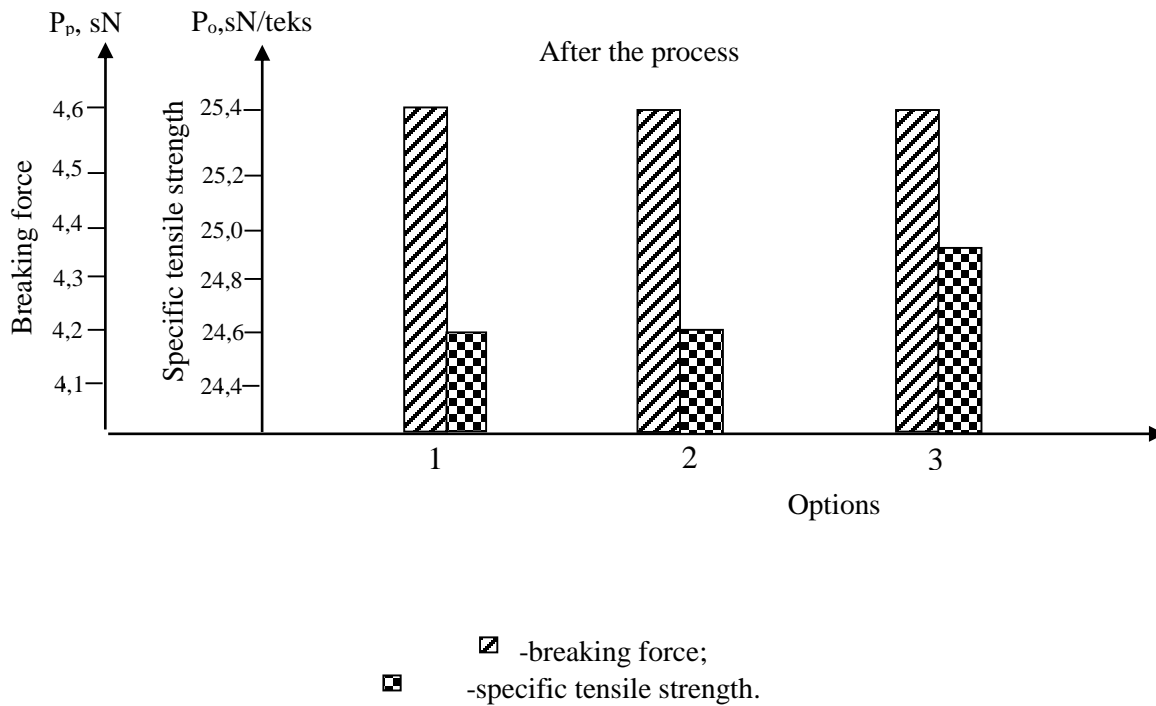


Figure 2. Influence of technological processes on fiber tensile strength and specific tensile strength

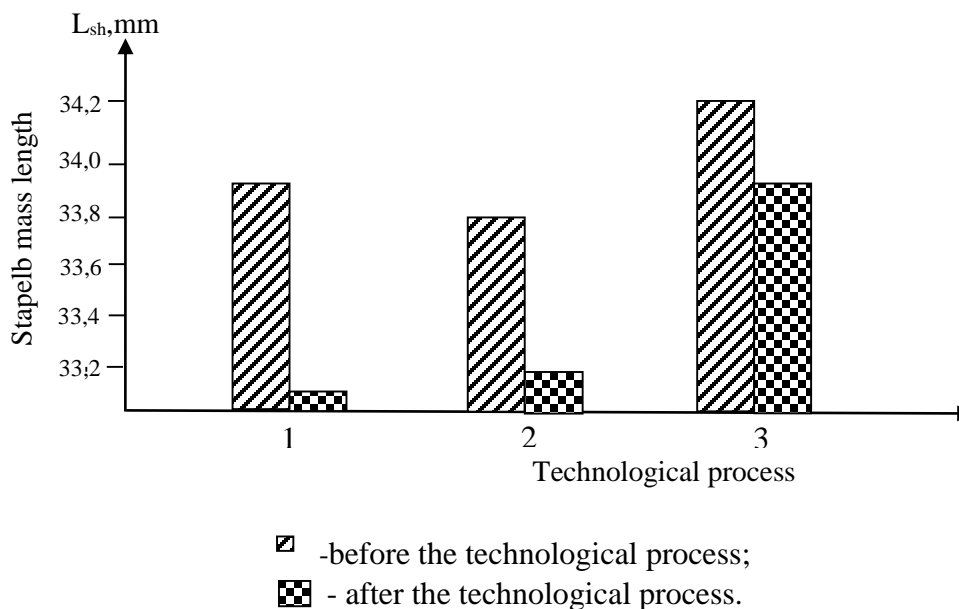


Figure 3. The effect of technological processes on the staple mass length of the fiber.

Analyzing the research work, the tensile strength of the fiber obtained under the variant 1 before the technological process was 4.6 sN, the specific tensile strength was 25.0 sN / tex, the staple mass length was 33.9 mm. The tensile strength of the obtained fiber is 4.6 sN, the specific tensile strength is 24.6 sN / tex, the staple mass length is 32.5 mm, the tensile strength of the fiber obtained under option 2 before the technological process is 4.6 sN, specific tensile strength 25.1 sN / tex, staple mass length 33.8 mm, the tensile strength of the fiber obtained from the technological process according to option 2 is 4.6 sN, specific tensile strength 24.6 sN / tex, staple mass length 32.8 mm, the tensile strength of the fiber obtained according to option 3 before the technological process is 4.6 sN, the specific tensile strength is 25.4 sN / tex, the staple mass length is 34.2 mm, the technological process 3 The breaking strength of the obtained fiber is 4.6 sN, the specific breaking strength is 24.9 sN./tex, the staple mass length was 33.9 mm.

The analysis of the results shows that the more technological processes cotton is processed in, the lower the specific tensile strength and staple mass length of the fiber.

The results of the analysis showed that due to the reduction of the sequence of the technological process, the total amount of defect or waste in the fiber content decreased from 13.6% to 20.3%, the amount of hull fiber from 54.1% to 53.3%, the amount of crushed or injured seeds From 14.0% to 19.4%, the amount of nodules increased from 33.3% to 50.0%, the amount of impurities decreased from 54.3% to 53.3%.

CONCLUSION

Analyzing the test results obtained on the physical and mechanical properties of the fiber, the specific tensile strength of the fiber obtained before the technological process for option 1 is 0.4 sN/tex, and the length of the staple mass is 1.4 mm, before the technological process for option 2 the specific tensile strength of the obtained fiber is 0.5 sN/tex and the staple mass length is 1.0 mm, the specific tensile strength of the fiber obtained before the technological process according to option 3 is 0.5 sN/tex, and the staple mass length is 0.3. decreased by mm.

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Methodology Of Teaching Economic Problems Based On Mathematic Modeling In Mathematics Courses

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ABSTRACT

This article discusses the methods and techniques for solving mathematical problems that develop students' economic skills and competencies in the teaching of mathematics in general secondary schools in today's educational process. The use of practical issues in economic interpretation in the teaching of mathematics is a key stage in the development of vocational training in students. It shows how to teach and solve practical economic problems based on mathematical modeling. It also aims to further improve the quality of continuing education, to teach students to think independently in mathematics lessons, to strengthen their socio-economic, scientific and technical knowledge of mathematics. In addition, the emphasis on the use of economic issues in the formation of scientific and theoretical thinking in the teaching of mathematics will expand the opportunities for educating students as a person with knowledge, professional training and spiritual maturity.

KEYWORDS

Teaching methods, mathematics teaching methods, modeling, induction, deduction, innovative technologies.

INTRODUCTION

Continuing education is the basis of the system of training, ensuring the socio-economic

development of the Republic of Uzbekistan, a priority area that meets the economic, social,

scientific, technical and cultural needs of the individual society. Therefore, in the process of education today, the main task of every science teacher is not only to educate students, but also to apply them in practice, to teach them to think independently, to develop their abilities, and to educate them based on national and universal values.

Advanced teaching experience shows that in order to achieve students' active participation in market relations by equipping them with economic knowledge, as well as to teach them the science of "property and entrepreneurship" in-class and extracurricular activities New forms and methods of developing economic culture in students are being used to explain economic knowledge, information about the life and economy of our country.

LITERATURE ANALYSIS AND METHODOLOGY

Any problem with a clear solution can be solved in several ways. If the problem to be solved is expressed by mathematical relations with sufficient accuracy, this problem can be solved using the method of mathematical modeling. Solving the problem in this way is called the process of mathematical modeling.

The expression of the properties and properties of the object under investigation through mathematical relations is called the mathematical model of the object. The process of building a mathematical model and solving it is called mathematical modeling.

Economic thinking reflects socio-economic norms, rules, and the activities of various organizations.

One of the most common means of educating students in the spirit of economics in mathematics lessons is that there are issues that are directly related to production. In mathematics textbooks, we can observe such issues as economic concepts such as cost, productivity, productivity, rational use of land, optimal study of land order, determining the amount of technical support for agricultural production, the effective use of technology. indicators are widely used. Therefore, as much as possible, the teacher should conduct special educational classes and explanatory work on the importance of solving mathematical problems that correspond to economic knowledge, so that these ideas reach the minds of students.

The main components of economic thinking include:

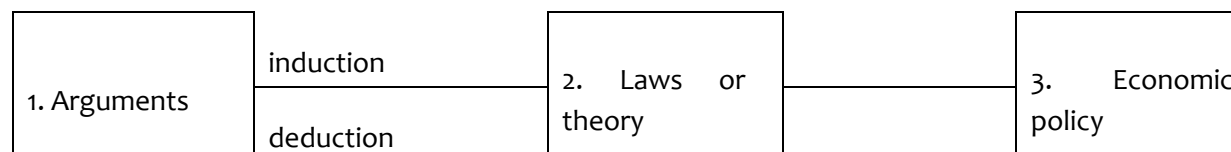
- 1) Clear thinking (observation and experience);
- 2) Abstract thinking (analytical, logical);
- 3) Functional thinking.

In the process of teaching mathematics, clear thinking is demonstrated through visual aids and videos about the trade relations between different companies. Clear thinking plays an important role in the study of abstract concepts. Abstract thinking takes the form of analytical and logical thinking.

Analytical thinking is formed through a mathematical model of economic problems. We can take this problem as an example of analytical thinking:

The average family spends 7 hours a day watching TV. If a TV consumes 300 watts of electricity per hour, how many kWh of electricity does a family consume per month?

- 1) Let kWh be taken as x sum;
- 2) logical thinking in mathematics teaching is based on facts to theory, i.e., inductive, and vice versa, from theory to facts, i.e., deductive methods.
- 3) Deduction and induction are complementary methods, not contradictory or isolated. Here are the issues with these methods:
- 4) At the market price of meat is 80 soums, the demand is 8 kg, and at 90 soums - 7 kg. If the price is 100 soums, calculate the demand in kg.



In this case, the transition from private to general, that is, the inductive method is used.

- 5) Demand functions for potatoes in Beshyogoch and Oloy markets, respectively

$$u = -\frac{x}{4} + 7; \quad u = -\frac{x}{4} + 6,$$

- 1) where is the demand for potatoes in kg per minute, x is the value of the price in soums. If 1 kg of potatoes is sold per minute in each market, what is the price of potatoes in Beshyogoch and Oloy markets?
- 2) In this case, the transition from theory to facts, that is, using the deductive method.
- 3) Functional thinking is characterized by the relationship between a model of an economic process and economic factors. Models of economic processes are also given using graphs or formulas.

Formulas or graphs help students visualize the economic relationships they need. Economists graphically express their theories and models. A graph represents the relationship between two variables. The graph serves as a visual representation of the relationship between the

two variables. This table shows the relationship between income and expenses.

RESULTS

Following all the principles of didactics, we must reveal the connection between theory and practice. Every abstract mathematical concept that needs to be mastered needs to be given an economic meaning, an economic interpretation. Here are some examples.

A) In high school geometry, the definition of the scalar product of two vectors in the plane and in three-dimensional space and its properties are studied. Scalar multiplication has many applications in physics and mechanics, but it has many applications in economics, but problems in economics are not found in high school mathematics (basics of geometry, algebra and analysis). . Giving economic meaning to scalar multiplication makes it easier to understand the definition of scalar multiplication. For example, in three-dimensional space (three-dimensional economic space), the scalar product of two vectors can be explained in simple language as

follows: Let a firm produce three different quantities a_1, a_2, a_3 , the prices of these products are reasonable If v_1, v_2, v_3 soums, then the firm's income will be $a_1 v_1 + a_2 v_2 + a_3 v_3$ (soums), ie $\vec{a} \cdot \vec{v} = a_1 v_1 + a_2 v_2 + a_3 v_3$ (where $\vec{a}(a_1, a_2, a_3)$, $\vec{v}(v_1, v_2, v_3)$). But not all firms are engaged in production.

There are also companies that sell products made by other companies. In this case, the number $a_1 v_1 + a_2 v_2 + a_3 v_3$ indicates the amount of cost for the purchasing firm. Thus, the scalar product of the two vectors represents the income for the seller and the cost for the buyer. So the economic meaning of the scalar product of two vectors is income or expense.

B) The economic meaning of the product can be explained as follows. If we define the firm's net profit from the sale of the quantity x of its output as U , then it is a function of x , i.e.

$$U = U(x)$$

Let's say that if the volume of output increased by x , then by the quantity of output

$$\Delta U = U(x + \Delta x) - U(x)$$

benefits match.

$\Delta \lim_{x \rightarrow 0} \frac{\Delta U}{\Delta x} = U'(x)$ we call the limit marginal net profit. For example, the demand function for a commodity is given by the formula $r = 20 - 2x$, where x is the demand and r is the price. Net profit from the sale of goods $U = x(20 - 2x) = 20x - 2x^2$, $U' = 20 - 4x$, if $x = 2$, then $U'(2) = 12$. This means that if the demand increases from 2 to 3 units, then the net profit increases by an average of 12 units. So, we come to the conclusion that the economic meaning of the product is labor productivity.

C) The economic meaning of the integral can be explained as follows: it is known that according to the average value theorem, the average value of the function $F(x)$ in the interval (a, v)

$$M = \int_a^v F(x) dx / (v - a)$$

It is calculated from this formula. In practice, labor productivity, average power of electric motors, average values of motion are found in the above formula. For example, the variable cost of production is found using the formula $u = 3x$, where x is the quantity produced. If the production volume is 3 to 5, what is the average cost of production? The average value of the function

$$\int_3^5 3x dx \big|_{(5-3)} = \frac{3}{2} \int_3^5 x dx = \frac{3}{2} \cdot \frac{x^2}{2} \bigg|_3^5 = 12,$$

Since $u = 3x$, $12 = 3x_0$, where $x_0 = 4$.

The average cost is 12 units. This means that the average value of the integral is used to calculate the average cost, the average income of the firm, and the average labor productivity. If the function $F(x)$ represents the cost, then the average value of the integral represents the average cost, if $F(x)$ represents the income, then the average value of the integral represents the average income, that is, the economic meaning of the integral is cost or income.

CONCLUSION

In short, by studying the theoretical foundations of mathematical modeling, we realized that it is possible to understand its role

and importance in various fields through modeling, modeling concepts, and the method of mathematical modeling. The importance of the use of mathematical modeling in the field of economics is to carry out extensive explanatory work on the life and economy of our country and to develop the economic skills of young people.

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Ethnodemographic Information As A Source In Population Censes (On The Example Of Uzbekistan)

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ABSTRACT

This article analyzes ethno-demographic data, their study and, in turn, is based on population censuses. Historical aspects of ethno-demographic data in population censuses are presented. The analysis of family data in the censuses reflects the historical context of the family's lifestyle and social status, while also focusing on the ethnic composition of the population. An independent final opinion on the topic is given.

KEYWORDS

Ethnic groups, ethno-demography, nationalities, censuses, national composition, demographic characteristics, social structure, family-marriage relations, family formation, marital status, statistics.

INTRODUCTION

The history of mankind is the merging of the history of particular groups of the population, social organisms and their interactions. Among them, the group that has a place and

importance in the historical process is the ethnic group.

Ethnic demography, or ethno-demography, is a separate discipline formed on the basis of the

objects of study of ethnography and demography, and studies the characteristics of the reproduction of peoples in relation to socio-economic and historical conditions.

Ethno-demography uses in its research mainly the results of ethnic statistics, census data, special ethno-demographic, cultural and household research. Ethno-demographic research is also based on a number of social and natural sciences (geography, psychology, sociology, demography, anthropology, ecology, medicine, etc.) that study different aspects of ethnic groups. This is because ethnic groups appear to be the object of study of many disciplines.

The study of ethnic groups is of great political, social and demographic importance for every multinational state in the world. The results of a comprehensive study of the traditions, values, demographic characteristics of all peoples living in it serve as a scientific basis for the development of programs of socio-economic development of states.

The initial census did not cover the entire population of present-day Uzbekistan. The census provides information on the Uzbek, Tajik, Russian, Kazakh, Kyrgyz and Karakalpak ethnic groups in Uzbekistan, their territorial distribution, education and gender composition[1].

The 1926 census in Uzbekistan included 65 ethnic groups, and the 1939, 1959, 1970, 1979, and 1989 censuses reported an increase of more than 120 nationalities. The most accurate information on the national composition of the population of Uzbekistan and their demographic processes is collected through censuses. Such censuses in Uzbekistan were conducted in 1897, 1926, 1939, 1959, 1970, 1979 and 1989.

ANALYSIS OF SCIENTIFIC SOURCES ON THE SUBJECT

Ethno-demographic research has existed as a separate discipline since the twentieth century. In the first half of the twentieth century, the Russian ethnographer M.V.Ptux studied the death process of 11 peoples living in Europe on the basis of the 1897 census[2]. V.I.Kozlov conducted research on ethnic demography and studied the ethno-demography of peoples[3]. S.I.Brooke has created very important ethno-demographic works on the study of the national composition of the world's population, changes in their dynamics and the characteristics of demographic processes [4].

In Uzbekistan, historians and ethnographers have conducted a number of studies to study the demographic characteristics of many ethnic groups living in the country, such as uzbeks, tajiks, kyrgyz, russians, ukrainians, tatars, koreans. Examples are the researches of M.Karakhanov, V.Gentshke, R.Murtazaeva, O.Ata-Mirzaev[5], M.Burieva [6]. These studies mainly study the ethnic composition of the population of Uzbekistan, the number of ethnic groups, family formation, composition and demographic activities.

The fact that the history of ethno-demographic features of Uzbekistan is reflected in the population census also serves as a source for the study of history, changes in the national composition of the population of the country for 1897-1989 are analyzed.

RESEARCH METHODOLOGY

Censuses were conducted in Uzbekistan in 1897, 1926, 1939, 1959, 1970, 1979 and 1989, which is one of the main sources for studying history. In the study of these sources it is

advisable to use historical comparisons, logical, demographic and statistical methods.

PURPOSE OF RESEARCH OF THE TOPIC

The main purpose of studying ethno-demographic data in censuses as a source is to know and analyze the demographic history of the peoples living in Uzbekistan. In this process, the importance of censuses in the study of the demographic history of peoples and their ethno-demographic data are presented and analyzed.

The following tasks have been identified to achieve the goal:

Analysis of ethno-demographic data and research on their study;

Determine the population censuses and their importance in the study of ethno-demographic data;

To study the population censuses in Uzbekistan and the ethnic characteristics of the national composition, population, family, marriage, formation of social groups.

Today, valuable information on the analysis of censuses as the main source in the study of the history of ethno-demographic processes in Uzbekistan and its importance, changes in the national composition of the population of Uzbekistan in 1897-1989, the social structure of peoples, family-marriage relations, the history of family formation as well as the creation of the system has become one of the current issues.

The theoretical significance of the study of censuses serves as a basis for the development of the theory of the laws of manifestation of socio-economic and political conditions as a key factor in the formation of ethno-

demographic processes, the impact of factors such as national traditions and values on demographic processes.

The practical significance of these sources is of special importance in the management and maintenance of peaceful coexistence of all peoples in the multinational Republic of Uzbekistan, as well as in the development of socio-economic programs, demographic forecasts, ethno-demographic programs, textbooks.

Detailed information on the marital status of the population by ethnic groups is based on population lists. The role, position and functions of the family in society are of equal importance to all peoples. But its formation features, demographic activity at the current stage of development of society have separate indicators by ethnic groups.

MAIN PART

It is of great importance to study the family status of the population as a source in the ethno-demographic data provided in the censuses conducted by the Soviet state in the Uzbek SSR in 1897, 1926, 1939, 1959, 1970, 1979 and 1989.

It is well known that in society, people live in a family environment as a family member or on their own, alone. The fact that the population is divided into such groups indicates its marital status. As mentioned above, information on the marital status of the population is collected through a population census. In Uzbekistan at the end of the XIX century and in the XX century there were several censuses, the last of which (to date) was conducted in 1989.

In the population censuses conducted in Uzbekistan over the years, the population is

divided into three groups according to marital status:

1. Those who live with the family as a family member.
2. Living separately from the family, but maintaining regular contact with the family (This group includes people who have temporarily left the family for long-term study, work and other reasons).
3. Lonely people.

Detailed statistics on the marital status of the population in Uzbekistan are given in the 1939 census. These data show that in 1939, 93.3% of the population of Uzbekistan were family members, living with the family, and the remaining 6.7% lived separately from the

family. If these figures are compared with the 1989 census data, it becomes clear that there have been significant positive changes in the family structure of the population of the republic. Because in 1939-1989 it can be seen that the share of the population living in a family environment as a family member increased by 2% and accounted for 95.3% of the total population. The proportion of the population living alone was almost twice as low. Such a positive change is observed in both urban and rural areas of Uzbekistan.

