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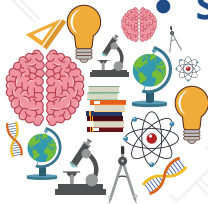
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## AUTONOMOUS GHAZALS OF ALISHER NAVOI

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### ABSTARCT:

**The relevance of this article is that Autonomous ghazals of Alisher Navoi. Just as Hazrat Mir Alisher Navoi arranged the Turkish ghazals in a beautiful order, he also skillfully created the Persian ghazals and referred them to the judgment of the readers.**

**KEY WORDS:** ghazal, Persian, scientific, well, carry

### INTRODUCTION:

Alisher Navoi's Persian ghazals have long been known to the scientific community and A number of scientific researches and researches on "Devoni Foni" have been carried out in this regard. As a result of the efforts and scientific research of Hamid Suleiman, a well-known textologist in the world of literature, after the preparation and publication of Devoni Foni, fanism was formed as a separate branch of Navoi studies and came to the attention of literary lovers. The names of S.Aini, A.Fitrat, A.Sadi and O.Sharafiddinov, who carried out the first researches on "Devoni Foni" in Uzbekistan, deserve special mention. To this day, Foni's poetry has been analyzed mainly from the point of view of comparative literature, and the issues of tradition and innovation, art and unique novelty in his poems have been analyzed by various scholars and referred to the judgment of scholars. Alisher Navoi, as a great artist of words, who continued the tradition of tatabbu, skillfully responded to the ghazals of Sheikh Saadi, Amir Khusrav

Dehlavi, Abdurahman Jami, Mavlono Shahi, Khoja, Makhdum. We can learn a lot about this from the scientific works of A. Shomukhamedov and S. Satiboldiyeva. The beautiful ghazals of Navoi-Foni, written without following anyone (the poet himself used the words "mukhtara", "invention" in relation to them) have not yet been delivered to the general public with detailed information. As an infinite ocean, our literature is gaining ground on the stage. If the artistic features of these ghazals, the scope of the subject, the poet's artistic skills are fully studied, we will have the opportunity to get a full picture of Foni's place and position in Persian literature and the ghazals of Persian ghazals. We will undoubtedly believe in its uniqueness. In Devoni Foni, 95 ghazals are mentioned as "mukhtara" or "invention". We, in turn, can study the autobiographical ghazals into 3 groups according to the scope of the subject, namely, rindona, ashika and orifona. Let's take an excerpt from his authentic ghazal on the subject:

G'ayri xunob nayoband ba chashmu dili mo,  
Goyiyo ishq ba khun kadr muhammar gili mo.

### Translation:

Love has covered our mud with blood,  
Because in our hearts and eyes we can find  
nothing but ugliness.)

In this verse, the poet used very beautiful analogies, that is, he used metaphors: he covered our mud with blood, and in our hearts and eyes we could find nothing but blood (bloody water).

In order to use such beautiful analogies, it is only necessary to master Navoi's word-finding skills.

Focusing on the second verse:

Az rahi ishq guzashtan nashud, ey piri tariq,  
So far no one was able to send in the perfect solution, which is not strange.

**Translation:**

O priest of the sect, it is impossible to cross the path of love, because the ruin of drunkards may have been our destination.

Addressing the priest of the sect, the poet emphasizes that it is impossible to escape from the path of love, because it is the address of the ruin of the drunkards. The ghazal is written from beginning to end in a rindona way, illuminating the reader with sufficient artistic means.

(A.Navoi "Devoni Foni" Volume V, Book I "Tashkent" Fiction Publishing House-1965, pages 18-19).

Let's take a look at the next romantic poem:

Ba'di umre k-afkanad gardun ba ko'i o 'maro  
Sayli ashki shodmony mebarad z-on ko 'maro.

**Translation:**

When my age goes somewhere, when the wheel throws me into its street, the flood of tears of joy flows from that street. It is obvious that Hazrat Navoi was a unique word artist not only in Turkish, but also in Persian. .

Let's take a look at the beautiful scenery in the next verse:

Kohi body oyad garon dar kaffai ishqam zi gham,  
Kohi Farhodash if one so 'nihy, one so' maro.

**Translation:**

If you put Mount Farhod on one side of my love scales and me on the other, my body, which is as yellow as straw, will be heavy.

Alisher Navoi, as always, puts love first, puts poet Farhod on the scales of love, and poetically expresses the fact that his body, which is as yellow as straw in the pain of love, is heavier than a mountain, and amazes the people of art puts.

In short, one of the factors that ensures the integrity and logical consistency of Foni's ghazal is the fact that each ghazal is based on a specific deep idea, symbol or detail, and is based on the means of artistic expression. Thousands of scientists, independent researchers and literary critics are still studying the ideological and artistic features of Foni's ghazals and presenting them to scholars.

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## INNOVATIVE TECHNOLOGIES OF TEACHING RUSSIAN

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### ABSTARCT:

The article explores the problems and innovative technologies and causes of their occurrence in foreign students who graduated pre-university training. The article suggests possible effective methods for preventing future students from problems in the first years of study at the university. For writing this work, such methods of research, as observation, analysis and generalization were used. The article examines the learning situations in the teaching of the Russian language, as well as in vocational subjects at the stage of Pre University training, during which problems of foreign students arise that impede successful study at the university. The work examines the methodological point of view of the teachers mistakes, identified by the author based on monitoring the method of working with foreign students in the preparatory department. Classes in vocational subjects, where attention is focused on the method of submitting educational material, are of particular interest. The author of this article believes that the methods of vocational subjects should also be developed in accordance with the principle of taking into account the contingent of foreign students. This approach will help students to understand better the language of the vocational subject, and the teacher to understand and eliminate the possible cause of failures, during the learning of the vocational subject in Russian. The teacher should take into account the fact that foreign students are taught in a foreign language. We believe that this study can make a certain contribution to the field of teaching methods for vocational subjects at

the stage of pre-university training of foreign students and can be taken into account when working with this contingent of students.

**KEYWORDS:** Russian as a foreign language, vocational subjects, vocationally orientated methods, professional communicative competence, foreign students, and preparatory department.

### INTRODUCTION:

It should be noted that currently almost every university of philological and non-philological specialties has a preparatory department, where Russian is taught as a foreign language, and foreign students are trained in vocational subjects in Russian. Nowadays, modern methodologists in the field of Russian as a foreign language offer the most effective methods of teaching the Russian language, as well as the language of the specialty in the course of classes with foreign students. Despite the wide variety of scientific studies devoted to different aspects of teaching Russian to foreigners, problems are encountered in graduates of preparatory departments during the period of study at 1-2 courses in a university. Arguing about the need to study the methods of teaching the language of the specialty, G.A. Pimenova and N.N. Speranskaya note, 'in the process of teaching the language of the specialty, including when working on special texts, the Russian teacher is faced with the need for semantization of terminological vocabulary. At the same time, terminological units enter into a variety of paradigmatic, syntagmatic relations in the text itself, in the terminology of this science, and can also have ambiguous semantic relations with the corresponding lexical formatives of the common language, with the terminology of other sciences' [1, 26]. Such scientists as V.G. Kostomarov, E.M.

Vereshchagin, G.A. Vishnyakova, S.P. Kurganova, O.D. Mitrofanova, E.I. Motina, and many others brought significant contribution to the study of the problem of teaching the Russian language, as well as the language of the specialty, to students-nonphilologists. One of the topical issues remains the competence approach to the training of vocational subjects at the stage of pre-university training in a foreign-speaking country. The purpose of our article is to address the problem of teaching of vocational subjects, in particular, chemistry, physics, mathematics and other exact sciences; to try to identify the reasons for the difficulties encountered by foreign students in 1-2 courses in Russian universities, and also to give some recommendations for more effective training of foreign students in the preparatory department. Undoubtedly, foreign students should be trained in language not only in vocational subject classes, but also in Russian language classes. Students should select texts based on the language of their future specialty, make assignments for the consolidation of the passed terminology. 'The study of special vocabulary in the aspect of teaching the Russian language as a foreign language should be conducted with reliance on ready-made lexemes existing in the general literary language, building and syntactic models that served as a basis for the nomination of special concepts' [2, 110]. The purpose of pre-university training of foreign students is to form their professional communicative competence, i.e. to develop skills for free communication and adequate perception of educational material in the language of the specialty. It is interesting to note the fact that foreign students after the end of the preparatory department encounter difficulties in understanding the lecture material on special subjects. Often, this problem is that at the stage of pre-university training, the training of foreign students is isolated from the speakers of the language being studied, and secondly,

during the year of pre-university training foreigners get used to the slow pace of speech, as well as the adapted language during the classes, thirdly, after the end of the preparatory department, foreigners are completely immersed in the language learning environment, which does not take into account the national psychological characteristics of the foreign contingent, where the training system university cardinally differs from the system of vocational education in the home country of foreign students. 'The development of the skills to choose and organize correctly language means in accordance with the situation of communication, the communicative task and the genre of utterance (oral or written) is the goal of the linguistic education of students of a technical university, in particular, the discipline 'The Russian Language and the Culture of Speech' [3, 143]. The formation of a competent foreign specialist is a complex process, because in the educational process of pre-university training two main tasks are realized, namely, to teach a foreign language, and also to form the professional competence of the future specialist.

#### **MATERIALS AND METHODS:**

To implement the goal, the following research methods were used: analysis, observation, description, generalization. For the study, the work of scientists on the theory and practice of teaching Russian as a foreign language, Student's Books and learning guides in Russian as a foreign language, and scientific articles were used. In this paper, the results of an experiment conducted with foreign students of pre-university training receiving higher technical education we used. Acquaintance of foreign students with vocational subjects begins in the second half of the year. Foreign students of engineering and technical specialty study subjects in Russian, namely mathematics, physics, chemistry, engineering graphics, computer science, economics, geography,

biology. For effective work and improvement of the quality of education in the pre-university training period, special learning guides have been developed, namely, bifunctional ones, intended for the beginning of classes in the natural-science specialty. Such developments help to learn how to work with information on their own, as well as foreign communicants get acquainted with the functional lexis that they use during the educational process. There are specially developed learning guides on technical subjects. So, for example, the physics-learning guides contains materials for reading, writing, listening. Educational texts are adapted for the elementary level of Russian language proficiency; tables and visual grammatical material are also presented. In the learning guide 'Physics: Lectures for the course.' Students using this training material get acquainted with the basic concepts, terms of mechanics, thermodynamics, molecular-kinetic theory and electrostatics. Also, it contains lexical and grammatical questions after the texts allowing better learning the studied material. In the methodical development for the course 'General Chemistry', there are scientific texts, words and phrases for each lesson, exercises, charts, and tables – all this allows foreign students learning the basics of chemistry in Russian. [4, 3]. Such learning guides contribute to mastering the language of the specialty. A number of learning guides on mathematics have also been developed. Such as 'Methodological Guidelines for the Study of Elementary Mathematics in Russian with the Early Introduction of the Subject', 'Learning to Listen on the Material of the Language of the Specialty.' A learning guide is for foreign citizens of the preparatory department. 'At the Introductory-subject Course', 'Scientific Style of Speech. Mathematics', 'Algebra and Elementary Functions'. The training material of these learning guides corresponds to the Mathematics Program for the preparatory

departments, which are aimed at foreign students. Topics on this discipline are set taking into account Russian grammar. In the guidelines, the mathematical material, pre-text and post-textual language exercises, vocabulary, assignments for independent work of students are compiled. At the end of some manuals, there is a dictionary with translation into English, French, Spanish, and Arabic. Here there is an example of one lesson in teaching listening on mathematics. The preparatory department for foreign students developed learning guides on economics. Foreign students compile the texts and questions to them taking into account the incomplete knowledge of Russian. Also, along with similar learning guides, there are developments of a standard test on the Russian language as a foreign natural-science specialty. So, for example, this learning guide contains tests on engineering, geological, geographic specialty. Foreign students pass the test on the following aspects: Grammar, Vocabulary, Listening, and Reading. It should be noted that students need speech practice not only on colloquial and everyday topics, but also in the practice of communication at a professional level. Representatives of another national culture, studying subjects of a natural specialty, meet with significant difficulties in understanding professional terminology. To facilitate the understanding of functional lexis and improve the quality of education in the preparatory department, educational dictionaries have been created, with translation from Russian into native languages of the students, in particular English, French, Spanish, German, Arabic, Chinese, Turkish, and Korean. There are a large number of textbooks on the Russian language as a foreign language, given the different level of Russian language proficiency [8-13]. Unlike textbooks on the Russian language as a native language, in textbooks on the Russian language for foreigners, educational situational themed

modules are distributed depending on grammatical topics. The teaching material in the textbooks can be distributed in different ways, but the basic structure of the textbook presentation can be as follows: after the new grammatical material, a speech pattern, micro texts and dialogues follow, in which the new vocabulary is found. Thus, foreign students see how words change in combination with different word forms. Also, in the learning guides, tables, diagrams, and grammatical material can be compiled, i.e. demonstration in the form of pictures. At the end of the textbook, a final test can be included on the topics covered.

### CONCLUSIONS:

Observations in the article of the experiment also made it possible to determine the progress in vocational subjects. It is interesting to note that in different countries the system of study in universities is significantly different. This fact can influence the training in the university in another country. It is known that foreign students, who graduated from pre-university training, perceive oral colloquial speech much better than the lecture material in the classroom for vocational subjects. This is due to the fact that during the pre-university training in the Russian language classes different types of speech activity are practiced, and in the classes on special disciplines, the actions are mainly aimed at solving practical problems. It should be noted that the problem of foreign students is the inability to express themselves in the language of the specialty. Often the situation develops in such a way that the foreign student, having excellent knowledge of the teaching material, has poor academic performance in certain disciplines. In the classes, it is important to improve all the skills of speech activity; they should be in interaction during the educational process. It should be noted that the training in the preparatory department and in the 1-2

courses is significantly different, for foreign students there is a sharp immersion in the language environment, also, the education in the university is carried out in large groups, which in turn affects the nature of the learning process. In the professional practice, the form and type of control of students' progress play an important role. To maintain the motivation for learning a foreign language, it is necessary to combine ways of current control of students' progress. Successful language training depends on the motivation for learning the language, as well as the working mood of students on the way to gaining new knowledge. Teachers need to improve their professional knowledge, because this determines the level of training of foreign students, as well as the motivation for interest and motivation for the language studied.

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# STRUCTURAL-SEMANTIC ANALYSIS OF THE SYNTAX OF ENGLISH PROVERBS

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## ABSTARCT:

**This article deals with Structural-semantic analysis of the syntax of English proverbs. At the same time, the study of all aspects of proverbs is one of the main tasks of the field of paremiology. When studying the comparative aspects of proverbs, it is impossible not to focus on their linguocultural aspects. In this way, we try to show the similarities and differences between the proverbs in the languages we are studying, the unique culture and mentality of the people who speak that language.**

**KEYWORDS:** great, talent, person, life, main.

## INTRODUCTION:

Today, proverbs are the subject of intense research. This article describes the interdependence of language and culture in the analysis of linguocultural aspects of Uzbek and English proverbs, considers the thematic similarities of Uzbek and English proverbs and expresses their mentality and national character issues such as we try to take a deeper approach. Language is the most important factor in expressing the culture, values and beliefs of each nation, as well as the characteristics of the people in general. From linguists Nida says that in order to learn a nation's language, it is important to study its culture. He argues that language and culture are similarly interconnected systems. He explains: "Cultural factors are deeply interwoven with the language, and thus are morphologically and structurally reflected in the forms of the language." Well-known linguist

Sapir emphasizes that the vocabulary of a language is created by the physical and social atmosphere of humanity. And based on this theory, we can cite language as part of culture. He also believes that the language that underlies every culture should never be studied in isolation from culture and humanity uses language to express every aspect of culture. V. Telia, as a linguist and folklorist, emphasizes the role of paremiology in the connection of culture with language. He said that while language represents an entire culture, there is no doubt that the field of paremiology can beautifully and deeply express the culture of a people who speak the language. This is due to the fact that linguoculturology is a mixture of languages and cultures. Thus, proverbs as one of the most active tools in the expression of folk culture are becoming one of the most important topics in the process of linguoculturological research in linguistics today. It is used as the main object of many researches. Telia calls proverbs "direct cultural signs" and believes that they are factors that reflect the culture of the people as a whole. Each proverb, in his opinion, is a mirror that can fully reflect the way of life of the people in a short and concise way. He says in one of his works: "After having described the interaction between language, culture and proverbs, it also seems important to mention the ways in which culture is implemented through language. Each culture has a set of proverbs that could be defined as basic, when they enter the lexicon and the language, it is possible they act as "direct cultural signs". This means that while every word that exists in the language of a people is expressed in the language, the

proverbs of a certain people are represented by the words of that people by the representatives of that nation with the peculiarities of that nation, the method of construction. Many scholars include Henl P. (1958), Sepir E. (1958), G.G. Morian (1986), Kramsh C. (1993) addresses issues such as the relationship between culture and language. With regard to the linguoculturological qualities of proverbs, Nida believes that it is natural for scholars to study the language and culture of the people directly when studying proverbs. English: "The nearer the Church, the farther from God" translates to Uzbek - the closer you get to the church, the farther you are from God. This is expressed in the Uzbek proverb: "He does not abandon the five daily prayers and does not distinguish between the forbidden and the forbidden." The word "Church" in the English proverb means "church" in Uzbek translation. The word "church" is not originally Uzbek, but Uzbek as a term borrowed from other languages. The church is a place where people of Christianity perform their religious rites. In Uzbek, the word "mosque" is equivalent to this word. If we look at the religions of the two peoples, the majority of the Uzbek people are Muslims, and the British people are almost Christians. In Christianity, the church is considered the holiest place for Christians, and as mentioned above, Christian customs and traditions are held there. We can't say a church is a place for Muslims to perform Islamic rituals in Islam. This is because Muslims visit great and sacred places such as mosques and madrassas in order to perform Islamic rituals. Although the words "church" and "mosque" in both languages have the same function for the people, they have their own usage functions. Here, people use a unique and appropriate term. That is why the word "church" is not used in the Uzbek version of the proverb. This means that lexemes that exist in the life of a

nation and are actively used in everyday life create their own image in the language and are involved in proverbs to reflect the national mentality of peoples. If we analyze the meaning of the proverbs, we can see from the meaning of the proverb that in the religion of the English people, the church is a sacred place for them. According to them, a person who goes to church regularly does not always become a god. Focusing on the linguocultural features of proverbs, of course, we cannot help but talk about the unique national character and mentality of nations. Because folk proverbs, which concisely convey the culture, history and traditions of the people, are at the forefront of expressing the mentality of the people. In this part of our dissertation, analyzing the linguocultural features of some articles in English and Uzbek, we show the unique national traditions of both peoples, the expression of the specific national character in everyday life. Basically, we try to express the commonalities of the similarities by studying the more different aspects through a critical analysis of the proverbs in both languages. Proverbs are an invaluable example of folk art, reflecting the national and cultural characteristics of the people, their worldview and the spirit of the nation. As the famous linguist Dal put it, "a collection of proverbs is a set of proverbs derived from the language of the people, an experience, a set of common sense, a fact that people have learned in life." When it comes to articles in different languages, they speak the same language

We see that it is a mirror of the historical, spiritual and material culture of the people. Therefore, a comparative study of different language articles helps to reveal the specific cultural and national aspects of a nation, in other words, it reflects the mentality of that nation. Although the concept of "mentality" has only recently been introduced



into the linguistic paradigm, it is now widely used. In the narrow sense, mentality is used in the sense of "scope of thought, worldview", and in the broadest sense, "the morality, upbringing and imagination of the people." The concept of mentality can also be seen in the views of the linguist W. von Humboldt. In his view, mentality is "a character of a people that is reflected not only in language, but also in literature, religion and other spiritual aspects." Therefore, as mentioned above, this "national character" is closely related to the religion, politics, customs, social strata, lifestyle, history and even geographical location of the people. When we talk about nationalism in English articles, it is appropriate to talk about the character of the English people. Among the nations of the world, these people are distinguished by their pride and respect. This aspect is also reflected in the articles: English: Better die a beggar than live a beggar. English translation: It is better to die poor than to live poor. English version: Both the horseman's whip and Yayov's stick, It touches the poor man's head. As you can see, the Uzbek translation of this English proverb condemns living in poverty. That is, it is said that living in poverty is a disgrace. But in the Uzbek version it makes sense we can't say the same as in the English version. Everyone here is poor is always said to be abusive.

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# PSYCHOLOGICAL BASES OF STUDYING THE KARAKALPAK LANGUAGE BY STUDENTS IN PRIMARY CLASSES

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## ABSTRACT:

**The relevance of the chosen topic is due to the need to pay attention to the psychological foundations of teaching students to make sentences in the lessons of the Karakalpak language. The psychological basis for mastering the skills of constructing sentences in a second language is teaching children speech activity in a second language, performing speech actions and "speech operations" to express their thoughts, bringing communication skills to automatism when performing speech exercises based on sensory perception, moving from visual-effective to visual - figurative and then to logical thinking by an oral speech of Russian-speaking students in the lessons of the Karakalpak language are performing speech exercises related to speaking.**

**KEYWORDS:** Affix, sentence, exercise, word form, speech operation, speech activity

## INTRODUCTION:

Psychologists consider communication as a side of any joint activity. Thanks to communication, people begin to understand the inner world of another person, which causes them sympathy or antipathy. And this has a beneficial effect on the development of ideas, concepts, and imagination.

The psychological basis for mastering the skills of constructing sentences in a second language is teaching children speech activity in a second language, performing speech actions and "speech operations" to express their

thoughts, bringing communication skills to automatism when performing speech exercises based on sensory perception, moving from visual effects to visual figurative and then to logical thinking through an oral speech of Russian speaking students in the lessons of the Karakalpak language are the performance of speech exercises associated with speaking.

In the structure of expressing one's thoughts, a certain role is assigned to the implementation mechanism. The implementation mechanism consists of:

- 1) Actions of external registration, pronunciation, intonation, and internal that is grammatical (category of case, gender, number, etc);
- 2) Operating actions.

Expressing your thoughts is associated not only with the implementation mechanism but also with the process of recreating the real picture of reality. Based on the data of psychologists, P.N. Satskaya argues that the actions of operating, entering the actions of design, are not only a means of creating the first but also, to a large extent, an apparatus for constructing an internal spatial scheme. I.A. Zimnyaya refers to operations as operations: comparisons (comparisons), selection (selection), set (compilation), substitution (replacement), decision making, construction and variation by analogy.

In these actions, the person who constructs the utterance takes into account both sociolinguistics and the stylistic possibilities of language, the patterns of oral speech. Operation is carried out on the basis of well-mastered

(brought to automatism) lexical and grammatical units, pronunciation skills. When learning second language speaking exercises in self-composing sentences, the abundance of these exercises is a decisive factor in achieving the main learning goals.

Speaking, as a type of speech activity, can appear only when the student exercises in it. Lack of exercise in speaking cannot be compensated for by working on reading, writing, listening.

The mechanism of external realization of speech in the study of a second language is presented by psychologists as a set of skills for the design (external and internal) of mental operations (I.A. Zimnyaya). The styling operations are more or less specific to each language. The design operations in the study of the affixal Karakalpak language by Russian-speaking children have their own characteristics. Nevertheless, the process of mastering these operations must also take into account the types of speech activity.

The left hemisphere of the human cerebral cortex (according to V. Penfield) consists of:

- 1) The centre of the letter;
- 2) Reading centre;
- 3) Broca's zone, which regulates the movements necessary for speech;
- 4) The centre for naming objects;
- 5) Wernicke's zone, providing auditory speech perception (1.60).

Each zone, each centre, in one way or another, is associated with the centre of naming objects. A number of methodologists, taking into account this circumstance, began to associate the formation of lexical and grammatical skills with the activities of these zones, the centres of S.S. Kuklina introduced the term "lexical speaking skills", there were textbooks "Learning to speak by speaking" (3). In our opinion, along with lexical skills, it should be associated with speaking and grammatically.

Probably, images of linguistic forms are also stored in the centre of the naming of objects. After all, the internal spatial scheme suggests not only the naming of objects but also the process of human activity in close connection and relationship with these objects. It should be noted that when generating a statement, a person does not always use a rule like judgments.

This rule did not help teachers remember the required affix. Formation of rules is a linguistic phenomenon. A person constructing his statement relies more on an internal spatial scheme that is created in his imagination. Thus, it can be argued that in order to learn to speak a second language, it is necessary to have abundant exercises in speaking, built on the use of visualization.

Sensation and perception as forms of reflection of objective reality act through analyzers, each of which consists of receptors (endings of the sensory nerve), perceiving stimuli, pathways and the central section in the cerebral cortex. Receptors convert external energy and nerve impulses sent along afferent (centripetal) nerves into the cerebral cortex. Here this energy turns into a fact of consciousness as a result of the analysis and synthesis of the received stimuli.

The results of the activity of the analyzers taking part in the formation of speech reactions are transmitted to the nuclei of the cerebral nerves. Efferent (centrifugal) nerves depart from the sheath of the nuclei, along which a response is directed to the peripheral speech apparatus. In the muscles of the speech apparatus and other sensory organs are the endings of the motor nerves that receive impulses from the central nervous system. These impulses regulate the tone of the muscles and induce them to contract.

Voice formation or movement of the writing hand occurs. The central nervous system is irritated by the peripheral speech

apparatus (motor, auditory, visual, tactile). Effective impulses, in turn, cause a stream of afferent nerve impulses, signalling the nature of speech acts. In the annular mechanism of the analyzer, a number of superstructures reflexes arise. This phenomenon is called reverse differentiation (4,63-64).

Types of speech activity are concentrated on two opposite analyzers from each other.

- Analyzers, consisting of receptors that convert external energy into a fact of consciousness reading, listening;
- Analyzers participating in the formation of speech reactions speaking, writing.

Reading and listening as types of speech activity is identical with sensation and perception as a form of reflection of objective reality. During sensation and perception, nerve impulses arise that send external energy along afferent nerves to the cerebral cortex. The same actions are performed during reading and listening.