It should be noted that the proportion of people living alone was slightly higher in the urban population than in the rural population (table 1)[7-10].

Table 1.

Marital status of the population of Uzbekistan (as a percentage)

Years	1939	1959	1970	1979	1989
Urban and rural residents					
Total population	100.0	100.0	100.0	100.0	100.0
Including: Family members living with the family	93.3	95.1	95.8	94.3	95.3
Family members living separately from the family	4.4	2.7	1.9	4.1	3.4
Lonely people	2.3	2.2	2.3	1.6	1.3
City population					
Total population	100.0	100.0	100.0	100.0	100.0
Including: Family members living with the family	85.7	91.0	91.6	90.0	91.8
Family members living separately from the family	9.6	4.9	3.8	7.3	5.7
Lonely people	4.7	4.1	4.6	2.7	2.5
Rural population					
Total population	100.0	100.0	100.0	100.0	100.0
Including:	95.5	97.1	98.2	97.1	97.6

Family members living with the family					
Family members living separately from the family	2.9	1.6	0.8	2.0	1.9
Lonely people	1.6	1.3	1.0	0.9	0.5

According to the table, 91.8% of the urban population lives in the family, while the remaining 8.2% live separately from the family. This is primarily due to the ethnic composition of the urban population. According to the 1989 census, 31.4% of the city's urban population were ethnic Europeans, such as Russians, Ukrainians, and Belarusians. It is known that in European nations, such as Russians, Ukrainians, Belarusians, and in the Baltic peoples, it is more common to live alone without a family. This, of course, depends on the traditions of these peoples in the formation and development of the family, the relationship of parents and children in the family. Take Russian families, for example. When a child grows up in a family and gets married, he mainly tries to live independently from his parents. Most Russian families have only 1-2 children, and the parents are left alone because they have started a family and are living separately. Or, as children grow up, they often leave their parents' home to study or work in other cities, leaving both their parents alone. In addition, in many Russian families, the proportion of people living alone is also high as a result of divorce.

The 1989 census showed that in Latvia, 84.8% of the population remained family members, and 15.2% lived separately. This figure is 83.2 and 16.8 in Estonia, 87.3 and 12.7 in Ukraine, 87.1 and 12.9 in Belarus, 88.9 and 11.1 in Moldova, 87.4 and 12.6 in Georgia. and in the Central Asian republics it was 95.5 and 4.5 percent. This is mainly due to the fact that in the peoples of

Central Asia, including the Uzbek people, there are more values that bind parents and children, relatives, which are a factor in the strength of the family, its sanctity.

CONCLUSION

In conclusion, it should be noted that since the second half of the twentieth century, research in the field of ethno-demography has gradually become increasingly important. Research has shown that the family status, composition and social status of the population, especially in ethnic groups, are also influenced by the customs, culture and values of the peoples.

Thus, ethno-demography is a field formed in the field of ethnography and demographic sciences, in which the demographic processes of ethnic groups are studied from a historical point of view. The study of ethnic groups serves as a scientific basis for the development of socio-economic development programs of each multinational state in the world, as well as the study of the values of the traditions of all multinational peoples living in it.

It is known that people of many nationalities and ethnic groups live in Uzbekistan and they are paid attention and respect in the Republic. Each nation has its own language, religion, customs, values, culture, and they, in turn, respect each other's language, religion, culture. That is why, historically, there have been no nationalist conflicts on the territory of Uzbekistan

Accurate information about the population, dynamics, ethnic processes in a given area is collected through a complete population census. Preliminary censuses provide information on the territorial distribution, education, and gender composition of existing ethnic groups. The role of society in the development of states is unique, because each state consists of a certain nation. By registering ethnic groups in the population and studying their ethno-demographic processes, it is possible to obtain information about the existing socio-economic environment in that society, population composition, social composition, demographic processes, education, level of employment, gender, etc. Ethno-demographic data in population censuses (population dynamics, age-sex composition, births, deaths, migration, marriages, marital status, etc.) are all directly related to each other, and a change in one process inevitably leads to a change in another, they affect each other. For example, the decrease in births affects the whole process in the same way. It leads to an increase in the number of elderly people relative to the number of children in the age group, a decrease in the number of marriages, and an increase in the number of deaths compared to births. Hence, population lists play an important role in accurately knowing the ethno-demographic data on population regeneration.

Population lists also provide information on the marital status and composition of ethnic groups, namely changes in ethno-demographic data depending on the marital status of people in society, the number of people living in the family, their customs, values, lifestyle. Thus, the ethno-demographic data presented in the censuses are important for the study of the

demographic history of each nation, its prospects, the development of demographic forecasts. serves as a historical source.

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Analysis Of Scientific Research On The Use Of Renewable Energy Sources In The Heat Supply System

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ABSTRACT

The article analyzes the results of research conducted by scientists from foreign countries and schools of Uzbekistan on the use of solar energy in the heating systems of residential buildings and sectors of the economy. As a result of a brief analysis of scientific research, it is stated that there are problems with combined heat supply systems operating on the basis of solar energy in natural conditions that are suitable for the climatic conditions and solar energy potential of the southern regions of the country.

KEYWORDS

Renewable energy sources, solar energy, heat, concentrated solar energy, hot water floor, combined heat supply system

INTRODUCTION

Currently, the heat and electricity consumed in our country is mainly due to natural fuel and energy resources, and the energy consumption of the economy is much higher than the average of developed countries. The country is implementing a long-term strategy for the development of the oil and gas, electricity, coal, chemical and construction industries, aimed at ensuring sustainable economic growth and increasing the welfare of the population, continuous satisfaction of demand for fuel and energy resources [1].

In developed countries, the use of solar radiation is becoming increasingly popular. In particular, large investments are being made in the construction of "solar houses". By obtaining heat and electricity from the sun, 50-90% savings of traditional energy sources in the energy supply of homes will be achieved. Taking into account the advanced foreign experience, the complex organization of work on improving energy efficiency through the use of available resources and untapped potential, the widespread introduction of energy-saving technologies and renewable energy sources, a sharp reduction in energy consumption in the economy and social spheres is a priority in the near future. The task is to reduce the energy and resource capacity of the economy, the widespread introduction of energy-saving technologies in production, expand the use of renewable energy sources, increase labor efficiency [1,2].

The rapid development of techniques and technologies in modern energy systems is characterized by its demand for the use of energy and resource-saving technologies. In the world, including in our country, the application of energy and resource-saving

technologies in all sectors of the economy is one of the most pressing issues today. The main tasks are the creation and implementation of energy-saving technologies based on the use of alternative energy sources, especially the efficient use of solar energy. Scientific research on the efficient use of solar energy is being successfully carried out in many countries around the world, including the Middle East and Asia, India, Greece, Sweden, Germany, Japan, Korea and China. They focus on solar energy opportunities, current status, development strategies and prospects, the use of photovoltaic collectors, FPC, PVT and FPC photovoltaic heat pumps, reducing dependence on fossil fuels and developing solar energy policy to launch solar power generation [3, 4, 5, 6, 7, 8].

The research on the selection of the optimal energy supply system for heating individual houses using solar energy devices is based on the fact that solar energy heating is an efficient, inexpensive and positive environmental impact system [5]. In general, the differences in primary energy use, emissions, and prices between the power systems analyzed are less dependent on the fuel used in the system than on the type of system selected. This is because research facilities rely on sunlight as a heat source, unlike traditional energy systems.

N.K. Sharma, P.K. Tiwari, Y.R. Studies by the courts have shown that renewable energy and technology can provide a solution to the long-term energy challenges facing developing countries [3]. Solar energy not only adds new capacity to the country's energy, but also improves energy security, solves environmental problems, and provides

leadership in the renewable energy market. Solar thermal energy (STE) as well as concentrated solar energy (CSP) is a new technology of renewable energy and is one of the future options for electricity generation.

Using solar energy to heat buildings and structures is an alternative way to reduce electricity and fossil fuel consumption from the grid. E.B. Christos, Ts.K. Mosxos, K.A. In the research work of Antonopolos, four solar heat pump heating systems were developed, modeled, energy and economically evaluated as the optimal solution. The use of air heat pump photoelectric collectors has been compared with the use of FPC, PVT and FPC photoelectric heat pumps. The analysis of the impact on the cost of electricity is carried out taking into account the diversity of these parameters in recent years. According to industry experts, the use of an air PV heat pump is a sustainable economic solution when energy consumption is up to 0.23 € / kWh, and the possibility of connecting a heat pump PVT to a water source in case of high electricity costs is another advantage of the system. If the cost of electricity is 0.2 € / kWh, a 20 m² surface PV system will cover the energy cost of running an air heat pump at 67% per year from solar energy [4].

M. Naxera-Trexo, I.R. Martin Domingus, J.A. The research goal of the Escobedo-Bretado study was to determine the cost-effectiveness of a solar heating system used for hot water and floor heating [5]. In this study, a two-story house was modeled to calculate the heat load. In this study, system design and thermal analysis were performed using the TRNSYS software. Feasibility study was performed using Microsoft Excel. The optimal type, number and capacity of solar heat accumulators are determined on the basis of

economic indicators. The optimal configuration of systems with vacuum pipes is based on the fact that 8 flat-plate collectors with a storage capacity of 40 l / m², so the flat plate system consists of 12 collectors with a capacity of 50 l / m². It has been found that the payback period is 9 years for a flat plate system and about 11 years for a vacuum pipe system [5].

To combat the negative impact on the environment and other problems associated with fossil fuels, as well as to meet the growing demand for energy, many countries are focusing on the study and use of renewable, environmentally friendly energy sources [6]. Solar energy is one of the renewable energy sources that has the least negative impact on the environment. Various countries have developed solar energy policies to reduce dependence on fossil fuels and to regulate production using solar energy. K.H. A study by Solanj et al analyzed different ways of using solar energy in the world [6]. Based on the analysis of the literature, it was determined that FIT, RPS and benefits are the most beneficial energy policies implemented in many countries of the world. This policy provides significant motivation and interest in the development and use of renewable energy technologies. The state of solar energy policy for the countries of the Asian region has also been studied and compared with the developed countries of the world [3, 4, 5, 6, 7, 8].

In many European countries, the use of solar systems for heat supply of residential buildings is widespread. This is because the average value of direct and scattered solar radiation incident horizontally when analyzed based on the climatic conditions of European countries proves that solar energy can be used efficiently

for heating purposes. Researcher of the National Technical University of Belarus M.A. In Rutkovsky's research, climate connections were analyzed to determine the efficiency of solar systems, and based on the results of experiments, project calculations of the solar energy use system were presented [7].

Some researchers have proposed a method of using solar energy in the energy supply of small-scale energy-efficient residential homes. For example, Ya.A. Kungs et al proposed a system designed to heat a house using geothermal energy, generating heat and electricity from sunlight. For residential homes, this system is efficient, with low capital and operating costs. However, the fact that the system requires a very large initial capital investment prolongs the payback period of the system and increases the cost of energy produced [8].

C.V. Starovoytov's research examines the prospects for the use of solar energy in the Rostov region of Russia. In the hot water supply system, energy consumption is covered by the accumulation of solar energy in tank-batteries. Seasonal and year-round utilization of solar energy has been evaluated and the efficiency of flat collectors in regional conditions has been assessed [9]. The main disadvantage of the proposed system is that the efficiency of the use of solar energy falling on the flat collector surface is not sufficiently substantiated and summarized.

N.D. Shishkin and R.A. Ilin's research [10] has evaluated the effectiveness of the integrated use of solar collectors and solar water heaters. High-efficiency solar collectors are shown as collectors that retain their high energy efficiency when the heat loss increases sharply (when the optical f.i.k. of the collector

decreases from 0.93 to 0.63). In tests and experiments, the energy f.i.k. Based on the fact that 0.54 - 0.57 and this figure is not less than the f.i.c. increase [10]. The main drawback of the work was that the researchers were limited only to the results of the experiment, a mathematical model of the process was not constructed, an industrial model was made, and the experiments were not summarized.

Z.X. In Zamaleev's research, the heliothermal heat supply of buildings was calculated on the basis of regional climate indicators and quantitative analysis of solar energy [11]. To do this, the traditional heating system of the building is designed hot water supply. As a result of the introduction of solar energy into the system, the combined heat supply of the building was provided for 26 weeks, but it was also noted that solar energy could not be used in the heating supply of the region (Tatarstan region of Russia) in winter. Based on the results of the study, it can be said that in the northern regions, the possibilities of using solar energy in winter are limited and it is practically impossible to obtain the necessary thermal energy.

O.S. Popel's research has scientifically analyzed autonomous power devices based on renewable energy sources [12]. The systems proposed in them promote the use of renewable energy sources such as solar energy, wind power plants instead of traditional energy devices and fuel-energy resources for autonomous power plants. O.S. Popel's work is primarily based on the study of devices based on renewable energy sources, as well as mathematical modeling of processes.

Scientific studies by scientists from France, Indonesia, and Bali have led to the design of a solar alternating current system that includes

the storage of variable materials for regions with stable climatic conditions in the tropics [14]. The main focus of this study was on the use of photovoltaic cells to reduce energy

consumption in air conditioning and the use of solar panels instead of electric batteries in the use of steam-compression air heating and cooling systems (Figure 1).

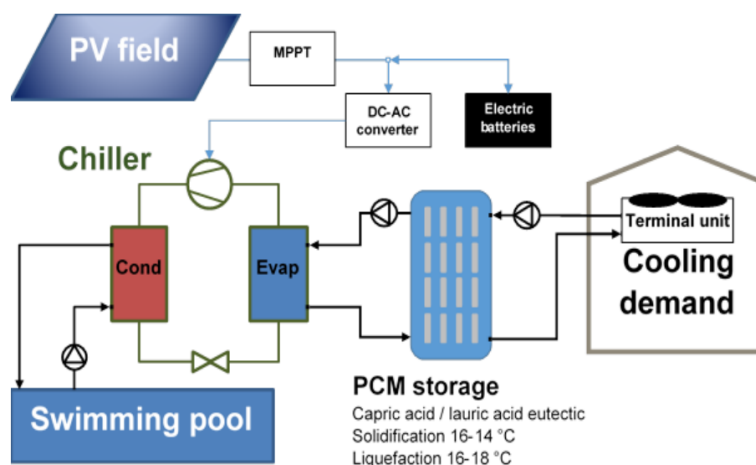


Figure 1. Technological process diagram of a steam-compression heat pump system using a photoelectric solar panel.

The main disadvantage of the proposed system is that the efficiency of the steam compression machine is not sufficiently substantiated. This is because the evaporating part of the heat pump does not take into account the volume of the building to be cooled when removing heat from the cooling system. Second, there are no technically and economically justified conclusions about the ability to heat the pool with heat from the condenser section. Thirdly, the selection of the photoelectric panel surface 25 m² used to start the heat pump compressor requires a large cost.

A study by scientists at the University of California, Berkeley, looked at the use of mini-channel solar water heaters made of aluminum

in a variety of weather conditions throughout the year. The study identified the operating costs of water heaters, the advantages of using solar energy in order to reduce the consumption of natural gas, electricity in their use. In conventional solar water heaters, the design of attaching heat pipes to the absorber ribs has been considered to be effective. These

devices used copper pipes with high heat transfer properties. However, other thermal designs also have the potential to use alternative materials with higher types of thermal performance. For this purpose, the researchers proposed a dimensional design of an aluminum-based mini-channel solar water heater shown in Figure 2 [13].

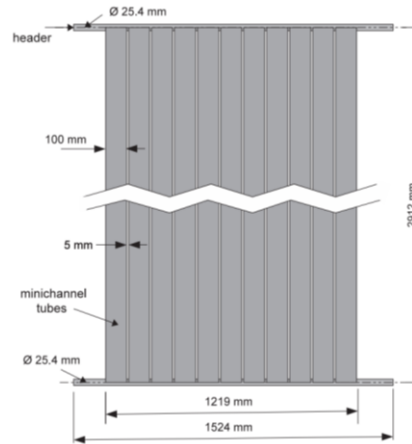


Figure 2. Dimensions of mini-channel water heater.

Based on the research, a schematic of the experimental band solar water heater described in Figure 3 was developed.

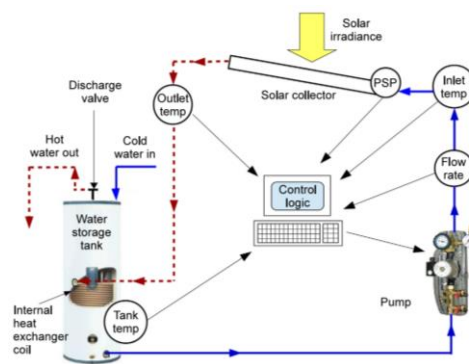


Fig. 4. Schematic of experimental set-up.

Figure 3. Experimental scheme of the device.

The proposed scheme evaluates the possibility of obtaining thermal energy in the form of hot water using solar radiation in all seasons, in different weather conditions [13].

Indian researchers have found that R.L. Shrivastava et al stated that modeling of solar water heaters using the TRNSYS (Transient System Simulation Tool) simulation program is

one of the promising areas of research [14]. Using the software, the water heater was interpolated by the iteration method. The evaluation procedure was performed by adaptation to standard test conditions. A schematic representation of the device obtained as a result of modeling is shown in Figure 4.

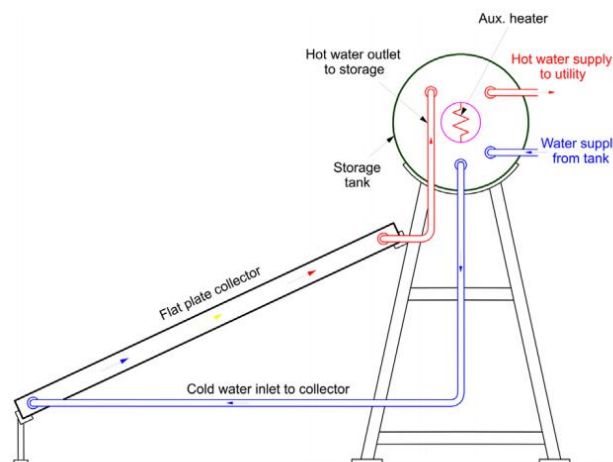


Fig. 6.2. Schematic arrangement of flat-plate SWH.

Figure 4. Schematic layout of a flat solar collector SWH

System error modeled using TRNSYS software is 5-10%. However, the fact that the study did not take into account extreme (accidental, e.g., windy, cloudy, foggy) conditions indicates the need for further research in this area.

B.Kanomoji and other scientists conducted an experimental analysis of the use of porous

substances in solar water heaters. The aim of the study was to increase the thermal FIC of the system during the transfer of energy from the solar collector to the working fluid [15]. The experiment using a solar collector was conducted on a solar collector with crushed stone (Fig. 5).

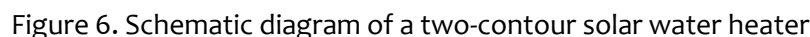


Figure 5. Appearance of an experimental device.

The crushed rock layer absorbs and collects heat, then for a certain period of time the working body transfers it to the moving pipe. Experiments were conducted without a porous medium, and based on the determined temperature and heat parameters, an increase in the efficiency of the system was found [15].

According to the results of testing of two-circuit solar water heaters in the cold period of

the year conducted by researchers of the Institute of Physics and Technology of the Academy of Sciences of the Republic of Uzbekistan, the thermal efficiency of two-circuit solar water heaters with intermediate batteries was determined [16]. The studies were conducted in a solar hot water supply system based on flat solar water heaters in the scheme shown in Figure 6.



Flat sun used in hot water supply systems by Klichev Sh.I., Avezova N.R., Avezov R.R., Ruziev OS, Rustamov N.T., Vakhidov AU, Sulemanov Sh.I. a number of important results were obtained based on the study of the resource performance of water heating collectors [17, 18, 19, 20, 21]. Based on the resource performance of flat solar water heaters, it is

Zahidov RA, Anarbaev AI developed solar heat and cold supply systems combined with heat pumps [22]. Based on the developed system, the use of a combined heat pump system using solar energy for heat and cooling supply of residential buildings is technically and economically justified. The schematic diagram of the proposed system is shown in Figure 7.

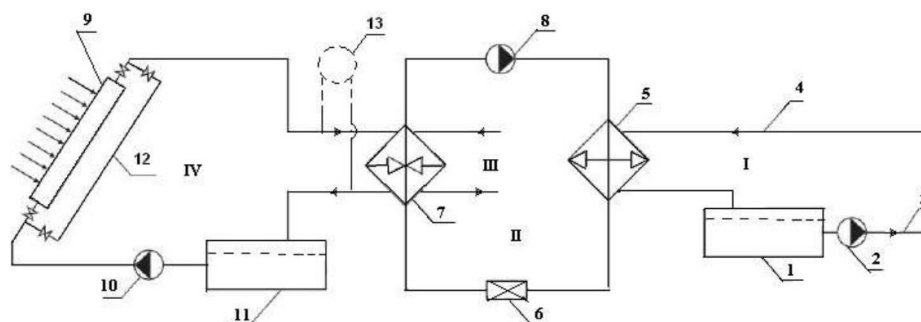


Figure 7. Schematic diagram of a low-temperature solar collector solar heat supply system combined with a heat pump: 1-accumulator tank; 2 circulating pump; 3,4 transmission and return heat pipes; 5-INQ capacitor; 6-throttle; Evaporator 7; 8-compressor; 9 low temperature solar collector; 10-pump; 11 ground heat exchanger for low temperature heat accumulation; 12 cold supply contour; 13

bypass pipe; I-heat carrier circulation circuit; Circulation contour of the refrigerant in II-INQ; Contour of water transfer from the ground accumulator III to the INQ evaporator; Solar energy utilization system with IV solar collector.

Avezov R.R., Qosimov F.Sh. and Ruziev O.S. studied the integrated coefficient of absorption of sunlight in the water layer in open evaporative surface tray solar water heaters and the results are presented in the form of graphical correlations [23].

A brief analysis of research on the use of solar energy in heat supply systems shows that combined heat supply (hot water and heating) systems operating on the basis of solar energy in natural conditions that are suitable for the climatic conditions and solar potential of the southern regions of the country. The feasibility and energy efficiency of the combined options of solar hot water floor and traditional heating systems are not sufficiently substantiated, optimal schemes of solar heat supply and traditional heating system, ie polyvalent heat supply systems have not been developed.

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Species Composition And Areal Of Distribution Of Bronze Beetles (Cetoniinae) In Orchards In The Conditions Of Uzbekistan

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ABSTRACT

This article, using the literature, analyzes the species composition, distribution, harmfulness, bioecology of beetles belonging to the family of bronze beetles (Cetoniinae) of the order Coleoptera in orchards. Based on the information received, practical conclusions and recommendations are presented.

KEYWORDS

Orchard, bronze beetle, generative organs, furry deer, fringed deer, agrotechnical method, chemical method.

INTRODUCTION

The countries of the United States and Turkey from European countries occupy leading positions in the cultivation and export of fruit

and vegetable crops in the world, the countries of China and Iran from the Asian continent are achieving high results. However, there was a

lot of precipitation, and losses under the influence of pests and diseases formed up to 90.0 % in apple orchards in years when the air temperature is low and the humidity is high [1; 2].

The demand for fruits and vegetables, which is considered the main source of food not only in Uzbekistan, but throughout the world, is growing today. And this requires the cultivation of quality products, the adoption of measures to combat diseases and pests that pose a threat to the vegetables and fruits grown annually [1; 28-31-p.].

Fruit gardens of our republic are damaged by many sucking and gnawing pests (aphids, scale insects, spider mites, apple moth, Asian moth, bugs) and by representatives of the order of beetles [3; 260-261-p.].

In subsequent years, in orchards, the harm from species belonging to the subfamily of the family of bronze beetles (Cetoniinae) of the order Coleoptera increases significantly. In particular, bronze beetles (Cetoniinae) from representatives of the subspecies furry deer (*Tropinota (Epicometis) hirtiformis* Reitter) beetle, Turanian deer (*Tropinota (Epicometis) turanica* reitter), bordered deer (*Oxythyrea cinctella*), feed on by the organisms of Schaum. foothill areas causing great damage. Causes serious damage to the crop up to 30-60%, depending on the amount of damage caused by the pest as a result of favorable or unfavorable weather conditions in the spring of the year, as well as the quality of the remaining fruits. [2; 30-302-p.].

Beetles in early spring, first on weeds, then from fruit orchards (apple, peach, quince, pear, cherry, etc.) damage the generative organs of trees. In addition, some types of bronze beetles are harmful by feeding on the flower

formations of cultivated flowering plants. Before developing an improved system for combating damage to unwanted species of the young family of bronze beetles (Cetoniinae), it is necessary to study their species composition and distribution area.

In Central Asia, you can find mainly three species: furry deer (*Tropinota (Epicometis) hirtiformis* Reitter), Turanian deer (*Tropinota (Epicometis) turanica* Reitter), fringed deer (*Oxythyrea cinctella* Schaum.) Cause great harm by eating flowers.

Since the climatic conditions of the geographic region of Central Asia are dry and continental, these pests are considered harbingers of their spread and spread.

The above pests are described below.

Shaggy deer (*Tropinota (Epicometis) hirtiformis* Reitter), beetle length 9,0-11,7 mm, width up to 5,8-6,8 mm, beetle color is black, body is long, beetle looks brownish due to low furry. The bronze Turon beetle walks along a set of winding paths across the white from the chitinized wing. The larva of the furry deer is covered with hairiness up to 35 mm with a thin curved length; differs in the presence of 3 pairs of legs in the chest.

Turanian deer (*Tropinota (epicometis) turanica* Reitter). the body length of the beetle is 10-13.2 mm, the width is up to 8 mm, the color is black, but visible as brown. The very larva of the Turonian bronze beetle up to 38 mm long is covered with hairs; there are white stripes around the airways that spread as light.

Fawn bordered (*Oxythyrea cinctella* Schaum.), The beetle is 8-11 mm long, has a black color, shines; along the front lateral edges of the back there is a narrow flowing path, along the

adjacent edge of the back there are two white dots. Too many small specks seeping into the wing are located; the point is that these spots are located on the edge of the correspondence of the wingspan to the larger one, the wingspan located at the top. In winter, whitish spots also appear on the leg and chest. There are two prongs at the tip of the foreleg. The 20 mm larva is similar to the larvae of other beetle species. [2; 300-302-p., 4; 102-103-p. five; S. 88-102.].

Bronze beetles fly from mid-March to mid-to-late May after maturation. The Bronze Beetle flies off the ground, causing more damage to the lower branches of trees and stunted flowers. After mating the bronze beetle, the female lays eggs, trapped between humus and nutrient-rich soil. Up to two weeks after oviposition, the larvae emerge. Bronze beetle larvae feed on decaying organic matter and are harmless; until autumn, they envelop a cocoon of soil or manure and turn into a pupa. Bronze beetles breed once a year.

Findings. According to the results of the studies carried out, when fighting bronze beetles in orchards, it is necessary to carry out preventive measures in a timely manner, taking into account their bioecology and life expectancy. According to these data, using effective chemical, biological and agrotechnical means, they are considered an important factor in the management of their numbers. High biological efficiency can be achieved when using chemicals Mospilan 20% d.p. (0,2 l / ha), Confidor k.s. (0,3 l / ha) against beetles.

Many believe that the thick, gray-white larva nibbles at the roots of plants. This, unfortunately, is true. Only it does not concern the larva of the bronze beetle, but the larva of

the crunch, which at first glance looks exactly the same. The larva of the bronze beetle feeds only on detritus of plant origin — dead, not decomposed plant remains. That is why they were interested in the old logs of our house as a habitat. Living plant tissues, for example, roots, are not at all attractive to them. What can not be said about the larvae of the crunch (May beetle).

Moreover, without harming the plants, the voracious larva of the bronzer brings quite tangible benefits. It feeds continuously during its existence, crushing plant remains already partially destroyed by rotting with its jaws, contributing to the rapid decomposition of solid particles that would have remained intact for a long time.

Speaking in defense of the larva of the bronzer, it should be said, for the sake of justice, that the imago of the bronzer is an adult insect, it feeds by gnawing out the stamens and petals of flowers, young leaves, and also eating fruits. However, the bronze does not cause serious damage to fruit and flower growing. No special methods have even been developed to control this insect.

The bronze bird can be considered a safe insect for agriculture, given the peculiarities of its life. The life story of the insect was surprisingly described by the French entomologist Jean-Henri Fabre.

Bronze has a two-year development cycle. The beetle emerges from the pupa in mid-summer—in July. Until the end of summer, the insect actively feeds, devoting all its time to food. But beetles are only interested in fruits, eating overripe fruits and berries in large quantities.

Bronzes are thermophilic and light-loving. Therefore, they are active only on a hot sunny

day, in cloudy weather and at the slightest cold snap, hiding in a shelter. With the onset of cool time, the beetles take shelter for the winter. Coming out of the state of torpor in the spring, the bronzes again begin to feed, but much less actively than last year after their hatching. Since there are no berries or fruits at this time, the insects feed on flowers, young leaves and the resulting sap of trees. Bronzes love warmth, so they wake up from hibernation when it's already hot enough. At this time, the fruit trees are already mostly fading. Bronzes most often feed on rosehips (though not forgetting about roses), on the inflorescences of snyti and meadowsweet.

Then the insects mate, and the female lays her eggs in the humus-rich soil, compost heaps, dead leaves, and sawdust. After the breeding stage, the bronzes are no longer interested in food: until autumn, adults fly sluggishly, crawl, and with the onset of cold weather crawl into the soil, where they end their lives. At this time, twelve days after the female lays the eggs, small larvae hatch and begin to destroy the rotting remains of plants in huge quantities, turning them into a nutrient for new plants. The larva moves in the soil, passing through its intestines plant remains, using for movement not short legs, too weak for such a bulky body, but powerful rollers on the back. The larva of the bronzer, if it is placed on the surface with its belly down, turns its legs up and begins to crawl on its back. The legs of the insect larva are used only when it is time to create a cocoon, inside which the larva turns into a pupa, from which the adult insect — the bronze beetle-will later emerge.

A rare species whose population is declining. Brief description. The length of the body is 22-28 mm. The body is somewhat flattened-rolled, with a pronounced metallic-shiny tint of ochre-

greenish or copper-red tint on top, and a pale greenish-golden tint on top. The underparts and legs are intensely green, sometimes with a pale blue body. The elytra are uniformly convex with faint punctuation, but without any patterns. The lateral parts of the middle breast are visible from above from under the elytra. The elytra themselves are on the sides with a notch in the lower shoulder part.

Limiting factors. Prolonged dry weather during the growing season. Chemical treatment of forest and fruit and berry crops (primarily in gardens near the forest) in the spring-summer period (May-June). Thinning of forests, continuous and concentrated logging with uprooting and hauling of wood; reduction of old deciduous stands, especially oak forests; removal of dead wood; clearing of forests. Recreation, including the activities of mushroom pickers. All factors are most significant for beetle larvae.

Security measures. The species of green bronze is included in the Red Books of the Republic of Tatarstan and the Ulyanovsk Region (2). Special protection measures have not been developed. Based on the biology and ecology of the species, we consider the following approaches to ensure its preservation and reproduction appropriate. It is necessary to stop the practice of allotting land for horticultural societies in the near-forest part of the forest. Within the habitat of the species, stop any chemical treatments both in the forests and in the gardens adjacent to these places, especially in May-June, as well as in farmland. Artificial maintenance and breeding is possible, which requires special technological research and in terms of preparing the food substrate for the larvae [4].

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Bio-Morphological Peculiarities Of *Salsola Orientalis* S. Gmel In The Conditions Of South Aral Sea Region

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ABSTRACT

The article is devoted to the study of the growth and development of *Salsola orientalis* S. Gmel in a culture. In the literature, the growth and development of *Salsola orientalis* S. Gmel is readily eaten by animals in all seasons and is a good fatty food for sheep. The eaten part of the plants is annual shoots with leaves; flowers and fruits, often more lignified lower parts of the bushes. Therefore, it is difficult to find plants in grazed areas that are not damaged by animals, which makes *Salsola orientalis* quite suitable for making hay.

Despite the practical value of this species and great attention from researchers, the growth and development of *Salsola orientalis*, taking into account the influence of the ecological conditions of the Karakalpak part of the Kyzyl-Kum Desert, have been little studied.

KEYWORDS

Growth and development, cotyledons, hypocotyl, true leaves, flowering and fruiting, lateral roots, first-order shoots, second-order shoots, number of internodes, aerial part, lateral roots, branching, growth, seedlings, generative shoot.

INTRODUCTION

Keyreuk – *Salsola orientalis* S. Gmel belongs to the family of cimaceae, a subshrub, a halophilic plant with good forage properties, high productivity of the eaten mass and stability of systematic grazing in the harsh climatic conditions of deserts.

Keyreuk is readily eaten by animals in all seasons and is a good fattening feed for sheep. The eaten part of the plants is annual shoots with leaves, flowers and fruits, often more lignified lower parts of the bushes. Therefore, it is difficult to find plants in grazed areas that are not damaged by animals [1], which makes *Salsola orientalis* quite suitable for making hay.

According to M. M. Sovetkin [6], the eaten mass of *Salsola orientalis* leaves, young twigs, fruits contains 17.4% ash, 9.7% protein, 23.7% fiber, no alkaloids were found.

Keyreuk grows in various soil conditions, possessing a wide adaptability to a variety of edaphic and hydrological factors [4].

In the conditions of the Karakalpak part of the Kyzyl-Kum in culture, the biology of *Salsola orientalis* has hardly been studied. Therefore, we set ourselves the task of identifying the dynamics of growth and development of the vegetative organs of *Salsola orientalis*.

THE DISCUSSION OF THE RESULTS.

We carried out the first experiments to study the biology of *Salsola orientalis* in 2014 at the experimental site at the Department of Biology of the Karakalpak State University named after Berdakh.

In our experiments, *Salsola orientalis* S. Gmel showed a generative phase and full fruits

already in the first year. By the end of the growing season, the height of plants reached 43 cm. Under the conditions of the culture of the Karakalpak part of the Kyzyl-Kum, *Salsola orientalis* S. Gmel went through the entire life cycle and gave seed reproduction.

In 2014, the first shoots of *Salsola orientalis* appeared in the third decade of March. The cotyledons were narrow oval on the upper side, yellow-green, not lowered, slightly lowered at the base. The length of the cotyledon leaf was 7 mm, the width was 2 mm, and the length of the hypocotyl was 6-8 mm. Seedlings of *Salsola orientalis* were characterized by intensive growth of the root system, which lead to better survival of juvenile plants in arid conditions.

In the second decade of April, the first true leaves appeared. The first true leaf was 1.5 mm long and 2 mm wide. The shape of this leaf was cylindrical; the apex was pointed, petiolate, and alternate in location. At this time, the plant height was 10 cm, the number of internodes was 11, and the number of shoots was 16. In the third decade of May, shoots of the first order appeared. The number of leaves in one bush was 96 pcs.

The beginning of the growing season in the two-year-old *Salsola orientalis* was observed from the first ten days of April. Active growth was observed in April, May, until the first ten days of June. Leaf blooming began from the lower part of the main shoot, the upper part of the shoot, new leaves sprouted at a height of 15-20 cm from the last years dried branches. In the third decade of May, *Salsola orientalis* had a flowering phase (Table 1). The number of

internodes on the main shoot was 38, crown diameter was 45 cm, and branches were soft. Shoots of the V1 order appeared, their length had reached 2.5 cm, with a diameter of 6 mm. The number of shoots of the first order was 14; the number of shoots of the second order – 20. In the third decade of September, the upper part of the branches died off by 10-25 cm.

According to our observations in culture in favorable weather conditions, intensive development of plants was noted, i.e. in 2014, then the annual precipitation was 194.5 mm, the plants grew by 43 cm, and in 1983, when the annual precipitation was 105 mm. The growth and development slowed down somewhat, the growth of *Salsola orientalis* did not exceed 19 cm in height. *Salsola orientalis* with a height of 22 cm, its crown reached 44 cm in diameter. The budding phase was in the first decade of May (table-1) at this time the length of the generative shoot is 14.5 cm, the number of buds in it was 24, and the buds were located in the leaf axils.

Some generative shoots had small shoots, their length was 1.5 cm. The length of the vegetative shoot was 15.5 cm, the number of shoots in it – 13, their length – 1.5 cm. Mass flowering was noted on July 15. The maximum length of a generative shoot was 40 cm, the number of flowers in it – 81, these shoots were well branched, the length of the second order

shoots was 5 cm, the length of the third order shoots was 1 cm. In the lower part of the shoot, flowers were rarely located, and in the upper part, they were closer to each other. The number of shoots on one annual shoot was 18, their length – 11 cm. Most of the branches dried out.

Plant height was 55 cm, and crown was 80 cm in diameter. The length of the annual shoot reached a maximum of 41 cm; the wings appeared in September. Many *Salsola orientalis* bushes did not give full fruit due to the high summer temperature (July 42°-43°C). In the fifth year of life, the keyreuk began growing in the first ten days of April. Most of the bush dried out, the length of the annual shoot was 11.6 cm, it had 15 shoots, their length was 1.5 cm, the number of leaves was 66, the length of leaves was 6 mm, the shoots were reddish in the annual shoot, the upper parts of the branches and leaves were located closer to each other.

In our experiments, the generative phase was observed in *Salsola orientalis* S. Gmel already in the first year. The budding phase of *Salsola orientalis* under the conditions of the Kyzyl-Kum Desert of Karakalpakstan began at the end of June. The flowering phase began in the second decade of July [1, 2].

Table 1.

Dates of the onset of the main phenological phases of *Salsola orientalis*

S. Gmel of the first (2014), second (2015), third (2016), fourth years of vegetation in culture.

Vegetation years	Kind	Vegetation		Budding		Flowering		Fruiting	
		beginning	end	beginning	end	beginning	end	beginning	end
2014	<i>Salsola orientalis</i> S. Gmel	4.03	10/XI	15.05	20.08	15.06	10.09	20.08	10.X
2015	-/-	15.04	10.XI	13.05	25.08	10.06	15.06	20.07	05.X
2016	-/-	1.03	8.X	7.05	30.08	8.06	10.09	23.07	05.X

Mass flowering and the beginning of fruit set were observed at the end of July. Individual bushes of *Salsola orientalis* bloomed until the end of September. The fruiting phase began in August. The leaves of the lower part of the main shoot dried out. Growth was slowing down.

Fruit ripening was noted at the end of October. The number of seeds in a large bush was on average 232 pieces, an average bush 70 pieces in a small bush –10 pieces. The onset of the flowering and fruiting phase in the first year of life was noted by A. Allaniyazov in the conditions of Ustyurt and R. Nigmanova (1930) in the conditions of Southwestern Kyzyl-Kum [5].

The fruiting phase of *Salsola orientalis* occurred in the third decade of June (1982).

The number of fruits on one branch ranged from 12 to 40. At this time, the leaves changed their color to orange. The wings were not fully formed; they usually started from the bottom of the branch. Individual bushes of *Salsola orientalis* at the end of the second year of life gave up to 3000-9000 seeds.

In a three-year-old keyreuk, the budding phase was noted in the first decade of May, at this time, the length of the generative shoot was 8 cm; the number of buds in it was 8-29 pieces. The buds appeared in the axils of the seventh leaf of the generative shoot, flowering in the second decade of June (Table 1). The length of the generative shoot was 19 cm. Many shoots dried up, the upper parts of all the shoots died; the size of the dead shoots was 7-16 cm. The productivity of the green mass was 1.3 kg/ha.

The seed productivity of the keyreuk on the furrow under the culture conditions varied from 40 to 60 grams per bush, it depended on the habitat and the amount of precipitation.

Thus, in culture in different years of observation, the values of various degrees of growth and fruiting changed with the change in meteorological factors.

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Material Handling Mechanisms In The Sewing Machine

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ABSTRACT

This article gives a detailed analysis of the material handling mechanism in a sewing machine. The construction and their working principle are presented.

KEYWORDS

Mechanism, material, rail, needle, lines, trajectory, engine, plate, conveyor, presser foot

INTRODUCTION

The material transport mechanisms of sewing machines are important mechanisms on which the quality and efficiency of the machine's workflow depend.

The material transport mechanism of the sewing machine is designed for periodic discrete movement of the materials to be sewn for a given stitch length. Movement of

materials in the sewing machine is made periodically according to the cyclogram of the sewing machine. Typically, the movement of materials to be sewn: gear rack (slats), roller (roller), a special device (carriage, cassette, hoop, etc.) with clamped materials [1].

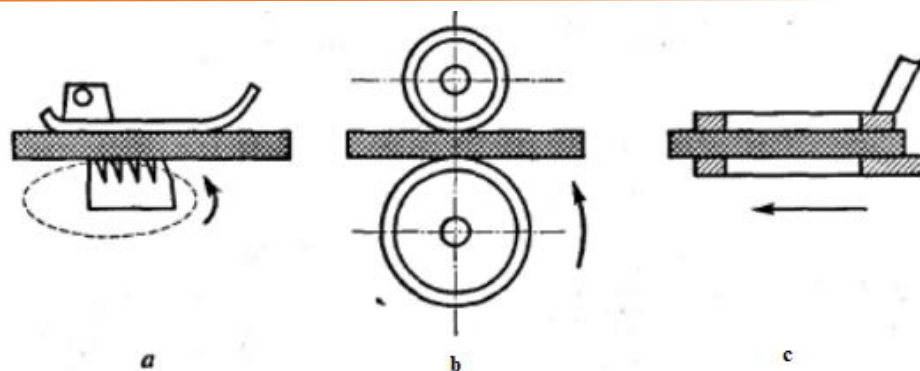


Fig. 1 Patterns of material transport on a sewing machine:

a - by a rack and pinion conveyor; b - by a disc (roller) conveyor; c – frame

The disc (roller) conveyor is used in sewing machines for processing leather and fur garments, as well as for performing auxiliary actions in sewing specialised machines.

Frame is used in machines that perform the stitching on a given program (buttonholes, tacking, etc.), as well as in universal programmable machines when performing embroidery.

In general-purpose sewing machines for stitching textile materials using rack and pinion type mechanism of the fabric engine, in which the movement of the material by the slat and presser foot.

The slat is offset both vertically and horizontally. When these two movements are correctly matched, the slat has an elliptical motion path. Each direction of movement the

slat receives from the corresponding lifting and moving unit of the slat. Usually the material

advancement mechanism of the rack type has slave links (Fig. 2): the lever 2 with the rack; the

advancement lever 1; the lift lever 3. During the reciprocating motion, the advancement lever 1 reports horizontal movements, and the lift lever 3 reports lifting and lowering of the rack with the lever 2. Consequently, the magnitude L_{CT} of the rail 2 advancement depends on the range of reciprocating motions of the advancement lever 1, and the lift of the rail - on the value of γ_p pumping of the lift lever 3. Stitch length regulator and the return stroke of the rail are always kinematically connected with the advancement unit [2].