The speech apparatus is almost not involved in this process. Speaking and writing as types of speech activity are associated with the activity of analyzers participating in the formation of speech reactions. The speech reaction is directed along the efferent nerves to the peripheral speech apparatus. Until speech reactions due to the lack of the necessary skills, speaking as a spontaneous type of speech activity will not begin.

Based on the data of psychological science, in our opinion, it can be argued that only exercises in speaking, and later in writing, can serve the development of oral and written speech. The mechanism of speech can be improved only in the conditions of speech activity, exchange of messages in the process of speech communication.

Thus, it should be considered that the main way of forming the oral speech of Russian-speaking students in the lessons of the

Karakalpak language is the performance of speech exercises associated mainly with speaking.

Taking into account the need to organize speech activity, as the main way to achieve the goal, psychologists and methodologists put forward an active approach to teaching foreign languages.

In his research, Passov names the following features of this approach:

- 1) Motivation and purposefulness of the activity, which stems from the activity of reflection;
- 2) Hierarchy of activity as a quality of its structure, in particular, the idea of the level structure of the speech mechanism;
- 3) Analysis not by elements, but by units;
- 4) The productive nature of the activity

As you know, speaking is a phenomenon, activity (one of the types), its product is an utterance. The utterance is carried out on the basis of pronunciation skills, is built on the basis of learned lexical and grammatical materials, means expressing semantic relations. The unit of expression is a phrase.

Phrases (sentences) are organized by the deployment of thought. Each relatively complete thought, expressed in several sentences, is unit a complex syntactic whole.

When learning a second language, teaching the construction of sentences consists of element-by-element assimilation of language material. The organization of speech activity in speaking contributes to the active mastery of it.

The psychological basis for the study of language material through oral speech exercises is the activity of the analyzers involved in the formation of speech reactions.

A piece of striking evidence is the fact that even the pronunciation of individual sounds is acquired only through speaking (pronunciation) activities. According to M.S. Abayulov, a person gropes for the correct articulation not through showing the position of

the speech organs, not through explaining pronunciation rules, but through searching, i.e. getting the sound you want by repeatedly pronouncing (2,328)

To express his thoughts, the speaker relies on his pronunciation skills, recalls words and grammatical forms from memory in order to arrange them in the structure of the sentence. Such skills cannot be developed without speech practice. This is why the activity is the main way to learn a second language.

It is much easier to understand a phrase, understand its structural components, and learn certain language rules than to construct a sentence yourself at the level of an oral statement.

In this regard, the conclusions of methodological scientists are appropriate, who asserts that "it is much more difficult to develop speech skills than to acquire knowledge about the language, its phonetics, vocabulary, and grammar (4,328). This is why learning a language and mastering speech are not the same thing. The process of mastering the skills to construct sentences in the second language, as we emphasized above, consists of element-by-element assimilation of linguistic units at the level of their automated use in the speech stream. V.A.Arakin emphasizes: "

The very process of mastering each speech unit consists of the development, based on the automation of its use in speech, of its numerous variants - lexical-semantic, grammatical and other variants, the necessary dynamic stereotype for its structure, with strong memorization of the words and grammatical forms included in it".

A dynamic stereotype can only be developed as a result of repeated repetition in an oral and written speech of specific variants of a given speech unit, which ultimately will lead to the establishment of the necessary strong temporary connections between the content of the utterance and the form in which it should be

clothed. The repetition of linguistic units in oral and written speech should be associated with the creation of independent statements.

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## THE PLACE AND LEGAL BASIS OF DISTANCE EDUCATION IN DETERMINING INTERNATIONAL RATINGS AND INDEXES

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### ABSTRACT:

**This article distance education and its role in the development of society, the international rating agencies calculate an index rating or distance education, distance learning, distance education opportunities off the coast of the importance of the development of effective foydalanishlanishning specific characteristics of distance education, distance education and the development of legal mechanisms recommendations are given.**

**KEYWORDS: Distance education, flexibility, distance education in Germany, the law on distance education, motivation for self-development, the right to education, the role of e-learning in cross-border education.**

### INTRODUCTION:

Indeed, distance education is a modern and highly flexible form of education that has its own characteristics, is rapidly evolving today, is a requirement of the times, and requires legal regulation.

International rankings and indices reflect the development process of countries around the world, such as the rule of law, the level of governance in countries, education index, business environment and favorable environment for foreign investors, living standards, human rights, sustainable economic growth and democratic political culture. is a transparent result of priorities. The main purpose of these rankings is to assess the real situation in the world, identify shortcomings

and find the right solution, as well as to improve the living standards of the population. Decree No. PF-6003 of 2 June 2020 [1] and Order No. 309 of the Minister of Higher and Secondary Special Education of the Republic of Uzbekistan of 3 June 2020, No. 107 of 10 June 2020 of the Minister of Justice of the Republic of Uzbekistan Order No. is the most important basis for raising the work carried out in this direction in the country to a new level. Of course, in the calculation of indices or rankings, international rating agencies rely mainly on various statistical indicators of the country. In real terms, Covid 19 is more likely to have a significant drop in ratings.

To prevent the spread of COVID-19, most governments around the world have temporarily closed educational institutions. As of September 2020, about 1.277 billion students are affected by the closure of schools in response to the pandemic. According to UNICEF monitoring, 46 countries are currently undergoing nationwide closures and 27 local closures, affecting 72.9 percent of the world's students. [2] In such a difficult situation, a number of practical measures have been taken in the Republic of Uzbekistan to preserve the education system as harmlessly as possible. Article 42 of the Constitution of the Republic of Uzbekistan states that "the state shall take care of the cultural, scientific and technical development of society" [3]. The practical proof of this norm was even more evident in the context of a direct pandemic. To be more precise, in March of this year, a pandemic began to cast a shadow over our people, and a number of drastic measures have been

developed in the education system of the Republic.

In terms of importance, there are many shortcomings in the work on the component "Human Capital", which is reflected in international rankings and indices. In particular, the underutilization of distance learning opportunities, which are currently important in the field of education, and the lack of accurate and realistic data on the population with higher education have a negative impact on our ranking.

According to Article 16 of the Law of the Republic of Uzbekistan "On Education" No. ZRU-637 of September 23, 2020 [4], in accordance with distance learning curricula and study programs, students need the necessary knowledge, skills and abilities from information and communication technologies and the Internet. The order of organization of distance learning is determined by the Cabinet of Ministers of the Republic of Uzbekistan.

Distance education is becoming increasingly popular. It has many advantages, especially for those who want to continue their studies along with work or get an academic degree. It is characterized by great flexibility, primarily in terms of time and place of study. Students can flexibly organize their study time and study anywhere. In this case, the student learns along with his work, so the lessons do not impose excessive obligations. The student can receive knowledge at any time: during the day, in the evening, on weekends. In this case, the student organizes his daily program as he wishes, and this is consistent with his other (professional) tasks. Students receive education wherever they want, their "class" can be at home, while traveling, or wherever they want to study. Distance education knows no territory and no borders, it can be studied both across national borders and in different parts of the world. In the era of pandemics, it is unfortunate that the normative and legal

documents on its regulation and further development are still insufficient, despite the growing need for distance education. Distance learning is understood as educational technologies that are carried out mainly through the use of information and telecommunications networks that interact indirectly (remotely) between students and teachers [5].

Modern distance online learning can effectively influence traditional learning features. These are:

- students are separated from teachers;
- certain transmission systems and media are used for training;
- variety of data methods;
- learning spaces and forms are flexible and changeable;
- may violate time and space restrictions;
- provides more learning opportunities;
- expands the scope of training;

Just as every good has its bad, distance education has its drawbacks. They are:

- high requirements for the metacognitive level of students;
- Lack of effective management;
- low learning efficiency,
- Lack of advantages in the systematic and operational study of knowledge;
- Lack of online learning such as emotional communication.

While the rapid transition to compulsory distance education in the Republic due to the pandemic conditions is commendable, it is also clear that there are no clear legal mechanisms regulating the sector. The lack of a mechanism leads to misunderstandings and problems in the system. This was especially evident in the pandemic situation, but the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated March 23, 2020 No 176 "On additional measures to prevent the spread of coronavirus infection", the Republican Special

Commission for the preparation of On the basis of the statement No. 11 of the meeting and the order of the Ministry of Higher and Secondary Special Education of the Republic of Uzbekistan dated March 27, 2020 No. 233 "On the introduction of distance learning in higher education institutions" a number of measures were taken to organize distance learning. Educational platforms have been created in each university, it has become possible to control students, and educational work has not lagged behind despite the pandemic, but rather has created conveniences for students.

Conveniences of ZOOM platform for online learning:

- real-time discussion, communication;
- interactive whiteboard, with the possibility of presentation on the board;
- materials (viewing together);
- There is a chat where you can write messages, transfer files;
- control of attendance (through the function of participants);
- teacher supervision (inviting a representative of the administration to the conference);
- lesson archiving (by recording a conference).

Today, a student can study in almost all Western university programs without leaving their home country. Education is becoming more universal and universally used, ahead of the processes of political and economic integration. Previously, distance education was originally designed to improve the skills of people with higher education. Its simplest type is a series of television shows that were previously popular: an entire channel works for a special training program. Nowadays, distance learning opportunities are expanding with the advent of more powerful techniques.

In Germany, which is more advanced in this area, the type of education via the Internet has become widespread due to political and economic reforms. Most notably, the German Law on the Protection of Distance Education

was adopted in 1976. According to the Law on the Protection of Distance Learning, all proposals for distance learning in Germany must be approved by the State Central Agency for Distance Learning (ZFU). This rule also applies to all e-learning offers that are provided on a paid basis via the Internet on the basis of individual contracts and under the supervision of remotely established government agencies.

The Law on the Protection of Distance Education, adopted in 1976, is based on this, which serves to protect the rights of consumers and ensure the quality of courses offered. Currently, the law has been adopted in a new edition with some changes. The agency's activities allow citizens to learn about licensing and warning requirements related to distance learning organizations, as well as administrative offenses and terminated contracts, which in turn allow them to, firstly, those who want to establish illegal online education, and secondly, education where administrative offenses are committed. and, thirdly, the abuse of continuing education by organizations that have established distance learning on a legal basis, leaving them behind in terms of quality (through continuous monitoring).

Defining the priorities of systemic reform of higher education in the Republic of Uzbekistan, raising the process of training highly qualified personnel with modern knowledge and high moral qualities, modernization of higher education, development of social and economic sectors based on advanced educational technologies In this regard, a number of new steps are being taken in our country, in particular, the Decree of the President of the Republic of Uzbekistan dated October 8, 2019 "On approval of the Concept of development of higher education in the Republic of Uzbekistan until 2030" PF-5847 introduction of modern methods "[6].



Based on the above information, a number of suggestions and recommendations are put forward:

1. The Law of the Republic of Uzbekistan "On Distance Education" should be adopted.
2. A special agency should be established to enforce the Law on Distance Education.
3. To draw the attention of the general public to this form of education through the organization of pilot distance learning.
4. Introduction of special discounted Internet traffic for distance learning and increase of internet speed and quality even in the most remote regions of the country.

If the above-mentioned opportunities are realized, distance education will develop in our country, the opportunities for our compatriots to study not only in Uzbekistan, but anywhere in the world will increase, and the population's confidence in distance education will increase. Also, according to the education index, our country will rise to higher levels.

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## **SURGICAL METHOD FOR PREVENTING APICAL PROLAPSE AFTER TOTAL HYSTERECTOMY IN OBESE WOMEN**

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### **ABSTARCT:**

**Relevance of the topic.** Genital prolapse remains a pressing problem of operative gynecology, as it is characterized by a high relapse rate of the disease after surgical treatment. This article compares 2 surgical methods for the prevention of vaginal vault after total hysterectomy in obese women.

**Purpose.** Development of an effective method for preventing vaginal vault prolapse by improving the surgical technique of total hysterectomy in obese women.

**Materials and methods.** The main group included 178 obese patients with BMI from 30 to 40, who underwent the operation of extirpation of the uterus with laparotomic access using an improved technique for strengthening the vaginal vault. The comparison group included 104 patients also with obesity, BMI from 30 to 40, with extirpation of the uterus by laparotomic access with suturing vaginal vault in traditional method.

**The results of the study.** The duration of the total hysterectomy operation using the advanced technology varied from 45 to 75 minutes, on average  $52.5 \pm 1.5$  minutes. With the traditional method, the operation of abdominal total hysterectomy lasted from 90 to 110 minutes,  $98.6 \pm 5.6$  minutes, ( $p < 0.05$ ). Thus, in the main group, it averaged  $52.5 \pm 1.5$  minutes, which was significantly shorter than in the comparison group -  $98.6 \pm 5.6$  minutes, ( $p < 0.05$ ).

**KEYWORDS:** genital prolapse, total hysterectomy, obesity.

### **RELEVANCE:**

The failure of the pelvic floor muscles and, as a result, the prolapse of the genitals is a serious medical and socio-economic problem. It remains in the focus of attention of both gynecologists and doctors of related specialties. The disease often begins at the reproductive age and is progressive in nature. If in previous years the prolapse of the internal genitals was considered a disease mainly of the elderly, then in recent years there has been a tendency to rejuvenate women with genital prolapse and an increase in these patients in the reproductive age [4,12]. This is confirmed by the data of some authors [5,9], according to which the prevalence of genital prolapse in women under 30 years of age reaches 10.1%, in those aged 30 to 45 years – 40.2%, and in women over 50 years of age-50%.

Genital prolapse remains a pressing problem of operative gynecology, as it is characterized by a high relapse rate of the disease after surgical treatment. Up to date, according to the literature, there is a high frequency of relapses of genital prolapse (5-40%) and dissatisfaction with the functional results of operations.

One of the main problems of surgical treatment of genital prolapse remains the high frequency of recurrence of the disease, which leads to repeated surgical interventions in 30%

of cases. So, after anterior colporrhaphy recurrence rate of the disease reaches 24-31%, after posterior colporrhaphy it gets 25-35%. After vaginal hysterectomy in case of prolapse, relapse in the form of vaginal vault prolapse develops with a frequency of up to 43% [1,6,7].

According to Russian authors, from 10 to 20% of patients in gynecological hospitals are treated for genital prolapse [2, 11]. Despite the improvement in the quality of obstetric care, approximately 50% of all women who gave birth on time have genital prolapse of varying severity, and in women over 50 years of age, this pathology occurs in 57-78% of cases [1,8].

Prolapse of the internal genitals in our Republic occurs in 45% of women who have had 2-3 or more births, with creates discomfort, urinary incontinence, constipation and a decrease in libido. In connection with this, the family has problems associated with sexual dysfunction, frequent inflammatory diseases of the genitals, constipation. Consequently, there is a need for surgical correction, which is accompanied by relapses of omission and prolapse of the genitals from 2 to 10% of cases [4,13].

With the predominant prolapse of the vaginal walls, the patients note the following distress:

- \* Feeling of incomplete emptying the rectum or bladder;
- \* Frequent urgency to urinate;
- \* Pain in the lower back, sacrum;
- \* Feeling of heaviness or a foreign object in the perineum;
- \* Urinary incontinence when coughing, sneezing, laughing, or having sexual intercourse.

In the research, it was revealed that an increased body mass index can also be one of the causes of genital prolapse. Perhaps the fact is that excessive weight generally increases the load on the internal organs and systems and

contributes to the deterioration of the overall condition of the body [3,8].

The problem of vaginal vault prolapse after extirpation of the uterus remains relevant for both gynecological surgeons and doctors of related specialties. Vaginal vault prolapse after the operation of extirpation of the uterus does not directly threaten life, but leads to functional insufficiency of various organs and systems, and a decrease in the quality of life of patients [3,4,6,11].

Currently, there is no common understanding of the pathogenetic mechanisms of genital prolapse, so it is important to clarify the unresolved issues of pathogenesis and determine the algorithm for examining women in order to early detect disorders in various parts of the pelvic floor for further choosing the tactics of surgical treatment of the identified disorders [2, 10, 10].

Surgical treatment, especially in severe cases of genital prolapse, presents significant difficulties due to the need not only to eliminate the main symptoms of the disease, but also to restore the architectonics of the pelvis, functional disorders of the pelvic organs, with a minimum number of complications.

The above data indicate how relevant is today vaginal vault prolapse due to its high frequency and a number of complications leading to a decrease in the quality of life of women and disability. The issue of prevention and correction of vaginal vault prolapse is also relevant.

**The purpose of the study.** Development of an effective method for preventing vaginal vault prolapse by improving the surgical technique of total hysterectomy in obese women.

**Materials and methods of research.** The research was carried out in the Republican Specialized Scientific and Practical Medical

Center of Obstetrics and Gynecology in the framework of the applied research project «Development of a surgical method for the prevention and treatment of vaginal spasms after total hysterectomy in obese women» (2017-2018). During the period of 5- year work in the Department of operative Gynecology of the Center, we developed an element during total hysterectomy with abdominal access to prevent vaginal vault prolapse.

The essence of the method is to apply a direct clamp simultaneously with the capture of the sacro-uterine ligaments, cardinal ligaments and vascular bundle at an angle of 45 degrees with respect to the conductive axis of the uterus body, which makes it possible to combine the stages of surgery, thereby shortening its duration, as well as reducing the volume of blood loss. The subsequent fixation of sacro-uterine, cardinal, circular ligaments with the side walls of the vagina on each side and simultaneous application of a twisted suture on the anterior and posterior walls of vaginal vault is performed with a single thread.

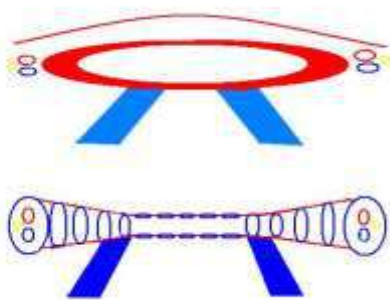


Figure 1. Improving the method of prevention of vaginal vault prolapse in total abdominal hysterectomy.

Thus, when the suture is fixed, the size of the douglas space decreases due to its stretching and lifting, which prevents the further formation of the enterocele. This method preserves the physiological horizontal axis of the vagina in relation to the musculus levatoris ani externa.

The proposed method of forming the vaginal vault excludes the possibility of accumulation of exudate in the postoperative period, due to the creation of a natural "drainage" of the paravesical and parametral spaces. Due to the strengthening the ligamentous apparatus to the vaginal vault, vaginal vault prolapse is prevented and a deep vagina is formed, which creates the possibility of normal sexual life. The parameters of the method allow achieving the set technical result-reducing the risk of early and late postoperative complications in hospitals of any level.

The main group included 178 patients with obesity, BMI from 30 to 40, who underwent the operation of extirpation of the uterus with laparotomic access using an improved technique for strengthening the vaginal vault. In 106 (39.9%) patients, the BMI ranged from 30 to 34, in the remaining 72 (60.1%) - from 35 to 40.

The comparison group included 104 patients also with obesity, BMI from 30 to 40, with extirpation of the uterus by laparotomic access with suturing vaginal vault according to the traditional method. In 45 (43.3%) patients, the BMI ranged from 30 to 34, in the remaining 59 (56.7%) - from 35 to 40.

It should be noted that the patients of both groups were comparable in age, somatic status, gynecological morbidity, all with obesity of 1-2 degrees.

## RESULTS AND DISCUSSIONS:

To confirm the effectiveness of the improved method of suturing vaginal vault we analyzed the different characteristics of the course of the early postoperative period, such as duration of surgery, blood loss, numbers of maximum body temperature rise, number of days with a high body temperature, number of days in hospital after surgery, and the number

of women with inflammation of the vaginal stump and granuloma (table 1).

The duration of the total hysterectomy operation using the advanced technology varied from 45 to 75 minutes, on average of 52.5±1.5 minutes.

With the traditional method the duration of abdominal total hysterectomy operation varied from 90 to 110 minutes, 98.6 ±5.6 minutes, ( $p<0.05$ ). Thus, in the main group, it averaged 52.5±1.5 minutes, which was significantly shorter than in the comparison group - 98.6 ±5.6 minutes, ( $p<0.05$ ).

As can be seen from table 1 the size of the uterus according to ultrasound data and the weight of macropreparations in the compared groups were identical.

Table 1. Main characteristics in the study groups

Characteristics	The main group, n=178	The compared group, n=104
Size of the uterus, weeks	17.5±0.8	16.8±0.5
Duration of operations, min	52.5±1.5	98.6 ±5.6 *
weight of macropreparation, gr	754±38.1	768±26.1
General blood loss, ml	205.6±18.4	290.7±26.8 *

Note: \* -  $p<0.05$ , the significance of differences between groups.

The volume of blood loss in the control group ranged from 250 to 400 ml, on average of 290.7±26.8 ml. Significantly less blood loss was registered in the main group - from 200 to 250 ml, on average 205.6±18.4 ml, ( $p<0.05$ ).

Intraoperative complications were not observed in the main group. Only in the early postoperative period in 2 (1.1%) cases there were subaponeurotic hematomas. After carrying out antibacterial and infusion therapy, there was a recovery.

When performing a hysterectomy according to the traditional method, that is, in

patients of the comparison group, the following intraoperative complications were registered: 1 (0.96%) wound of the bladder and 1 (0.96%) wound of the ureter.

It should be noted that in the proposed method of forming vaginal vault, the possibility of accumulation of exudate in the postoperative period is excluded, due to the creation of a natural "drainage" of the paravesical and parametral spaces. In this regard, in the main group, leaving the top of the vagina open a single case of inflammation of the vaginal stump was not registered. In contrast, in the early postoperative period, when performing the operation using the traditional method, every tenth patient in the control group - 11 (10.5%) was observed to have developed inflammation of the vaginal stump and two cases were diagnosed with subaponeurotic hematomas of the anterior abdominal wall. All cases required infusion, anti-inflammatory, and antibacterial therapy in addition to physical therapy.

Due to the absence of early postoperative complications, the vast majority of patients who underwent surgery according to the developed method 163 (91.6%) were in hospital after surgery for up to 5 days, on average 4.7±0.1 days. Whereas, only 67 (64.4%) of those operated with this method were in the department from 6 to 10 days, on average 8.1±2.6 days. The remaining 37 (35.6%) patients of the control group were discharged from the clinic on the 5th day after surgical treatment.

Thus, the proportion of patients in the main group who were discharged from the department on day 5 was 2.6 times higher than the proportion of patients in the control group - 91.6% versus 35.6%. Accordingly, 7.7 times fewer patients of the main group remained in the clinic after 5 days up to 8 days - 8.4% vs. 64.4%. Using the method allows reducing the duration of the patient's stay in the clinic after

surgery, significantly save both the clinic's funds, thereby increasing the turnover of the bed, and the patient's finances.

In order to study the effectiveness of the developed method for preventing and correcting vaginal vault prolapse by improving the surgical technique of total hysterectomy in obese women, we also studied the cytokine status in patients before and after surgery on days 1 and 5. The main group included 178 patients who underwent a hysterectomy operation using an improved technique for strengthening the vaginal vault. The compared group included 104 patients who underwent extirpation of the uterus with suturing vaginal vault according to the traditional method.

As our studies have shown (Table.2), in the first day after the surgical intervention in patients of both the main group and the control group, the content of all studied cytokines in the blood plasma increases.

Table 2 Cytokine status of women on the first day of the postoperative period

Characteristic	The first group before operation, (n= 35)	The main group, (n=25) The first day after operation	The compared group, (n=10) The first day after operation
IFN- $\gamma$	8.21 $\pm$ 0.25	11.28 $\pm$ 0.66*	15.77 $\pm$ 0.58*, **
TNF- $\alpha$	5.82 $\pm$ 0.27	11.68 $\pm$ 0.39*	15.44 $\pm$ 0.71*,**
IL-4	6.32 $\pm$ 0.27	11.26 $\pm$ 0.53*	15.79 $\pm$ 0.59*,**
IL-6	5.34 $\pm$ 0.16	11.41 $\pm$ 0.72*	16.6 $\pm$ 0.7*,**

\* - p <0.05 when compared between groups before surgery and on the first day after surgery

\*\* - p <0.05 when compared between the main group and the control group

So, there is a high content of peripheral blood IFN- $\gamma$  in the main group and is 11,28 $\pm$ 0,66 PG/ml vs of 8.21 $\pm$ 0,25 ng/ml before surgery, in comparison with its level in the first postoperative day was also significantly higher than before surgery is of 15.77 $\pm$ 0, 58ng/ml (p<0.05).

A similar picture is observed in the content of IL-4, which is in the main group 11, 26 $\pm$ 0, 53ng/ml ( p < 0.05) in the compared group of

15.79 $\pm$ 0,59 PG/ml (p<0.05) against 6,32 $\pm$ 0,27 PG/ml before surgery.

The concentration of TNF- $\alpha$  in peripheral blood was significantly higher in both groups compared with the rate before the surgery and is 11, 68 $\pm$ 0, 39ng/ml in the main group and 15.44 $\pm$ 0,71 PG/ml in the compared group against 6,32 $\pm$ 0,27 PG/ml before surgery and p<0, 05.

A similar pattern is observed in the content of IL-6 - 11, 41 $\pm$ 0, 72ng/ml of 16.6 $\pm$ 0,7 PG/ml vs 5,34 $\pm$ 0,16 ng/ml, respectively (p <0.05).

A comparative profile of INF- $\gamma$  when performing surgical interventions using traditional and advanced methods is shown in Fig.2.

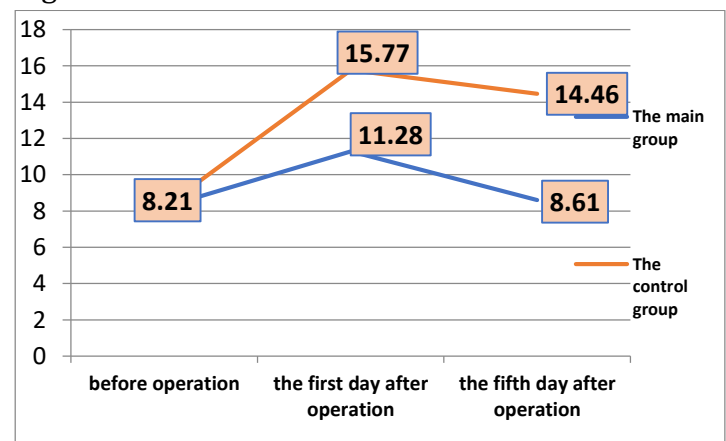


Figure 2. The level of INF- $\gamma$  in the blood serum during various surgical interventions (pg / ml)

\*P<0.05 when compared between the main group and the control group

\*\*P<0.05 when comparing indicators on the first and fifth days after surgery

With surgical treatment using the improved technique of strengthening the vaginal vault, the level of INF- $\gamma$  is normalized on the 5th day after surgery in women and is 8.61 $\pm$ 0.54 pg / ml, p<0.05, approaching the indicator before surgery-8.21 $\pm$ 0.25 pg / ml. When compared with the data on the first day after surgery, there was a significant decrease in INF- $\gamma$  compared to 11.28 $\pm$ 0.66 pg / ml at p<0.05. Observing the dynamics of the content of INF- $\gamma$  in women of the control group, it

follows that its level remains high on the 5th day after the operation and is  $14.46 \pm 0.79$  pg / ml, which is significantly higher than before the operation,  $p < 0.05$ .

A comparative analysis of the content of TNF- $\alpha$  in peripheral blood showed (Fig. 3) that in the main group there was a decrease in this indicator to  $8.09 \pm 0.3$  pg/ml compared to the data on the 1 day after surgery -  $11.68 \pm 0.39$  pg/ml ( $p < 0.05$ ) and remains quite high when compared with the data before surgery -  $5.82 \pm 0.27$  pg/ml,  $p < 0.05$ .

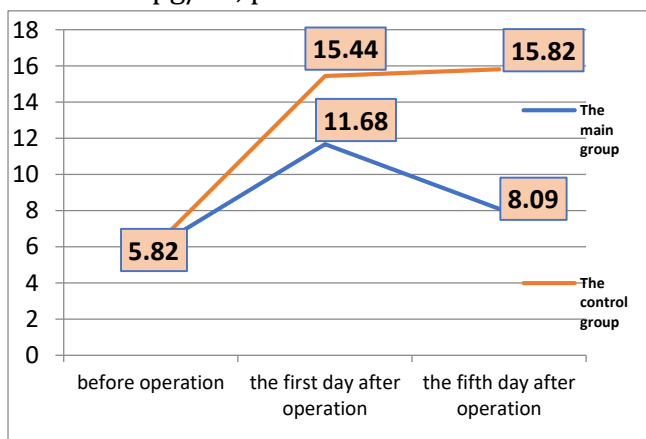


Figure 3. The level of TNF-a in the blood serum during various surgical interventions (pg / ml).

\* $P < 0.05$  when compared between the main group and the control group

\*\* $P < 0.05$  when comparing the indicators on the first and fifth days after surgery

Whereas in the compared group, with the traditional method of suturing the vaginal vault on the fifth day after surgery, it remains significantly high in comparison with the data before surgery and is  $15.82 \pm 0.57$  pg/ml versus  $5.82 \pm 0.27$  pg/ml before surgery,  $p < 0.05$ .

The dynamics of the amount of IL-4 in peripheral blood is shown in Fig.4. There was a significant decrease in its level on the 5th day after surgery among patients of the main group to  $8.004 \pm 0.53$  pg / ml versus  $11.26 \pm 0.53$  pg / ml observed on the first day after surgery,  $p < 0.05$ .

The dynamics of the IL-4 content in the blood of women of the compared group with the

operation of uterine extirpation by the traditional method is presented as follows : the level of IL-4 is  $13.17 \pm 0.57$  pg / ml, which is significantly higher than the indicator before the operation- $6.32 \pm 0.27$  pg/ml,  $p < 0.05$  and significantly lower than the indicators observed on the first day after the operation-  $15.79 \pm 0.59$  pg / ml,  $p < 0.05$ .

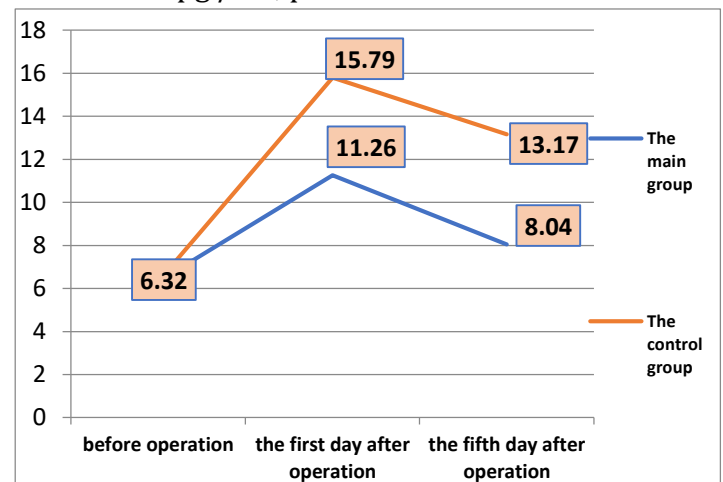


Figure 4. The level of IL-4 in the blood serum during various surgical interventions (pg / ml).

\* $P < 0.05$  when compared between the main group and the control group

\*\* $P < 0.05$  when comparing the indicators on the first and fifth days after surgery

Figure 5 shows the dynamics of IL-6 content depending on the tactics of strengthening and suturing vaginal vault. In the blood of women in the compared group with the operation of uterine extirpation by the traditional method, the level of IL-6 on the 5th day after the operation is  $14.7 \pm 0.63$  pg / ml, which is significantly higher than before the operation -  $5.34 \pm 0.16$  pg/ml,  $p < 0.05$  and lower than the level observed on the first day after the operation -  $16.6 \pm 0.7$  pg / ml,  $p < 0.05$ . While in the main group, there is a decrease in this indicator to the level before the operation. So, in the main group, its indicator is  $9.12 \pm 0.63$  pg / ml compared to the indicator before the operation of  $5.34 \pm 0.16$ ,  $p < 0.05$ . It should be noted that this studied indicator is significantly



lower than the indicator observed on the first day after surgery –  $11.41 \pm 0.72$  pg / ml,  $p < 0.05$ .

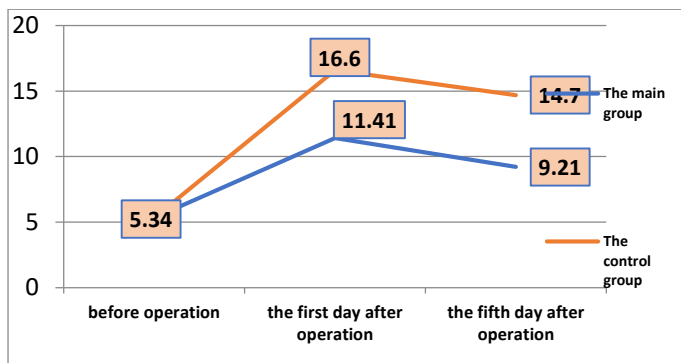


Figure 5. The level of IL-6 in the blood serum during various surgical interventions (pg / ml).

\* $P < 0.05$  when compared between the main group and the control group

\*\* $P < 0.05$  when comparing indicators on the first and fifth days after surgery

Thus, the analysis of the cytokine profile of obese patients who underwent uterine extirpation surgery shows that the method of performing the operation strongly affects the level of cytokines in the peripheral blood of women. The dynamics of inflammatory markers (cytokines) is observed at all stages of the study, which indicates the formation of a cascade of systemic inflammatory response and significant trauma by the operation.

Performing surgical intervention leads to an increase in the plasma level of interleukins, and to a greater extent when using traditional suturing vaginal vault. The relationship between the degree of increase in the level of cytokines from the applied method of strengthening and suturing vaginal vault was noted.

## CONCLUSIONS:

1. A comparative study of the parameters of the operation and the postoperative period revealed that the operation according to the developed method can reduce the duration of the operation by 2 times ( $p < 0.05$ ); reduce the

volume of blood loss by 1.5 times ( $p < 0.05$ ); the development of inflammation of the vaginal stump and postoperative complications by 2 times; reduce bed days by 2.6 times.

2. The use of an improved technique of extirpation of the uterus contributes to a less imbalance of proinflammatory cytokines and, accordingly, to reduce purulent-septic complications in the postoperative period.

3. Performing a hysterectomy of obese women according to the developed method, contributes to the creation of natural "drainage" and prevents vaginal vault prolapse.

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# THE RELATIONSHIP OF THE TEACHER AND STUDENTS FOR IMPROVING THE METHODOLOGICAL PREPARATION OF FUTURE PRIMARY SCHOOL TEACHERS TO READING BOOKS

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## ABSTRACT:

**This article focuses on the development of a reading culture that meets the spiritual, educational, artistic and aesthetic needs of young people, as well as the methodological improvement of the relationship between teacher and student in order to improve the modern knowledge of students in higher education.**

**Key words: higher education, concept, national program, lesson, teacher, student, reading books, listening listening, storytelling, expressive reading.**

## INTRODUCTION:

In order to improve the modern knowledge of students in the higher education system, the ongoing reforms require the development of new personal and professional qualities of students through the use of innovative methods in the scientific organization of the educational process in pedagogical universities.

As you know, Article 2 of the Law of the President of the Republic of Uzbekistan "On Science and Scientific Activity" No. ZRU-576, adopted on October 29, 2019, is entitled "Involving youth in science and scientific activity."

In order to ensure the implementation of the State Program in the "Year of Science, Education and Development of the Digital Economy" of the Action Strategy, a resolution of the Cabinet of Ministers has been developed. The decree developed the

State Program for the Development and Support of the Culture of Reading for 2020-2025.

As noted in the National Program for the Development and Support of the Culture of Reading, "the population, first of all, the spiritual and educational development of youth, publishing high quality books that meet artistic and aesthetic requirements, promoting the activities of publishers and artists, a number of goals and objectives were set to support the publication of children's literature.

The goal of the program is to develop a culture of reading, creativity, expanding the ranks of active readers through consistent and effective organization of support systems for publishers and booksellers, to increase the intellectual potential of the population, especially the younger generation.

To implement the program, the following tasks have been identified.

Development of an inter sectorial scientific and methodological base for the development and support of reading, improvement of the regulatory framework;

- Development of infrastructure in the field of reading (libraries, information resource centers, bookstores), strengthening the material and technical base;
- Implementation of a set of measures for the publication and distribution of book products, creation, translation of new works and encouragement of authors;

-development and implementation of economic foundations to ensure favorable conditions for the effective work of publishing, printing, information-library and book organizations, as well as providing them with benefits and preferences;

- to support the publication of books of public importance, especially children's literature, literature based on the Braille alphabet, the creation of electronic and audio books;

- creating conditions for the distribution of books throughout the country and the exchange of books with foreign countries, the development of sales of books in various forms of ownership;

- Further strengthening of the interest of the younger generation in reading, spiritual and material encouragement of readers, expansion of the ranks of active readers;

- Training and professional development of personnel for the infrastructure of reading development;

- Development of cooperation with foreign organizations to support the culture of reading. Also in the Decree of the President of the Republic of Uzbekistan dated October 8, 2019 "On approval of the Concept for the development of higher education in the Republic of Uzbekistan until 2030" PF-5847 "Raising higher education to a new level in terms of content Creation of a system for training highly qualified personnel who will make a worthy contribution to the sustainable development of the social sphere and economy.

They are dedicated to the preparation of future primary school teachers based on modern scientific and pedagogical requirements. So, new information in the educational process - communication and pedagogical technologies, translation of the best examples of domestic and world literature, widespread introduction of electronic textbooks, multimedia tools, increasing the

culture of reading in remote regions of the country and in schools of our country through the development of a culture of reading for young people, requires a radical improvement in the quality of education in vocational colleges, lyceums and higher educational institutions.

Our teaching staff is a person who ensures the fundamental implementation of state policy in the field of education. What traits should our teachers develop today? What should educators pay attention to in the educational process? In what forms should the relationship between teacher and student be manifested? Naturally, a number of questions arise.

The answers to these questions, of course, place a special responsibility on future primary school teachers. At the same time, improving the methodological preparation for reading requires the development of a scientific basis for improving modern knowledge and methods. Today, in the system of higher education, special attention is paid to the actions of teachers and students. In this regard, the relationship between teacher and student is a complex process of improving the methodological preparation of future primary school teachers for reading, which requires not only higher education, but also sufficient professional training, knowledge, skills and experience.

Therefore, one of the most important and important functions in the higher education system is the process of training teachers, the quality of which affects the potential of students, the effectiveness of the educational process.

In recent years, our teachers have faced a number of tasks in organizing the educational process on a scientific basis, i.e. to create the necessary conditions for participants in the educational process, to organize, coordinate,

monitor, analyze and evaluate their activities, as well as reading books., it is necessary to create and strengthen the material and technical base for the implementation of processes such as listening, storytelling, expressive reading.

It is necessary to have not only pedagogical experience that organizes the teacher's activities to improve modern methods of teaching and educating future primary school teachers in the higher education system, but also a number of advanced pedagogical technologies, their functions, management methods and the nature of their use, methods of their adoption, methods and methods of their application.

Obviously, managing this process puts a lot of responsibility and responsibility on the higher education system. The role of all disciplines in higher education is invaluable, and in the study and analysis of these disciplines is necessary to use a combination of a systematic approach, integrated approach, structural approach, situational approach, mathematical approach, as well as such methods and techniques as modeling, observation, experiment-the testing of the observation survey, conversation.

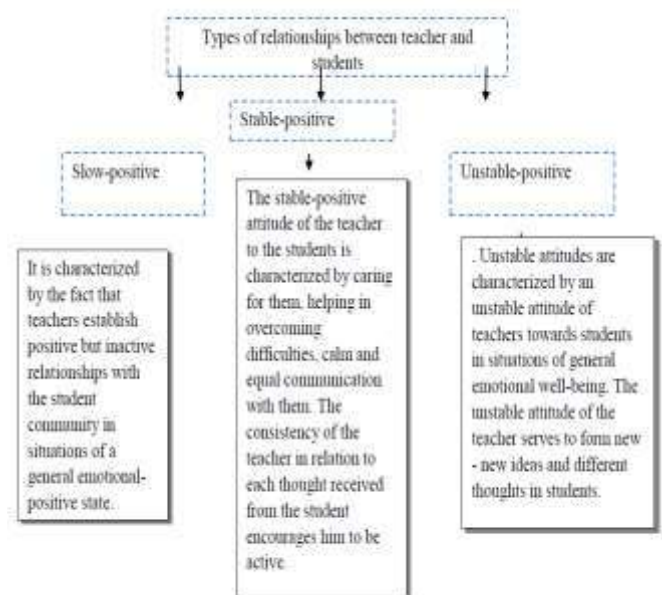
The forms of teacher-student relations in improving the methodological preparation of future primary school teachers for reading are a kind of complex process that requires not only higher education, but also sufficient professional training, the acquisition of knowledge, skills, and certain experience.

By improving the methodological preparation of future primary school teachers for book reading, the effectiveness of working with the book increases if the interaction between the teacher and the student is carried out according to the following principles:

- increased motivation during the lesson;
- teach the child to apply the knowledge from the book in practice, and not at the ready;

- Book reading, listening, storytelling, expressive reading and analysis organization of a special approach to technology;

- requires a culture of reading during the lesson. These are forms of interaction between a teacher and a student in improving the methodological preparation of future primary school teachers for book reading, which serve the development of human personality, interaction, i.e. the formation of independent information, self-education and self-education. The table below also shows how the interaction between the teacher and the student manifests itself in various forms.



As can be seen from the table above, teacher attitude has its effect on student performance. As a result of this activity, students acquire knowledge, talents, skills, secondly, change their worldview in a positive way, their attitude to reading, listening, storytelling, etc., and improve their methodological preparation for reading books. It allows to improve the methodical preparation of the teacher for reading books, as well as to reveal the content of the work, to analyze the essence of the work of art. The interrelationships between teacher and student learning activities, actions, learning content, methods and tools have the characteristics of

enhancing the effectiveness of mutual learning and education.

The teacher must organize the process of education and upbringing creatively, based on their abilities and professional skills. Regardless of the form, method and means of organization, the teacher-student relationship is designed to increase the effectiveness of the educational process, to determine the interaction between teacher and students, to provide students with a thorough knowledge of academic subjects, to develop students' independent, free and creative thinking skills. To create the necessary conditions for students to realize their potential, to ensure the predominance of democratic and humanistic ideas in the pedagogical process.

In improving the methodological preparation of future primary school teachers for reading, attention should be paid to the teacher-student relationship in the classroom. Increase lesson effectiveness, increase students' mastery, Areas of study of the student's personality in the implementation of person-centered education by ensuring that the lessons are memorable and interesting, communication methods, level of knowledge of students in the class, interests, taking into account the differences in the different acquisitions of science, create a comfortable environment, theoretical on achieving student mastery and other issues, guarantees methodological and practical experience.

In the process of establishing a relationship between teacher and student, special attention should be paid to the organization of their independent conclusions, learning from each other, creating a favorable environment for their learning. Only then will students have a better chance to master certain theoretical knowledge, to be active and to develop the ability to think freely.

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**LEXICO-SEMANTIC FIELDS OF THE TERMINOSYSTEM  
"STOMATOLOGY / DENTISTRY" IN COMPARATIVE ASPECT  
(ON THE MATERIAL PROFESSIONAL MEDICAL DISCOURSES  
RUSSIAN AND ENGLISH LANGUAGES)**

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**ABSTRACT:**

**This article focuses on the study hierarchical lexical-semantic (terminological) fields dental discourse in terms of comparative paradigms based on the Russian and English languages.**

**Key words: medical terminology, paramedical terms, Cognitive communication, Hyper-hyponymic, peripheral**

**INTRODUCTION:**

Modern medical terminology is characterized as a system of medical and paramedical terms resulting from centuries-old development of world healing. Cognitive communication the space of dentistry accumulates a universal general language, general medical information, based on the prevailing medical terminology fund, the core of medical terminology, and narrowly professional information, forming a wide peripheral a structure representing specific professional knowledge, due to a change in the scientific vision of the world. "Hyper-hyponymic relations in Russian and English Dental Terminology" covers the leading hierarchical relations in the term field's Стоматология / Dentistry that testifies to the versatility of the field construction model terminology systems for independent areas of medical knowledge, as well as the generality of the linguo-cognitive scheme for the presentation of scientific information.

Multilevel, hierarchical structures built on relations of hyper-hyponymy between the concepts of term fields Стоматология / / Dentistry, represent a complex term field framework.

At every level of the field in the transitions from one concept to another, structural links are established and relations in the presence of new differential signs, manifested in thematic groups, lexical-semantic groups, rows of hyponyms,

cohyponyms, emphasizing logical, systematizing, classification and ordering aspects that provide transitivity of relations in hierarchical chains with different density filling and different depth of manifestation of the picture of the world.

The regularity of the manifestation of relations of subordination can be traced to

Each subsequent level of terms: the more structurally complex the term field is,

The more extensively the subordinate levels unfold.

In such fields many terms can have their own structural lower level, becoming a hyperonym, subjugating many hyponyms, through "Building up", detailing highly specialized industry information:

Restoration of teeth hyponym from the concept of restoration, the term appears in as generic in relation to the terms - restoration of frontal teeth, restoration of central incisors, aesthetic restoration of teeth, direct composite dental restoration.

The term dentistry is a hyperonym in relation to two- or three-component terms-hyponyms: (терапевтическая стоматология, ортопедическая стоматология, детская стоматология) therapeutic dentistry, orthopedic dentistry, pediatric dentistry, built by the principle "differential species character + generic name".

The same relationship is presented in English terms: dentistry (hyperonym) - pediatric dentistry, restorative dentistry, forensic dentistry, special care dentistry (two- or three-component hyponymic terms).

In addition, in relation to each other, the terms act as cohyponyms, since they are at the same level in the hierarchy and have a common semantic part (hyperonym рус.: конусообразный зуб, шиповидный зуб, зуб мудрости,

зуб-антагонист; therapeutic dentistry, orthopedic dentistry, etc., and English: pediatric dentistry, restorative dentistry, forensic dentistry, etc.

Most dental terms from both fields combined formal-semantic hyponymic relations are formed by joining agreed and inconsistent hyperonyms definitions, more often expressed by adjectives or names nouns: rus .: cone-shaped tooth, thorn-shaped tooth, wisdom tooth, antagonist tooth; English: hereditary brown tooth, supernumerary tooth, pin tooth, shell tooth.

The universal property of the fields of both linguistic cultures is in the sphere

Ways of expressing hyperonyms and hyponyms: the generic concept is expressed, Usually a single noun, and a specific concept noun phrases of models:

Name adjective + name noun / Adjective + Noun, noun + noun

noun / Noun + Noun, noun + adjective+ noun / Noun + Adjective + Noun, adjective + namenoun + noun / Adjective + Noun + Noun, nameadjective + name adjective + noun + noun

Noun / Adjective + Adjective + Noun + Noun, abbreviation + namenoun / Abbreviation + Noun.

Models of genus-specific relations can be represented by the example term tooth as follows:

1) The direction from genus to species leads to the limitation of concepts (hyper-hyponymia): tooth / tooth (solid formation in the oral cavity with function

Mechanical processing of food) → canine / canine (one of the types of teeth that located directly behind the incisors);

2) The direction from species to genus leads to a generalization of concepts (hypo-hyponymy): canine / canine (one of the types of teeth that is located

Directly behind the incisors) → tooth / tooth (hard formation in the oral

Cavities with the function of mechanical processing of food);

3) The direction from species to species with a common hyperonym indicates

Relations of equality (cohyponymy): резец / incisor (one of the types of teeth,

Located in the middle of the dentition, followed by a canine) - клык /Canine (a type of tooth located directly behind the incisors)

- премоляр / premolar (one of the types of teeth located behind the canine) моляр / (one of the types of teeth that is located in the dental arch behind

Premolars).

So, in the process of interaction of terms located on different

Levels of the hierarchy, stable connections are established in the transitions from one concepts to others, and their interpenetration into each other is carried out.

"Multidimensionality of the dental field model" analyzed the multilevel system of dental fields Стоматология / Dentistry, features of the nomination of constituents are described, the classification of terms by morphological



properties, the nuclear groups, macrofields and microfields.

The field's Стоматология / Dentistry are characterized by isomorphism in

Aspect of universality of representation and structuring of knowledge by language

Means and at the same time the heterogeneity of the composition of microfields,

Termogroups, microtermogroups and content of individual terms determined by the linguistic tradition of education and the functioning of terms and social conditions for the development of medical industry.

In the space of term field's Стоматология / Dentistry is formed polynuclear structure, including the following groups:

1) анатомия органов полости рта /oral and dental anatomy;

2) ) заболевания органов полости рта / oral diseases;

3) профессиональная стоматологическая деятельность professional dental service.

Archilexeme anatomy, disease and activity give a cumulative understanding of the term field and the features existing in its conceptual links.

Nuclear Group of " Анатомия органов полости рта / Oral and dental anatomy "is represented by two macrofields: Зуб(ы) / Tooth (Teeth) and Органы

ротовой полости / Organs of the oral cavity, including structure-forming

archilexemes that are present at all levels of the hierarchy and perform

Integrative function: зубы / tooth, пульпа зуба / dental pulp, дентин / dentin,

цемент / cement, кость / bone, нёбо / palate, язык / tongue, etc.

One of the indicators of the complexity and heterogeneity of the hierarchical

The construction of the term field is identified in the presence of various

Terms. Structurally isomorphic terms can, along with two-word use phrases to create three-, four- and five-word, thereby expanding

the periphery zone. Complication of the structure and concretization of the concept

Leads to a narrowing of the value, which meets one of the requirements,

Presented to the term, unambiguity. For example, the term tooth

Exhibits a high degree of formation ability specialized nuclear terminology groups. In this example you can trace a pattern in the structural ordering of terms,

Creating a multidimensional picture. Thus, the lexemes зубы and tooth are characterized by universality in Russian and English in terms of terminology of nuclear groups " Анатомия органов полости рта / Oral and dental anatomy ".

Nuclear group " Заболевания органов полости рта / Diseases of the oral cavity "is represented by the supporting lexeme disease and includes nuclear constituents: этиология / etiology, патогенез / pathogenesis, классификация болезней / classification of diseases, патоморфогенез / abnormal morphogenesis и ятрогения / iatrogenia.

Terms included in the nearest periphery are differentiated into microgroups: заболевания зубов (кариес / caries (лат.), флюороз / dental fluorosis (лат.-греч.) и др.); заболевания пародонта (гингивит / gingivitis (лат.- греч.), пародонтит / periodontitis (греч.); заболевания слизистой оболочки полости рта (стоматит / stomatitis (греч.), хейлит / cheilitis (греч.)).

A significant part of the terminological units of this group represented by terms of Latin-Greek origin, which create one- or two-word names instead of multicomponent term combinations used in Russian and English.

Nuclear group " Профессиональная стоматологическая деятельность / Professional dental service "includes two macro fields:

Dental specialties (specializations) and Types of dental activities / Professional dental care, which in turn branch out into microfields.

To the near periphery of the macropolis Dental specialties

(Specializations) / Dental specialties (specializations) should include the terms

Denoting dental specialties.

Anisomorphism microfields lies in the specifics of the nomination of its constituent elements and is caused by extra-linguistic factors. Linguocultural

The peculiarity of the name of specialties has an extra-linguistic justification and

Due to the difference in the cultures of the countries. Revealed that in English

There is no term therapeutic dentistry, but the term Endodontics (endodontics) as one of the recognized specialties in the USA, Canada, Australia, and Great Britain. And, conversely, in Russian among specialty periodontology is not indicated, while in

English it corresponds to the name Periodontics.