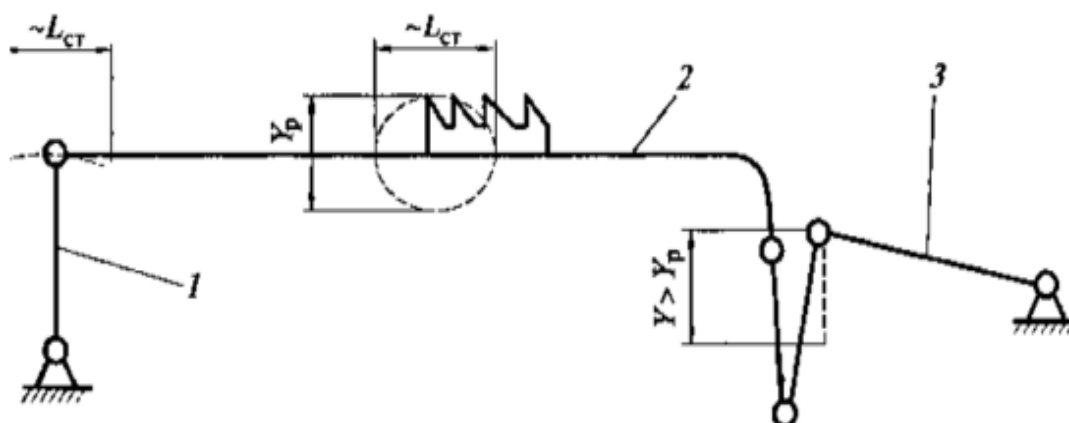


Fig.2 Toothed rack travel links

The direct moving element is the toothed rack 1 (fig. 3), which moves along the grooves of the needle plate where the packet to be machined is placed. The teeth of the rack, raised above the I-I level of the needle plate, press into the material at the appropriate moment of the work cycle and, capturing it, move it in the desired direction. After moving the material by

one stitch, the slats drop down below the upper plane of the needle plate and return to their original position.

On its own, the toothed fabric motor could not have accomplished any material movement if it had not been paired with a separate spring-loaded device that pressed the material against the needle plate.

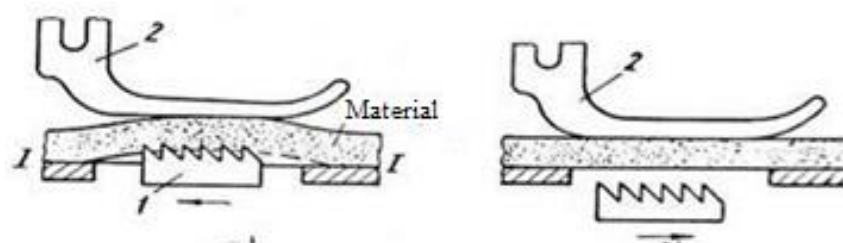


Fig.3 Principle of operation of the rail mechanism

The material is generally pressed down by a presser foot (or presser foot) 2 mounted on a rod that is pressed down by a spring. The pressure of the spring is adjustable.

Without the presser foot, the machine cannot be operated. During the working process, when the buttonhole is formed and then the

buttonhole is tightened, the presser foot exerts pressure to secure the material to the needle plate. If the presser foot were not used, the fabric would rise with the needle and the eyelet loop would not be created.

Technologically the most desirable operation is the following: the teeth of the cloth motor rise

vertically upwards, leaving the plane of the needle plate at a value h , and press into the material; the teeth of the motor move forward, in the feed direction; the plane of the tooth tips during the movement remains parallel to the plane of the needle plate; having completed the material movement, the cloth motor descends vertically downwards under the needle plate. The last stage is the return of the rail under the needle plate to its original position. Theoretically, the trajectory is a rectangle. In reality, to obtain such a trajectory requires a very complex mechanism [3,4].

Therefore, there is a slight simplification of the scheme, forcing the cloth motor to follow an elliptical curve (Fig. 4). It is necessary to aspire that in the upper part the trajectory of tines was as close as possible to a straight line, and the initial and final sections were as steep as possible upwards, that corresponds to faster rise and fall of tines.

The material motor considered has a very significant disadvantage: on some materials it gives a 'fit' of the bottom layer in the pack.

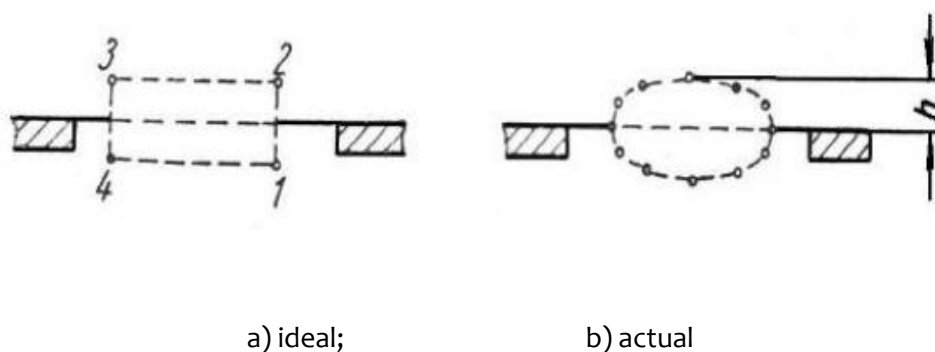


Figure 4. Rack tooth trajectory

The fit is mainly due to the friction force of the top layer of the pack against the foot, which inhibits movement of this layer, as well as the deformation of the bottom layer when the rake teeth are pressed into it. With a large fit, the bottom layer of the pouch becomes

corrugated. When stretching cross-linked materials, the seam may tear.

In this situation, it is better to transport the material with the slat and the needle moving together with the slat at the same time.

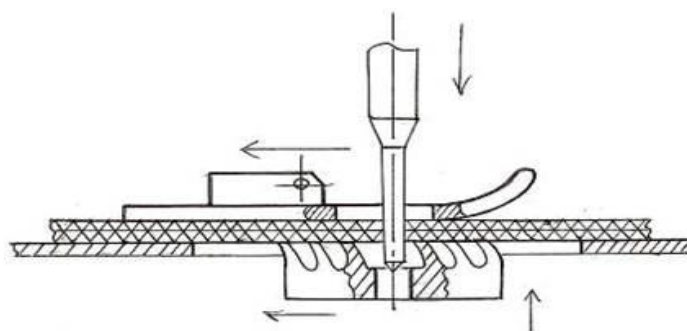


Fig.5. Scheme for transporting the semi-finished product with rail and needle

To prevent the needle from breaking, its horizontal stroke speed is synchronized with the movement of the toothed rack. A hole is made in the rack to allow the needle to pass through, and a slit in the foot of the presser foot with a length slightly longer than the maximum horizontal needle stroke. In a number of cases, such a scheme gives a good result, and designers widely use this approach.

When joining lightly deformed materials, the desire to achieve well-tightened stitches leads to a change in their structure and, as a consequence, to shrinkage along the stitch line. If the stitches are formed on stretched fabrics, they can be very loose and the joint will be loose after leaving the foot, and when turned out, as the fabric makers say, a 'grin' will form, which is also unacceptable for aesthetic reasons. In addition, the spring loaded presser foot slows down the upper layer when moving the package to be sewn, so that it is somewhat stretched and the quality of the seam deteriorates.

These difficulties are solved by the use of a differential fabric motor in the machine design. This is a type of motor, which for the working process uses two bottom racks, at the same time and at the same height rising above the needle plate, but in a longitudinal direction (along the seam) have different magnitude stroke. The relationship between the magnitudes of these strokes is called a differential.

By setting the slats (each one different) horizontal movement, it is possible to create

different conditions for the movement of the material in the area of the puncture, which allows it (the material) to stretch or compress,

depending on the physical and mechanical properties and technological requirements [5].

The stitch pitch is determined by the stitch farther away from the operator. It is called the main rail. The nearer rail is called the differential rail. The value of its movement can be greater, less or equal to the stroke of the main rail.

If the strokes of both laths are equal, they move as one, their effect on the material is only the direct feeding of the workpieces under the foot. In this case, the differential is zero. Figure 6 a explains this position.

If the stroke of the differential toothed rail is greater than the movement of the main rail, then the differential feeds more material under the presser foot and thus eliminates the stretching effect. This is used when sewing soft materials (fig. 6 b).

If the stroke of the differential lath is less than that of the main lath, the fabric is stretched in the presser foot area. This differential is set according to the stiffness of the fabrics being processed (fig. 6 c).

In numerical terms the degree of differential is indicated by comparing the stroke of the additional rail with that of the main rail, taking the latter as one.

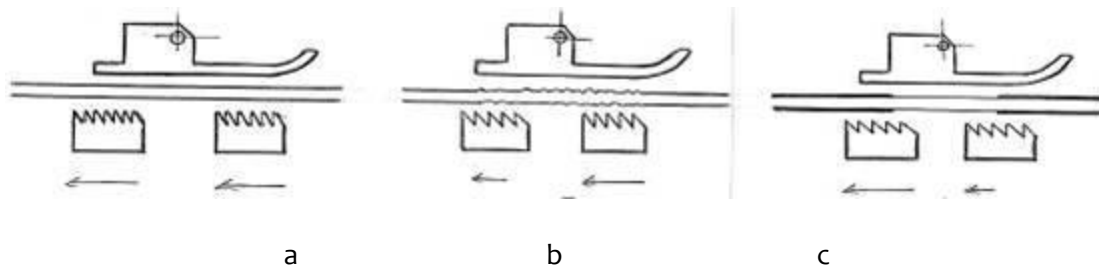


Fig.6. Diagrams explaining the operation of a fabric differential motor

For example, a differential of 1:2 means that the additional (differential) rail has twice the stroke of the main rail - a positive differential.

A ratio of 1:0.6 indicates that the stroke of the differential is less than that of the main rail - negative differential.

Materials that are difficult to transport are moved under the presser foot by two toothed racks located at the top and bottom of the pack, which work by gripping, as with pincers, the workpieces to be sewn in the piercing area (Fig. 7).

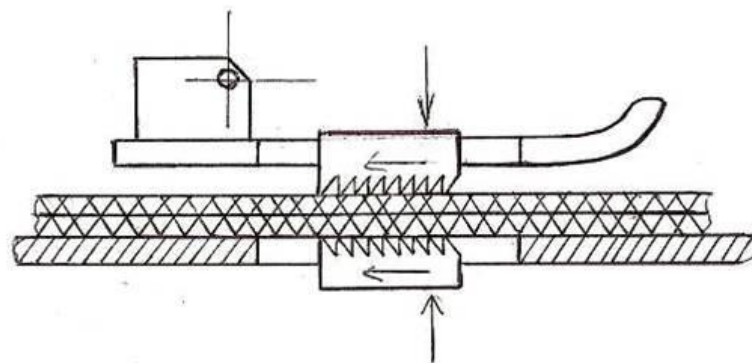


Fig.7. Conveyor unit with upper and lower advancement rails

During the transport the presser foot is raised. When the movement is completed by one step (per stitch), the foot is lowered and holds the pack against the needle plate.

The same mechanism can also be used in cases where it is necessary to ensure a predetermined fit of the layers in the pack [6].

This is accomplished by setting different horizontal movements for the top and bottom rails. Leather stitching machines use a roller instead of a foot. It can have a forced rotation,

which improves the transport process. A double roller conveying option is also possible, this allows better conveying of the material on steep turns.

For the most difficult variants of sewn packages (many layers, transversal seams, wide processing band) a puller pulley unit is used, which is installed directly in the sewing area immediately behind the presser foot. The pull roller drive is synchronised with the rotation of the machine's main shaft and is often controlled electronically. The roller

pressure on the material is also controlled in the latest designs, so that it can be automatically adjusted as required when the pack thickness changes, e.g. when cross seams are crossed.

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Person-Centered Learning Technology And Its Role In The Repetition And Re-Learning Of Physics

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ABSTRACT

The article discusses the issues of increasing the effectiveness of teaching with the help of innovative pedagogical technologies. Currently, the issue of using software-pedagogical and telecommunication means in the educational process of the school and, in particular, in teaching physics is urgent. In recent years, more attention has been paid to person-centered educational technology in terms of the type of pedagogical technology approach to the learner and its organizational form.

KEYWORDS

Education, pedagogy, efficiency, process, modern pedagogical technologies, student activation, teaching material.

INTRODUCTION

Introduction of modern pedagogical technologies at all stages of continuing education: general secondary school, secondary special education and higher education is a requirement of the time.

Therefore, the main directions, criteria, types, organizational forms of pedagogical technologies, traditional and non-traditional forms of their implementation are described in detail. The factors of application of

pedagogical technologies in the educational process are sufficiently described in.

In recent years, more attention has been paid to person-centered educational technology in terms of the type of pedagogical technology approach to the learner and its organizational form. The reason is that education in this technology is aimed at the formation and activation of the mechanisms of self-development of the individual.

In our view, the term person-centered learning (PE) technology is less well-chosen. The reason is, first; all educational technologies are person-centered; secondly, the Russian translation of the phrase "personal-oriented training" can be translated as "personal." However, since the first phrase is common in the literature, we also use the same phrase.

MATERIALS AND METHODS

Person-centered education (PE) is a person-student subject of the educational process, and its development is the goal of the pedagogical process.

Person-centered education (PE) is a person-student as a subject of the educational process, and its development is the goal of the pedagogical process. At the heart of the personal paradigm of education lies a person-centered and goal-oriented perspective. N.A. Alekseev describes PE as follows: "it is an education that is based on the student's identity, subjectivity and value. SHYT is not only an education that takes into account the subjective factors of the student's teaching, but also a method of organizing the involvement of his personal functions in the educational process".

Many scholars argue that PE should be technological and therefore it is appropriate to call it the pedagogical technology of PE. Since any pedagogical technology is a project of didactic systems, PE technology is no exception. I. A. According to Alekseev's description, the pedagogue should take into account the psychological development and level of the student, as well as their capabilities in the design and practical organization of educational activities.

A.A. Pligin identified the following criteria for considering educational technology as PE technology:

- 1) Take into account the individual - active participation of students in the development of lesson plans;
- 2) Free choice of the form of education;
- 3) Free choice of the type of complexity of the subject;
- 4) Evaluate not only the results but also the process of activity;
- 5) Formation of cognitive structures that carry out mental development;
- 6) The use of inductive and deductive methods in the preparation of didactic materials;
- 7) Study and formation of creative activity;
- 8) Application of heuristic methods of teaching.

V.V. According to Serikov, PE is interpreted as a learning situation or a person-centered learning situation [87]. Situation is, in his interpretation, a separate pedagogical mechanism that puts the student in new conditions, transfers him to a state of self-awareness, re-understanding, reflection. Thus, V.V. According to Serikov, any pedagogical technology can be person-centered, if it

creates an environment of interdisciplinary thinking, understanding.

1. PE including Yakinmanskaya P.S., Friedman L.M. and in the research of other scholars. It is worth noting the following main conclusions of their PE technology:

- Different levels;
- Differentiated;
- Individualized;
- Subjective personal.

2. The key concepts and links of PE are: individual, person, own opinion, subject, subjective experience, knowledge strategy, personality development trajectory, student learning style (MEN - concept), student learning style (pedagogical support).

3. The main rules and conditions of teaching and education of students of SHYTR:

- Self-activity;
- Individuality
- Subjectivity;
- Choice, opportunity and freedom of choice;
- Creativity and success.

4. Technological weapons of PE are its methods and techniques, which are:

- Be dialogic;
- Creative activity;
- Focus on the application of individual development of the student;
- To create the necessary freedoms for the student to make independent thoughts and decisions, to choose the content and form of reading.

5. Pedagogical technologies based on PE:

- Person-centered education;
- Self-developing educational technology;

- Pedagogical cooperation (interconnected technologies);
- Adaptive school technology;
- Personal suspicious technology (Amonashvili Sh.A.);
- Game technology;
- Developing educational technology;
- Problem-based education;
- Technology of level differentiation;
- Individual learning technology (individual approach, individual learning, project method);
- Collective method of education.

RESULTS AND DISCUSSIONS

Given the above, we see the concept of physics PE.

As with any science, the teaching of physics must rely on subjective experience. It therefore depends on the psychology and physiology of the student in the teaching of physics. In our opinion, the teaching of physics in PE should be organized and taught in the following basic terms:

- Use of natural mechanisms and correct strategic use of accumulated experience;
- Surrounding the student with the "environment" of physical processes and events, as well as the existence and encounter of laws in everyday life;
- Sensory systems of learning perception: organization on the basis of "seeing" - "hearing" - "feeling";
- Create a spiritual, problematic situation around each topic or parameter (for a model, law or event);
- Provide and apply a dynamic transition from small didactic units and concepts to large didactic units and vice versa;

- Organization of education on the basis of free and compulsory "replacement" of the "focus" of thought (creation of the learning process);
- Attach great importance to qualitative and real (vital) issues;
- Use of various forms of person-centered reflection (thinking, imagination;
- Constantly motivate and stimulate students in various new learning activities;
- Creation of individual perspectives of students in education;
- The organization of classes that develop and integrate the knowledge of students (such as KVN, conferences, intelligence, step-by-step quizzes;
- Creating opportunities and conditions for the positive development of the student "I-conference" and the achievement of personal perfection.

It is also important to create and organize a lesson on the basis of PE (lesson model, plan, experience and demonstration, differentiated homework, etc.). At the same time, it is expedient to emphasize the theoretical, practical, vital importance of the lesson, to emphasize that the knowledge gained on the subject of physics can be applied later.

CONCLUSION

The quality and level of lessons based on person-centered technology: teacher's preparation for lessons, quality of lesson organization, lesson content, pedagogical technologies used, student-student communication, assessment and rewarding, individualized and selective cooperation with students, student depends on pedagogical skills and culture as well as professionalism.

The above are the general principles of the SCO. Every educator will have to approach

SHYT according to the stage, department and level of physics education. However, in practice, the following difficulties and problems have been identified in the implementation of the SCO:

- Non-"single value" of person-centered educational technology;
- Lack of methodological manuals for teachers;
- Lack of didactic materials and equipment for educational institutions for teaching on the basis of SHYT;
- Unpreparedness of students for PE;
- Lack of sufficient professional and retraining of teachers;

These problems, in particular the application of PE technology in the teaching of physics, are being partially solved. Since physics is both a theoretical and experimental science, it also solves a number of methodological problems.

The first is that posters have been created and produced from physics on its phenomena, laws, and regularities;

Second, a set of differentiated test tasks, problems using computer technology was created;

Third, virtual laboratory work was created;

Fourth, laboratory work and their methodological guidelines were created.

These created educational-methodical systems used the principles of adaptive system, ie level-differentiated materials, gradual complication of materials and development of creative abilities of students.

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Methodological Basis Of Creation, Organization And Decoration Of Platter's Artistic Composition In Applied Art

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ABSTRACT

The article contains all the patterns that have been used since ancient times in Applied Arts, although they are conditional representations of nature and reality, they have their own rules, and these rules are derived in a stylized way from nature itself. The article provides information on the artistic processing of the bowl, which is typical of the art of woodcarving.

KEYWORDS

Pattern, ruler, pargor, kalka, islimi, composition, chakich, sandpaper, pax, choka, lula, layer, sherlak, relief, dissertation.

INTRODUCTION

Plate processing in woodcarving requires special attention and great skill from the master. This is because the surface of the tray will not be as flat as usual, but will be bent inwards, i.e. the inside of the tray will be somewhat deepened, like the ordinary trays we know. That is why it is a little difficult to

carve a pattern for him. However, the bowl is a wonderful piece of woodcarving, which can be carved from pattern compositions in several ways. For example:

- Self-engraving of Islamic pattern composition;

- Mixing Islamic pattern composition and pargora pattern composition;
- Carving only pargora pattern composition;
- Processing by collaborating with carving and painting.

The method we learn is a method that involves both carving and painting. Since the method developed in the painting does not correspond to the theme, we can distinguish only the part pertaining to carving. The bowl is divided into two parts, the middle part is engraved with a pattern, and the outer part is engraved with a pattern of woodcarving [1-6].

Before creating a pattern composition on a tray, it is necessary for accurately measure the size of the piece, which is important for the quality and more attractive appearance of the piece. Various tools are used to measure the size of the item. For example, a ruler, pargor (compass) and a number of other tools will be needed [7-11]. Once the size of the item is accurately measured, we need to think about what kind of pattern composition will be created for the item, imagining that the item will look more elegant, beautiful and attractive. It depends on the composer's worldview, the breadth of his thinking, and most importantly, his subtle nature and high level of taste. This means that when you come to a stop, a pattern composition is drawn on the paper. Before creating a composition, it is advisable to clarify something, that is, it is especially important to consider what material the item is made of. Larger types can be used if they are made of soft material and smaller and more complex patterns if they are made of hard material.