This difference can be explained by the fact that in Russian specialty therapeutic dentistry is divided into several narrow professional specializations, including: cariesology, (эндодонтия) endodontics, пародонтология, косметическая (эстетическая) стоматология periodontics, cosmetic (aesthetic) dentistry, and in English Endodontics and Periodontics are dedicated specialty. Russian and English have their own specific professional linguistic picture of the world.

Structurally, the macrofield "Types of dental activities / Professional dental care "is a branched hierarchy of terms, denoting various types of activities, dividing into separate microfields and terminogroups.

The concept of activity is differentiated into 7 microfields:

- 1) профилактическая деятельность / oral health and disease prevention;
  - 2) диагностическая деятельность / diagnosing of the oral diseases;
  - 3) лечебная деятельность / dental treatment;
  - 4) реабилитационная деятельность / dental rehabilitation;
  - 5) психолого-педагогическая деятельность / clinical psychology of dental Patient care and oral care education;
  - 6) научно-исследовательская деятельность / dental research;
  - 7) организационно-управленческая деятельность / dental practice management.
- Each microfield is subject to several thematic termogroups, which, in turn, are composed of microtermogroups. So, for example, dental treatment around microfields a vast peripheral area is formed, represented by thematic by term groups: 1) methods and techniques of treatment; 2) equipment, Materials and tools. In conclusion we have compared some terminological units in two languages including teeth/зубы.

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# THE PROBLEM OF INTERCULTURAL COMPETENCE IN USING PHRASEOLOGICAL UNITS

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## ABSTRACT:

**The English and Uzbek languages are quite rich in Phraseological units unique only to these two languages. That is why their study and detailed description is of utmost importance in facilitating the translation practice from English into Uzbek and vice versa. The findings show that in order to competent user of the English language one needs to acquire not only basic language skills but also considerable cultural knowledge and to be able to use Phraseological units in speech. The results of the comparative analysis English and Uzbek Phraseological units show that together with distinctions in the cultural stereotypes and lexico-stylistic representations of the described phenomena we can observe similarities in terms of expressing universal linguocultural concepts.**

**KEY WORDS:** Phraseological units, concepts, interaction, cultural, transcultural, multicultural, approaches

## INTRODUCTION:

Language is the chief means by which the human personality expresses itself and fulfills its basic need for social with other persons. Frantz Fanon said "to speak a language is to take on a world, a culture" (F. Fanon, 2001). A person who knows a language perfectly uses a

thousand and one grammar lexical, phonetic rules when he is speaking. Language skills help us to choose different words and models in our speech. By learning language we can introduce with different people's tradition, their culture, religious and physiological inner-world. However, no one learns a foreign language as their native one because learning a language proficiently requires cultural proficiency, too. One needs to know a lot more than language skills to be good at a foreign language, such as history, culture, customs and traditions. Language and culture are intertwined like the two-sides of the same sheet of paper. They breathe, blossom, shrivel up and die due to many reasons. Both of them are sensitive and adapt to prevailing circumstances. Language gives full expression to people's values and norms, and since values and norms are dynamic by nature, language has to be in tandem with cultural transformations.

Phraseological units are considered to be the fixity combinations of the language, ready-made chunks and the deliveries of nation's cultural signs. As well as they carry the knowledge of history, geography, anthroponomy, social life of the people and traditions of a particular nation. According to it perceiving the world dates back to the old time when people began imagining the nature, the solar system and the stars, natural disasters and they started nominating and describing them

with the help of their rationale and knowledge. The development of their mind and thought represent their language and they develop human's social life. On their giving names to the things in the surroundings they use different signs, symbols and colours. By expressing their thinking every person needs to create and use words, word combinations and phrases. One can't describe anything without giving definitions, concepts, forms and meaning. Generating meaning and the form of any word or object brings a new meaning or sense. There are two concepts that are closely related. They are multiculturalism and interculturalism. In fact, as Dervin (2010) suggests, "interculturalism is often confused with cultural, transcultural, or multicultural approaches" (Dervin, 2010).

Multiculturalism has been seen as the result of the cohabitation of different cultures, while the concept of interculturalism is more often associated with the educational world, which is to say that it is the process that allows people of different cultural backgrounds to communicate among themselves (and maintain their culture while valuing others) and it is often presented in the pedagogical programs. These concepts have been developed basically in Europe and in the United States in response to the challenges these places have had in the educational system due to the presence of foreign children whose language and culture differ from that of the host country. In this experience intercultural communicative competence is understood as the knowledge, skills, and attitudes at the interface between several cultural areas including the students' own country and a target language country.

The development of intercultural communicative competence is a process that includes the students' experiences and competences from their own cultural background and is a process that allows them to reflect on their own cultural assumptions as an integral part of the further development of their

skills and knowledge about the world (Sercu et al., 2005).

When considering the intercultural communicative dimension, speakers are otherness. Skills of interpreting and relating mean ability to identify and explain cultural perspectives and mediate between and function in new cultural contexts. Skills of discovery and interaction are related to the ability to acquire new knowledge of a culture and cultural practices and the ability to operate knowledge attitudes and skills under the constraints of real-time communication. Finally, critical cultural awareness is defined as the ability to evaluate critically the perspectives and practices in one's own and other cultures. (Atay, Kurt, Camlibel, Ersin, and Kaslioglu, 2009).

In modern studies on phraseology increasing attention is focused on the relation between language and culture. The acknowledgement of the importance of the inclusion of the cultural component in research on fixed phrases is connected to a great extent with the adaptation of cognitive approaches, which provide theoretical grounds for contrastive research allowing analyses of cultural aspects of phraseology.

Linguoculturological units such as proverbs and aphorisms are considered as carriers of national wisdom, they brightly represent ethno-specificity of the nation they belong to. After reading or listening of a proverb in English and finding its equivalent in native language, there is held investigations to draw out the linguoculturological information about national traditions, customs and historical facts by means of analysis, comparison and comments (G. Makhkamova, 2010)

Of course human cognition differs in many ways including the language a person speaks. To perceive a discourse of a foreigner one should be not only language possessor but also the owner of the large amount of information about the foreign culture, history and daily life. One of

the best representatives of the culture in language is, surely, phraseological units. Native phraseological units are usually main carriers of cultural knowledge and they need to be closely learned by the speaker as one may have some misunderstandings without the knowledge of meaning of phraseological units. There are some notions in phraseology which are inter-culturally contrastive or make wider sense. For example:

As timid as rabbit; as mad as rabbit; as scared as rabbit, as quick as rabbit — here we can see several characteristics of the rabbit in English phraseology which is used to describe a person. This is a wider sense of the notion rabbit in English language in comparison to Uzbek

language. As there is only one phraseological unit in Uzbek language with the animal: **“quyondek qo’rqoq”**. One may misunderstand the speaker if not aware of such phrases.

In order to be fully competent in English one should be aware of the nation’s common cognitive thinking, in other words national world picture. Having knowledge about national world picture assists to avoid misunderstandings among communicators. Here below we can see world picture of the British in the concept of “colour” and analyze it in comparison to Uzbek idioms with colour components. In order to be more precise we have chosen only similitude transference.

Idiom	Cultural analysis
As black as coal	Coal can be considered as a universal phenomenon it can be met many of the cultural idioms including Uzbek: qopqora ko’mirdek
As black as soot	“Qorakuyadek qora”. We cannot detect any Uzbek idiom with such expression because the notion black already exists in the Uzbek variant of “soot”
As black as night	“Tundek qora” it is usually used positively to describe the beauty of the hair or eyes of a woman in Uzbek but in English we freely can use the idiom in any description whether it is positive or negative
As white as a sheet	“Oq qog’ozdek” the symbol of innocence or immaturity in Uzbek culture however in English it is sign of fear, illness or shock
As blue as the devil	This idiom is unique to English culture which means the sense of stress and melancholy
As green as grass	Maysadek ko’m ko’k - is totally different idiom in comparison to English which means turning green just before vomiting
As green as cabbage looking	This is a pure English idiom which means green foolish or naive and cabbage a person’s head without any knowledge. The equivalent in Uzbek “qovoq kalla”
As yellow as saffron	In Uzbek we use “rangi za’faron bo’ldi” very rare idiom in modern use which means “ill or missed somebody”. The idiom came from Arabic culture with the spice itself to English culture.
As red as beetroot	It means “uyatdan qizarish” in Uzbek which is a little bit differently expressed in our culture “sholg’omdek qizarmoq”.
As red as cherry	“Olcha” if translated etymologically it means “qizil+cha” (little red) is common fruit with red colour but isn’t illustrated in any Uzbek phraseological units. In English it means “a red nose”
As red as poppy	Poppy usually represents sacred blood of ancestors in battle fields in our culture but in English phrase it represents colour of an injury
As red as ruby	Ruby is a precious stone which is not strange to Uzbek culture. But despite its attractive scarlet color we can’t meet any Uzbek idiom with the word “ZUMRAD”

As we can see above from the definitions of the given color idioms intercultural

competence is no less important than the other competences while learning English language as

one can easily lose content of the speech without special knowledge of phraseological units.

In this research we investigated peculiarities of translation and classification, of phraseological units. We mainly dealt with distinctive features of English phraseological units. Because as Uzbek language speakers we have some difficulties in translation concerning to English language phraseological units.

Also in this article we investigated the notion of intercultural competence which is very essential in language learning and teaching. Intercultural communicative competence is understood as the knowledge, skills, and attitudes at the interface between several cultural areas including the students' own country and a target language country. So while learning a language one should not only acquire language skills but also one should have some special knowledge about the culture of target language, in our case it is English.

Phraseological units can be considered as a notion of intercultural competence as they carry lots of cultural information and one cannot be a fluent speaker of English without acquiring and using some basic phraseological units.

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# **IMPACT OF COVID-19 ON PERSONAL CARE PRODUCTS IN INDIA: A STUDY WITH SPECIAL REFERENCE TO BEAUTY AND COSMETIC PRODUCTS AND PERSONAL HYGIENE PRODUCTS**

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## **ABSTRACT:**

The beauty industry across the globe comprising of colour cosmetics, skincare range, fragrances, personal care products, hair care products, etc. has been completely shocked by this global pandemic of COVID-19. The sales of the first quarter was quite weak and widespread closures were witnessed throughout the world. The skincare and cosmetics industry has responded in a very positive manner, with more and more brands switching the process of manufacturing for producing hand sanitizers or some other cleaning agents. The beautify sector globally generates about \$500 billion sales in a year and it accounts for many employees. COVID-19 has had a huge impact on the beauty industry. It is also being expected that the global crisis is fundamentally changing the industry and will continue to do so even in future. This study is empirical in nature and finds that there has been significant downfall in the demand for the beauty and cosmetic products and increase in the demand of personal hygiene products.

**KEYWORDS:** beauty industry, COVID-19, impact of COVID-19, cosmetic products, personal hygiene products

## **INTRODUCTION:**

The cosmetic companies globally are manufacturing different kind of beauty and skin care products with a mix of chemicals. These products are used globally for improving

the odor and look of the body of these consumers. The factors which are fuelling growth of markets before this global pandemic include improvement in the present lifestyle, increasing disposable income along with a growth in the concerns regarding the looks. Additionally, companies are also using different platforms of social media like YouTube and Instagram for promoting their products and attracting more and more customers. With the help of social media influencers and bloggers, the beauty care companies are displaying their products on different platforms.

According to McKinsey (2020) found that there has been a fall of 20-30% in the demand of cosmetic products in the world. The pandemic has affected all the countries. The recovery will take at least a year or more. In the US, if there is any reoccurrence of the pandemic situation the demand would go down to 35%. The reports of the cosmetics industry globally are segment based on the type of skincare products, cosmetics, hair care, perfumes, toiletries, oral cosmetics, etc. Almost all segments of this industry have witnessed a similar kind of downfall in terms of sales during COVID-19 because of closing of the offline stores at different locations throughout the world.

In the Indian context it is important to report that the Indian beauty salon industry was estimated to be around Rs.10,000 crores. It is also estimated that the salon and spa business together account for 31% of the total size of the beauty and wellness market. Due to

the lockdown, beauty salons were closed and have only just opened (Husain, 2020).

Given the scenario of work from home, wearing mask and physical distancing, wearing makeup as well as fragrance is losing its importance. For prestigious brands, about 55% and 75% decline is being witnessed in the sales of fragrances and cosmetics. When the consumers would return to their office, a lot of them would still continue wearing masks which would slow the recovery of makeup industry further. One exception could be above masks treatments. Recently, Alibaba reported a rise in the sales of eye cosmetic by 150% each month during Feb 18<sup>th</sup> 2020. In contrast, hair care, bath care, skin care and body care products are enjoying the benefit from the self-care trends. The agencies which are tracking consume spending have reported that the sale of luxury soaps was up by about 800% in Mar, 2020 in France as it was moving towards lockdown 3. The biggest lifestyle and fashion E-commerce marketplace, Zalando witnessed a boom in self-care products category including aromatherapy, candles, and nail, skin and hair care products by about 300%. The results from the E-commerce giant, Amazon has been consistent for which the sales of makeup in USA are showing a slight decline as compared to same month in the year 2019. While the sale of nail care cosmetics, hair colour products and body and bath care products have gone up. Another trend which is being noticed is a rise in DIY beauty care products. A lot of salons have shut down and even where they have not, people are avoiding visiting them. Also, many consumers are likely to face financial difficulties due to lockdown and the pandemic (Marsidi et al., 2014).

The preventive measures are becoming quite popular as people are looking to shield themselves from COVID-19. The health organisations are requesting people to wash their hands regularly for protecting themselves

from this virus. According to the statistics of Global Data, about 17% people in Australia, 47% in China and 47% in India are demanding more and more cleanliness products as it has changed into assertion from the World Health Organisation. People are understanding the severity of the situation and thus they have started grabbing soaps, sanitizers and other products of hygiene and cleanliness. For instance, protection glasses, hand sanitizers, purifiers as well as wet wipes are being chosen in order to follow the rules of hand hygiene and cleanliness. As an influence, the products of skin care like lotions and hand moisturisers are expected to being prompted keeping the fact in mind that who have sensitive skin might get allergy because of frequent hand washing or they might even suffer from skin peel due to harmful chemicals present in these products. In this regard the product manufacturers have an opportunity of making custom products that might fulfil the wishes and demands of the distinct clients like the anti-bacterial creams, sanitizers meant for sensitive skin, natural ingredients and the products may be labelled differently for kids and adults (Kristina and Kuswahyuning, 2020).

#### **LITERATURE REVIEW:**

With more and more economists predicting a future recession for world economy, the otherwise resilient cosmetic industry wouldn't be able to escape its impact, While Lipstick theory is applicable here that the consumers would splurge on costly lipsticks instead of out of the reach luxury items during times of recession, the economic fallout of COVID-19 would have a drastic impact on spending by the consumers, While a lot of personal and skincare products are important, there are also products which are not along with the skincare products and for these the consumers would make alternate decisions. These kind of changes in the



consumer consumption would impact Kline's outlook directly for the ingredients of skin care and personal care (**Hsieh, Pan, and Setiono, 2004**).

Kline is expecting that the behaviour of the consumers as well as their spending in 2020 would move even more drastically as compared to last recession in the year 2009. The cosmetic and toiletries industry is moving towards a sharp decline in more than 60 years of the brand with a slight decline of about 5% in the year 2020. During the recession of 2009, the market also fell by about .8%.

The impact of COVID-19 in the personal care industry would cause a reduction by the consumers on the discretionary expenditure on hair care products and fragrances while spending money on the basic necessities will be protected like hand lotions, liquid soaps, etc.

The report of cosmetic industry has been segmented on the basis of type of products of makeup, skincare, perfumes, etc. Almost all segments of cosmetics industry have witnessed a similar type of fall in terms of sales during this pandemic because of offline stores shutting down at different locations throughout the globe (**Ahmed, et al., 2018**).

The effects of the pandemic on cosmetics industry may be noted everywhere. The lockdown has been on for a very long time according to the Government guidelines. Maximum companies have even laid off the workforce and some have even sent their employees on work-from-home state causing a reduction in the overall rate of production. Also, similar downfall in the cosmetics industry has been experienced everywhere.

The key brands brought affected by this pandemic are Chanel S.A., Estee Lauder Companies INC., Beiersdorf A.G., Johnson Johnson, L'Oreal, etc. The cosmetics companies like P&G are also taking the brunt. One major effect of the pandemic was seen on the supply

chain affected by a halt in the work in industries.

Also, with a rising popularity of the DIY trend, the DIY nail care, skin care and DIY hair colouring in other categories of beauty are attracting more and more customers. Neilson has reported a rise in sale of hair dye as well as hair clippers in April, 2020. The sale of the Madison Reed DIY colours kits rose ten times from middle of March to middle of April. The online sale of luxury brands nail paints has also witnessed double digit rate of growth every week. The surge in the sale of DIY nail care compels people to speculate the present crisis of effect on sale of lipsticks which has an additional dimension.

While the cosmetics industry could be relatively strong as compared to other categories of consumers, the year 2020 has been very poor in terms of sales. However, it is being said that this industry would still remain to be attractive in coming future. The pandemic related crisis would accentuate the trends which shape the market like a rise in use of E-commerce rather than touching a new ground altogether. The consumers throughout the world are showing through their actions that people are still finding comfort in simple pleasures of skin care or a swipe of their favourite lip colour before an online meeting.

Even before COVID-19 hit the planet, definition of "Beauty" was being globalised, intertwined and massive with people having a sense of self care and wellbeing. The pandemic related crisis would change such trends and thus there's some hope.

In wake of the current circumstances, humans offering the advertisers are known to extemporise the current techniques of promotion and help people coming across consolation. All the shapes as well as sizes of the private care and cosmetics suppliers are preferring online notifications regarding

activities which are taken for fighting this global pandemic.

An assessment of the market of anti-ageing cosmetics was done and it was seen that women and clients who earn high are more aware about cosmetics as compared to their colleagues. The attributes of the market of emblem image and influencers regarding the choices in purchasing anti-ageing cosmetics have been stated. Researches show that better products better issues play an important role over different types of elements (Kim K. J., Han H. S., Kim K. J., Han H. S., 2018).

#### OBJECTIVES OF THE STUDY:

1. To explore the influence of Covid19 Pandemic on sales of Cosmetic products
2. To find the impact on sales of Personal Hygiene products during Covid19 Pandemic

#### RESEARCH METHODOLOGY:

**Research design:** The present study is descriptive in nature. As a descriptive study, the paper finds the opinion of vendors / retailers who sell the cosmetic and personal hygiene products. The study investigates that what difficulties the vendors faced during the pandemic situation.

**Sample size and Sampling method:** The sample size of the study is 180 retail vendors/retailers who sells both types of the products - Cosmetics and Personal hygiene. The sample of respondents includes the store managers & assistant managers, vendors (who sell on online marketplaces).. Data was collected through a structured questionnaire. The sampling method was convenience sampling

**Geographical Area:** The geographical area covered was Mumbai. Since the questionnaires were filled through online mode, hence it was

not difficult for the researcher to cover the various locations under Mumbai city.

**Analysis and Presentation:** The data has been analysed with the help of percentage and presented with the help of Bar Charts.

**Limitations of the Study:** The study is limited to the Mumbai area and it only covers two types of products – personal hygiene and beauty and cosmetic. Further, since the study is based on the primary data through questionnaire, minor biasness from the respondents may not be avoided.

#### FINDINGS AND DISCUSSIONS:

Table 1 Impact of COVID-19 on Sales of Cosmetic Products

S. No.	Statements	Average % age Impact
1.	Decrease in demand for Beauty and cosmetic products	31%
2.	Decrease in number of customers buying beauty/ cosmetic products	37%
3.	Decrease in Customers' Total basket size (in monetary terms) for beauty and Cosmetic products	36%
4.	Decrease in Customers' enquiring for new cosmetic products	39%
5.	Decrease in profits from beauty and cosmetic segment	32%

Table 1 shows that there has been a decrease in the overall number of customers buying the beauty and cosmetic products with 31%. The decrease in number of customers were witnessed by respondents was 37%, and decrease in customers' total basket size (in monetary terms) was found to be 39%. Lastly, the decrease in profits was observed by the respondents as 32%.

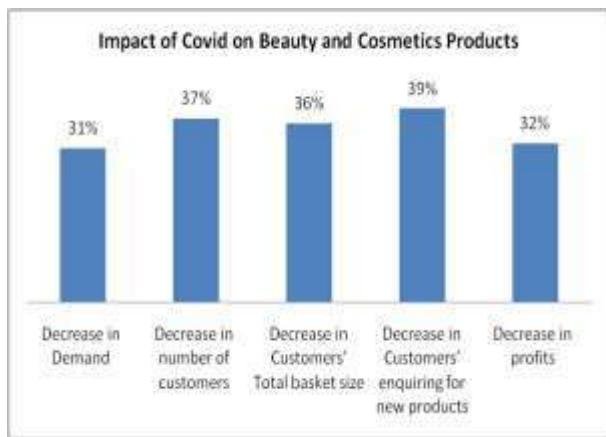


Figure 1 Impact of COVID-19 19 on Cosmetic and Beauty Products

Table 2 Impact of COVID-19 on Sales of Personal Hygiene Products (Hand Sanitizers, Hand washes etc)

S. No.	Statements	Average % age Impact
1.	Increase in demand for Personal hygiene Products	44%
2.	Increase in number of customers buying Personal hygiene Products	57%
3.	Increase in Customers' Total basket size (in monetary terms) for Personal hygiene Products	52%
4.	Increase in Customers' enquiring for New Personal hygiene Products	55%
5.	Increase in profits from Personal Hygiene products category	41%

Table 2 shows the responses for the Impact of COVID-19 on Sales of Personal Hygiene Products (Hand Sanitizers, Hand washes etc). It is found from the table that in the context of the Personal Hygiene Products there is 44% increase in demand due to the pandemic and at the same time the increase in number of customers is 57%. Similarly, the basket size of the existing customers for these products has increased 52% in the monetary terms. There is 55% increase in the enquiries

for the new products of this category and overall there is an increase of 41% of profits from this category.

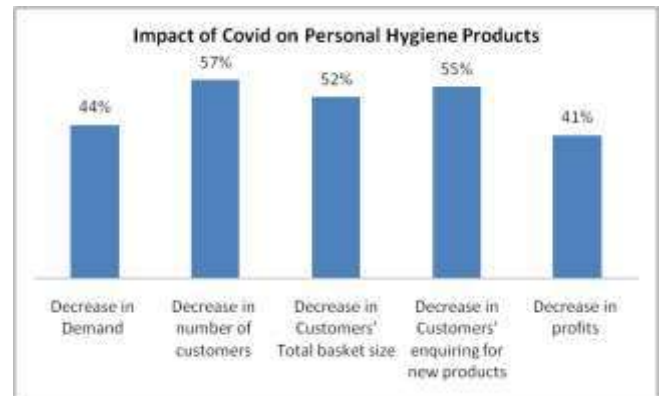


Figure 2 Impact of COVID-19 on Personal Hygiene Products

### CONCLUSION:

Pandemic has changed the lifestyle of People. This study captures the impact of pandemic on the sales of beauty and cosmetic products along with the personal hygiene products. It was found from the study that there has been remarkable decrease in the former category and remarkable increase in the later. This study belongs to the time frame of around first 5 months of the lockdown hence the primary data averages the impact of the pandemic on the mentioned categories, otherwise the situation in the first 2 months of the lockdown was even more intense. The pandemic has changed the mindset of people. However, after the beginning of the unlock process the situation has changed but still people give first priority to the personal safety and personal hygiene and later second priority to the beauty and cosmetic products.

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## APPROACHES TO THE FORMATION AND DEVELOPMENT OF INFORMATION COMPETENCE OF TEACHERS

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### ABSTRACT:

**This article covers issues such as the competence of the teacher-educator in the formation and development of information competence, its content, the structure of information competence and its content.**

**KEYWORDS:** teacher-educator, competence, information competence, knowledge acquisition, knowledge acquisition, information literacy.

### INTRODUCTION:

The 21st century is the century of education, knowledge, information, information and communication technologies. Mass computerization, the introduction and development of innovations have led to advances in industrial production of information technology.

In Uzbekistan, special attention is paid to the organization of systematic work to increase the scientific potential and professional competence of teachers in preschool education. In particular, the Law of the Republic of Uzbekistan "On Preschool Education and Upbringing" dated December 17, 2019, sets priorities for regulating relations in the field of preschool education and upbringing. In this regard, today the urgent task is to increase the professional competence of teachers, to train highly qualified personnel.

Today in the labor market the professional requirements of teachers to them have increased the competitiveness of specialists. Among other things, the qualities of a modern educator, the professional use of

information and communication: technology and modern technical means; developed communication environment; information retrieval, analysis and processing, acquisition of new knowledge, etc. covers. Therefore, information competence occupies a special place among a wide range of competencies.

The concept of information competence of the educator is defined as "a complex individual-psychological product based on the integration of professional and specific knowledge, skills and qualities of the subject of the information society, which allows to effectively solve pedagogical tasks in the context of informatization of society and education."

His research has shown that the concepts of "information competence" and "information competence" are sufficiently broadly and effectively defined at the current stage of development of pedagogy (Dvoretsky SI, Tarov VP, Muratova OB Zaytseva, AL Semyonov, N.Yu. Tairova, O. M. Tolstoy). [2,3,].

Kay Raseroka, president of IFLA (International Federation of Library Associations), defines the concept of "information competence" in terms that define its various aspects of literacy, such as computer literacy; digital literacy, information technology literacy, competent use of Internet resources; rational use of library resources; promotes concepts such as tools; multidisciplinary competence; verbal literacy. [1]

Sh.S. In Sharipova's research, an improved structure of professional competence has been developed and information competence has been considered. "Competence in information and communication and digital technologies

purposeful, appropriate and effective use of them, work with various information resources, continuous independent learning activities, the level of formation of knowledge and skills in the use of digital technologies. [5].