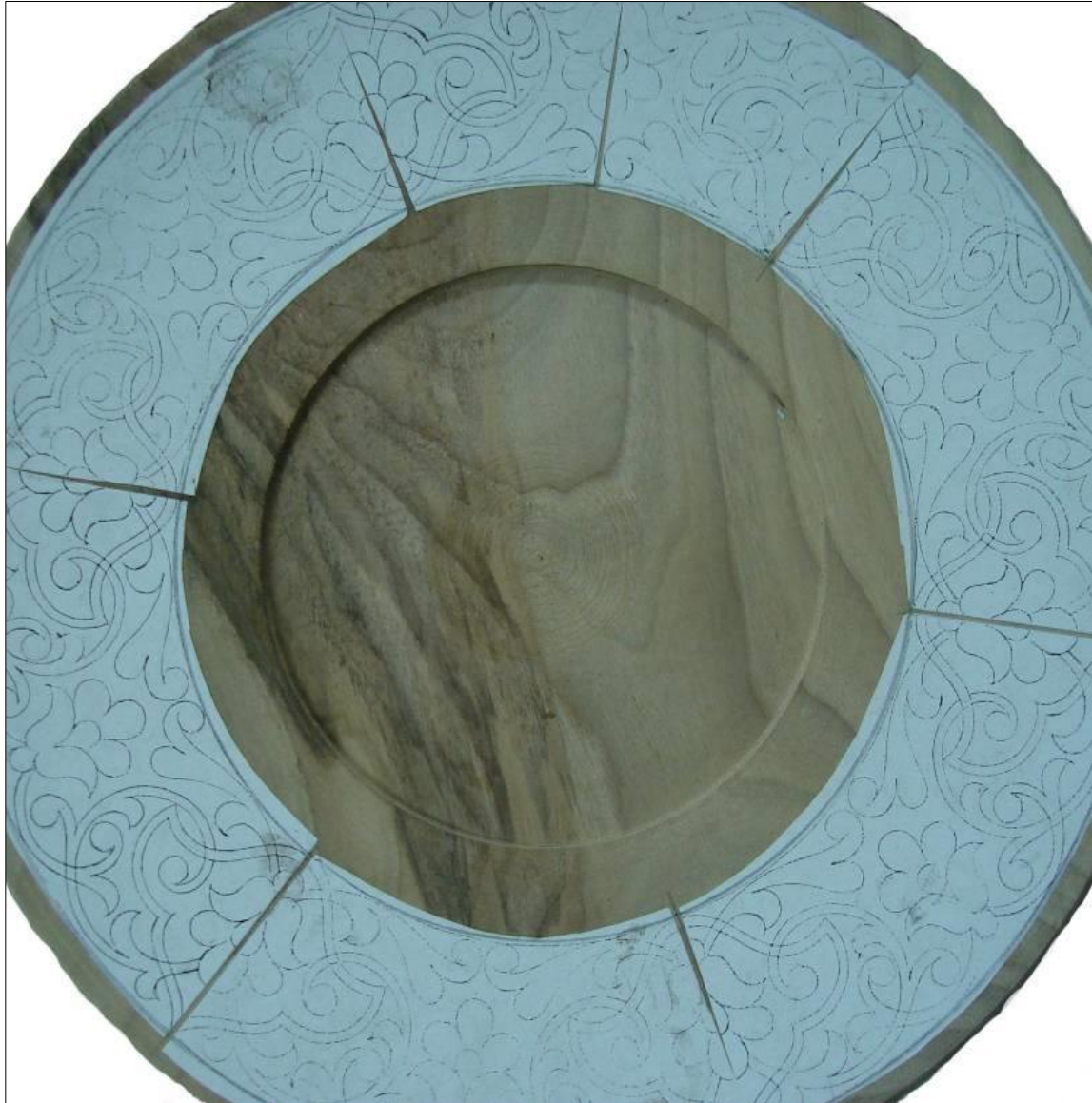
There are all the patterns that Uzbek folk masters have been using since ancient times, and they have their own rules, despite the fact that they are conditional images of nature and reality. These rules are derived in a stylized way from nature itself. Usually plants grow in one direction, which is a law of nature. In the example of the willow, for example, the willow may seem to be growing downwards, but in reality, it grows from the root to the body, from the body to the branch, from the branch to the leaf [12-18]. This law of nature is also reflected in the pattern. Pattern compositions drawn by a master painter do not mean simply filling a sheet of paper or engraving a carved face, but drawing a pattern composition consciously following the laws of nature and art. From this point of view, the most difficult and responsible stage in the creative process of a sculptor is to draw a copy of the pattern composition. If the composition of the pattern is made contrary to the laws of nature, then no matter how much success is achieved in carving and decorating, the work will not be as beautiful and attractive as it should be. In general, the carved pattern looks very beautiful, beautiful and attractive, but after a while the mistakes and shortcomings in the composition of the pattern, the flaws become apparent.

To draw a composition on a platter, it is divided into 6 parts using a compass. Draw a few of the compositions of the pattern according to the size taken from the item. The most suitable is selected from the compositions of the drawn pattern. Usually the composition of the structured pattern is made of kalka (china pattern copied on Chinese paper or transparent paper). But we are acting out of the ordinary. That is, we can reproduce the composition of the finished pattern in the most

common copiers today (photocopies). The advantage of this method is that it takes more time if the composition is applied to the wood using a sledgehammer, but the new method allows us to save time. Today, most wood carvers use the technique of copying on

modern machines and then gluing the copy to wood [19-22].

A copy of the duplicated pattern is cut to the desired size using scissors and placed on the tray to the exact locations marked, and glued in plain paper glue.

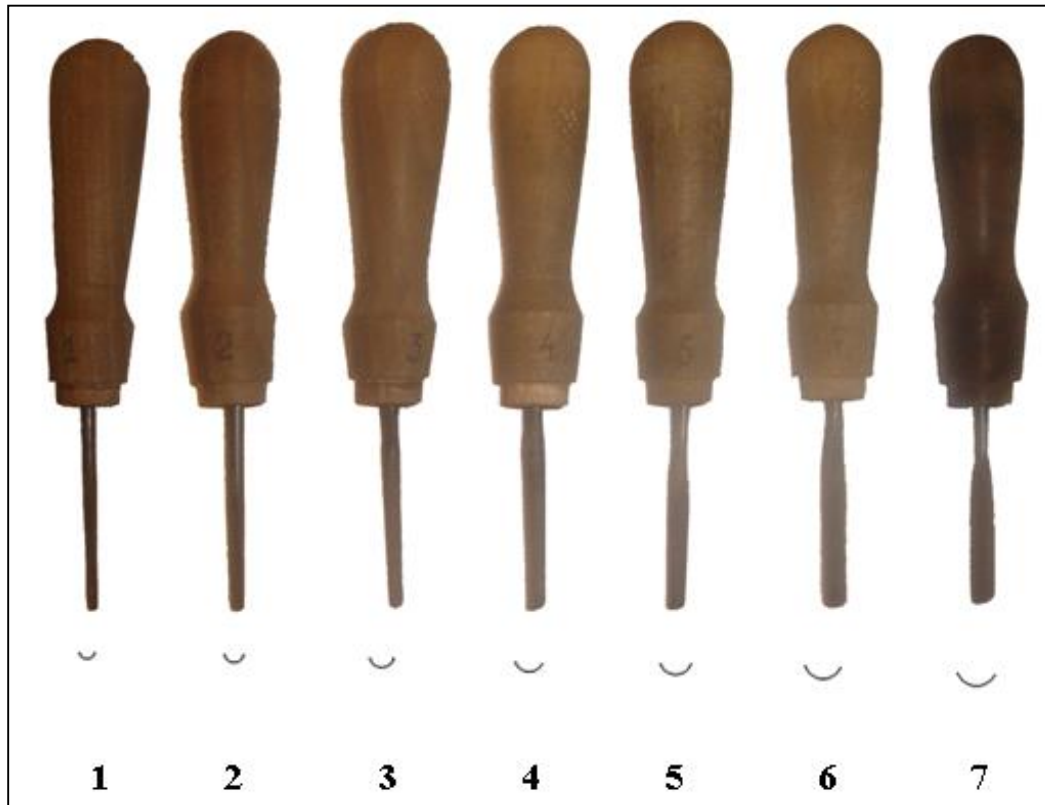


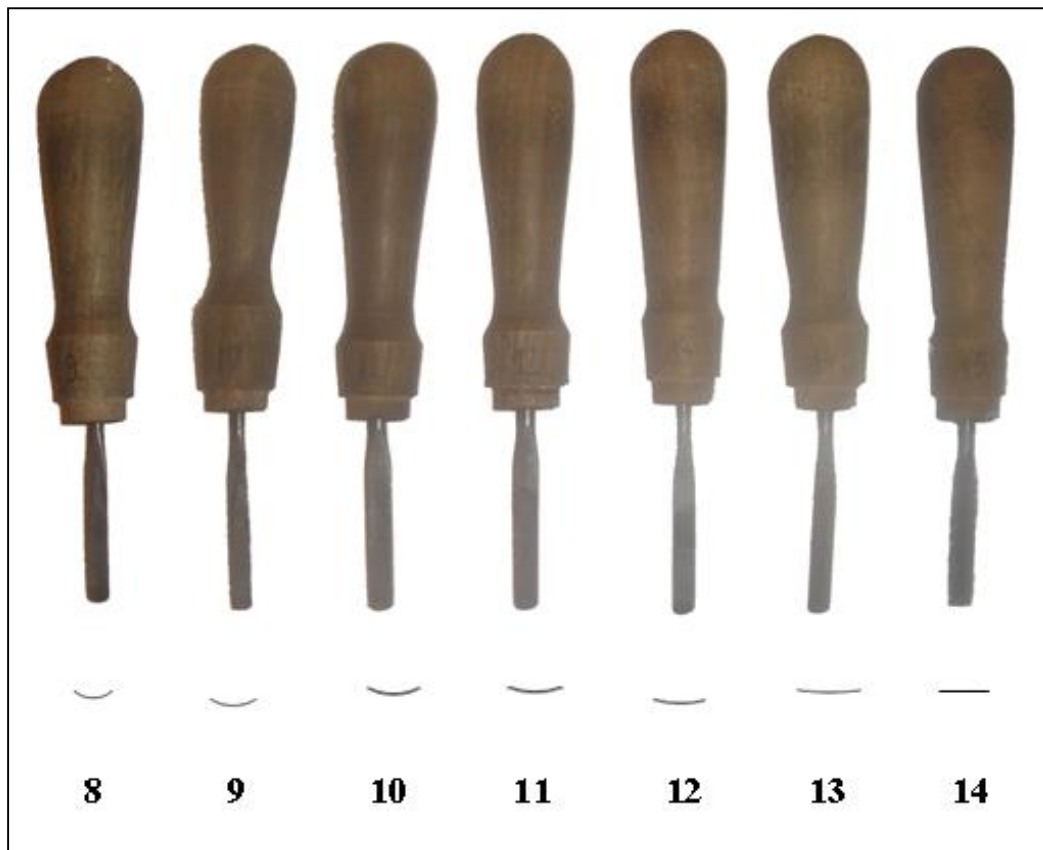
A view of the paper of the drawn pattern affixed to the platter

Once the pattern is lowered into the tray, it is cut on the lines with the necessary tools. If we look closely at these tools, we can see how they are cut by hammering the bottom of each

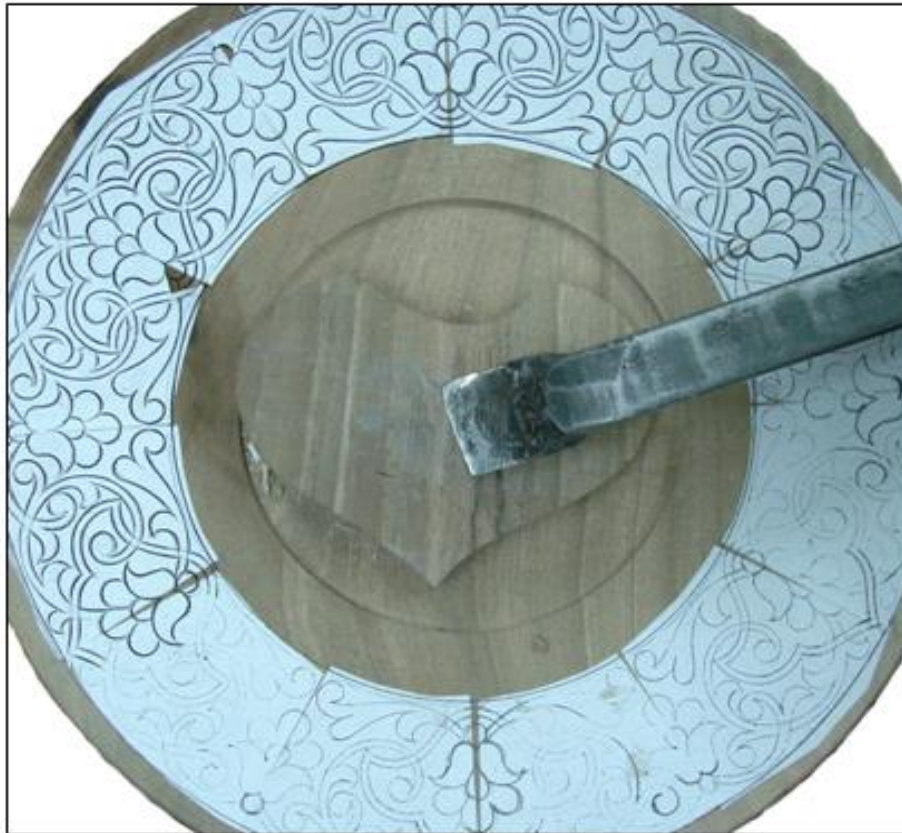
tool, and each one is marked with a serial number. When we cut a pattern, we always find the smallest circle line, the work begins by cutting that circle first and grows according to

the order number of the tools, and finally when it comes to the tool that cuts the straight line, all the lines of the pattern are cut.





An overview of the tools used for cutting in woodcarving



The cutout view over the lines of the pattern composition drawn on the tray with the above tools

The tools are in the above position and sharpened to one side. Tools should be chosen to be very thin, medium and thick depending on where you are carving.

When laying the “zamin” pay attention to the following:

- When cutting, lower each cutting tool to its proper position;
- Rightly and smooth carving;
- Do not blow branches;
- Be careful when handling and pay attention to all similar rules.



Carving tool the appearance of the platter at the time of carving

The next stage is the stage of printing patterns and flowers on the carved "zamin", in which a drawing pen, i.e. a carving tool, is selected large or small, depending on the pattern composition. Carving itself is an art. The patterned "zamin", which is beautifully drawn on a flat surface and in moderation, gives the item a special beauty.



Pattern drawing tool the embroidered appearance of the "zamin" of the carved pattern

After placing the pattern on the tray, cut, engraved and chopped, it is thoroughly polished with sandpaper. First rubbed with larger, medium and finally small sandpaper. It is not necessary to leave any of the glued papers, after the surface of the product is leveled, the sandpaper work is completed.



Since there is some space left between the middle part of the tray and the carved pattern composition, there is a very small form of the return pattern. Once all of the above is done, it is the turn of the pattern lacquering stage. Lacquering comes in two different ways:

The appearance of polishing with sandpaper

1. Lacquering in ordinary colorless oil varnish;
2. Lacquering with a tampon on the sherlak.

We work using the second method. To do this, firstly lubricate the surface of the tray with machine oil, then after a few hours the oil dries, rub the surface with a very fine sandpaper. Stains left by the varnish are wiped off. Sherlak is prepared by dissolving it in alcohol, so its main ingredient is alcohol. This is why it cannot be given directly to the wood with a brush. To give the bowl a glaze, a simple cotton ball is rounded, wrapped in a piece of cotton cloth and gently moistened with the glaze, rubbed into the smooth surface of the platter without dipping evenly. This process is continued until the cotton wrapped in the fabric dries and is allowed to rest for a few minutes, after which it is again given sherlak. The product is applied at least three times and the work of lacquering is completed.

After the lacquering work is done, of course, finally finishing work of decoration is done. At the end of the process, the product is being processed, polished and flattened in wood carving as types of folk arts, for example jewelry, made work of “ganch”, coppersmith and pottery. For example, in wood carving, there are a total of 6 types of makeup in wood carving which are divided into cut, drawing, cotton, choke, tulip and layer makeup. Of these, four types, namely pax, choka, lula and layer makeup, are used to decorate the relief. The types of this makeup are divided into 2: simple (pax and choka) and complex (lula and layer) makeup types.

Typically, the type of makeup is chosen according to the nature of the structured pattern composition. When choosing the type of makeup should not forget to take into account both light and shadow. For example:

Pax makeup is a simple type of makeup that is carved in wood carving with the relief of the carved pattern cut to one side. We can call this makeup a spread makeup. Masters believe that pax makeup was created as a result of carving a "zanjira". Pax makeup is much easier than choka makeup, turquoise makeup and layer makeup, the light and shadow given in the cotton makeup will have a much softer and softer look.

Choka makeup is a type of makeup in which the slope of the band of the pattern is revealed and cut lengthwise. This makeup is also called cereal makeup. The masters of the Kokand school of wood carving make extensive use of this type of decoration. Choka makeup requires skill and talent from the sculptor. The pattern decorated with this type of makeup acquires a unique charm.

Lula makeup is a type of intricate makeup that is carved into a semi-circular look. This type of makeup is widely used not only in wood carving, but also in plaster and stone carving. Lula makeup is the latest type of makeup to be used. If the carving is decorated with tulip makeup, the depth of the carving will be

reduced and the pattern will have a delicate look.

Layer make-up is a type of make-up created by Bukhara masters in the XIX century, in which the leaves and flowers are carved in two or three layers. Layer makeup is the most sophisticated of all types of makeup, which requires professional skill from the makeup artist.

It is not possible to use tulip makeup because the surface of the tray being worked is carved. Therefore, layer makeup is used in makeup.



Opening device
for line



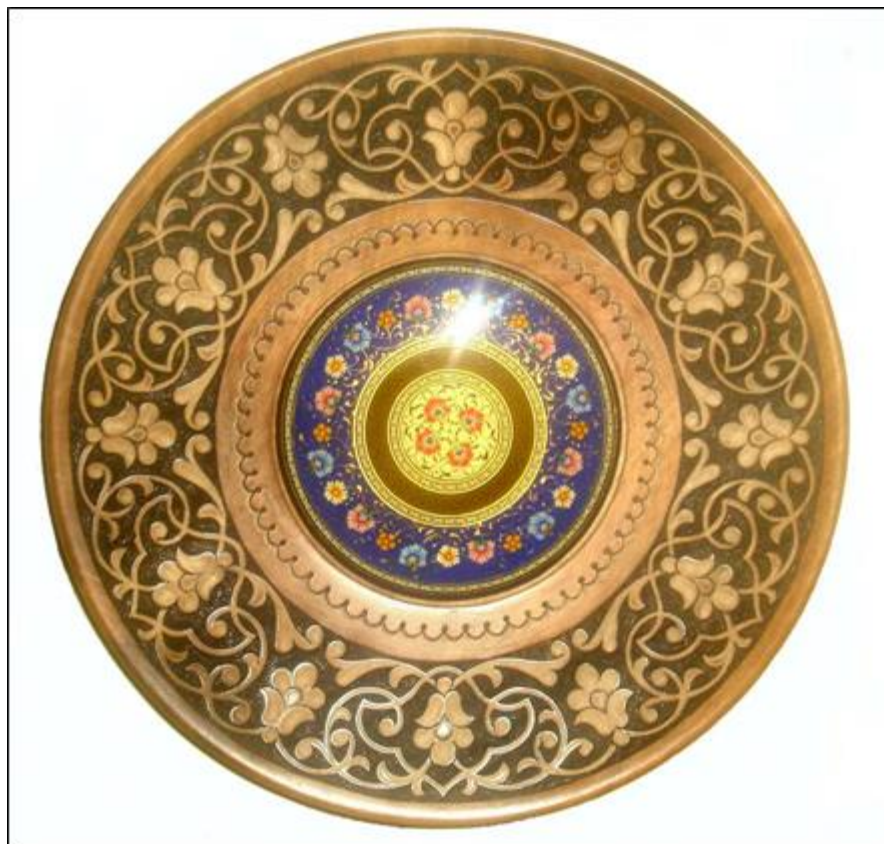
grinding tools



opening device for
round deep

Masters will need a few makeup tools to decorate the items. Makeup tools are divided into several types in terms of the functions they perform. For example: tools used to open a line, a chisel, and a hole in a round shape. Cutting and carving tools are also used in some places during the decorating process. At the stage of decorating the platter, the work begins with the tools previously used for finishing and opening the line. In this process,

holding the tool in the left hand, the hammer in the right hand, gently tapping, revealing the middle of the branches, the edges of the flowers and leaves. Then, using special tools that open the groove in a round shape, the "margulas" and the necessary parts are opened again. Once this is done, the peeled parts of the flowers and leaves are scraped and bleached using special tools that are scraped off [23-25].



The finished state of the tray

CONCLUSION

One of the most pressing issues today is the methodologically correct organization and

conduct of woodcarving classes for young people in higher education, the development

of methodological bases, and the importance of teaching our national art to the next generation. I chose the topic of my dissertation as the subject of scientific and methodological bases of teaching wood carving in higher education institutions. To do this, I analyzed the methodology of processing the items. I directly visited the wood carving workshops and watched the creative work of the mature masters of our country. I then chose the above forms in order to reflect my nationality in my dissertation.

I also tried to perform the following tasks in the implementation of the dissertation:

- Information on the history of wood carving in Uzbekistan;
- To get acquainted with the schools of wood carving in Uzbekistan, creative masters and their life activities, to study their creative methods;
- Study the basic laws of composition in wood carving;
- Analysis of the methodological basis of creating, carving and decorating a pattern composition on a plate.

In carrying out my dissertation, I analyzed the wood carving lessons of higher education institutions. I studied the state standards of applied arts education in higher education institutions and tried to determine the current state of teaching woodworking in wood carving classes.

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Increasing The Efficiency Of Learning Electrodynamics Section Of The Physics Course

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ABSTRACT

The article discusses the issues of increasing the effectiveness of teaching with the help of innovative pedagogical technologies. Currently, the issue of using software-pedagogical and telecommunication means in the educational process of the school and, in particular, in teaching physics is urgent.

KEYWORDS

Education, pedagogy, efficiency, process, computer technology, student activation, teaching material.

INTRODUCTION

In the 21st century, any educated person should be able to use modern information technologies in their work. Thus, there is a need to create a different educational environment. Currently, the issue of using software-pedagogical and telecommunication

means in the educational process of the school and, in particular, in teaching physics, is relevant.

In order to increase the effectiveness of the development of cognitive and research

activities and provide new opportunities for the creative growth of students, it is necessary to use modern physical electronic laboratories, multimedia computer programs and telecommunication technologies that provide students with access to non-traditional sources of information - electronic hypertext textbooks, educational sites, systems distance learning.

When used correctly, they provide a number of advantages over conventional teaching methods:

- Individualization of the educational process in terms of content, volume and rate of assimilation of educational material;
- Activation of students in the assimilation of educational information;
- Increasing the efficiency of using study time;
- Positive motivation for learning due to comfortable psychological conditions of the student's work, objectivity of assessment;
- Changing the nature of the teacher's work (reducing routine work and strengthening the creative component of his activities);

MATERIALS AND METHODS

The use of computer technologies in teaching physics in secondary school plays a special role. As the pedagogical experience shows, the greatest number of difficulties arises when studying those sections of the physics course that are associated with electricity and magnetism. Meanwhile, the methodology for studying various topics in these sections has not been adequately developed.

The use of computer technologies, and in particular some applied packages, increases

the efficiency of the educational process and allows students to achieve a deeper understanding of this topic. Based on the goal and the formulated hypothesis, the following tasks follow:

- Consider the use of new information technologies in the educational process;
- Consider general issues of teaching methods of the topic "Electricity and Magnetism";
- Find out what difficulties students face in the process of studying this topic and, therefore, what issues and concepts should be given special attention;
- To develop an electronic lecture on the topic "Electromagnetic oscillations" for the school physics course of the profile classes.
- Consider the use of new information technologies in the educational process;
- Consider general issues of teaching methods of the topic "Electricity and Magnetism";
- Find out what difficulties students face in the process of studying this topic and, therefore, what issues and concepts should be given special attention;
- To develop an electronic lecture on the topic "Electromagnetic vibrations" for the school physics course of the profile classes;

To solve the set tasks, you can use the following methods:

- Study of methodological, psychological and reference literature on this topic;

- Acquaintance with the existing developments in the field of this topic.

One of the main aspects of the upbringing and development of the younger generation in the learning process is the intellectual development of schoolchildren. At present, the volume and level of complexity of information is constantly increasing, therefore, the process of intellectual development of students requires intensification. One of the ways to increase the intensity of training is the use of computer learning technologies (ITO). When used correctly, they provide a number of advantages over conventional teaching methods:

1. Individualization of the educational process in terms of the content, volume and pace of mastering the educational material;
2. Activation of students in the assimilation of educational information;
3. Increasing the efficiency of the use of study time;
4. Positive motivation for learning due to comfortable psychological conditions of the student's work, objectivity of assessment;
5. Changing the nature of the teacher's work (reducing routine work and strengthening the creative component of his activities).

A special role is played by the use of computer technologies in teaching physics in secondary and higher schools.

As the pedagogical experience shows, the greatest number of difficulties arises when studying those sections of the physics course that are associated with electricity and magnetism.

Meanwhile, the methodology for studying various topics in these sections has not been adequately developed. In this regard, we made an attempt to substantiate the expediency of using ITO when studying, in particular, the topic "Electromagnetic oscillations" and developed some methodological points, which, depending on the adopted technology of the educational process, its goals and objectives, as well as on the computer equipment of the school, can be used by physics teachers both to study the entire topic as a whole, and to study its individual issues.

Experienced teachers without a deep analysis of the current state of education understand that there are a number of contradictions in our educational system:

- Between the increased requirements of the state, on the one hand, and the established system of teaching physics in educational institutions, on the other;
- Between the need for students to form systemic subject and metasubject knowledge, generalized skills based on the most important types of educational and cognitive activities in teaching physics, on the one hand, and insufficient development of technologies for organizing these types of activities, means, methods and techniques of teaching, on the other hand.

Everyone understands that the goal of teaching is not memorization by the student of facts and formulations, but an understanding of basic physical phenomena and their connections with the world around them. Understanding is a multi-step process with no

end. For understanding, the integrity of perception is extremely important, the disclosure of an object in motion, in development, from paragraph to paragraph, from topic to topic.

A modern student, immersed in the modern information "field" at school and at home, receives a huge amount of separate information, i.e. information. But information and knowledge are far from the same thing. For information to become knowledge, purposeful mental activity is necessary, which then becomes the basis for practical actions, a person's readiness to use the acquired knowledge and skills and methods of activity in real life. How to build this thinking activity in the lesson? How to acquaint students with new information step by step, logically and holistically?

A person constantly, in the process of his practical activity, is faced with the need to refer to different sources of information. Basic school students in the classroom meet with oral and written speech, a diagram, a drawing, a structural-logical diagram, a table, an analytical way of presenting information (formula, equation), learn to work independently with different sources of information, learn to extract, broadcast and assimilate information presented different ways. It is clear that each of these ways of presenting information is mastered by each child "in due time" and according to the curriculum.

And in order to master this or that way of presenting information, the student must have formed or developed certain intellectual skills.

Intellectual skills (operations):

- The ability to describe what was detected by the senses (oral speech);
- The ability to compare and contrast;
- The ability to dismember the whole into its component parts - analysis and reverse operation – synthesis;
- The ability to carry out reasoning from the particular to the general, generalization;
- The ability to carry out abstraction, modeling, etc. Students can forget over time this or that fact, the definition, the name of the quantity, the formulation of the law and its mathematical formula, but they will not "unlearn" the difference between fact and fiction, cause from effect, model from real object. It is important to teach them to understand that knowledge is of an approximate nature, a more or less accurate description and explanation of phenomena is possible only within specific boundaries, that phenomena cannot be harmful or useful, that is how a person makes them.

In modern physics education, students should receive clear examples of the development of a system of concepts, new knowledge based on the analysis of the situation and prediction of its further development, and master the methods of scientific knowledge.

And the activity in which every child is immersed should be varied (from reading the text of a textbook and conducting laboratory experiments to solving high-quality and calculation problems), regular, emphatically systemic and instrumental. One of the largest and most significant sections in the physics program is "Electrodynamics".

How to prepare students for the section "Electrodynamics": to give them basic

knowledge, teach them universal methods of mental activity, develop individual abilities and prepare them for a large volume of independent work on solving problems?

Fundamental concepts of electrodynamics: electric charge, electromagnetic interaction and electromagnetic field.

There was an opinion: the concept of an electromagnetic field must go through 3 main stages of formation. First, on a qualitative level (mainly through demonstration experiments), initial information about the electromagnetic field is given, the relationship of its components - electric and magnetic fields is revealed, the existence of a single electromagnetic field is emphasized. Further, in accordance with the program, particular manifestations of the electromagnetic field - electric and magnetic fields, their properties and the main qualitative and quantitative characteristics - are consistently and in sufficient detail.

CONCLUSION

Finally, an alternating electromagnetic field is considered, the field is characterized as a special type of matter, the full spectrum of electromagnetic radiation is shown, and information about the electromagnetic field is generalized.

1. Electromagnetic interaction underlies all electrical, magnetic, optical and electromagnetic phenomena in general.
2. Electromagnetic interaction is characterized by short-range, and the speed of its propagation is the highest in nature - $3 \cdot 10^8$ m / s.

3. Electromagnetic interaction is universal, which is due to the electrical structure of matter.
4. Electromagnetic interaction, like other types of interaction, is material. Its material carrier is the electromagnetic field.

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The Results Of The Study Of Indicators Of The Syndrome Of Endogenous Intoxication In Patients With Seroresistance In Syphilis

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ABSTRACT

This article discusses patients with serorresis syphilis obtained as an additional - tion treatment by the following procedures: I - group (33.9%) were treated with penicillin for 1 Mill. U every 6 hours to a total dose - 120 million units;. Group II (26.3%) received treatment with ceftriaxone 1.0 intramuscularly 1 time per day for 16 days (amount - 16.0); Group III (39.8%) with ceftriaxone 1.0 daily for 16 days (16.0). In venereology, the problem of syphilitic seroresistance is of great importance. In addition, the study of the causal factors in the development of seroresis in syphilis is an important direction in science.

KEYWORDS

Patients, serorresis syphilis, penicillin, syphilitic seroresistance, causal factors, important direction, serological blood, reactions.

INTRODUCTION

The Research made in 121 patients with seroresis at B - Phyllis from 2 years to 15 years. The patients' age ranged from 19 to 64 years.

Female was - 52, 8 % of men - 47, 2%. At the age of up to 20 years, there were 5 patients, from 21 to 30 years old - 44, 31 - 40 years old - 24 41 -

50 years old - 23, 41 - 60 years old - 20 , 61 years old and 5 people older (graph 1).

The complex serological blood reactions included: reaction of Wasserman and with cardiolipin and treponemal E antigens microreaction (m / p) of the specific reactions - the reaction of immunofluorescence in two modifications - IEF - 200 RIF - abs and reaction immobilization pale treponem (RIBT).

To determine the indicators of endogenous intoxication, the following were used: determination of the level of medium molecular weight peptides (SMP), according to the method of Gabrielyan N.I. (1983); the sorption capacity of erythrocytes (ESE) was determined by the method of A.A. Togaybaev et al. (1988); leukocyte intoxication index (LII) was investigated by the method of Kalf- Calif Ya, Ya. (1969); hematological index of intoxication (GII) was studied according to the method of V.S. Vasiliev , V.I. Komar (1983)

THE MAIN FINDINGS AND RESULTS

Patients and seroresis syphilis distributed by lane - the Primary diagnosed: at 12 - beat defined primary Serop - transitivity , 11 - secondary fresh, 64 - early latent, 30 - secondary recurrent, 4 patients - late latent syphilis ...

According to the initially established diagnoses, the patients received the following treatment: benzathine- penicillin - 67 (55.4% of patients), penicillin - 27 (22, 3%), bicillins - 3 and 5 - 12 (9.9%) and reserve antibiotics - 15 (12.4%) patients.

In the blood of patients with seroresis prior to additional treatment positivity serological

marked Reaction Wasserman with cardiolipin antigen - 91%, with ultrazvuchnym - 89%, the micro - reaction - 100%, of the specific - IEF - 200 - 96 %, RIF- abs - in 96.6 %, RIBT - in 91.3% of cases.

Schedule 1

Distribution of patients with seroresistance by sex and age

Patients with seroresis syphilis obtained as an additional - tion treatment by the following procedures: I - group (33.9%) were treated with penicillin for 1 Mill. U every 6 hours to a total dose - 120 million units;. Group II (26.3%) received treatment with ceftriaxone 1.0 intramuscularly 1 time per day for 16 days (amount - 16.0); Group III (39.8%) with ceftriaxone 1.0 daily for 16 days (16.0). In this case, ceftriaxone was administered by an indirect lymphotropic method. The drug was injected into the gastrocnemius muscle, intramuscularly, creating pressure (60 mm Hg).

Schedule 2

Additional treatment for patients with seroresistance in syphilis

Development seroresis when syphilis is caused by many factors, among which not the last role is played by the phenomena of endogenous - Foot toxicity of the body. In this regard, studied the state of the endo syndrome - genetic toxicity by determining the level: of middle Pep - tidov NSR), the sorption of red blood cells ability (ESA), leukocyte intoxication index (LII) and gemotological indicator of intoxication (GPI) in 121 patients with seroresistance before and after additional treatment

Table 1

Indicators of endogenous intoxication in patients with seroresistance

Indicators Endogenous intoxication	Control group	Indicators of endotoxycosis in seroresistance	
		Before treatment	After treatment
SSE	31.7 ± 0.64	51.6 ± 0.7	30.43 ± 0.62
SMP	0.22 ± 9.0001	0.38 ± 0.002	0.31 ± 0.0018
LII	1.215 ± 0.04	1.91 ± 0.12	1.75 ± 0.16
GPI	1.239 ± 0.04	1.87 ± 0.084	1.61 ± 0.06

Before the beginning of further treatment in patients with seroresistent syphilis were observed increased rates of endogenous syndrome Institute - intoxication against benchmark data.

The sorptive capacity of erythrocytes (SSE) to treatment was increased 1.6 times and was 51.6 ± 0.7 (control - 31.7 ± 0.64)

The level of middle peptides (SMP) prior to additional - Nogo treatment was increased to 1.66 times were $0,38 \pm 0.002$ (control - 0.229 ± 0.001).

Calculated leucocyte intoxication index before treatment with the examined seroresis syphilis b yla increased and made $1,91 \pm 0.12$ (control 1.215 ± 0.04)

Hematological toxicity index appeared increased and amounted to 1.97 ± 0.08 (control $1,239 \pm 0.04$)

Thus, it is revealed that in patients with serorezistentnosti syphilis prior to additional treatment parameters syndrome endogenous - hydrochloric intoxication (ESA, SMP, LII, GUI) were elevated on relation - SRI control data.

The study of the level of indicators of the syndrome of endogenous intoxication after additional treatment showed that there was a significant decrease in ESE to 30.43 ± 0.62 (control $31.7 \pm 0,64$) and was lower than the control data.

SMP after additional treatment was also reduced and amounted to -0.31 ± 0.001 , but remained above the control (0.229 ± 0.001)

LII the same beat was reduced and amounted to 1.75 ± 0.16 and remained above the control (1.21 ± 0.04)

GPI after an additional holding of the treatment was reduced to $1,61 \pm 0.06$, but remained higher than the control - 1.239 ± 0.04 .

CONCLUSION

Thus, it was revealed that in patients with seroresistance in syphilis, before the start of

additional treatment, endotoxiosis is observed, manifested in increased indices of all studied parameters (ESE, SMP, LII, GPI). Additionally, the treatment carried out leads to a slight decrease in these indicators, but does not lead to the normalization of the data.

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Teacher Example Compos Have A Road Map In The Heart Of The Reader

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ABSTRACT

The article discusses the importance and relevance of methods in the formation of a trusting relationship between teacher and student in the primary grades. Therefore, the teacher must be able to use his style and methods in teaching his students. First of all, every educator should form a sense of respect for the student. In fact, he should not shout at the student, use sarcastic words, or isolate the students. Or he shouldn't try to embarrass them. These things cause the whole class to lose respect.

KEYWORDS

Student, teacher, lesson, method, lesson, communication, trust, student, educator, sarcastic words, respect.

INTRODUCTION

The student is an example of a seedling. If a good gardener cultivates this plant, it will bear fruit in the future. Therefore, the teacher must be able to use his style and methods in teaching

his students. First of all, every educator should form a sense of respect for the student. In fact, he should not shout at the student, use sarcastic words, or isolate the students. Or he

shouldn't try to embarrass them. These things cause the whole class to lose respect. Teachers need to handle situations professionally. It is important that we address issues individually, respectfully, but directly and competently. Teachers must treat every student the same. Sorting is the biggest mistake. The same set of rules should apply to all students. It is also important that the teacher is fair and consistent in dealing with students. The educator demonstrates the importance of developing confidence and developing emotional intelligence in the classroom. Respect for the educator's students is part of being a true human being. Teachers show due respect to their students.

THE MAIN FINDINGS AND RESULTS

The success of the student is the success of the teacher. A teacher who sees his students as his own children achieves better results than his students. The student feels it. It feels. According to psychologists, the teacher should listen to the student's stories, the events that are observed in him. "Don't laugh at their stories or make fun of them," "Talk about yourself. Don't just talk, walk." These words, suggested by experts, are a compost for a teacher. The nobility of a teacher depends on his ability to listen to the stories of his students, to share his thoughts.

However, the coldness between the student and the teacher can also occur with insults without warning from the student. For example, it is an insult and injustice to simply take an argument with your spouse or someone at school and take the pain away from the student. If this is allowed, respect will be lost. The student develops distrust of the teacher along with pain. Students already

understand the teacher's reaction. Consistency is necessary only when trust is established. Gaining the trust of the student depends on the perfect method of this mature teacher.

The importance of developing confidence and cultivating an emotional mind in the classroom

Teachers need to create a learning environment in which students learn to organize. The culture of communication and interaction between teacher and student, teacher and student means that their character, behavior and upbringing are reflected in practical life. A person's culture, first of all, his behavior, is reflected in his relationships with others. Educated, cultured, the teacher understands what to ask a colleague, a student, whether it is possible to address this or that issue, whether there is a need to address issues related to family relationships. One of the most important qualities of a teacher is to lift the mood of the interlocutor, to give him an optimistic spirit, to give him confidence in his own strength. It is important to note that a teacher with a real culture of behavior cannot tolerate and fight against vices such as arrogance, conceit, indifference, jealousy, and gossip.

An integral part of a teacher's communication culture is related to the culture of speech. Because speech and the words it expresses have a powerful psychological force that affects a person. It can be further enhanced not only by its content, but also by the way the speaker expresses what is being said. The teacher's dialogue is based on words and ideas, and the expression of ideas is based on the level, spiritual world and culture of each teacher. Given that the culture of communication of the teacher is necessary not

only for interpersonal relations, but also for production, work team, community life, today it is necessary to study the character of the student, to be kind to each other. It is possible to understand the urgency of the humanization of society in the current period, when religious fanaticism is taking root. In general, improving the culture of communication has not lost its importance as a universal need. In the words of the famous writer B. Shaw: "Now that we have learned to fly like a hush in the air, to swim like a fish in water, we lack one thing - to learn to live like humans." As the protagonist of Arthur Conan Doyle's work, the famous poet Sherlock Holmes, put it, "Everyone is an unsolvable puzzle by nature." People differ in behavior and temperament, but some similarities remain. In the process of teaching and educating children, the teacher meets the criteria of universal and national traditions. Students understand the etiquette and ways of communication mainly through the teacher. A teacher is an ideal, a role model for a child for a lifetime.

Unfortunately, not all teachers are the same for children. There are, of course, teachers who, by their rudeness, discourage students from reading and offend them. There are many examples of this in life and in practice. Such teachers do not gain prestige among children, but rather harm themselves and the children. is an evaluation. In pedagogical activities, extracurricular and extracurricular activities are one of the most important areas of communication between teacher and student. There are many types of extracurricular and extracurricular activities, and it depends on the teacher to fully explain the nature of the work, the process, and the outcome in the course of communication. We will try to remind you once

again of these unwritten laws of pedagogical communication.

The pedagogical process is based on our relationship with children, because the same relationship is primary in pedagogical interaction, giving each "pedagogical action" a unique personal meaning. Decorates a learning material or pedagogical requirement with a unique set of emotions Without them, the secret of the child's heart will never be understood. Always think about your relationship with your children and try to build that relationship in a purposeful way. They have a significant and regular impact on the pedagogical process, as well as on the personality of each child. Remember that in the middle of each syllabus, in the text, at the heart of the educational work plan lies the issue of your interaction with students.

Of course, it is easy to organize a conversation on the initiative of the teacher. But pedagogical communication is a complex structure, so it must be seen in terms of a certain law. In this case, the communication initiated by the student gives a good result, it fully reflects the personality of the student, provides efficiency in the implementation of pedagogical tasks. When organizing pedagogical communication, we should try to focus our speech on one child or group of students. This is as important as choosing the right methods of teaching and learning. What it means to have a clear direction of speech. First of all, it is necessary to take into account the personal characteristics of the student, his place in the classroom, in relationships with classmates. Accordingly, the main task of the teacher is to express the speech quickly, to achieve the sequence of ideas, to take into account its logicity.

When dealing with children, we need to avoid organizing communication from top to bottom. Even very young children try to prove that they are independent. A teaching degree does not entitle a child to take the lead in dealing with children. The role of the student community in achieving this right is determined not by the official reputation of the teacher, but by his or her humanity. Interaction with children should be organized in such a way that the position of leadership is naturally derived from the logic of the pedagogical process. You need to learn to try to feel the mood in the classroom. Because if the teacher does not know the mood of the classroom, the teaching process will not be productive. The teacher should try to help everyone find the secrets in their hearts and develop such skills and abilities. For example, there is a math class in the classroom.

The teacher introduces the new material to the students. A student who is interested in mathematics is listening to this lesson because he loves mathematics. The second student just sat and stared at the student who was answering. She's wondering if she's beautiful. At the same time, a third student, who doesn't like math very much but loves sports, is talking about yesterday's game to the student next to him. Another student, who didn't even understand the letter "M" in math, caught sight of snow outside. If we analyze these characteristics of students one by one, we can see that the mood of the lesson is innumerable. However, in different lessons, it is necessary to approach it from today's point of view. In conversations with children, yesterday's topic can be repeated, with a seemingly insignificant change in the topic enriching the conversation with completely different information.

Therefore, it is very important to be able to control the mood in the classroom: To do this:

Every teacher needs to learn to look at themselves through the eyes of children. To do this: frequent analysis of their activities; trying to put himself in the shoes of students; Observing the lessons of colleagues and dedicating oneself to them;

Identify the shortcomings that negatively affect the work with children; open admission of mistakes, not being ashamed to say it openly when you don't know something;

Every teacher should make it a habit to talk to children in their free time; should try to determine.

Children should be asked to answer any questions and listen to what they have to say. If a student is mispronounced and finds it difficult to express his or her opinion, the teacher should respond adequately, even if the teacher's time is very tight, and warn him or her that we will discuss the rest together next time. This effect is the most important indicator of attention to the child's personality. Observations show that the main reason for students' inactivity is that teachers do not listen to children until the end. Therefore, the teacher must test himself on the following indicators. When a student speaks, don't you need to stop him?