It is necessary to theoretically substantiate the general approaches to modeling, the principles of grouping the main components of its structure to create a structure of information competence of the teacher, reflecting the modern requirements to the professional qualifications of the educator. Qualification requirements are usually brought in many ways to a "specialist model (direction)" that defines the purpose of training and, consequently, its content, methods, tools. According to the classical approach, these requirements are formed in the form of requirements for knowledge, skills, abilities and personal qualities of the specialist on the basis of qualification scales (taxonomy). This approach, despite its advantages, is more suitable for educational activities than for professional or educational-professional activities.

Competencies mean the ability to solve pedagogical tasks in this group (pedagogical diagnostic tasks, pedagogical design tasks, etc.) on the basis of ICT [4]. That is, we understand a set of interrelated qualities of an individual, a harmonious form of knowledge, skills and abilities in the activity, which allows them to achieve professional goals set at the present stage of educational development.

"Education" is the first level, where educators gain knowledge on the use of information technology and acquire basic ICT competencies. Upon completion of this level of training, they should gain an understanding of the potential benefits of using ICT, as well as the possibilities of planning investments in ICT in accordance with policies and priorities. At this level, they continuously master the use of technology to further their independent learning and skills development.

Teachers-educators who have mastered the competencies at the level of "education":

- Explain how their classroom work relates to institutional and / or government policies and contributes to their implementation.
- Analyze educational standards and identify opportunities for pedagogical use of ICT to ensure compliance with standards.
- Rational choice of ICT to support specific learning and teaching methods.
- have an understanding of the functions of equipment and standard office programs and be able to use them.
- Organize a classroom to support a variety of inclusive teaching methods using technology.
- Can use ICT for independent professional development.

The second level is "Knowledge Acquisition", in which educators will have ICT competencies that will enable them to create a conducive learning environment focused on developing students and teamwork skills in the future. This degree also provides an opportunity to apply policy guidelines, take into account the real situation, support relevant school resources, and develop plans in the field of information technology to forecast future needs. In addition, educators can continue their knowledge by joining the community with local and international partners.

Teachers-educators who have mastered the competencies at the level of "knowledge acquisition":

- Development, modification and application of pedagogical practice in accordance with institutional and / or national policies, international documents (for example, the UN Convention) and social priorities;
- Incorporate ICT into the curriculum, teaching process and assessment system of a particular subject, creating a favorable environment for students to successfully master the curriculum using ICT;

- Designing project-based learning activities using ICT to help develop, implement and monitor project plans and solve complex problems;
- Integrate a variety of digital tools and resources to create an integrated digital learning environment to develop high-level thinking and problem-solving skills;
- A flexible approach to the use of digital tools to simplify the learning process collaboratively, organize work with the student and interact with other participants in the learning process;
- Can use technology to interact with the professional community for professional development.

The third level is "Knowledge Creation," in which educators acquire skills that help them model best practices and create a learning environment that helps trainees develop the new knowledge they need to develop more appropriate, good, and prosperous societies.

Educators who have mastered the competencies at the level of "knowledge creation":

- Critical assessment of institutional and public policy in the field of education, proposing changes, working on their improvement and predicting the impact of such changes in the future;
- Identify the most effective combination of child-centered and collaborative learning for student development in a multidisciplinary curriculum;
- Contribute to the self-education of students in the process of student-oriented and collaborative learning, setting only the basic criteria for such education;
- Participate in building knowledge communities and use digital tools to support inclusive education;
- Play a leading role in the development of ICT strategy in the organization of preschool education;

- Preschools can constantly evolve, experiment, innovate and share best practices to find the most effective ways to use information technology in organizations.

"Learning", "Assimilation of Knowledge" and "Creation of Knowledge" and how the six dimensions interact. (See Table 1) Each form at the intersection of certain levels and aspects of education corresponds to the ICT competence of the educator. .

Table 1 "The structure of ICT competence for teachers"

	Learning	Assimilation of knowledge	Creating knowledge
The role of ICT in education	Understanding politics	Apply the policy	Policy innovations
Curriculum and assessment	Basic knowledge	Apply knowledge	Skills required in a knowledge society
Pedagogical practice	Use of ICT in education	Solve complex problems	Self-organization
Digital skills	Application	Integration	Transformation
Organization and management of the learning process	Traditional forms of educational work	Collaboration groups	Learning organizations
Professional development of teachers	Digital Literacy	Network collaboration	As an educator innovator

Based on this, we defined information competence and information competence.

Information competence is the acquisition of knowledge, skills and competencies, the experience of using them in solving certain social and professional tasks with the help of new information technologies, as well as the ability to improve professional knowledge and experience in the field. Mobilization of knowledge, skills and behaviors net activity is understood.

Information competence is an integral quality personality, which is the reflection of the processes of selection, assimilation, processing, the ability to find optimal solutions in various areas of cognitive activity, which allows to develop, receive, predict and implement information in an optimal special type.

From the general didactic point of view, the following stages of formation are the information competence of specialists in the system of technical education: computer literacy, information literacy, information competence.

Computer literacy is the acquisition of a minimum set of knowledge and skills, working on a personal computer, understanding the basics and meaning of computer science, mastering information technology in society. Computer literacy is not sufficient for human activity in the information society.

Information literacy is the best way to deal with information signs, models, data, information and to present them to the interested consumer, to solve theoretical and practical problems; improvement mechanisms, technical environment for production, storage and transmission of information; system development, training, preparation of people for effective use of information resources, awareness of information and telecommunications knowledge.

It is important that the application of this approach in modeling modern requirements for the level of pedagogical professionalism is associated with global trends in the development of vocational education and the change of its scientific paradigm.

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## SECURITY DATA MOBILE CLOUD COMPUTING IN THE CLOUD

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### ABSTARCT:

Mobile cloud computing is a technology for providing services such as software, hardware (including virtual), and bandwidth over the Internet. Mobile devices are included for learning, especially smartphones. Mobile cloud computing technology is growing rapidly among customers and many companies such as Apple, Google, Facebook and Amazon, with rich users. Users can access their data anytime, anywhere, even from any device, including mobile devices, using cloud storage services, although these properties offer flexibility and scalability in data management, but at the same time they remind us of new security threats. These security issues can be addressed through proper data handling. The cloud server provider can protect the data using encryption and decryption methods, keeping the data in the cloud. In this article, we have suggested some encryption and decryption methods to protect data in the cloud so that an unauthorized person or machine cannot access sensitive data due to the encrypted form.

**KEYWORDS:** Amazon Cloud Server, Cloud Computing, Security, Data Security, AES Encryption, Eclipse IDE, JSON API

### SUBJECT AREAS:

Cloud computing, information and communications: security, privacy and trust, mobile computing

### INTRODUCTION:

In order to have an in-depth understanding of Mobile Cloud Computing (MCC), it is necessary to gain a better understanding of Cloud Computing [1]. Cloud computing is a new market-oriented business model that delivers high quality and low cost information services [2]. Typically, cloud computing resources that are provided in the form of services such as Infrastructure-as-a-Service (IaaS), Data Storage – Through – Service (DaaS), Communication-as-a-Service (VG), Security as a Service (SecaaS), Hardware as a Service (Haas), Software as a Service (SaaS), Business as a Service (Baas), and Platform as Over Services (PaaS). There are various layered architectures available for cloud computing to provide the above services as a utility [3]. The user can consume these services based on SLAs (Service Level Agreements), which define their QoS (Quality of Service) parameters on a more pay-per-use basis, as well as users can access their data anytime, anywhere, even how - or computing device, including mobile devices.

Cloud computing with resource-constrained mobile devices, ubiquitous wireless infrastructure, mobile Internet and location-based services is creating the foundation for a new computing paradigm called mobile cloud computing (MCC) [4]. The ultimate goal of MCC is to enable rich mobile applications to run on multiple mobile devices with rich user interfaces [5]. According to consumer and enterprise market data, cloud mobile applications are expected to grow to \$ 9.5 billion by 2014. Due to the increase in the number of users in the field of MCC, there are numerous problems, including data replication, consistency, and limited capabilities. Scalability, unreliability, unreliable availability of cloud resources, portability (due to lack of a cloud provider standard), trust, security and privacy. In order to attract more potential customers, the cloud service provider must address all security issues to provide a completely secure environment [6]. Many commercial cloud storage services protect user data stored in server storage by implementing client-side or server-side data encryption.

The purpose of this document is to draw attention to many important security and privacy issues and concerns in the development of mobile cloud applications. This document also proposes some encryption and decryption solutions for MCC. The rest of the test is organized as follows. Section 2 presents research background and overview. Section 3 is devoted to the research methodology. Section 4 presents the software and tools, and Section 5 concludes the paper with a summary of our contributions.

## **BACKGROUND AND OVERVIEW OF THE STUDY:**

The term "cloud" is used as a symbol for the Internet and other communication systems, as well as a representation of the underlying infrastructures used.

Cloud computing is commonly referred to as the evolution of the ubiquitous adoption of virtualization, service-oriented architecture, autonomous computing, and service computing. The details of the location of the infrastructure or component devices are unknown to most end users, the user does not need to fully understand or control the technological infrastructure that supports their computing activities, and users do not necessarily have their own resources. Below is a brief history of this evolution.

Mobile devices such as smartphones and tablets are increasingly becoming an integral part of modern life and culture as communication, communication and data exchange between people have become easier and more convenient. Mobile apps (apps) in this regard reduce task performance in minutes and help you get accurate results. Today, mobile applications are created not only for communication, but also for learning, recreation and earning money, in contrast to traditional mobile applications such as ringtone editor, grid-based games, etc. Technology is developing at a rapid pace.

### **2.1. Cloud computing service:**

Cloud service providers offer their services mainly in three different ways, such as Software as a Service ( SaaS ), Platform as a Service ( PaaS ) and Infrastructure as a Service ( IaaS ). Figure 1 describes these three service levels that are provided by cloud providers.

### **2.2. Infrastructure as a Service:**

IaaS mainly offers utility computing, which allows users to receive infrastructure from cloud service providers in the form of virtual resources as needed. Virtual hardware, raw processors, software storage platforms include computers. Despite the fact that in their offices the physical equipment is located in the "cloud", the information is accessed via the Internet. The

basic idea behind IaaS is not new, but this type of cloud computing is getting new life from major providers like Sun , Amazon , Rackspace , according to the architecture shown in Figure 1, IBM and Google . The main advantage is that there is no need to purchase a server or use a physical data center equipment, such as storage, network, and so on. D . [7]. They organized the applications and operating systems that they install on top of rented computing resources [8]. The user cannot manage or manage the underlying cloud infrastructure, but it has power over operating systems, deployed applications, storage, and possibly limited [9]. IaaS company provides offline storage, server and network equipment on a lease basis and can be accessed via the cloud [10]. Customers do not need to purchase the required servers, data center or network resources. The key advantage here is that customers only need to pay for a certain period of time and they can use the cloud service [11].

### 2.3. Software as a Service:

SaaS mainly offers on-demand executable applications to users. The software runs in the cloud and serves many end users or customer organizations. This is a software deployment model where the application is hosted on the Internet and served by tenants. This eliminates the need to install and run the application on the client's own computer. These applications are accessible from a variety of client devices through a thin client interface such as a web browser (for example, Internet-enabled email). This type of service provides customers with complete applications that can be customized within certain limits [12]. SaaS service delivery model, customers purchase cloud applications from service providers. The SaaS provider cannot store unencrypted customer data [13]. Network access and management of commercially offered software that is centralized and allows customers to access these applications remotely over the Internet.

### RESEARCH METHODOLOGY:

The article uses various research approaches; First, a literature review is conducted to gain a fundamental understanding of cloud computing and the use of its services in software architecture development. It also includes research articles from various researchers who have looked at data storage techniques and applied them in various fields. The secure storage of data by various researchers is also included in this study.

Further, several case studies are also mentioned in this context, in which we will try to find the pros and cons of various options implemented and implemented in various organizations, such as: encryption algorithms like AES, DES, RSA and blowfish for security. data in the cloud. The study will be conducted using the Java runtime the Google the App Engine, it is. JDK



Figure 1. Cloud architecture

1.6 Eclipse IDE, Google App Engine SDK 1.6.0 or higher. Following are the steps for the proposed work plan.

The mobile cloud ecosystem has many benefits. However, there are some challenges and concerns in mobile cloud computing such as data ownership, data privacy and security, and other security concerns. Some possible solutions for securing access to the cloud are presented. The strong authentication method ensures that only a legitimate user with authorization can access the cloud services built into the device's identity protection. You can embed a personalized configuration profile on each employee's mobile device, thereby embedding credentials or a personal security token on their mobile device. There are some other security features and policies that can be applied to maximize the security of mobile devices, especially in a corporate context.

Security is an important consideration when deploying the cloud, and by leveraging the capabilities described in these six steps, organizations can better manage and protect their customer data in the cloud.

The team will also refer to reports published on IEEE, SEI, AKM and other renowned scientific forums. This method will give us an insight for the implementation of mobile cloud computing as a security point of view.

#### **SOFTWARE AND TOOLS:**

Implement secure storage in the cloud.

- A. Android
- B. Google API
- C. Eclipse
- D. Json
- E. JAVA
- F. Amazon AWS Cloud Server
- G. Unit testing
- H. EC2 Cloud Database

#### **PREVIOUS WORK:**

According to an article [14], in mobile cloud computing, there are many problems because - due to limitations of mobile devices. Security is a major concern in mobile cloud computing. In mobile cloud computing, owner data is stored in an unsecured cloud.

According to an article [15], from the - for the particular constraints of resources security of mobile devices can be potential problems in the cloud access, consistent access, data transmission, etc. D. Such problems can be solved by: a special application (service) and middleware (. provide a platform for all mobile cloud computing systems).

According to [15], the security applied on the client side of mobile cloud computing is also inherited in mobile cloud computing with the additional constraints of resource-constrained mobile devices such as time costs.

According to [16], a mobile cloud computing architecture for offloading code in MCC applications solves power and performance problems due to time constraints.

According to article [17], all processing in the MCC is performed on the mobile side. Thus, there are some data movement issues such as throughput, latency, availability, and heterogeneity.

#### **KEY COMPONENTS:**

##### **DDOS attack:**

Denial of service is a type of attack through the cloud that prevents customers from receiving services from the cloud. The attacker constantly attacks the target server to keep it busy, in order to make the machine or network resource unavailable to intended users, so that clients cannot get service from the server because the server will be busy serving the attack. There are many ways to perform a DOS attack. Like a SYN flood. SYN- flood uses TCP three-way handshake with a query of the compounds to the target server and ignoring the

acknowledgment (ACK) from the server. The attacker applies the attack to the server. This forces the server to wait for an ACK, wasting time and resources. After all, servers don't have the resources to provide services to clients. This type of attack can be prevented by allowing strong access to the cloud and using cryptographic protocols to ensure that the right personnel are gaining access to the cloud [17].

Various technology products were released to prevent and detect DDOS attacks, and security breaches grew at a shocking pace in both cloud computing environments and enterprises.

### XML Signature Element Wrapping:

Clients can usually connect to cloud computing through a web browser or web service, attacks on web services also affect cloud computing. Wrapping XML Signature Elements is a familiar attack for web services. Cloud security uses XML signature to protect the name, attributes and value of an element from an unauthorized person, it cannot protect information in a document. An attacker can control a SOAP message by copying the target element and pasting any value that an attacker might insert the source element into elsewhere in the SOAP message. This method can trick the web service to process a malicious message generated by the attack.

As shown in Figure 2, the client is sending data, but this is clear text. If an attacker intercepts and modifies SOAP the message by inserting the same element as the client, but the attackers will send a request 456 instead of 123. After the web service receives the message, the web service will send 456 a parcel back to the client. Another possible attack scenario could be in the form of a web-based email service application. When an attacker intercepts a SOAP message and changes the recipient's email address to the attacker's email address, the web service forwards the email to the attacker.

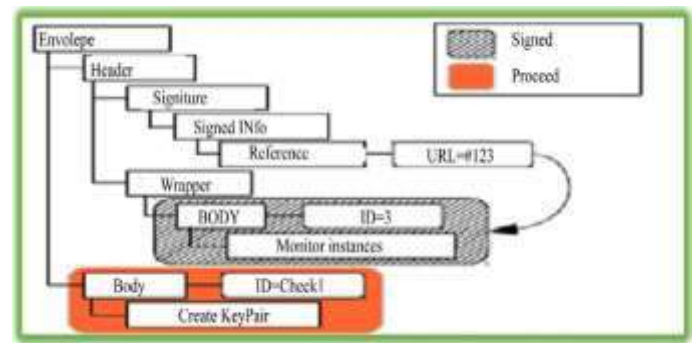


Figure 2. Security of XML data.

XML signature transfer attacks are possible because the signature does not convey any information about where the referenced element is located. This attack was first introduced in 2005 by McIntosh and Austell, specifying different types of this attack, including simple context, optional element, optional element in the security header (sibling), and namespace injection (sibling). This attack occurs in a SOAP message that transmits an XML document over the Internet.

### 7.1. Malware attack

A malware attack accomplishes this attack, an attacker needs to create his own malicious application, service, or virtual machine instance, and then the attacker has to attach it to the cloud system. When malware is added to the cloud system, an attacker must trick the cloud system into treating the malware as a valid instance. Another scenario is that an attacker might try to upload a virus or Trojan horse to the cloud. Once the cloud system regards it as a valid service, if the virus program runs automatically in the cloud, it infects the virus, which can damage the cloud. Due to this attack, the virus damages the hardware of the cloud system, other instances of the cloud running on the same hardware can affect the virus program because they are using the same hardware. An attacker could plan to use a virus program to attack other users on the cloud system. When a client asks for a case of

malware, the cloud system sends the virus through the cloud to the client and then runs it on the client's machine. The client's computer will be infected with a virus. The type of attack can be possible by performing an integrity check on the service instance for incoming requests. Hash - The value can be used to store the image of the original service instance on top of the file and compare this value with the hash values of all new images of the service instance. The use of hash - values attacker must create a valid comparison of hash - values to deceive cloud system and inject malicious instance of the cloud system.

The term malware refers to any malicious software that can intentionally perform malicious tasks on a computer system or on network systems. Below are some basic definitions of a malware problem.

A virus is a program that is designed to replicate itself and spread from one machine to another using the program of the infected media. This is malware that copies itself into a program. After the infected program is launched, the virus starts its work, infects and damages the machine. Thus, viruses try to spread and infect the infected machine.

### **7.2. Trojan horse:**

Trojan horse - is a program that is considered to be useful, but is malicious intent in relation to the host - machine. Some hidden part of this type of malware containing malicious data that may or may damage the host - system. Trojans can also be spyware due to their malicious activity, such as unauthorized collection of user data.

### **SECURITY PROBLEMS OF MOBILE TERMINALS:**

Mobile terminals security problems - still comes from mobile clients. In - First, mobile clients are not usually aware of the security; and not confidentiality. In - the second,

mobile customers can misuse itself. Therefore, it is necessary to identify the abnormality of clients due to the above troubleshooting of attacks on mobile terminals that can cause breach of privacy, leak, irregularity of information and devices damaged by multiple attacks that are harmful to clients due to disclosure of data in the cloud. Can be hacked [17].

### **RELATED WORK:**

#### **Storage problems:**

In a previous article [17] in accordance with Figure 3 discussed the security in mobile devices before sending data to the cloud, but we found a problem with the battery consumption, the needs of the time, as well as - for the limited bandwidth some time encryption performance and decryption is reduced ...

According to Table 1, the data stored in the cloud or stored elsewhere are similar, it is necessary to take into account three different aspects of information security: confidentiality, integrity, and availability via the web - services the xml. A possible solution to the data privacy problem is data encryption. To ensure encryption, both the encryption algorithm and the strength of the key must be considered, since the cloud computing environment involves the transfer, storage and processing of large amounts of data. It is also necessary to consider the processing time and the efficiency of encrypting huge amounts of data.

The cloud is extremely powerful for performing computing, while the computing power of mobile devices has its limits, so many challenges arise to show how to balance the differences between the two. Thus, there are some challenges in adopting cloud computing for mobile devices. These issues can be related to limited network resources related to the security of mobile users and the cloud. Some of the problems are explained as follows.



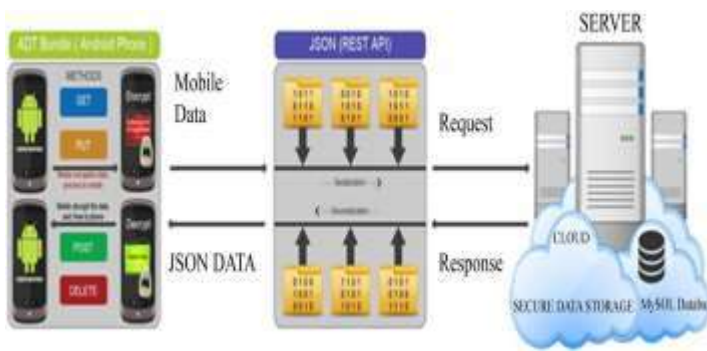


Figure 3. Data security of mobile cloud computing.

Table 1. Security issues in XML.

Issues	Reason
Encryption / decryption	Time consuming
Brute force attack	Because of the open body
Allow external entity	Since XML 1.0 / 1.1 Stand
Implicit trust in the internal DTD	General entity notation declaration
Configuration directories	Entity permission directories
Trust the external schema	Defining an external schema
UTF-8 / UTF-16	Distorted
Of course the trust	Import and include a design

## PROPOSED WORK:

Referring to FIG. 4, the data of mobile computing travel to cloud computing through a JSON object, which is trusted, because it has a format for serializing data into a JSON object, then the cloud server will encrypt all data in cryptography, finally, it will store the cloud data in memory.

According to Figure 5, to replace the web - services XML REST API, and decide, first of all, the problem of «XML», and in accordance with Figure 5 Now, data security will be manipulated in a server cloud and offered to work for the safe storage of data in the mobile cloud computing, he wrote encryption and decryption algorithm AES (Advanced Encryption Standards) in Java (JDK and JRE). Now deploy encryption

to Amazon Elastic Compute Cloud (EC2). There are three block ciphers, AES, AES-128, AES-192, and AES-256. Each cryptographic key using 128-, 192- and 256-bit is automatically enumerated to encrypt and decrypt data in blocks. The secret key or symmetric key is used for encryption and decryption. Both the sender and the recipient need to know using the same secret key. Please note that all key lengths are sufficient to protect sensitive information up to secret with top secret and must require 192 or 256 bits of key length. Below are the bits for each round:

1.10 rounds for 128-bit keys

2.12 rounds for 192-bit keys

3.14 rounds for 256-bit keys

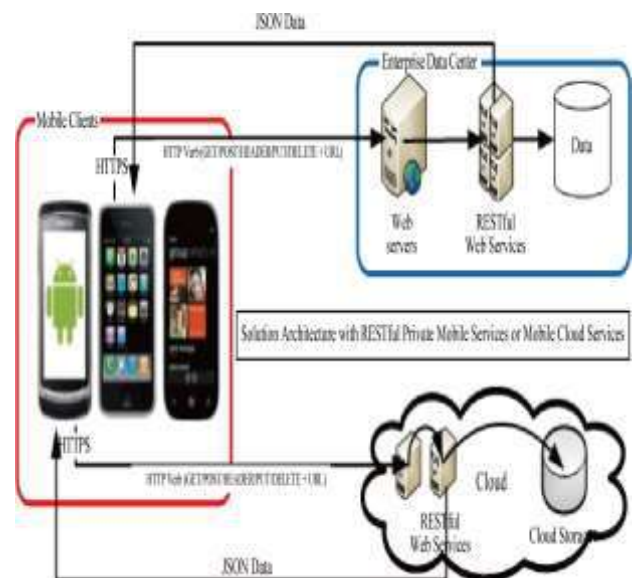


Figure 4. Complete mobile cloud security solution on the server.

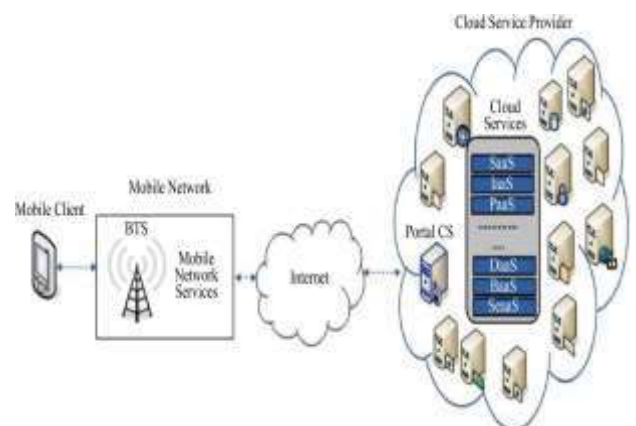


Figure 5. Mobile connection with cloud domain and servers.

Each round consists of many processing steps that include swapping, transposing and mixing the incoming plain text and converting it into the final cipher text result. Cipher text is text that not everyone understands.

#### 10.1. Proposed research methodology:

According to this research methodology, a user can manage Amazon cloud services using the RESTFUL API, integrate the cloud service with complete security, in our previous work [17] we already mentioned how to apply security in mobile computing before moving to cloud computing, but from - the battery is time consuming. This model shows how to overcome problems using the same methodology and without the "QOS" effect.

#### IMPLEMENTATION:

As shown in Figure 5, the application of the cloud is possible in many areas. One of the areas we're currently interested in is mobile phones. Hence, we will focus on the usefulness of the cloud computing environment for mobile use and how can the cloud improve the overall functionality and performance of mobile devices? According to [9], as shown in Figure 2, MCC is a service that allows mobile users with limited resources to adaptively adjust processing and storage capabilities by transparently sharing and disconnecting resource-intensive computing and data-intensive jobs on traditional cloud resources, providing ubiquitous wireless access.

As shown in Figure 5, this architecture shows that the first step of mobile data is sent to a private cloud server, which is responsible for data encryption and cryptography. The encrypted data then goes to the cloud server, which is publicly available and is responsible for storing the data in the cloud database, which is the storage of the EC2 database.

The communication between mobile cloud computing is now secure, security exists

on a cloud server that is in a private and secure location, and the public cloud is only responsible for storing encrypted data in a data warehouse. Thus, the user can safely share their important data on the cloud server without any hindrance. This concept may take a while, but is very secure for mobile cloud computing.