Wouldn't it be annoying if a student said too many words and explained too much when explaining something?

Have you noticed that when a child speaks, he or she expresses that you do not agree with him or her?

When a teacher communicates with children, it is important to try to understand their mood, to try to understand the psychological state of the classroom. It is important to remember that the mental processes of the pedagogical process are dynamic, growing and changing. This situation requires a teacher to be highly cultured in acceptance. the mood of the communication, the change in the mood of the student, on the one hand, gives the necessary information about the situation in the classroom, on the other hand, influences the choice of teaching and learning methods. Constant and regular “mental observation” in the classroom, determining the mental state of children, allows them to choose the most accurate means of interaction. Here are some suggestions on how to look or get an appointment for antique items:

Regular monitoring of children in any situation of the pedagogical process;

- Monitor the lessons of colleagues and try to constantly determine the situation in the classroom;
- To take into account the growth of the logic and development of students' mental state in their lessons, to identify the causes of change;
- Talk to students after class and find out what caused them to change their mood during the lesson;
- At the beginning of the lesson or during a personal conversation with students, try to find out what caused the change in their mood;
- Development of pedagogical observation.

CONCLUSION

In conclusion, the organization of pedagogical dialogue should not be limited to pedagogical goals and objectives. This restriction allows the teacher to communicate on his or her own initiative. Dominance in his words it is not difficult to understand the meaning. “It’s necessary for me. It has to do with pedagogical goals and objectives. It stems from programs and plans. ”The organization of pedagogical communication“ on its own initiative ”severely limits the teacher’s activities, leaving the student out of his or her sphere of activity. Many of our well-known educators say, “We adults, teachers, force children to do things that we enjoy, and acting on their whims is often outside the scope of our pedagogical work.” Therefore, it is better to use “child initiative” rather than teacher initiative in communicating with children. Then the child will always be part of our pedagogical activity. It should also be noted that communication in the pedagogical process can not be limited to only one task, that is, information. This requires one type of communication - the exchange of information, the organization of relationships, the study of the child's personality, the interaction of adults and children, and other means. We may not be aware of one of the current trends in pedagogical communication. But the consequences will be felt the next day, and the results of education will be disrupted. To prevent this from happening, the teacher needs to study the child's personality.

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Parent Problem How To Solve Causes Of Child Conflict In The Family

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ABSTRACT

This article discusses the main goal is to socialize the child, that is, the parents instill in the child the values and behaviors that are appropriate for a member of society. If the child resists attempts to change the behavior of the parents, this process of socialization often leads to conflicts, which is a fact of conflict between parents and children. First of all, disagreement between parent and child is an inevitable reality.

KEYWORDS

Child, parents, conflicts, member of society, disagreement, inevitable reality situation, clothing choice, sleep patterns

INTRODUCTION

Parent-child conflict is a situation in which parents and children are confronted with each other. Sources of conflict between parents and children range from relatively insignificant

issues, such as clothing choice or sleep patterns, to very serious issues related to a child's safety and well-being. The main goal is to socialize the child, that is, the parents instill

in the child the values and behaviors that are appropriate for a member of society. If the child resists attempts to change the behavior of the parents, this process of socialization often leads to conflicts, which is a fact of conflict between parents and children. First of all, disagreement between parent and child is an inevitable reality. Parents cannot engage in the process of socialization without encountering their reluctant children from time to time, and children do not have to test the limits of their autonomy from time to time without offending their parents.

THE MAIN FINDINGS AND RESULTS

Conflict occurs when family members have different views or beliefs that contradict each other. A peaceful solution is measured by respect for the negotiations and the other person's point of view.

As a result of research we have the following recommendations:

- If you think you need help, seek professional advice—
- Once both parties understand each other's point of view and feelings, you decide together.
- Suggestions:
- Ruining to find as many solutions as possible.
- Be prepared to compromise.
- Make sure everyone clearly understands the chosen solution;
- Adherence to the decision after it is made;
- Write it as a "contract" if necessary;
- Conflict is exacerbated when participants are too angry to listen to each other. Misunderstandings reinforce arguments.
- Suggestions include:

- Try to keep yourself calm.
- Trying to put emotions aside.
- Do not interrupt the other person while speaking.
- Actively listen to what they have to say and what they mean.
- Check that you understand them by asking questions.
- Communicate the side of the story clearly and sincerely.

Resist the urge to raise other unresolved but unrelated issues.

Usually, our first annoying motivation is to emphasize that we are right and win the debate at any cost. When both sides stubbornly cling to their weapons, a peace-loving resolution can be difficult, if not impossible, to find. It helps if everyone in a family decides to listen to each other and negotiate instead.

If the problem needs to be tackled, it needs to be developed. You have to try to separate it from the person. If you are overly angry at talking quietly, it is recommended that you try to cool down first. It is important to keep in mind that the idea is to resolve the dispute, not to win the debate.

The other person's point of view is respected through attention and listening. It is necessary to speak clearly and rationally, to try to find common ground. It is well known that certain stages of the family lead to conflict. This includes:

Each of these stages brings new and different stresses and potential conflicts. A change in the situation in the family can also harm the family and lead to conflicts. This includes the following activities:

- Divorce or divorce
- Moving to a new home or country
- Long-distance travel to work
- Switching for interstate work.
- Changes in financial conditions.

Every parent's thoughts, values, and needs also change, and they no longer fit them.

Conflict can occur when family members have different views or beliefs that contradict each other. Sometimes conflict can arise when people misunderstand each other and come to the wrong conclusion. Conflicts that cannot be resolved peacefully can lead to quarrels and protests.

It is common to disagree with each other from time to time. Occasional conflict is part of family life. However, ongoing conflict can lead to stress and damage relationships. Some people find it difficult to control their emotions and become intentionally upset, aggressive, or even violent.

Communicating in a positive way helps reduce conflicts so that family members can resolve them peacefully. This usually means agreeing or disagreeing with all compromises.

Sometimes, it is difficult to overcome the strong emotions or power imbalances that can occur in a relationship, and they can only be resolved through counseling.

Of course, the money is huge. From fighting for inheritance to disagreeing over who should pay for elderly parents or family events, when it comes to why families are quarreling, family tops the list of financial conflicts. If family members feel they have been treated unfairly or have not been given their due share, they may become angry for years, perhaps even a

lifetime. This is because money is often associated with meanings and emotions that have a profound effect on individuals. They may feel cheated, disrespected, or have had a significant impact on their entire lifestyle as a result of these financial conflicts. Such associations and the resulting painful feelings are not easily forgotten. So a family struggling for money can be very destructive and why this type of issue needs to be resolved and resolved as quickly as possible.

Several families run a family business, often started by a single married couple and then handed over to the couple's children, who have to find ways to work together. Brothers and sisters also tend to do business together. It's hard to trust people today, and we have to trust our brothers, don't we? Unfortunately, there are all sorts of contradictions in family business. Partnership is difficult, whether the partners are cousins or not. But when partners are family members, business conflicts often turn into big family conflicts. Without investment, brothers can be put to the test; cousins can intensify hostility towards each other; even elderly parents can be brought in to take the side of sibling business partners.

CONCLUSION

Conflict due to family events

Events are stressful without causing interference without any interpersonal problems. Planning takes work, money, and time, and when things don't go as planned, it can lead to a lot of worries. Perhaps event-related stress is one of the most common causes of interpersonal problems, and of course, interpersonal problems exacerbate stress. Families are often on topics related to

big and even small events, for example: who is on the guest list (and who is out), who pays for what, which dates work for everyone, as the venue of the event topics are often debated. and who to use as a salesperson. Everyone involved considers their needs to be their top priority ... which makes it very difficult to resolve family disputes about events.

As parents get older, siblings are usually responsible for how they care for their aging parents. Some people feel that the best place for their parents would be in one of the orphanages or an orphanage, while others think they should stay in a family home or retirement community. There is no easy answer to what to do about caring for elderly parents, so a fraternal conflict to care for an elderly parent is a responsibility for siblings and relatives for the elderly. can intensify stubbornness and deep anger among other parties.

Adopting a stepchild is a serious and emotional act; but adopting a stepparent is probably more serious and difficult. Obviously, when underage children live in a family with a stepparent whom they dislike and / or dislike, the family unit is prepared for strife and anger. Even older children of a remarried parent may face conflict with their parent's choice of a new partner. And when children, especially young children, are affected, other members of the family may be involved in the conflict between the stepparent and the stepchild. If the problems are obvious and getting worse, grandparents, uncles and aunts can drop two cents, which can lead to conflicts between them and the new stepfather or even the biological parent. Of any type of family conflict, it can be the most difficult to witness a conflict

between a stepparent and a stepchild, as this can directly involve young children. .

Divorced parents are causing conflicts over the care and upbringing of their children

Of course, there can be (and are) completely separate articles on the subject of divorce proceedings. Putting financial issues aside for a moment, the proper care and upbringing of children in general is a major controversy for many divorcees. One parent may have a harder style, for example, the other is softer. Then every parent feels that as soon as the child leaves to go to the other parent's house, many of their efforts are dissipated. This can be irritating and sometimes irritating. It is a pleasure to see parents working together. Parents who are constantly arguing face a lot of stress due to a conflict with their ex-spouse. Sometimes it is better for ex-partners to simply not communicate, or at least communicate as little as possible, and only then talk about very logistical issues related to the child (i.e. schedule, excursions, etc.).

Get help on all types of family conflicts

There is no easy solution to any type of family conflict. Sometimes, a motivated family member can be responsible in handling family disputes to resolve family disputes and help all parties get through the problems. However, often families may not be able to resolve the conflict on their own. Once internal efforts have failed, it makes sense to engage a family conflict resolution strategy specialist to effectively manage all types of family conflicts.

CONCLUSION

In conclusion, the second and perhaps surprising truth about parent-child conflicts is

that it doesn't have to be a negative situation. Although we often think that conflict should be avoided, there is growing evidence that it can serve as a drastic catalyst for children's social cognitive development. forces them to take (in order to clearly understand what offends them). situation), to develop evolving negotiation skills, to understand moral and social values, and to effectively reconstruct their feelings in order not to escalate conflicts.

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The Role, Importance And Relevance Of Information Technology In The Motivational Phase Of Teaching

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ABSTRACT

The article discusses the role, relevance and importance of information technology in the learning process, as well as in the motivational phase of teaching. Special attention is paid to the type of motives and skills of the student in mastering the lessons, namely, the connection of the topics of computer science with motivational knowledge. Thus, the article notes the effective acquisition of pedagogical knowledge through databases.

KEYWORDS

Motive, information, computer science, student, teacher

INTRODUCTION

As you know, the motives behind the learning activities are: 1) Motives related to the content of education: directs the student to learn new facts, to acquire knowledge, to know and

understand the essence of the process studied by various means. 2) Motives related to the learning process: to show intellectual activity, thinking, observation, as well as in the

performance of tasks in the learning process overcoming difficulties, i.e. keeping the child busy with the fun of the activity in the learning process rather than with the result. Levels of cognitive motives: a wide range of cognitive motives (focused on the acquisition of new knowledge, facts, events and laws); Learning Motives (focused on learning and independent learning);

THE MAIN FINDINGS AND RESULTS

Motives for independent learning (having their own program to improve their knowledge, skills and competencies based on additional knowledge) Another way to develop students' interest in the learning process is to achieve in the child goals, passions, using ready-made "forms" of interest in the person to find their rightful place in social life. It fosters a conscious desire for the student to find his or her place in society based on the content of the learning materials in the learning process. It is based on persuasion, persuasion, explanation, information, and modeling. An important role in this process is played by the community in which the student lives and works, the social environment and the views, traditions, conditions, etc. created in them. When a student's parents, community, peers, and other members of society have a deep understanding of the nature of education and see it as a vital necessity, his or her focus on direct learning increases. In this way, the student develops a positive attitude to the role and place of education in society and social life, and begins to take it seriously, in other words, develops a strong interest in it.

So, the increase in interest depends on several factors: -teacher skills; -students' learning motives; - taking into account the age and

physiological characteristics of students; - Ensuring the consistency of the transmitted materials; - educational materials (content, practical significance); -Effectiveness of didactic and technical means (ICT in education), etc. It is important to remember that a child is only interested in an activity or type of work that constantly attracts his or her attention and attention. Motives are the main driving force of the didactic process. Motives govern the process of reading-learning, which determines the content of education, as well as the activity of activism. In the 21st century - the century of the information society, the role and place of information technology is growing day by day, and is becoming an integral part of every aspect. We cannot imagine our lives today without information and communication technologies. Extensive work is underway in Uzbekistan on the use of ICT in education, and its legal and regulatory framework has been created.

The role of both society and the individual in the process of informatization in Uzbekistan is invaluable. Informatization has the ability to radically change any field. It is in this context that the aspirations of everyone in society for perfection come true. Because getting the right information at the right time and using it properly can lead to social development. The Department of Public Education of the Republic of Uzbekistan widely introduces the use of modern information and communication technologies in all schools and preschools, special schools and the Internet in cities and districts. Modern computer networks are being set up in schools. The schools are also connected to the Ziyonet public education information network, creating conditions for teachers and students to use it effectively.

The Jet Books Project in Uzbekistan is increasing students' interest in books. Websites are being set up in schools, school activities, spiritual and educational activities, e-textbooks created by teachers are being posted on these websites. In turn, there is an exchange of experience in this area (for example, the "Learn-Teach" event). This, of course, is the result of the work being done to develop information technology. As a result of such opportunities, students are mastering modern information technologies and gaining the necessary knowledge and skills in this area.

The process of globalization requires the widespread use of information and communication technologies (ICT) in education. Without the use of modern teaching methods and information and communication technologies, a teacher will not be able to achieve effective results in their professional activities. But it is important to choose the right goals and content, methods and tools, as well as organizational forms of education. The convenience of information technology classes is that they allow students to constantly monitor their progress in learning, to make adjustments as needed. That's why interest in information technology-based lessons, self-management, the desire to learn new knowledge will be maintained until the end of the lesson. In such classes, the student's motivation to learn increases. With the advent of information technology in the educational process, the problem of "man and computer" remains one of the central problems. The learning process is the process of producing, storing, processing, and implementing information, especially knowledge, which is its higher form. You just have to be more discriminating with the help you render toward other people. The learning

process has a special and important function to provide information. In this process, the means of communication between "Man - Man" and "Man - Computer" is "information". The main resource in the field of education is information, so let's talk more about the concept of information. Along with the emergence of living things on Earth, to know and receive information about their development and the environment, events, to determine living conditions on the basis of this information, understanding the progress of development is of great importance. In addition, over time, during the study of nature by humans, this information was supplemented with information about the machines, apparatus, measuring instruments, technological processes that are created and used.

Information is the main source in the management of educational processes, as they provide ample opportunities to systematize and process the information received from the object, as well as to implement algorithms for the transmission of the desired purpose. Information is information prepared for consumption, information from the environment (sources) is called information. Information provides information about events and happenings. The event reveals the essence of the events. The term information is used in all spheres of human society and is used to describe the educational process and pedagogical activity. Information is one of the most general concepts of science. Information refers to the essence of some information, some evidence, knowledge, and so on. So far, a single definition of information has not been developed. The most commonly used definitions are as follows: information is information obtained from the process of

adaptation to the external environment. So, to give a brief answer to the question of information, we need to refer to two objects: the relationship between source and consumer. Sources of information include natural objects - planets, stars, humans, animals, plants, fields, forests, as well as scientific experiments, machines, and technological processes in the development of science and technology. The list of consumers of information is also large, including people, animals, plants, and various measuring instruments.

Therefore, information is a broad concept that includes information about all objects, beings, and processes. The diversity of sources and consumers of information has led to different forms of information: - Symbolic - information consisting of various symbols. They are used to transmit information about an event; - text - information consisting of words with a specific meaning, consisting of a set of letters, numbers and symbols; - Graphic - information in the form of images. In order for information to exist, be stored, and transmitted, there must be some kind of material object. There are many such facilities and their number is growing as a result of development. Information is 1) a specific message that is used in practice. The phenomenon of information exchange between people, between people and computers; 2) information - an event, including a message about education, information⁵⁴ Information is information about the objects and phenomena of the environment, their size, properties and conditions. Broadly speaking, information refers to the exchange of data between people, the exchange of signals between people and devices. In recent times, information has become so abundant that it has become impossible to solve it within the

limits of human physical capabilities. Modern information technologies and systems designed to solve such problems, especially personal computers, have become man's closest assistant. Information processing through the use of modern information technologies and systems has become an important factor in the effectiveness of education. The education system faces the challenge of cultivating and shaping a culture of access to information and processing for a wide range of students. The educator has an educational and pedagogical impact on children in the process of transmitting information to them. As this process progresses, the teacher becomes more and more a mentor, a mentor, a manager of the learning process. The teacher is the owner of the information, and the distribution functions are delegated to information technology. The key is to enter the world of knowledge, how it can use and absorb the resources of this world. The student will need to learn new rules in the information world, to be able to receive and process information in all disciplines. In education, the methods of teaching and acquisition of knowledge related to speech, speech, sound are secondary, and the methods of teaching related to images, shapes, colors, visual representations are the first. the ring begins to pass. The advent of global computer networks is creating new unique ways and forms of human communication that are different from books, newspapers and television.

These methods are now characterized by new forms of interpersonal relationships, new types of activities, a unique way of thinking and self-awareness. Work on information, their transmission and delivery of information to the user is carried out through information and

communication technologies. This establishes communication between the computer and the person. It should be noted that in the pedagogical process, communication is the most important part of this process. In some cases, communication is used interchangeably. In some literatures, they differ as follows. Communication involves the exchange of information between co-workers. This takes into account the communicative aspect of the relationship. Communication is the exchange of information between animate and inanimate systems. Human contact with technical means is communication. Communication can only take place between people. It is in the process of communicating and interacting with others that the human child becomes a person, acquiring social experience and culture. Communication is a multifaceted process of developing relationships between people based on the need to work together. Communication involves the exchange of information between collaborators. Such information is described as a communicative form of exchange relationship. They use language when people communicate. The second aspect of communication - the interaction of the interlocutors - is the understanding of each other not only in words but also in actions during speech.

CONCLUSION

The learning process is primarily a process of information exchange. The teacher communicates the knowledge to the student (provides relevant information) and in turn receives feedback in the form of feedback that gives an idea of how the acquired knowledge has been mastered. This information is reflected in the students' attentive sitting,

looking at the teacher, and facial expressions. If it weren't for the feedback, the teacher wouldn't know how the information is received by the students. Feedback allows the teacher to continue or pause his / her speech, change the type of work, and generally correct the activity.

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Individual Typological Characteristics Of Talented Students

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ABSTRACT

The article focuses on the typological and individual characteristics of gifted students. While first of all the features and relevance of the power are approached, the individual typological features are listed separately. Therefore, the result of this ability, especially in youth, adolescence and adolescence, reaches its peak and shows great creativity. First of all, if we focus on the student's talent, we will first focus on the types of talent, and its classification.

KEYWORDS

Individual, typological, talent, student-youth

INTRODUCTION

Talent is power, power is the ability. In fact, this power is a product of the power created by the subtle feelings of the human heart. Therefore, the result of this ability, especially in youth,

adolescence and adolescence, reaches its peak and shows great creativity. First of all, if we focus on the student's talent, we will first focus on the types of talent, and its classification.

Today's youth is the backbone and future of our independent Uzbekistan. The young generation, strong in all respects, healthy and spiritually mature, is the pride and honor of our Motherland. There is no doubt that all the good and good deeds that are being done will serve for the perfection of the next generation.

Intellectual talent, according to experts, intellectual talent is a specific state of special psychological resources that create opportunities for creative activity. This activity involves not only generating new ideas, but also using very simple approaches to problem development. Psychologists call this concept polysemantic. The reason for this is due to various criteria that can be called a person is talented. These intellectual talents include: 1. Highly intelligent people. 2. Individuals with high achievements. This includes academic achievement indicators. 3. People with different levels of development. 4. A person who has excellent scientific work in carrying out a particular activity. 5. People with special intellectual success. 6. People with high intellectual potential.

THE MAIN FINDINGS AND RESULTS

Often, caring mothers and parents are concerned about their child's ability to function. Creative talent is the creativity of a person that is manifested in different areas of creativity - music, drawing, singing, embroidery, choreography. One of the people who managed to develop ways to identify children's creative gifts was E.J. Torrance. These are called creativity tests. It was later found that a combination of the level of development of logical and creative thinking was needed to realize personality in creativity. It is, in fact, a combination of psychological

abilities that enable individuals to successfully perform certain activities. 1. They strive to succeed in learning and acquiring new knowledge. 2. They can act independently using previously acquired knowledge and skills. 3. Able to critically evaluate what is happening and at the same time get into the essence of things. 4. They faced philosophical problems concerning the nature of the universe. 5. Even if they are visible to their peers, they are not satisfied with superficial explanations. 6. They want to improve themselves and do everything as well as possible. Therefore, if it is not possible to achieve them, set high goals and experiences. 7. They are able to concentrate all their attention and face problems. Often, the term "social leadership ability" is understood as a remarkable ability to build constructive mature relationships with others. It is common to separate the elements of social benefits: decisions from an ethical point of view; ♣ Management skills. ♣ As for individuality, "Individuality" is a set of all the characteristics that distinguish a particular person from another person. In this context, if we analyze the personality system, the individuality of an individual includes his abilities, temperament, character, willpower, emotions, behavioral motivation, and social attitudes. These are the categories that provide individuality to the individual. What this means is that you can find people who have the same height, width, age, hair color, eyesight, finger movements, and similar qualities, but different in character, abilities, temperament, activity motivation, and so on. a person with the same set of related qualities cannot be found. They are individual. So, in psychology, there are features that explain the individuality of each person, which include, first of all:

Abilities are such individual, stable qualities in a person that they provide indicators of a person's various activities, achievements, and explain the reasons for their difficulties. Temperament is a set of characteristics that explain a person's reaction to things, events, situations, and human behavior in different situations. Character is a quality that a person acquires from his or her relationship to other people or groups of people, to himself or herself, to situations, things, and events. Willpower is a set of specific qualities that enable each of us to set goals and overcome difficulties in achieving them. Emotions and motivation are the qualities that characterize the events that take place around us, how we perceive the people around us and their behavior, and the emotional relationships we express to them, which are reflected in our real situations and in our minds. due to A social institution is a deep inner state of a person with a complex of all the above characteristics, arising from the method of mental readiness and attitude to activities and actions in different social situations.