Authentication and authorization are useful for this architecture, now security flows can arise through this architecture.

#### DEPLOYED APPLICATION:

Build an Android app using the IBM Mobile Data for Blue Mix cloud service Store, delete, update, and query objects stored in the cloud

Step-1 Add a few items to your shopping list

Step - 2 Restart the application.

Please note that your data has been saved. You now have your data in the cloud!

Step - 3 View your data in the cloud

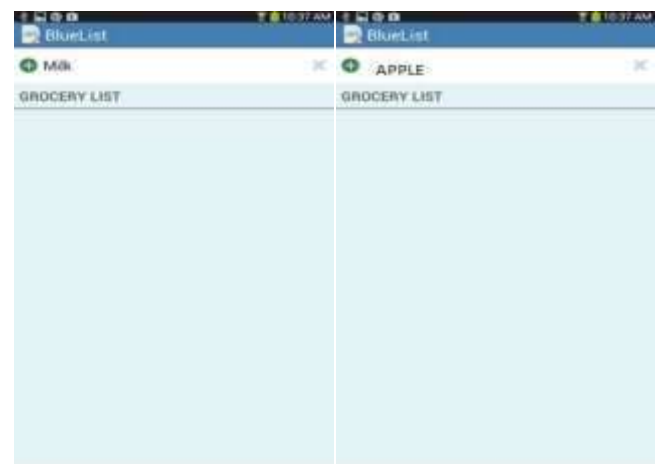
Log into Blue mix .

Click your application in the toolbar.

Step - 4 On the Data Management tab, you can see the encrypted data classes stored in the cloud, as well as the instances of each data class being saved.

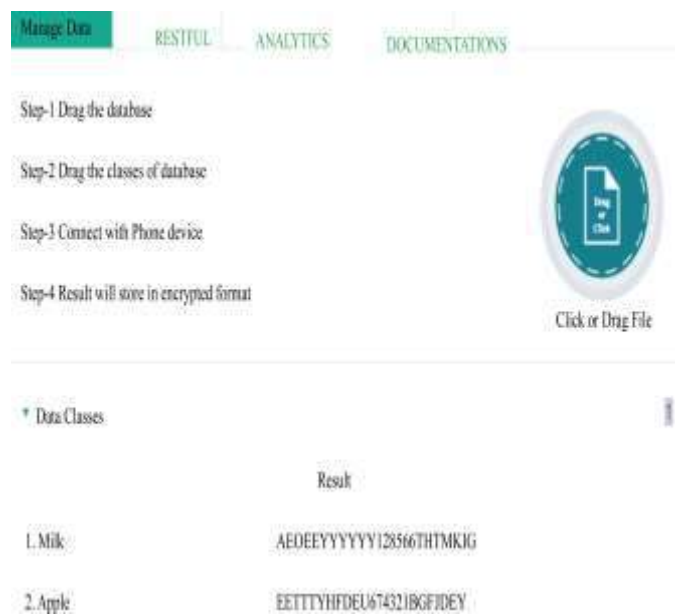
Step - 5. You can reverse-decrypt your data when you access the data on your mobile device again.

Click Mobile Data Service. Application interface.





## Dashboard



## CONCLUSIONS:

The concept of cloud computing provides users with an excellent opportunity to use their services on a database on demand. The demand for mobility in cloud computing has spawned mobile cloud computing. MCC provides more options for convenient access to services. A number of mobile users are expected to switch to cloud computing on their mobile devices in a few years.

There are many challenges in mobile cloud computing due to the limitations of mobile devices. Security is a top concern in mobile cloud computing. In mobile cloud computing, the owner's data is stored in the cloud, which is not secure.

This document describes the fundamentals of mobile cloud computing and the challenges associated with it. They mainly talked about the security of data stored in the cloud and the importance of data security. This paper explored a number of data security mechanisms so that mobile cloud computing can be widely adopted by a range of users in the future. He also proposed a mechanism for ensuring privacy, access control, and integrity for mobile users.

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## **IMPORTANT ASPECTS OF THE PSYCHOLOGICAL CHARACTERISTICS OF ADOLESCENCE**

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### **ABSTARCT:**

**Adolescence is between the ages of 10-11 and 14-15. Today's teenagers have some physical, mental, and political advantages over their predecessors. They have earlier sexual maturation, socialization, and mental growth. For most students, the transition to adolescence begins in the 5th grade. "Adolescence is no longer a child, but not an adult" - this definition is an important feature of adolescence. Adolescence is a period of transition from childhood to adulthood, characterized by physiological and psychological characteristics. At this stage, children's physical and mental development accelerates, their interest in various things in life increases, their desire for innovation increases, their character is formed, their spiritual world is enriched, and conflicts escalate. Adolescence is a period of puberty, characterized by the emergence of new sensations, sensations and complex issues related to sexual life. At this age, the development of adolescence begins to change dramatically. These changes are physiological and psychological. Growth is not uniform: girls grow 5-7 cm, boys grow 5-10 cm. Growth is due to the elongation of the first vertebrae and the enlargement of the spine.**

### **INTRODUCTION:**

Teenagers try to behave like adults. They try to show their abilities, skills and potential to a certain extent to their peers and teachers. This can be easily seen by simple observation. Adolescence is characterized by psychological

manifestations such as "transition period", "crisis period", "and difficult period". This is because there are cases of mental explosions in the behavior of adolescents of this age, as they do not find their place in alternative, new conditions. In his day, L.S. Vygotsky called this a "crisis in mental development." After primary school, a child goes through two main stages in the process of forming his or her relationship as an individual. These stages correspond to two different periods of adolescence - the period of early adolescence and the period of adulthood. In the first stage, the teenager separates himself from the "children" and now tries to emphasize that he belongs to the adult world. Adolescents' interest in adulthood is a key characteristic.

For this period, the inability to imitate the behavior of adults and critically evaluate his own misbehavior, his closeness to older people, and his excessive contact with a group of peers who help him, and so on. Characteristic. In the second stage, the teenager no longer doubts that he is a young child and begins to understand himself clearly, to glorify his personality and to act in his own way. Adolescents are more interested in ideas about their personalities, they try to know themselves, to develop purposefully, to educate.

During adolescence, there are major qualitative changes in the growth of inner freedom, self-awareness, and independent behavior. Willpower is also a factor in such changes. The will as a higher mental function is a tool for the free movement of the adolescent, as well as a backbone of personal development. By this time, his actions were no longer dependent on a group of peers. Even when his peers try to force the teenager to reconsider his

misconceptions about himself, he is more likely to say no and stand firm in his opinion. can protect. It is during this period that the over-curiosity of other people's inner worlds and the self-analysis of their own behavior, the emergence of elements of self-discipline, are characteristic of the lives of adolescents in this second stage. Adolescence is often characterized by negative traits, such as stubbornness, aggression, lack of self-awareness, and militancy. Adolescents see and envy the independence and freedom of adults in life, on the screen and in books, their great and interesting work, their courageous actions, their heroism, their reputation among others. In adolescence, to be an adult or at least there is an interest, an aspiration to look like an older person, and it seems easy for him to fulfill that desire. The mismatch between the needs and abilities of adolescents leads to conflicts between adolescents and their parents, teachers, and other educators.

Adolescents strive to fulfill many of their desires: to use everything that adults have, to be free, independent, and free. She tries to be strong, fearless and agile to show the people around her that she is important. Educators want their students to be the same, but they want those qualities to be just "necessary." Such conflicts between 'want' and 'need' can sometimes lead to serious conflicts in the family, at school. In a trained person, "I want" is realized only by doing "need". If a teenager is not taught to understand and is not accustomed to doing what is "necessary," he or she will resist the demands of educators by acting arbitrarily and act on his or her own unjustified desires. Adolescents' claims to new rights are primarily concerned with the whole environment in which they interact with adults. The adolescent now begins to resist the demands he previously gladly complied with: he becomes very upset when his independence is limited, guardianship, guidance, control, obedience, punishment,

disregard for his interests, attitudes, and opinions, and protests. Adolescents develop a sense of self-worth and feel that they cannot be discriminated against or deprived of their right to independence. As a child, he or she will change his or her perceptions of the relationship with adults and will no longer be consistent with his or her perceptions of his or her level of adulthood. It restricts the rights of adults and expands its own. He wants adults to respect their personal and human dignity, to show confidence and independence, that is, to strive for a certain equality with adults and for them to recognize this.

Adolescence is a time of imitation. They often imitate the behavior of adults they know and like.

Teenagers may also become addicted to smoking and alcohol during this time. Adolescents also feel uncomfortable in new roles, such as smoking and drinking. Adolescents who are mentally close to children, but close to adults in terms of needs, have a lot of uncomfortable and anxious situations, and they cause a crisis in adolescence. This crisis is associated with the spiritual growth of the adolescent, as well as changes in his psyche. During this time, the child's social status changes, and new relationships are formed with relatives, friends, and peers. But the biggest change is in her inner world. Many teens experience dissatisfaction. It also makes a teenager nervous because the way he thinks about himself does not match the changes that are taking place in him today. This can lead to negative thoughts and fears about the teenager. Some teenagers worry that they can't understand why people around them, adults, and their parents are against them. This can make them nervous and lead to a crisis of adolescence. Crisis is manifested in the child's existing depression, loneliness, passivity or, conversely, stubbornness, stubbornness, aggression, negative attitudes to life. At such

times, he feels the need to communicate with a friend who, like him, is undergoing major physiological and psychological changes. Whether a friend influences a teenager in a positive way or in a negative way depends on his or her moral character.

Under the influence of his peers, a teenager can satisfy his needs and desires. If contentment gives him great satisfaction, then his casual interest in certain actions or deeds may turn first into passion, then into passion or habit. In this way, students develop a passion for, for example, mathematics, physics or chemistry, carpentry, or some other work, but in the same way, students develop a passion for lying, hooliganism and other immoral behavior. You can also get used to the movements.

All the inappropriate behaviors of adolescence stem from the fact that there are a lot of desires that pass in an instant and the ability to see the consequences in a very superficial way. Almost all harmful desires begin with recreational activities that seem harmless and easy to fulfill at first. But in reality, teenagers can't afford it. It is influenced by the natural needs of personal development. If teenagers did only what they could do, they would not be able to develop their mental qualities. Adolescents can see nothing but the direct satisfaction of their various desires, and they may not be able to stop themselves in time when such desires lead to dangerous consequences. The main task of educators is to teach students to anticipate the consequences of their actions and to behave.

Adolescents become overly enthusiastic and careless, unemployment is very heavy for them, they quickly get tired of the same kind of work, lose interest in the same kind of work, which has a strong impact on the success of their educational process does. Therefore, in the successful education and upbringing of adolescents, it is very important to involve them

in various activities and useful activities, as well as to engage in more difficult but hard work.

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# IMPROVING THE METHODS OF EDUCATING STUDENTS IN THE NATIONAL SPIRIT THROUGH MUSIC CLUBS

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## ABSTARCT:

**This article provides guidance on the role of music in the upbringing of children and the improvement of methods of educating young people in the national spirit in the organization of extracurricular activities.**

**KEYWORDS: The art of music, traditional performance, musical taste, observation, individuality, music lessons, mental and spiritual education, and more.**

## INTRODUCTION:

Most of the time in a person's life and activity is accompanied by music. The role and importance of music in the direction of goodness and the correct upbringing of hearts, in the rational use of it in the interests of the Motherland and the people is enormous. If we take into account that more than 60% of the population of Uzbekistan are young people, it is easy to understand that the use of clubs in all educational institutions for the meaningful and effective leisure of students is highly effective. . At a time of rapid globalization, one of the most important issues today is the preservation and further development of our national values, the spirituality of our people, the protection of the hearts and minds of our youth from harmful ideas and ideologies. As the First President noted in his work —High spirituality is an invincible force —The most important thing is that today the art of music has a greater and stronger impact on the development of our

young generation in the spirit of high spirituality than any other art form. shows||. The lifelong art of our people in the development of the spiritual world of our youth extensive coverage of the history of our musical heritage and its transmission to our art-loving people delivery plays an important role.

The People's Traditional School of Performing Arts is one of the main sources of our immortal heritage, especially during this period. The priceless wealth of our people, our musical heritage has its own rich history, and the need to study it is growing over time. We know that the study of our musical heritage plays an important role in strengthening and developing our national values in inculcating the ideology of national independence in the hearts and minds of our people. Historical experience shows that a person who does not know the history of the people to which he belongs, its culture, traditions, customs, way of thinking, cannot understand himself. A person who does not understand himself has no national pride. A person without national pride is prone to dependence. As early as the fourth century BC, the Greek philosopher Plato said: "The biggest educational factor is in the art of music, because rhythm and harmony find their way deep into the heart more than anyone else at this time, and it makes him beautiful, and if his upbringing is set in the right way, it will be the other way around. Moral purity, aesthetic attitude to art and life to the harmonious combination of mental and physical

development - are important conditions for the full development of the individual. Properly organized children's music education plays an important role in achieving this noble goal. There is a saying among our people, "He does what he sees in the bird's nest." Every child receives his first upbringing from his parents, family members and close people around him. A positive family environment, family relationships, mutual respect and consideration, kindness, mutual support and their relationship to music are key factors in the development of children's initial understanding and skills. It holds. The children's personality was formed in the course of his activities. After all, the student's work is very interesting, beautiful and colorful. It is only when these qualities become a constant need in children that they become more active. It is this beautiful feeling of fun and spiritual enjoyment that has a profound effect on the upbringing of children and students, especially the delicate ones.

Consequently, the scientific, artistic and aesthetic upbringing of a child prepares the ground for important spiritual beauty. When we think about music education, first of all we need to know how music is perceived by children, how music is perceived by them. is the most important issue of interest. Today, the importance of music education in the artistic and aesthetic education of students, in their development into spiritually mature, harmoniously developed people is becoming more and more evident. If we look at the cultural history of the Uzbek people, who fascinate the whole world with their charming national songs, we can see that the art of music plays a special role in the life of our art-loving people.

When we talk about the spiritual maturity of man, of course, this goal cannot be achieved without the art of music. Given the unique role of art, especially music, in educating the next generation, we can say the following about music:

- a) Music - by its nature, evokes emotional and spiritual experiences,
- b) Music - cultivates a delicate taste in people,
- d) Music is a powerful tool that encourages both the listener and the performer to sophistication and spiritual perfection.

One of the most important and always important tasks of secondary schools is to use this sharp educational power of music, to form the spiritual worldview of the younger generation through art, to cultivate in them high spiritual and moral qualities. The new educational content provided for in the state educational standards established in the Republic, along with the development of students' musical knowledge and skills, allows them to be observant, creative. It also aims to develop individual qualities such as thinking, initiative, artistic and musical taste. In recent years, the state has developed large-scale measures for the mass development of music culture, and they are being implemented on a regular basis. Music culture is a key factor in the formation of students' initial musical culture, a sense of sophistication. In addition, students have the opportunity to improve their knowledge in extracurricular music and choir clubs, as well as in various extracurricular music and dance clubs. also have. Examples include music clubs and choirs in schools, as well as music clubs, student choirs, orchestras, dance and vocal ensembles organized in out-of-school educational and cultural institutions, such as palaces of culture, houses of culture and youth creativity houses. .Such as Today, the members of the music club show their art not only in our country, but also in various foreign countries, earning many applauses and honors.

In music clubs, students can gain knowledge and practical skills in the following areas: Singing as a group, playing various instruments, listening to music, performing in an ensemble and orchestra, practicing various

dance techniques. Playing electronic instruments, etc.

Many years of observation suggest that the interest of today's youth in the study of our national musical instruments is growing, especially in the study of instruments such as the Kashgar rubabi, doira, gijjak, nay, dutar. Therefore, about the current goals and objectives of school and extracurricular musical circles. The main purpose of the circle is to increase students' interest in art by teaching them a musical instrument, as well as to provide them with musical and artistic education. : Introduction to the musical instrument, its structure and history. to teach to hold a musical instrument correctly. specific ways of making sound on a musical instrument to teach to hold a mezbob or a bow correctly, to teach to adjust a rubab. provide sufficient information about music literacy. to teach the correct use of barcodes used in the performance. interesting and targeted repertoire selection, performance, etc. When choosing the repertoire of the club, the leader of the club should pay special attention to its age, ability to perform, abilities. It is also important that the content of the works in the repertoire corresponds to our national, ideological worldview and serves to encourage young people to spiritual maturity, while cultivating the aesthetic taste of performers and listeners in the right direction. The President of the Republic of Uzbekistan and the Government of the Republic of Uzbekistan have adopted a number of resolutions and decrees for the development of music culture in the Republic, raising it to the level of world standards. As a result of the implementation of these decisions and decrees, the young generation today has all the opportunities to demonstrate their abilities, talents, develop and improve their skills. organizational and material conditions were created. "Uzbekistan Vatanim manim", "Nihol", "Respublika" Folklore Communities Competitions and many other competitions

organized by the state among schoolchildren and students are looking for talented young people. to encourage them and the diversity of musical culture among the people serves to develop the edges.

Out-of-school and out-of-class individual music lessons serve as an effective means of engaging children in music, giving them the opportunity to actively participate in the creative process. At the same time, the organization of individual lessons creates a favorable opportunity for the teacher to have a direct impact on the student, to form his character and some personal qualities. Individual lessons are also of great importance, as playing musical instruments depends on the creative activity in all its features.

Music clubs in secondary schools, as well as music clubs organized in out-of-school educational and cultural institutions, such as palaces of culture, houses of culture and youth creative houses, promote our national values and musical traditions. to do it is gratifying that there are enough opportunities.

Formation, development of children's musical perception in all preschool educational institutions, general secondary schools, out-of-school and out-of-class music education in the Republic The problem of directing plays an important role in educating young people as spiritually mature, selfless patriots. They studied secondary psychology, the effects of music on the heart, mood and the human body. Farobi's "Kata Kitab on Music" and other works, Ibn Sina's "Kitab ash-shifo", "Kitab an-najot", "Donishnoma" sections on music, Abdurahman Jami's "Risolai musiqa" and others how scientific works of music to the human mind is dedicated to the study of the influence of music.

In the implementation of measures to promote a healthy lifestyle among students, to protect them from religious and extremist influences that are alien to us, the attacks of low "popular culture", the art of music, the role of



music culture the power of mystery is incomparable. Indeed, when we think about the role and importance of the spiritual world in the upbringing and development of man, we are more effective in this area than the enormous potential of music, in particular, the lessons of "Music Culture" and various art circles. Use is one of the most pressing issues today.

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## THE STUDY OF PROJECTIVE METHODS IN PSYCHOLOGY

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### ABSTRACT:

**This article focuses on the possibilities, conveniences, and peculiarities of using projective methods in the study of personality in psychology.**

**KEYWORDS:** Respondent, interpretation, projective method, mental state, verbal, projection, sublimation, rationalization, catharsis, individuality, clinical diagnosis, etc.

### INTRODUCTION:

Today we are living in a historic period - our people are setting noble and great goals, living in peace, relying primarily on their own strength and capabilities, achieving great results in building a democratic state and civil society. we live in a time. We take our destiny into our own hands, based on our eternal values. However, given the experience of developed countries, we live with such noble aspirations, our people for centuries we are on the path to building the long-awaited free, free, and prosperous life. Today, we all know that our achievements are recognized by the international community - all these opportunities are given by independence. we understand. To shape the young generation today with high spirituality, as reliable and intellectually capable citizens of our independent country upbringing is an urgent task of the system of continuing education. It is known that the education policy pursued in our country is important. One of the goals is to bring up the younger generation as well-rounded people. Of course, a perfect person is one who is

spiritually mature caring for the history, present and future of the homeland, as well as contributing to the economic development of society, eager to contribute understanding the Burning Person is in line with today's demand. Highlight the future of any society depends on the education of the younger generation and depends on how you are brought up. Only such a generation is in front of the country able to perform tasks of national importance determines the historical destiny of its people.

In this regard, it is worth noting the following words of the First President of the Republic of Uzbekistan Islam Karimov: "We consider it our primary task to improve the activities of all links of the education system in accordance with modern requirements. . Speaking about the upbringing of the younger generation, I would very much like each of us, especially our sons and daughters, to follow this idea of our grandfather Abdurauf Fitrat. Here is what our great ancestor wrote: His dependence on others and his enslavement depend on the upbringing he received from his parents as a child. " The issue of educating a comprehensively mature, harmoniously developed generation is an important study of all the existing disciplines in our lives. is becoming an object. It is both fundamental and social in Uzbekistan if we focus on the development of the sciences, their vitality and longevity and how much it can contribute to improving the well-being of the people. It is not difficult to know how to evaluate through. That's the way science is puts before the experts a number of topical theoretical and practical issues. So, this process does not bypass the science of psychology, on the contrary. The same is true of modern psychology, which is a society their own research directions depending on daily requirements and order determines. In developed and developing countries of the

world, special attention is paid to the technology of education. Ways are being sought to develop education and increase its effectiveness, as well as the introduction of pedagogical technologies in education is the focus of reform. The study of personality is a major problem in the science of psychology. Person the attention of psychologists as the subject of extensive research is in the center. But in our country, psychology comes from the demands of society is a step into a new phase requires attention. To do this, world psychology in the study of personality the intended purpose of the problem analysis, taking into account their experiences allows for a full evaluation.

The study of the human personality is a major problem in the science of psychodiagnostics. Psychodiagnostics is one of the necessary branches of psychology, which measures the measurement and identification of individual psychological characteristics of a person. develops and prepares techniques. Psychodiagnostics is the end result of a psychologist's work aimed at assessing the current state of an individual's psychological characteristics, predicting their development, and developing recommendations based on the tasks of psychodiagnostic examination.

It is important to note that the study of personality is unique in the complexity of the study. In particular, psychodiagnostic in this process the role of the media is important. One such psychodiagnostic tool is this different category of tests Projective psychology, with a history of half a century of development, is one of the fields of psychological knowledge about man today, and it is impossible to form a holistic view of the person without mastering it.

The projective method of personality research is based on the detection and description of projections. The concept of 'projection' was originally coined by Z. Freud to describe the subject's consciousness and unconsciously copied personal characteristics were used to express the content of situations in relation to external objects. The projection is Latin Derived from the word "proektio", which means to throw forward, to throw. The projective method of studying the person is based on the results of the experiment, mainly

to identify the projections and then analyze them. The definition of the concept of projection is inextricably linked with the protective mechanisms of the "I". Projection sublimation (redirection of activity to other goals), rationalization (a good reason to justify one's actions, reasoning) find), catharsis (cleansing) as well as one of the protective mechanisms considered. Projective methods place the subject in a position where his or her personal needs, perceptions, descriptions, and many other characteristics are present. properties. Verbal and projection, such as projection word associations, incomplete sentences, pictures and spots, drawings drawn by the examinee. observed using all pictorial methods. To projective methodologies The most important features are: - a relatively unstructured and diverse response consists of staging tasks; - Scattered, disordered stimuli that do not have the same content act as a "screen" for the characteristics, status and problems of the person; - A wide range of approaches to identifying and assessing the hidden, misunderstood aspects of the individual.

Projective methods are aimed at measuring personality traits and intelligence, and standardized methods are used to measure stimulus material. the difference in the nature of the respondent, ie the task of the respondents, and the nature of processing and interpretation of the results does. Projection Perception of reality, people, manifested stimuli is to some extent based on the mental state, needs, motives, attitudes of the person. There is a tendency to describe reality in accordance with the mental state, needs, characteristics of the person. Projection is an unintelligible psychological mechanism, that is, the elements of projection are perceived unconsciously. The main feature of projective methods is that the stimuli used are ambiguous and ambiguous. However, the stimulus recommended to the examinee (regardless of image, color, spot, verbal information) vague, ambiguous, objective, and subjective an image created by or a specific that is inserted into a situation that has arisen features. The results obtained are knowledge of the person being examined, him based on in-depth study of psychology, as well

as psychodiagnostics should be described using other methods. The origins of projective diagnostics can be traced back to the 1921 publication of Psychodiagnostics in German by G. Rorschach in Bern. Despite being an artist himself, German Rorschach has a history of art and painting more interested. It turned out that the great Leonardo da Vinci had long imagined the clouds in the sky, the various shapes in them. and practiced by analyzing them. According to G. Rorschach, ink stains, i.e., visual-oriented ink stains, enliven motor (motion) fantasies. Other psychologists with ink stains before G. Rorschach, mainly in Russia, F.E. Ribakov; In France, A. Bine and W. Henry conducted experiments. However, Rorschach was the first to prove the connection between fantasy images and basic personality traits and qualities.

Rorschach's ideas and research are currently reflected in two major areas: America (Beck, Klopfer, Davidson, Rapoport) and Europe (Bohm, Doosley-lister). The first attempts to use the Rorschach test in Russia date back to the 20s and 30s of the twentieth century, when it was mainly used to identify anomalous features of the person, neurosis and in the diagnosis of psychopathy, as well as in the study of epilepsy used. Since the 1940s, the Rorschach test has been widely used in the research and clinical diagnostic work of educators. Projective methodologies are diverse. They are radically different from each other. However, it should be borne in mind that the description of the projective methodology is practical in terms of the application of certain psychological knowledge, special theoretical training and methodology. requires experience.

This feature, that is, the "revival" of the subject world around us, is a characteristic of everyone, especially artists and young children. There is now a growing focus on projective methodologies, with more than 6,000 scientific articles devoted to them. But at the same time, they are a constant target for criticism. Unlike other methods of psychodiagnostics, projective methodologies allow qualitative rather than quantitative analysis of personality traits. Therefore, no methods have been developed to verify their reliability and validity. The

projection has a certain level of perception of reality, people, stimuli manifested.

Projective methodologies person is a group of methods for diagnosis, which are characterized by a general assessment of the individual, rather than individual features. The most important feature of projective methodologies is that they contain vague stimuli application and both perceived and unperceived tendencies in the individual to be filled in, described by the examinee, is able to explain.