The individual psychological characteristics we have listed above are important. They determine our place in society, our reputation, our achievements at work and at school, our image as human beings, who we are, and, if necessary, our identity. No matter where we meet, we always pay attention to the person's current situation, mood, attitude to us and the ideas we express, the desire to work together, and this issue will be important to us. Similarly, the interlocutor begins to study us from the beginning of the conversation. Because if the interlocutors know each other, they will be more likely to effectively organize and benefit from joint activities. That is why we are interested in what a person is like when we

choose a "neighbor", whether at work, on vacation, or anywhere else. If the interlocutor or partner is not familiar to us, we also ask those who know him in advance, asking him exactly what he is capable of, his actions, his attitude to work, to people, and we want him to say, "Very kind. We want to hear such classifications as Even when getting a job, a manager always asks people close to him about the character, abilities and attitude of the new employee, and on this basis prepares for the interview.

This means that individual qualities are an integral part of our conscious life, an important subject to which our perceptions, memories and thoughts are directed. Because they are directly related to our individual approach to performing various activities and doing things Someone is very agile, works fast, but of poor quality. Someone does a very good job, but very slowly, if someone looks at the job superficially and does it in his name, another person treats him with all his body and faith, is constantly searching and looking for the benefit of society. Therefore, taking into account the effect of individuality in activity and communication, we will study the most important individual-psychological features.

CONCLUSION

In conclusion Advising, instructing, and equipping young people with national orthotics, hair growth, shaving, braiding and dressing culture, inheritance responsibilities, and practices in accordance with national tastes and preferences is highly effective. The most important aspects of the national character are the qualities of generosity, hospitality, honesty, courtesy, loyalty, purity, decency inherited from our ancestors. It is

expedient to form these qualities in the minds of the younger generation in the educational process, to enrich their psyche with the gems of the people, to pay attention to the rational use of national values. Human qualities such as morality and decency, respect for parents and adults, sincerity, loyalty, dignity, conscientiousness, chastity, mutual understanding are the symbols of Uzbek spirituality. In order for our swimmers to master our national spiritual wealth, we need to demonstrate its invaluable masterpiece on a large scale and instill certain knowledge in the minds of young people.

First of all, - to pay special attention to the deepening of the intellectual potential of gifted students and the development of their abilities; - Involvement of qualified professors and teachers in individual work with gifted students; - Wide involvement of talented students in research work on the priorities of scientific development; - The formation of the Republican Bank and monitoring of gifted students. Also - the organization of search and identification of gifted students; - Regularly identify the intellectual potential of gifted students; - Organize targeted training of gifted students, depending on their inclinations; - Organization of classes in order to master a foreign language and computer; - organization of involvement in fundamental research, scientific circles and author's teams; Assisting gifted students in the publication of scientific articles, as well as the implementation of their research and development; - Ensuring the participation of talented students in scientific conferences at the national and international levels, as well as the organization of sending them to study and internships in foreign countries; - Special training of candidates for state scholarships of the Republic of

Uzbekistan from talented students; - organization of meetings of gifted students with scientists, heads of industrial enterprises and senior specialists; - Organization of professional games for gifted students; - Conduct regular sociological research among gifted students; - Assistance to gifted students in choosing the subjects that determine the market situation on the basis of marketing research, in-depth study of customer requirements and the bank of educational services; - It is important to create conditions for the use of modern information systems.

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Assessment Of Transmission Development Of Transport Services To The Population Of Kashkadarya Region On The Basis Of Trend Models

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ABSTRACT

The development of the sector of transport services to the population and changes in relation to other sectors of services are analyzed. We made estimates, economic analysis and forecasting on the basis of trend models in the process of development of the transport services sector.

KEYWORDS

Quality of life, trend models, n-indicator trend model, exponential trend model, functional model, empirical model, correlation coefficient, regression equation, covariance, Student's test, forecasting

INTRODUCTION

In a market economy, it is necessary to create a concept for improving the quality of transport services in Uzbekistan in accordance

with the new socio-economic conditions. In recent years, this concept has been widely used in world practice. At the formation of this

concept can be used some concepts of the concept of “quality of life”, which is widely used in world practice in recent years.

The concept of “quality of life” forms the conditions, determinants of physical, mental and social well-being man. It is not just about objective factors that assess the quality of life (nutrition, housing, employment, level of education), but also the subjective perception of such concepts as “self-sufficiency”, “happiness”, “satisfaction”, “pleasure”. is also going on. It is also important to develop transport services, such as communication and information services, household services, utilities and intellectual services. The concept of ‘quality of life’ also includes human interactions with the environment. This relationship represents the degree to which needs are met and the availability of available capacity is in line with expected opportunities.

Adherence to the provisions of the concept of "quality of life" also serves as a key basis for the development of services to improve the living conditions and welfare of the population. It will be necessary to study the current living conditions, assess the interaction of habitats with the environment, adapt the transport services sector to the needs of the population to meet their needs using the available opportunities.

One of the priorities in the development and liberalization of the economy is the further development of road and transport infrastructure, the introduction of information and communication technologies in the economy, social sphere, management system.

MAIN PART

The priorities of the social sphere also focus on this area, which includes the following tasks:

- Radical improvement of transport services to the population, increase of safety of passenger transport and reduction of emissions of harmful substances into the environment, purchase of new comfortable buses, construction and reconstruction of bus stations and bus stations;
- Accelerate the construction and reconstruction of road infrastructure, first of all, the development of regional roads, capital and current repairs of inter-farm rural roads, streets of settlements.

These indicators will further increase the level of service to the population while protecting the interests of the general public.

Based on the above, in the context of modernization of the country, a number of problems need to be addressed in order to expand the use of econometric modeling, taking into account the climate of each region, the conditions of a market economy. For example:

- Elimination of differences in transport networks between the regions;
- Modeling the priority development of local transport service providers;
- Improving the competitive environment between local transport service providers;
- More complete involvement of the transport and service sector, taking into account the production funds and labor force on the ground, ie modeling

management in the proper use of limited resources of society.

New technologies and new methods should be used to develop transport services in the region and reduce gas, water and electricity shortages in the regions.

Many scientists of our country have shown the following peculiarities in determining the structure of the transport services industry:

First, the most important feature of transport services is the provision of general conditions to the population. General conditions, on the one hand, provide a direct process of material production, and, on the other hand, can ensure the daily life of a person. It can be defined as a service that arises in the process of production and in the system of general division of labor, consisting of the sum of the general conditions of human life and production;

Second, no new material product is created in the transport service, but the costs incurred for the existing types of services are understood;

Third, transportation services are directly related to all sectors. The task of transport services is to provide the general conditions necessary for all production and consumers;

Fourth, the process of transport production is consistent with the beneficial effect of consumption as a result of transport services. Hence, the feature of the transport sector, which is one of the main sectors of the service, is that it is a key factor in the movement of products from one place to another. The movement of the product, its storage, delivery is the production process of the infrastructure networks and coincides with the main production process. However, in the main

production process, the product can only be ready for consumption when it is delivered to the consumer;

Fifth, the transport service sector is manifested in the form of processes of transportation and storage of goods and products, ensuring the movement of products;

Sixth, the formation and development of the transport services sector requires large initial capital investments. Hence the high fund capacity of infrastructure facilities;

Seventh, the efficiency of transport services can only be determined on the example of other sectors. In other words, service efficiency is mainly reflected in manufacturing sectors. Consequently, the effectiveness of service activities is felt after a long time.

In the modern era of development of social and service sectors, the provision of services is gaining popularity. Therefore, the labor efficiency per unit of output achieved is required to be able to calculate fixed assets, material and financial costs.

The following formulas can be used to determine the scope of these services:[1]

$$TP_t = \lambda_1 (A_t, t);$$

(1)

$$TP_t^0 = \lambda_2 (TP_t, A_t, t);$$

(2)

Where: TP_t - transport service provided in a year, thousand people;

TP_t^0 - transport service turnover in a years,

[km].

The road is a mirror that shows the level of culture of each region.

This ensures the movement of service networks, the economic mechanism. This method is widely used in the analysis and forecasting of development trends of service processes. This is because it is assumed that the resultant effects of the actions of the main factors in development are generalized in the time factor.

In order to ensure the balanced development and diversification of the activities of enterprises in the service sector, increase the competitiveness and quality of services they provide, the Cabinet of Ministers has developed a program for the development of the services sector for 2016-2020 [2].

The program identifies priorities and tasks for the development of services in the Republic of Uzbekistan in 2016-2020:

Increase of gross domestic product through the development of the services sector, bringing its share in the economy of the republic to 48.7%;

1.8-fold increase in services in rural areas by 2020;

Creation of conditions for the accelerated development of the service sector, structural changes through the development of engineering and communications, road and transport infrastructure, the introduction of modern information and communication technologies in the industry.

Industrialization is directly related to the

quality of roads. Currently, the condition of transport roads is not at the required level.

The development of the service sector is a stimulus to meet the needs of the population.

Based on the above, the main internal problems of modernization of regional development in modern conditions can be:

Development of transport, energy, telecommunications, logistics services on a new modern technical base, ensuring the real integration of economic zones;

Ensuring a balanced distribution of resources between the regions of the country;

Flexibility of regional economic structures to the requirements of a market economy and sustainable development, development of service sectors.

Therefore, a market economy cannot exist and function in isolation from other spheres of society and, above all, from the state. Moreover, the economy cannot develop without the active participation and support of the state. In turn, no government can remain without involvement in the state of the economy, regardless of its ideological and political orientation. Government programs play a crucial role in the growth and development of the economy.

Table 1
Services in Kashkadarya region
Share in 2010-2018[3] (in billion soums)

Indicators	2010	2014	2015	2016	2017	2018
Total services	997,2	3066,4	3645,6	4556,2	5859,3	6975,9
By main types, including:						
Communication and information services	89,4	241,2	274,8	328,7	370,6	426,1
Financial services	83,1	254,2	312,9	412,8	566,9	787,4
Transportation services	198,9	652,2	792,8	910,1	1491,5	1608,9
Accommodation and catering services	31,4	20,9	25,4	146,9	185,1	220,8
Trade services	312,6	1133,8	1290,6	1646,3	1935,8	2337,0
Real estate related services	31,4	108,3	136,9	170,2	191,3	226,9
Educational services	39,3	89,8	106,5	131,1	163,9	227,8
Health services	16,4	28,2	39,5	45,8	54,4	75,0
Rental services	29,7	88,1	109,1	135,9	158,0	197,7
Household and computer repair services	48,4	135,4	185,3	216,4	226,5	256,5
Individual services	57,1	150,8	158,3	209,2	234,5	262,9
Technical testing and architectural services	20,3	21,2	33,3	30,0	50,3	76,7
Other services	39,2	142,3	180,2	172,8	212,2	272,2

We can see the 5-year development trend of the transport services sector in Kashkadarya region, as well as analyze the share of each service sector in the total services in 2018.

As can be seen from Figure 1, the share of trade and transport services to the population of the region is much higher than that of other services.

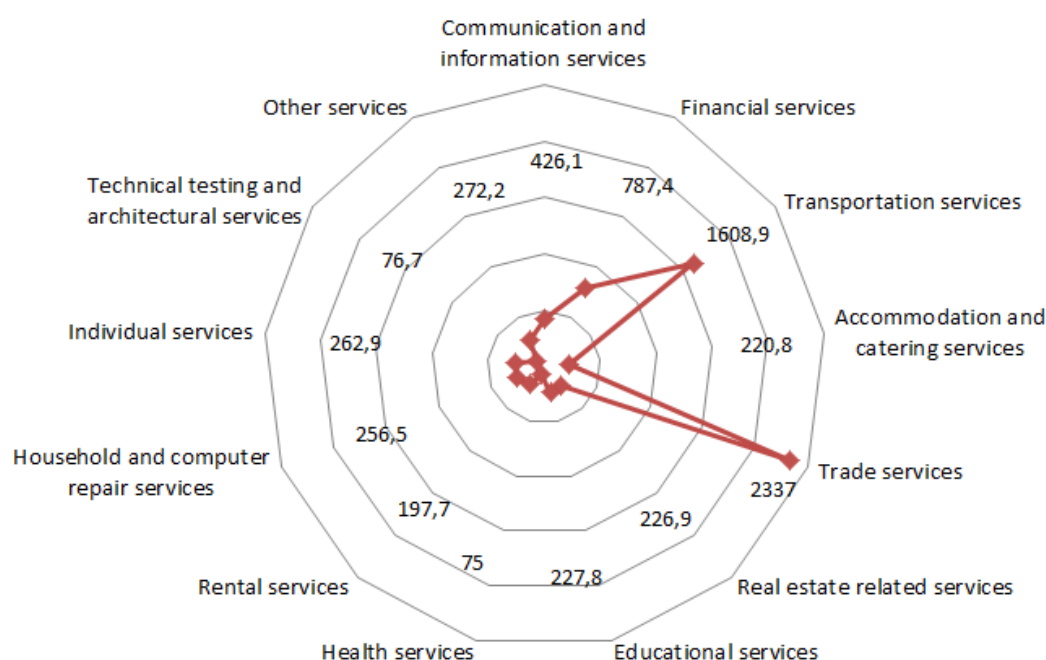


Figure 1. Share of services in Kashkadarya region in 2018 (billion soums) [4]

K.Xovard, N.D.Eriashvili, B.A.Solovev, D.A.Tsigichko, L.Abdullaeva, M. Based on the research of scientists such as Nasretdinova, [5] the first aspect can be divided into three main elements: information for management decisions, information needed for forecasting and planning calculations, information needed for research.

The first element consists of information on the general situation in the field, in particular, the situation in the field of domestic services, utilities and transport services. Such information is based on the operational and

technical accounting system. In this case, the data are mainly derived from the initial data of the accounting, as well as from the operational and periodic statistical reports.

The second element contains the information needed for forecasting and planning. In this regard, its component should be data that allow a comprehensive analysis of the field under study.

The third element should contain a problem-oriented piece of information that allows for the calculation of different models that reflect

To do this, we naturally logarithm both sides of the equation.

$$\ln Y_x = a_1 x + \ln a_0 \quad (8)$$

$$F = \sum (\ln Y - \ln Y_x)^2 \rightarrow \min \quad (9)$$

or

$$F = \sum (\ln Y - \ln a_0 - a_1 x)^2 \rightarrow \min \quad (10)$$

If we take a special derivate from this, we get a system of equations in the following view:

$$\begin{cases} \sum (\ln Y) = n \ln a_0 + a_1 \sum x \\ \sum (x \ln Y) = (\ln a_0) \sum x + a_1 \sum x^2 \end{cases} \quad (11)$$

We evaluate the results by the following evaluation criteria:

Fisher's F-criterion is used to assess the "significance" of the regression equation. The amount of this F-criterion is related to the determination coefficient as follows:

$$F_{haqiqiy} = \frac{r_{xy}^2}{1 - r_{xy}^2} \cdot (n - 2), \quad n \geq 3. \quad (12)$$

If $\alpha = 0,05$ (five percent meaning level) and the degree of freedom $k_1 = 1$ and $k_2 = n - 2$, then the table value of the F criterion from the tables given Fisher distribution of random quantities F_{table} is found. If this $F_{real} > F_{table}$ inequality is reasonable, the regression equation is statistically significant.

Errors in the regression equation and random errors in the calculation of parameters and the correlation coefficient are also affected. Therefore, and standard errors in the calculation of parameters are detected.

The random error of the regression coefficient is determined by the following formula:

$$m_b = \sqrt{\frac{\sum (y - y_x)^2 / (n - 2)}{\sum (x - \bar{x})^2}}. \quad (13)$$

The random error of the regression equation is determined by the following formula:

$$m_a = \sqrt{\frac{\sum (y - y_x)^2}{n - 2} \cdot \frac{\sum x^2}{n \cdot \sum (x - \bar{x})^2}}. \quad (14)$$

The random error of the linear correlation coefficient is determined by the following formula:

$$m_r = \sqrt{\frac{1-r^2}{n-2}} \quad (15)$$

The assessment of the statistical significance of the parameters of the regression equation can also be done using the Student Criterion (the number of degrees of freedom $n-2$ and $\alpha = 0,05$ the table values of the sign are found in the t Student's distribution table). It includes:[7]

$$t_a = \frac{a}{m_a}, \quad t_b = \frac{b}{m_b}, \quad t_r = \frac{r_{xy}}{m_r}. \quad (16)$$

If the default values found for the symbol t are greater than its table value (i.e. $t_a > t_{table}$, $t_b > t_{table}$,

$t_{r_{xy}} > t_{table}$), "a" and "b" The parameters are statistically significant.

We denoted each service network as Y, and generated trend models by relating the values obtained from the observations to the time factor t. Based on statistical data (2004–2018), several variants of trend models of each service sector were developed and evaluated by evaluation criteria and selected optimal models.

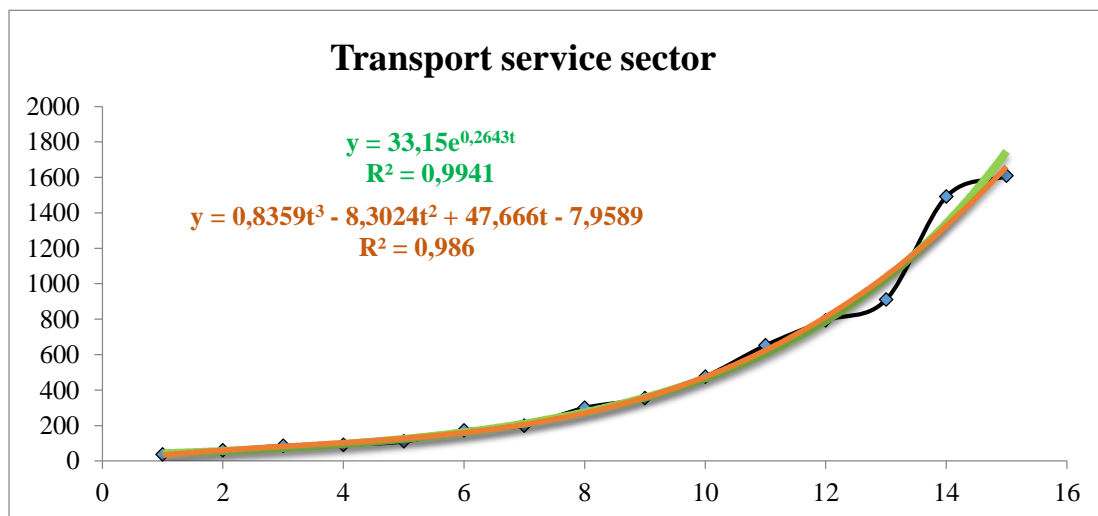


Figure 2. Trend model of the volume of transport services provided to the population of Kashkadarya region[8]

Trend models of transport services to the population of the region are shown in Figure 2.

At the same time, several models have been created, depending on the changing trends of

the transport service network. Of these, when $R^2 = 0.994$, $F_{\text{count}} = 149.5$, $t_{\text{count}} = 12.23$ (when $\alpha = 0,05$ $t_{\text{table}} = 2.1314$, $F_{\text{table}} = 2.4034$), we selected the regression equation in the form $y = 33.15e^{0.2643t}$. When we have $R^2 = 0.986$, $F_{\text{count}} = 143.83$, $t_{\text{count}} = 11.48$ ($\alpha = 0,05$ when $t_{\text{table}} = 2.1314$, $F_{\text{table}} = 2.4034$), $y = 0.8359t^3 - 8.3030t^2 + 47.666t - 7.9589$. We could have chosen the regression equation in view. However, since the reforms in this area at the present time are consistent with the change in the regression equation in the exponential view, we considered the trend model in the first view to be adequate.

Based on the generated trend models, we calculated that the 5-year development process forecast of the service industries can achieve the following result.

$$Y(2021) = 33,15e^{0,2643 \cdot 18} = 3839,3;$$

$$Y(2022) = 33,15e^{0,2643 \cdot 19} = 4999,2;$$

$$Y(2023) = 33,15e^{0,2643 \cdot 20} = 6509,7;$$

$$Y(2024) = 33,15e^{0,2643 \cdot 21} = 8476,4;$$

$$Y(2025) = 33,15e^{0,2643 \cdot 22} = 11037,4;$$

The transport sector in the region is expected to grow 1.30 times in 2021 compared to 2020, and 3.74 times in 2025 compared to 2020.

CONCLUSIONS

The problem of increasing the efficiency of transport services to the population can be solved by combining traditional and innovative measures for the development of the service sector. Traditional measures are aimed at increasing the level of provision of the population with transport services and

strengthening the material and technical base of the service sector.

The basis of modern forms and methods of development of transport services to the population is the improvement of econometric modeling. Proposals have been developed to study best practices, introduce transport service standards, and model the development of ways to improve the quality and culture of transport services.

The implementation of the above proposals and recommendations will increase the efficiency of transport services in the region.

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