The study of the human personality is a major problem in the science of psychodiagnostics is considered. Based on the content of the newspaper article, give the following conclusions expedient:

- Psychodiagnostics - individual psychological characteristics of the person assess the current situation, predict its development and to develop recommendations based on psychodiagnostic examination tasks is the end result of the work of a focused psychologist.

- Psychodiagnostics is one of the most important fields of psychology. to measure and determine the individual psychological characteristics of a person develops and prepares techniques.

The peculiarity of the study of an individual is the complexity of his research. In conclusion, the role of psychodiagnostic tools in this process is important. The possibilities of using projective methods in the study of the individual are wide and convenient.

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## ECONOMIC SECURITY OF FERROUS METALLURGY

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### ABSTRACT:

The article analyzes the economic security of ferrous metallurgy on the example of enterprises of the APO "Uzmetkombinat", reveals the meaning of the concept of economic security of ferrous metallurgy, identifies the main threats affecting its functioning, and also shows their relationship with the definition of functional components of the economic security of ferrous metallurgy

**KEYWORDS:** ferrous metallurgy, steel production, threats, algorithm, development priorities.

### INTRODUCTION:

Industry is one of the leading sectors of the national economy, which has a significant impact on the level of economic development of the country, since more than 30% of the gross domestic product is created in the industrial sector. An important role in industrial production is played by metallurgy, the contribution of metallurgy to the GDP of Uzbekistan is 7.6%, the volume of exports of metals is 8.2% of the total volume of exports. (1). which is based on ferrous metallurgy.

Ferrous metallurgy is the basis for the development of leading sectors of the economy not only of our state, but of the whole world, since it provides such industries as construction, mechanical engineering, energy and defense with the necessary products.

Metallurgical companies, like any companies, in modern market conditions play a fundamental role in the development of the state's economy, since it is in them that the main economic processes take place, the state's "margin of safety" is created and increased, the national income is formed, and the solution of social problems and industrial relations are formed. Therefore, the need to ensure a state of economic security is especially important.

Economic security is the material basis of national security. She acts as the guarantor of sustainable stable development of the country of its independence.

According to the author, the essence of ensuring economic security in the real sector of the economy is defined as the purposeful activity of business entities to achieve such a state of organized, industrial and legal relations, material and intellectual resources, which ensures the stability of functioning, financial and commercial success, progressive scientific and technical development basic sectors of the economy. The content of the economic security of the real sector, the economy can be defined as the state of protection of its interests from internal and external threats, suggesting the ability to provide the required amount of natural and cost elements of expanded reproduction of the finished product.

According to the proposed algorithm, the problems of economic security in the activities of the real sector of the economy should be considered in the system: needs, interests,

threats, indicators, threshold values, protection. The author's approach is shown in Fig. 2 (5)

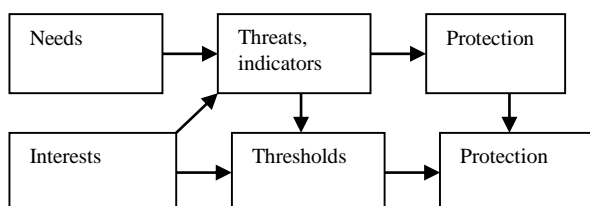


Fig 1. Algorithm for ensuring economic security in the real sector

As the key national interests of Uzbekistan in the metallurgical industry and in the real sector in general, this article highlights: economic independence, stability, stability, and the ability to self-development and progress.

**1. Economic independence.** It is not of an absolute character because specialization and social division of labor makes isolated commodity producers interdependent on each other (for example, ferrous metallurgy and mechanical engineering, mechanical engineering and the need for agricultural machinery, etc.). Economic independence means the ability to control production resources, the achievement of such a level of production, efficiency and quality of products, which ensures competitiveness and allows you to participate on an equal footing in domestic and world trade, cooperation and exchange of scientific and technological achievements.

**2. Stability and sustainability of real sector enterprises.** These elements presuppose the protection of all forms of ownership, the creation of reliable conditions and guarantees for entrepreneurial activity, the containment of factors capable of destabilizing the situation (the fight against criminal structures in the economy, the prevention of significant industry differentiation in the distribution of income, the prevention of the artificial creation of insolvency and bankruptcy states).

### 3. Ability for self-development and progress.

Creation of a favorable climate for investment and innovation, constant modernization of production, improving the quality of vocational education and the general cultural level of the work collective are becoming necessary and mandatory conditions for the sustainability and self-preservation of enterprises in the real sector, including industry, agriculture, communications, trade and public catering.

The main complex of threats and the main reasons for the current disadvantage of many enterprises in the real sector of the economy of Uzbekistan lie in:

- Shortcomings in providing raw materials for products that are in demand in the domestic and foreign markets, in their insufficient competitiveness;
- Limited investment resources, increased inflation and costs of the current system of taxation of commodity producers;
- Failure of the state to fulfill its obligations to pay for orders for its needs;
- Ineffective methods of institutional transformations, entailed by the fragmentation of production complexes into smaller ones, and, as a consequence, an increase in transaction costs.
- Customs and currency barriers at the borders of the CIS countries, which destroyed their once common economic space, and other table1. (5)

Table 1. Direct and indirect threats to security in the steel industry

Real sector security threats [5.]	
Direct threats	Proxy threats
1	2
1. High rates of production growth 2. High age level of fixed assets 3. Lack of innovation potential. 4. Excess of material and energy consumption of products in comparison with the norms.	1. Low level of provision of the country in metal products. 2. The industry's dependence on raw materials. 3. Dependence on imports of equipment and technology

Of all the possible types of threats to economic security by a ferrous metallurgy enterprise - catastrophic (natural and man-made), informational, competitive, criminal, associated with the incompetence of the owner in production, financial and institutional issues, organizational and a number of others, one should single out and consider those that are directly aimed at destruction or weakening of the potential of the real sector under the influence of external, (exogenous) factors determined by the shortcomings of scientific and industrial policy, the state in the real sector of the economy.

The economic damage inflicted on an entity may be associated with its inability to resist competition and be the result of its internal (endogenous) factors, for example, poor management.

Modern threats to economic security in the iron and steel industry are manifested in two main areas.

- The use of state property when it not only does not generate income, but is also an object of corruption and crime;
- Management of joint-stock corporate property and its dynamics damages society and the state by the emergence of social tensions, as well as the withdrawal of property from taxation and control.

For one of the basic sectors of the real sector - metallurgy, which is in the stage of major structural transformations, one of the key issues remains the problem of ownership:

First, the forms of ownership are associated with the formation of a complex complex of commodity-money relations that determine the development of the economic system.

Secondly, property relations have a major impact on the formation of the socio-political system of society and the structure of its local bodies, which determine the stability of the entire state system.

Thirdly, property relations, their validity, well-functioning play an exceptional role in a market economy, in increasing its competitiveness through the mechanism of assimilating new forms of investment and innovation management.

The main enterprise of ferrous metallurgy in Uzbekistan is the Joint-Stock Production Association (APO) Uzbek Metallurgical Plant in the city of Bekabad, transformed from a state-owned plant into a joint-stock company. Currently, special attention is required to the issue of raw materials supply for the production of metal products in the process of denationalization of the industry, it is necessary to take into account the fact that the law, analysis of its division into separate powers, which, in different combinations, form the specific content of the property of individual owners for a certain subject. (No.)

Metal products are widely used in solving the most important issues in the social sphere, in particular to provide the communal and household sector with cold and hot water supply, sewerage, gas, etc.

Therefore, the state must take control over the prevention of man-made and social disasters. Which may occur in the absence of investment in the real sector. In particular, the following threats to national security are highly likely:

- Critical deterioration of the infrastructure of many cities and towns, the crisis state of the municipal economy, due to the deterioration of the production apparatus in the electric power industry and other branches of the fuel and energy complex (FEC).
- Deterioration in the work of transport due to wear of tracks, rolling stock and other vehicles.

The main directions of ensuring economic security at ferrous metallurgy enterprises include: (2)

- Optimal strategy for providing all sectors of the real sector of the economy with metal products;

- Modernization of fixed assets and ensuring technological independence and achieving high competitiveness of the technical potential of the enterprise;
- Accelerated introduction of energy and resource saving technologies, reduction of material costs, and achievement of an optimal and effective organizational structure of enterprise management;
- Achievement of a high level of qualifications of personnel and their intellectual potential;

The implementation of the directions of ensuring the economic security of the enterprise creates conditions not only for the stability of its functioning, but also for increasing the efficiency of its financial and economic activities, and also contributes to increasing the economic potential of the sectors of the economy of Uzbekistan.

Thus, the development and implementation of an integrated system for ensuring the economic security of enterprises, which makes it possible to predict threats to economic security and will make it possible to qualitatively influence the general financial condition of a particular enterprise, which, ultimately, will have a positive effect not only on the activities of the enterprise itself, but will also have an impact on recovery of the country's economy as a whole.

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# METHODS AND COMPONENTS OF TEACHING UZBEK LANGUAGE TO THE FOREIGN STUDENTS

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## ABSTRACT:

**The article reveals some interesting ways to teach Uzbek as a foreign language a modern education system should shape an integrated environment such as knowledge, skills, and independent experience activities and personal responsibility of language learners. into active search, critically reflect, apply in practice.**

**KEYWORDS: communication, integration, effective collaboration, active teaching methods, independent activity;**

## INTRODUCTION:

The main problem of the teacher is search methods of developing educational competencies for students learning the language as a condition of quality assurance of the program..For the teacher, the transition from one knowledge transfer to another creating conditions for active knowledge and practical experience of students. For students - passive pass assimilate information. Much different throughout the long history of mankind teaching methods have been developed. First of all borrowed from foreign language teaching methodology

Programs designed to teach so-called "dead languages" - Latin and Greek, in which almost all education the process came down to reading and translating. That was it method founded by formed by the enlighteners of the late 18th century In the mid-20th century under the name "grammar translation method."

The next method is the "Quiet Way" (the method of silence) appeared in the mid-60s on the principle of teaching foreign language - knowledge of the language was originally bedridden with everyone who wants to learn it, and with most the main thing is not to disturb the listener and not acquaintance with the teacher's point of view. After this technique the teacher doesn't say anything at first. Pronunciation training at minimal levels, the teacher manipulates characters, advances the student towards the intended goal, forcing him recall past material. What are the benefits this is the way perhaps this is the level of knowledge the teacher's language practically does not change the level of knowledge of the student's language and Eventually the student learns language is better than a teacher. Also in the study the process forces the student to express their thoughts freely enough. It should be noted that this method is very good for amateur's high tech. Foreign language teachers have been buying for a long time great independence in the selection of textbooks and creative understanding of methods, content and methods fulfillment of application requirements.

Familiar the existence of different methods in the modern process teaching a foreign language, however, should be emphasized leading positions are occupied by methods and technologies based on a person-centered approach you need:

➤ Create an environment where the student feels convenient and free;

- To stimulate the student's interest, to develop it desire to use a foreign language in practice and as a necessity of learning, it makes it a real achievement success in mastering the subject;
- The overall affects the student's personality, engaging her feelings, emotions, and feelings study the process.
- Activate the student primarily character in the educational process;
- Create situations that the teacher does not central figure; the student should know this learning a foreign language is more dependent rather than methods in terms of his personality and interests and teacher-installed textbooks;
- Various provide different forms of work: individual, group, collective, full incentive activities students, their independence and creativity.

Communication in the process is generally accepted foreign language teaching can be "one-sided" and "Versatile." In the first case, we mean organization the learning process, in which "the teacher asks, that is. Encourages the student to engage in speaking activities - the student responds. "This process" is stimulating - answer" scheme. Such an educational paradigm characterized by the widespread use of forms called frontal the work.

As for the Many channel connection, it's typical for him work is a group that every student has access to prove oneself as an independent and full member of a particular thing activity. An annual "multi-faceted" communication model the class has a complex structure of relationships and the relationship between the participants in the process. Student Team Learning (STL, teamwork) is the teacher explains the new material and then offers it to the students groups (groups do not compete with each other to unite .Several small groups of students were formed, they a clear task, the necessary support.

Mission accomplished divided into parts (each does its part) or "top" (each) the next task is performed by the next student). Besides, the performance of any task is explained aloud under the guidance of the student and the whole group. Success or the failure of the whole group depends on the person responsibility of each member. Students follow each other to help each other. Teacher after all group assignments or organizes a general discussion of cases on this matter assignment to different groups (if there is a task the same for all groups) or viewing the task by each if the tasks are different, group them.

When the teacher he makes sure that all students learn the material test to try to understand and master a new material. Students take the test separately on the street Group. Grades for individual work are summed up by group, and give an overall grade. So strong and weak the student can bring the same ideas into the group. Don't compete weak with the weak, but first with yourself results.

The language component includes linguistic material (strictly)selected phonetic, grammatical, lexical minimum), speech material (samples of speech words of different lengths, situational thematically defined) and socio-cultural. In speaking in a foreign language teaching methodology the language takes the form of a school unit. As a training department a compositional group that combines different statements nature can move.

The content of learning foreign languages under the influence of a field of linguistics such as sociolinguistics, studying the relationship between language and culture, language and society. Therefore, it is necessary to train foreign language not only as a new code, but also as a source information and the national culture of the people that language has two main functions: communicative and total.

The psychological component is the formation of these skills and competencies.

Ability to use target language for communicative goals. In foreign language teaching, educational (cognitive) activity the student learns during the activity language, its speech mechanisms are formed and he uses language during communicative activity.

Knowing a foreign language is knowing this system speech skills. Methodical component – teaching students with a rational perception of learning to learn new things forming language and their skills for them use them to communicate practically (orally and in writing).

Communicative language teaching - involves the use of the studied language both in tasks and for communication with the teacher / within the group. It includes a large number of interactive exercises - role-playing games, polls, work in pairs, etc. Immersion in the language (Language immersion) - the method is applied at the beginning, provoking bilingualism by teaching the subjects of the program in a non-native language. Moreover, even reading in the native language is given later than reading in the studied language. Silent Way - The teacher here is more listening than talking.

Teaching pronunciation at lower levels, the teacher uses various color tables on which each color or symbol indicates a specific sound. Thus, new words are learned. Natural Approach - The emphasis is on the fact that the student can not learn everything. Each subsequent portion

of the material must necessarily be based on already completed and at the same time be easily digestible. Total Physical Response Method - Implies that students first passively perceive the material without using it. At the next stage, they must physically respond to certain words, for example, to action verbs. And only after passing the first two stages, students begin to practice the language themselves.

Teaching Proficiency through Reading and Storytelling - the method is an offshoot of the physical response method. It consists in the teacher telling short stories, saturated with new words and a further series of questions for students, requiring simple, but emotionally colored answers from them.

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## **SOME PHYSIOLOGICAL CHARACTERISTICS OF MELON LADYBUGS IN THE PERIOD OF WINTER DORMANCY IN KASHKADARYA REGION**

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### **ABSTRACT:**

The paper describes that the departure of a melon ladybug for wintering is characterized by the cessation of active nutrition, a decrease of the water content in the body and the accumulation of fatty substances in the body of beetles. A decrease of the water content in the body of beetles during the winter period is correlatively associated with increasing of hypothermia of their body fluids. During the wintering of the melon ladybug, there is a gradual consumption of fat and fat-like substances. The most intensive consumption of fat in beetles is observed in the spring after wintering, during the period of active locomotor activity.

Also, the period of wintering of the melon ladybug is characterized by a decrease in oxygen consumption and inhibition of the entire tissue metabolism. During this period, beetles are in a state of deep dormancy, and are probably the most resistant to low temperatures in their habitat.

**KEYWORDS:** vegetation, area, metabolism, imago, experiment, hibernation, antifreeze, tolerance, glycerin, hemolymph, tissue metabolism, similar.

### **INTRODUCTION:**

The seasonal periodicity of climatic conditions and vegetation of melons and gourds in different areas has left a deep imprint on the melon ladybug and its biology. The transition to the state of winter dormancy of the melon ladybug is usually preceded by the onset of certain rhythmically repeating environmental conditions unfavorable for active life. In addition, an important role in this process is played by the seasonal periodicity of the vegetation of forage plants, which inevitably affects the biology of the species. In different climatic zones of the growing season of pumpkin crops, the main fodder plant of the melon ladybug takes about 6 to 7 months a year. She spends the remaining 5-6 months in the adult stage under plant debris, surrounded by melons and gourds. Males and unfertilized females hibernate.

The high viability of the melon ladybug is largely associated with the state of winter dormancy, which contributes to the survival of the insect at an unfavorable season. The physiological characteristics of the winter dormancy of beetles, the timing of the beginning and end of wintering, the state of beetles during wintering cause both theoretical and practical interest.

There is reason to believe that the changes occurring in the body at the onset of winter dormancy or its termination concern primarily the energy of tissue metabolism and the intensity of respiration. Therefore, when studying the physiological essence of the winter dormancy of the melon ladybug, we focused on determining the dynamics of the accumulation and consumption of reserve substances (fats), due to which the life of the body is maintained during the resting period, in particular, water metabolism, respiration intensity, as an integral indicator of oxidative processes in body tissues. In the literature, there are data on an increase in the amount of fat, a decrease in water content and on changes in gas exchange before the transition of insects to wintering and during the wintering period of different species, such as colorado potato beetle, cotton worm and others (Larchenko, 1937; Ushatinskaya, 1957; 1966; Chernyshev, 1996; Romanenko 2013; Denisova 2014; Strelkova 2017; Tilavov 2018, etc.). However, such data are not available in the melon ladybug.

#### **MATERIAL AND METHODS:**

When studying the dynamics of the accumulation and consumption of reserve substances, due to which the body of the melon ladybug exists during long periods of rest, the percentage of water and the amount of fat in the body were taken into account. To characterize gas exchange and tissue metabolism, the intensity of oxygen absorption was studied.

The water content was determined by the gravimetric method. For this, 20 females and 20 males from each test batch were dried in triplicate at a temperature of 70-80 ° C to constant weight, i.e. all remaining water in the body was taken into account. The amount of fats was determined by extraction in small models of the Soklet apparatus with ethyl ether, pounded with a canopy of 20 beetles, dried to constant weight. The amount of fat was also determined separately for females and males in triplicate. The oxygen uptake rate was measured monometrically (on 30 females and 30 males, divided into batches of 5 individuals) in Warburg apparatus at a constant temperature of 26 ° C.

The biomaterial for analysis was kept in field cages in natural conditions, i.e. exposed to changes in climatic factors. The height and gas exchange were measured under laboratory conditions, where beetles taken from the cages were introduced 2-3 hours before the start of the study. In total, about 3000 beetles were used for the experiments.

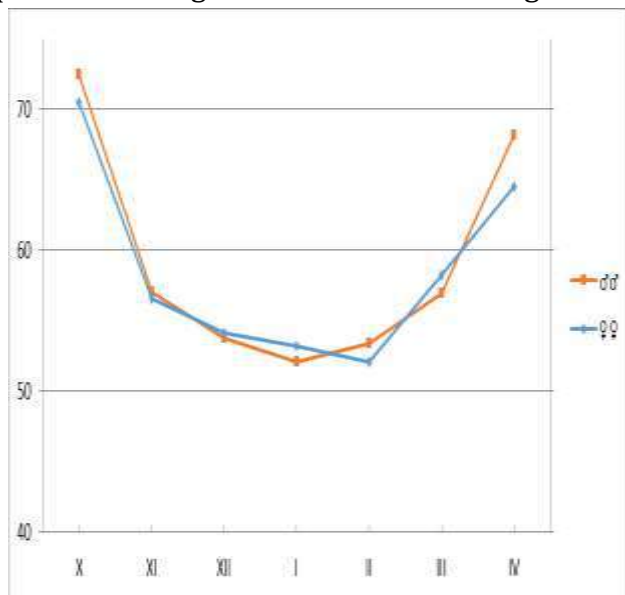
The water and fat content of the melon ladybug was determined at the Kashkadarya Regional Agrochemical Station, and the respiration rate was determined at the Department of Physiology of Karshi State University.

#### **RESEARCH RESULTS:**

As you know, water is an integral part of the constituent substances of the body, as their solvent and their carrier. With water, all substances enter the body, including those to be assimilated during nutrition, it flushes out the products of the breakdown and decomposition of these substances (Kuznetsov, 1953). The water necessary for life enters the body when drinking, is part of the food, is adsorbed by the integuments of the body and tracheal system, and is obtained as a product of metabolism.

The high physiological significance of reducing the amount of water in the body of insects before the transition to a state of dormancy and the restoration of its content to the norm, characteristic of active life after the end of dormancy is indicated in the work of R.S. Ushatinskaya (1957), E.M. Shagov (1967) and others.

The results of the determinations of the water content in the body of beetles at different periods of imaginal life are shown in Figure 1.



Pre-winter feeding 2017 wintering 2018  
feeding beetles after wintering

Fig. 1 - Water content in the body of melon beetles at different stages of imaginal life

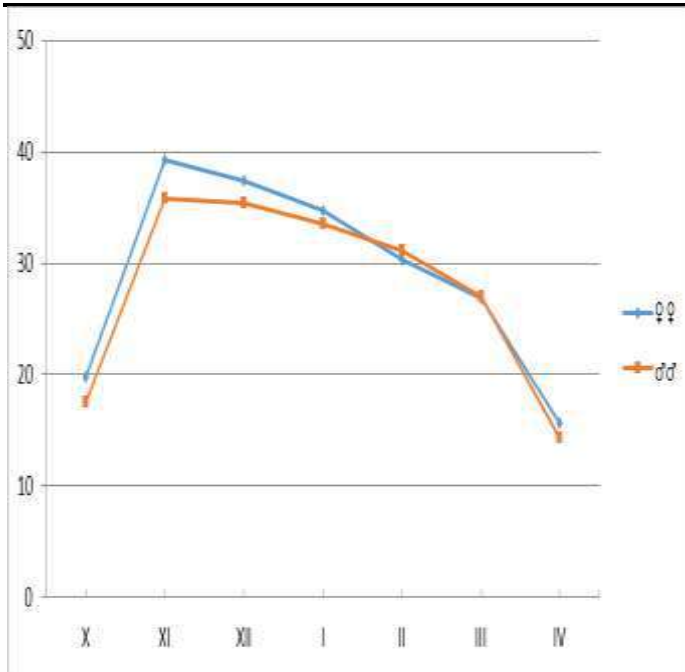
As can be seen from the above data, the water content in the body of the melon ladybug is not the same at different stages of imaginal life. The water content in the body of beetles during the pre-winter feeding period (October) is high, on average, 70.5% of the wet body weight in females and 72.4% in males. As the beetles left for wintering, the water in the body of beetles of both sexes became much less - 56.6% in females and 57.0% in males. This decrease of water content in preparation for wintering is due to the cessation of nutrition and the release of the intestines from excrement.

During the period of wintering, the water content in the body of the melon ladybug remains almost unchanged. In the winter months, the water content in the body of beetles ranges from 52.1% to 53.8% in females, 52.1% to 53.8% in males. The overwintered beetles during the active feeding period (April) have a high water content: in females - 64.5%, in males - 68.1%. Beetles feed actively during this period. Water in the body of beetles comes mainly from food.

Thus, a decrease of the water content in the body of beetles during the wintering is apparently correlatively associated with an increase of hypothermia of their body fluids. The higher water content in the body of beetles during the period of active feeding (October, April) is possibly due to their lower cold resistance.

Taking into account the duration of the state of winter dormancy of insects, it can be argued that a significant amount of energy is spent on maintaining their life during this period. A number of authors on different species of insects have shown that fats and carbohydrates are the main energy substrates that support life during the dormant period. The deposition of large amounts of fat in insects, mainly in the adipose body, before the transition to a state of winter dormancy was noted for many species (Kozhanchikov, 1936; Ushatinskaya, 1952, 1984; Anderson, 1981, etc.).

The fat content in the melon ladybug, the dynamics of their accumulation and consumption were taken by us as one of the physiological indicators of preparation for the transition to winter dormancy, the general picture of the change in the fat content at different stages of the imaginal life of the melon ladybug is presented in Figure 2.



Pre-winter feeding 2017 wintering 2018  
feeding beetles after wintering

Fig. 2 - Fat content to dry matter weight at different stages of the imaginal life of a melon ladybug

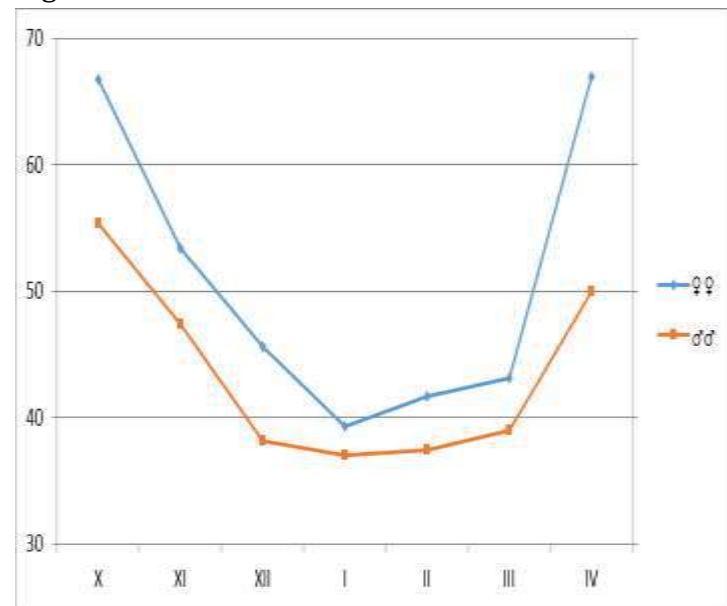
As can be seen from the data presented, during the period of active life of beetles (October), the content of fat in the body of beetles is low, in females on average 19.8%, and in males 17.5% of the weight of dry matter. After pre-winter feeding, the beetles hibernate with a significant amount of fat. In November, females averaged about 39.3% body fat and males 35.8%.

During the wintering of the melon ladybug, a gradual consumption of fat reserves was observed. From the beginning of wintering to mid-January, the consumption of fat was small, although the temperature of the environment at that time was kept at about 10-14 °C, in January females had 34.8%, and males 33.9% fat from dry weight.

The most intensive consumption of fat in beetles was observed in the spring after wintering, during the period of active locomotor activity and until summer in search of food and at the beginning of feeding. During this period

(April), the amount of fat in females was 15.6%, in males 14.3% of the dry weight.

It is obvious that at various stages of insect life, body weight does not remain constant. For example, according to Z.P. Cudare (1968), from the egg to the imago, the body weight of the Colorado potato beetle increases more than 200 times. The change in the average wet weight of the adult melon ladybird at different stages of the imaginal life is shown in Figure 3.



Pre-winter feeding 2017 wintering 2018  
feeding beetles after wintering

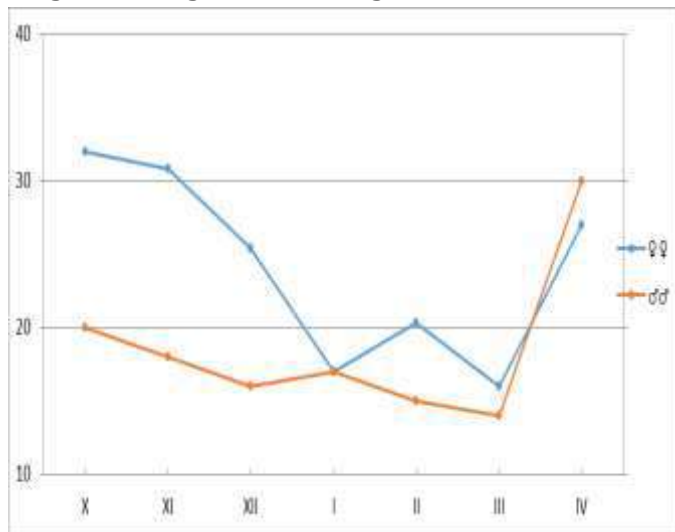
Fig. 3 - Average wet weight of a melon ladybug at different stages of imaginal life

As can be seen from the above data, the maximum weight of beetles was recorded during the pre-winter feeding period, when the average weight of females reached 66.8 mg, and that of males, 55.3 mg. After the cessation of feeding, a decrease in the water content in the body of beetles is observed; when they go into hibernation, the body weight of the beetles decreases markedly. In December, females weighed 45.6 mg, males 38.1 mg. Wet body weight during early spring to the beginning of the recovery period remained almost constant. After the beetles leave wintering, during the period of active feeding (April), the wet weight



of their body noticeably increases. In females, body weight at this time averages 67.0 mg; in males, 50 mg. During the period of spring activity, the wet weight of the beetles increases slightly due to the increase in the amount of water in the body.

The dynamics of the average dry weight of beetles is similar, established for the same stages of imaginal life in Figure 4.



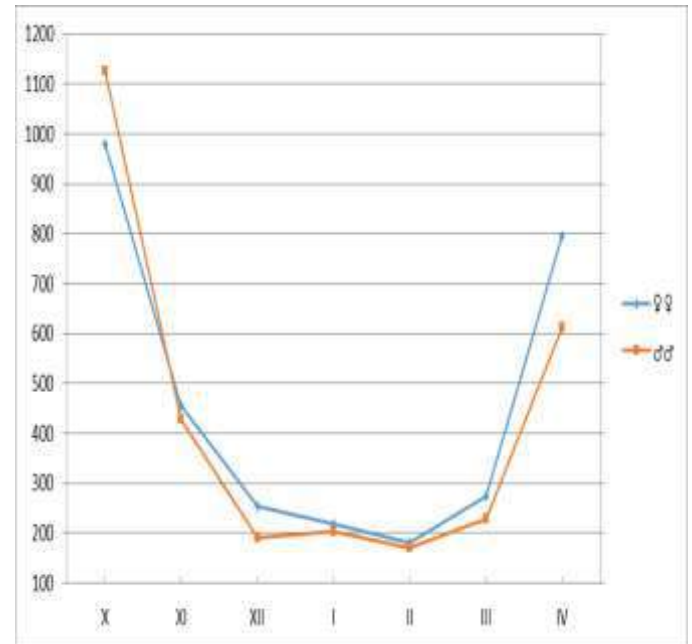
Pre-winter feeding 2017 wintering 2018  
feeding beetles after wintering

Fig. 4 - Average dry body weight of a melon ladybug at different stages of imaginal life

The average dry weight of beetles after the maximum observed during the active feeding period before hibernation decreased, moreover, faster at the beginning of hibernation and slower in winter. A significant increase in dry weight in overwintered beetles is observed in both sexes during the period of active feeding. During this period, the dry weight of females averages 27 mg, and that of males 30 mg. This is due to the fact that in the spring, hungry beetles actively feed, reserve substances accumulate in the body and insects prepare for reproduction.

The study of changes in the respiration rate of the melon ladybug was carried out at the stage of imaginal life, at which measurements of other parameters were also carried out in order to identify the role and nature of gas exchange

in different periods of the imaginal life of the beetle (Figure 5).



Pre-winter feeding 2017 wintering 2018  
feeding beetles after wintering

Fig. 5 - The respiration rate of the melon ladybug at different stages of the imaginal life

As can be seen from the data presented, the intensity of oxygen consumption in the melon ladybug during the pre-winter feeding period is quite high. The average volume of absorbed oxygen at this time was 980 mm³ g / h in females and 1126 mm³ in males. But within 15-20 days after the beetles leave for wintering, the intensity of their respiration decreases almost twice. In November, the level of oxygen absorption in females is 456 mm³ g / h, and in males - 428 mm³. The minimum volume of oxygen absorbed by beetles is observed throughout the entire wintering period and averages 180-254 mm³ g / h in females, 170-204 mm³ in males.

Judging by the change in the intensity of gas exchange, the state of deep physiological inhibition of metabolism in the melon ladybug lasts from December to March. During this period, the beetles are in a state of deep dormancy, and are probably the most resistant to low temperatures. With the transition of



hibernating beetles to active life (April), the level of their respiratory metabolism increases significantly.

### THE DISCUSSION OF THE RESULTS:

Our studies of the physiological characteristics of the winter dormancy of the melon ladybug, associated with the study of water exchange and reserve substances, due to which the life of the body is maintained during a long period of rest, their dynamics of accumulation and consumption, as well as identifying the features of gas exchange, allows us to make some generalizations.

A change in metabolism, as a result of which winter dormancy occurs, appears in the melon ladybug long before the beetles, having stopped feeding, go to winter. The accumulation of reserve substances begins from the first days of feeding of young beetles of the summer generation and reaches large values by the time of the manifestation of the reaction of negative phototropism, which marks the transition of the insect to dormancy. In this regard, the individual weight of beetles increases significantly, although the relative content of water in their body, as the stage of pre-winter feeding and the release of the intestines, decreases markedly.

When beetles leave for winter dormancy, the water content in their body decreases significantly. This, in turn, leads to a decrease in metabolic rate. Determination of the intensity of oxygen consumption in the melon ladybird showed that after 30 days of pre-winter feeding, the level of oxygen absorption dropped more than two times. This fact confirms the reduction in the general level of metabolism in the body of beetles. Reserve substances (fats) in winter are consumed very sparingly and therefore their amount decreases insignificantly during the winter is known that insects have two main wintering strategies. They survive the winter season either by being able to withstand the freeze or by avoiding it. In both cases, resistance

to low temperatures is provided by a whole set of organic substances, the synthesis and accumulation of which is triggered and regulated by certain signaling factors of the environment. In species that avoid freezing, such substances include proteins - antifreeze, polyhydric alcohols and sugar.

The synthesis of proteins - antifreezes begins after the onset of a certain photoperiod. For example, the lowest temperature at which freeze-tolerant *Pythodepressus* beetles survive is a function of the glycerol concentration in the hemolymph prior to freezing. The lowest temperature in beetles without glycerol in the hemolymph was 7.5 ° C, and in beetles containing 1500 ml of glycerol in the hemolymph - 27 ° C (Zachariassen Karl, 1977). A number of authors showed in different insect species that the more severe the temperature conditions of wintering, the higher the glycerol content in the insect organism and the lower their hypothermia point (Dudash, 1980, 1984; Hansen and Viik, 1984; Baust, Rojas, 1985, etc.).

In cold-resistant insects, glycerin increases the ability to hypothermia, prevents tissue fluids from freezing and thereby allows insects to better endure the harsh winter period. It is possible that the melon ladybug has a similar resistance mechanism to low temperatures.

Judging by the intensity of oxygen consumption and a decrease in water content, the most profound state of inhibition of metabolism continues in the melon ladybug until mid-March. Further, the water in the body of the beetle gradually becomes more and the intensity of gas exchange begins to increase.

After the beetles leave wintering, the water balance is restored, the intensity of gas exchange and tissue metabolism increases to the limits typical for the period of active life. Spring warmth and abundance of food shortens the recovery period, and vice versa, cold slows it down and lengthens it.

## CONCLUSIONS:

The results of the studies allow us to draw the following conclusions:

1. The departure of a melon ladybug for wintering is characterized by the termination of active nutrition, the release of the intestines from food debris, a decrease of the water content in the body and the accumulation of fatty substances in the body of beetles.
2. The water content in the body of beetles during the wintering period is almost unchanged; in overwintered beetles, i.e. during the period of active feeding, the water content in the body of beetles increases due to food.
3. During the wintering period of the melon ladybug, fat reserves are gradually consumed, and the most intensive fat consumption is observed after wintering, during the period of active locomotor activity.
4. The maximum weight of beetles of both sexes is reached during the pre-winter feeding period. As the beetles leave for winter, the body weight noticeably decreases during the spring, i.e. until the beginning of the recovery period, the weight of the beetles remains almost constant. After wintering, during the period of active feeding, the wet weight of the beetles increases slightly. The dynamics of the average dry weight in the winter and recovery periods is similar.
5. The intensity of oxygen consumption during the pre-winter feeding period is quite high. As the beetles leave for hibernation, the respiration rate decreases almost two times. During the wintering period, the oxygen consumption by beetles is observed at a minimum level. The wintering period of the melon ladybug is characterized by a decrease in the activity of gas exchange and inhibition of all tissue metabolism.

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## **THE ENVIRONMENTAL PROTECTION, THE ROLE OF LAND SUPPORT IN CREATION OF ECONOMIC AND LEGAL MECHANISMS OF EFFECTIVE USE OF LAND RESOURCES**

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### **ABSTARCT:**

The tasks of land management, which, unlike the other methods of economic and legal methods of environmental protection and regulation of land use, are very important in today's market economy, as they affect to the property and economic interests of natural resources users and other economic entities are given in this article.

**KEYWORDS:** land resources, land use, soil fertility, economic mechanism, legal mechanism, lands quality, environmental protection, financing, economic methods.

### **INTRODUCTION:**

The unified state policy aimed at improving the system of regulation of land relations, land management, the rational use and protection of lands, accounting and evaluation, coordination of activities of public authorities in the field of land use, conservation, restoration and increase of soil fertility of legal entities and individuals, the following important areas should be developed to ensure implementation.

In addition to improving the conduct of land management on the basis of complex modern technologies, in the prescribed manner to conduct inspections on the rational use and protection of land, to eliminate the causes and consequences of violations of land legislation, a mandatory document for legal entities and individuals instruction, control over land use and protection.

### **METHODOLOGY OF RESEARCH:**

Reclamation of degraded lands caused by the improper use of available land resources, land compaction, drying, secondary salinization, mud stream, floods, swamps, erosion, consumption and production wastes, pollution with chemical and radioactive substances and other negative impacts improving and strengthening the legal framework for the implementation of land use measures for the protection, conservation and rehabilitation of land is one of the most pressing issues today in the modernization and reforming of agriculture in the country.

While the growth of the republic's population is leading to an increase in demand for agricultural products, unexpected changes in global weather conditions are leading to increase in the prices of these products.

One of the most important issues facing agriculture today is the cultivation of environmentally pure natural products for consumption.

This, in turn, depends on the quality of agricultural land, natural fertility, climatic conditions, the degree of protection from contamination with consumption and industrial wastes and other pests, soil residues of chemical preparations used in plant care. A number of state programs in the field of agriculture are being implemented to address these issues.

However, at the same time, as a result of the use of many types of chemical fertilizers and drugs in agricultural production, not only the product but also the condition of the land, which is the main means of production in agriculture, is deteriorating.

The economic and legal methods of the environmental protection and use of land resources, in contrast to administrative methods, are very relevant in today's market economy because they affect the property and economic interests of resource users and other economic entities. If the method of administrative-legal influence arises from the relationship of power and subordination, the economic mechanism is based on the material interest of the individual in achieving real goals.

The use of economic methods should be prudent, as excessive increases in the amount of payments for the use of nature can stifle the economy and create the resistance, instead of simplifying the initiative of entrepreneurs in solving environmental problems.

Economic instruments, by their very nature, can only function effectively in a market economy that is moderate and able to perform its functions in moderation.

The legal legalization of the economic mechanism of environmental protection is a matter of the economic mechanism of environmental protection, i.e the protection of the environment, the rational use of land and other natural resources, planning, financing of environmental security measures, collection of fees for the special use of natural resources, pollution of the environment, waste disposal and other harmful effects on the environment, the strengthening of the rules and regulations related to economic incentives for the rational use of natural resources or otherwise the imposition of economic sanctions in the Tax Code, Land Code and a number of other laws.

It is expedient to pay attention to two main aspects of the economic mechanism in the implementation of measures to protect the environment.

The formation of the economic mechanism, on the one hand, serves as a source of funding for environmental protection measures and the creation of funds, on the other

hand, has a real impact on users and other businesses - legal entities and individuals, encouraging them to comply with environmental requirements.

There are the following features of the legal provision of the economic mechanism of environmental protection:

- Assessment of the economic mechanism of the environmental protection as a means of economic incentives for nature users;
- The use of state coercive measures in certain types of economic mechanisms for environmental protection (for example, the imposition of economic penalties for irrational use of land resources and violations of the requirements of the law, the collection of taxes and fees for the use of natural resources);
- The integration of administrative and legal means with methods of economic incentives in the economic mechanism of environmental protection;
- The priority of environmental principles in the legal provision of economic mechanisms for environmental protection;
- Ensuring the economic interest in the use of land resources and environmental protection based on the environmental requirements;
- The economic mechanism of environmental protection as a means of ensuring the rational, economical and efficient use of natural resources;
- The economic mechanism of environmental protection as a legal institution consists of a set of tools and methods (payment for special use of land resources, economic incentives, application of economic sanctions, environmental insurance, environmental funds).

Analyzing the legal nature of these features, it should be noted that the legal provision of economic mechanisms for environmental protection is a determining factor in the

sustainable socio-economic development of the country, determines the economic and legal basis for rational use of land resources and the development of human-nature relations promotes

The purpose of the economic mechanism of environmental protection is to adequately assess the value of land resources, ensure their rational and efficient use, encourage compliance with environmental requirements, and develop environmentally friendly, resource-saving and scarce production through preferential taxes and credit, compensation for damage and environmental safety.

Based on the objectives of the economic mechanism of environmental protection, the directions of this legal institution can be identified as follows:

- Planning and financing of environmental protection measures;
- Setting limits on the use of land resources, the disposal of waste and pollutants into the environment;
- Setting the amount and standards of payments for the rational use of land resources, the discharge and emission of waste and pollutants into the environment, as well as other harmful effects on the environment;

Compensation for damage to the environment and human health in the prescribed manner.

The economic mechanism of environmental protection has different goals and directions, which can change in a certain situations and under certain conditions.

The main measures to ensure the legal mechanism of economic protection of the environment are defined by the Law of the Republic of Uzbekistan "On Nature Protection". the legal basis of economic relations related to the use and protection of natural objects and land resources is regulated by separate legislation.

## CONCLUSION:

In conclusion, it is necessary to form the groups of landscape-ecological micro-regions in order to classify the ecological situation of each region and determine the purposeful and rational use of other natural resources, the selection of appropriate reclamation measures for the regions.

This, in turn, allows to assess the real state of agricultural lands in the region and to divide them into ecologically identical plots. The diversity of forms of land use has a different impact on the formation of the economic mechanism of environmental protection.

But in our opinion, the following basic principles should serve in the formation of the mechanism: to encourage the efficient use of land; ensuring the interest of workers in the final results of production and the sale of grown products; increasing the responsibility of management staff and optimizing the activities of production departments.

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# **EVALUATION OF THE EFFECTIVENESS OF ANTI-ADHESIVE COATING ON A MODEL OF A LUNG WOUND IN AN EXPERIMENT**

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## **ABSTARCT:**

The problem of the adhesive process in surgery is still extremely relevant. The vast majority of studies of domestic and foreign authors are devoted to the formation of adhesions in the abdominal cavity. Interperitoneal fusion is still the cause of many diseases of the abdominal cavity [1,2,3]. First of all, these are directly peritoneal adhesions that occur both as a result of the inflammatory process and after surgery [4,5].

The question of the expediency of preventing adhesions in the abdominal cavity is now proven, and there is no doubt. At the same time, pleural adhesions in the modern classification of diseases, as an independent nosological unit, are absent. In this connection, a logical question arises: are the adhesions of the pleural cavity a pathological process, or is the

adhesiogenesis in this area a compensatory-adaptive reaction [6,7,8]?

However, it is necessary to be sure that the induced increase in adhesiogenesis will not lead to the development of total intrapleural adhesions, weakening of the function of external respiration and the occurrence of respiratory failure. This fact requires close study and determines the relevance of the work.

## **INTRODUCTION:**

Thus, a number of studies have been conducted on the prevention of spike formation, but their results are encouraging, but most of them are contradictory and were conducted on experimental models.

Materials and methods of research. Experiments on the formation of lung wounds with subsequent evaluation of the effectiveness



of the anti-adhesive coating of cellulose derivatives were performed on the basis of the State Institution "RSNPMTSH named after Academician V. Vakhidov", Department of Experimental Surgery in 2019. As experimental animals, white mongrel rats in the number of 32 individuals were used. In total, 2 series of experiments were performed: control and experimental groups.

Anesthesia was performed using the RO-6 anesthesia machine with oxygen supply. The ventilation mode was carried out with a frequency of 24 per minute and a volume of up to 30 ml. For mask anesthesia, a special rubber nozzle was used, which was put on the animal's muzzle and covered the area of the transition of the head to the neck hermetically. The volume of the mask is 50ml. The mask has a non-return valve for exhaling air.

#### THE PROCEDURE OF THE OPERATION:

Incision of the skin and superficial muscle in the region 6 of the intercostal space up to 3 cm long. The pectoral muscles were loosened along the course of the muscles (Fig. 1).



Fig. 1. Skin incision in the area of the right half of the chest

In area 6 of the intercostal space, a thoracotomy was performed using a mosquito – type blunt instrument (Fig. 2).



Fig. 2. Dilution of the chest muscles, allocation of the intercostal space  
The wound was diluted to 1.5 cm and then hooks were inserted to expand the wound (Fig. 3).



Fig. 3. Using a mosquito-type clamp to open the pleural cavity and dilute the intercostal space

The right lung is moderately collapsed, breathing during mask anesthesia, air. Using atraumatic micro-clamps, the right lung was removed into the thoracotomy wound. The anterior surface of the lung was damaged using a bipolar coagulator (Fig. 4).



Fig. 4. Damage to the lung using a bipolar coagulator



On a surface of 1 cm<sup>2</sup>, there are 5 damages, each measuring up to 2 mm in diameter. In the sample with the introduction of saline solution, the appearance of air bubbles was not noted.



Fig. 5. Application of anti-adhesive coating on the wound surface of the lung

In the control group of animals, the lung sank back into the right pleural cavity. Next, a microcatheter was left and the thoracotomy wound was closed hermetically at first by stitching the edges of the chest muscles and then the skin wound. After the sealing was achieved, air was sucked out of the pleural cavity through the catheter and the catheter was removed. Ventilation of the lungs was carried out with oxygen until the animal was fully awakened. Then the rat was moved to a separate cage for observation. For 3 days, water was given with the addition of pirprofen at the rate of 0.5 g per 100 ml of water.

In the experimental group of animals, a special anti-adhesive coating made of cellulose derivatives was applied to the area of lung damage (Fig. 5)

At the present time, lung surgery is more focused not on the prevention of the adhesive process, but on their formation, in particular, to prevent the development of relapses of pneumothorax, etc. However, the purpose of this part of the experimental morphological study was to further confirm the effectiveness of the hemostatic coating of Geoprocessing in terms of preventing the development of postoperative adhesions. By analogy with the

previous experiment, 32 white mongrel rats were used as experimental animals. In total, 2 series of experiments were performed: a control group (17 animals) and an experimental group (15 animals).

After the adhesion and uniform distribution of the coating on the surface of the lung, we proceeded to the next stage. To prevent the process of cellular inflammation, blood serum was applied to the adhesive coating using a syringe (Fig. 6). As a result, within 1-3 minutes, the coating passed into a state of a translucent film, soft-elastic consistency, did not prevent the lung from stretching during breathing and tightly adhered to the wound surface (Fig. 7).

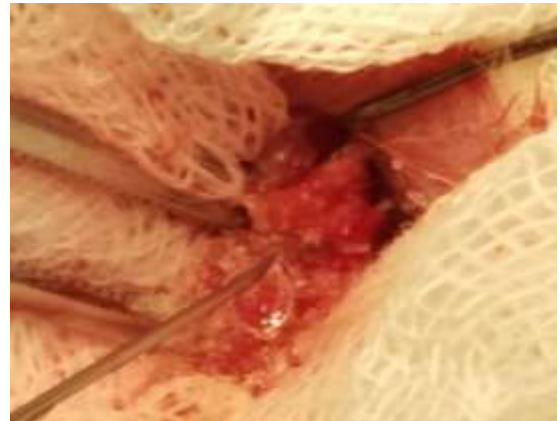


Fig. 6. Application of blood serum to the powder coating in order to form a translucent film on the surface of the wound.



Fig. 7. Formed coating on the surface of the lung wound.

When the coating is formed using blood, it takes on the character of a blood clot, which contributes to the formation of a denser coating with subsequent biodegradation by the type of

cellular inflammation during resorption of thrombotic masses (Fig. 8).



Fig. 8. The nature of the coating when using blood to form a hemostatic coating using a Geoprocél implant.

A similar coating was also formed on the wound surface of the parietal pleura, where access to the pleural cavity was provided. Then the operation was completed in the same way as in the control group.

During the experiments, a fatal outcome was observed in 2 cases. In the first case in the control group, the fatal outcome occurred due to depression of the heart in the early post narcosis period. In the second case, in the early postoperative period, mortality occurred as a result of lung collapse in the control group.

#### IN THE CONTROL GROUP:

**1 day.** After the operations were performed on the first day, all the other operated animals were alive, active, took food and drank water (with the addition of pirprofen for anesthesia). In the area of the postoperative wound, the phenomena of crepitation and pathological mobility of the chest were not observed. The stitches are good, there are no signs of inflammation. The right and left sides of the chest are actively involved in breathing.

**3 days.** The animals are active, moving around the cage. They drink water well and take food. There are no signs of inflammation in the area of the operating wound. The chest is evenly involved in the act of breathing. When taking the animals in their hands, there were no painful

sensations in the area of the postoperative wound.

**7 days.** The condition of the operated animals without any special pathological changes. The postoperative wound healed in both groups of rats. On palpation, both halves of the chest and the wound area are painless. The weight of the animals changed slightly, the difference in both groups of animals is not statistically significant (Table 1).

**14 days.** The animals are in good condition. Active. They take food and drink water. The postoperative wound has healed. The stitches were removed from the wound, there is no discharge. Palpation of the wound area is painless. Breathing is performed. Pulse is within normal range.

During the observation of the operated 17 animals in the control group, signs of wound suppuration were noted in 2 cases. The average period of complete wound healing was 6 days.

#### THE MAIN GROUP OF ANIMALS:

In the main group of 15 animals, postoperative care and analgesia were performed in the same way as in the control group. There were no significant changes in behavior, physiological functions, or general condition. Complications in the form of superficial suppuration of the wound were noted in 1 of one rat, which was stopped after removal of the skin thread. The average wound healing time was 5-6 days

The dynamics of animal weight indicators are presented in Table 1.

#### DATA FROM MACROSCOPIC STUDIES:

As planned, on the 7th day after the operation, 5 rats from each group were removed from the experiment to assess the condition in the pleural cavity after modeling a lung wound (2 animals in the control group died in the early postoperative period).

Table 1. The dynamics of weight of the animals after exposure

Group	Prior to exposure	7 day	14 day	21 day
Control system	176 ± 12	150 ± 13	160 ± 14	175 ± 12
Experienced	174 ± 14	165 ± 15	171 ± 15	178 ± 14
t-criterion	0,43 P>0,05	1,69 P>0,05	1,20 P>0,05	0,36 P>0,05

**In the control group for the 7th day.** When opening the chest after euthanasia, according to the provisions on the humane treatment of animals, it was revealed: the left pleural cavity is intact, the lungs are dormant after air intake, air. The pleural cavity is clean. No adhesions or pathological manifestations were detected. Right pleural cavity (from the side of the performed operation), without pathological effusion. There are massive junctions between the lungs and the parietal pleura. The area of surgical access in the 6th intercostal space is also located in the junctions with the right lung (Fig. 9).

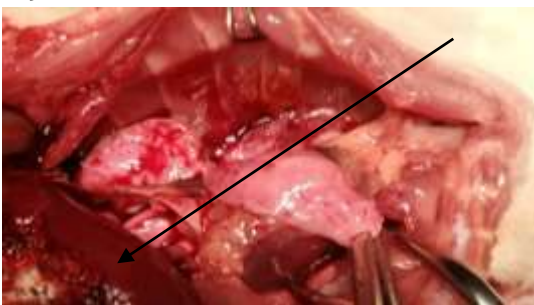


Fig. 8. 7 day control. Planar junction of the lower lobe of the right lung with the parietal pleura in the area of the thoracotomy wound.

The adhesions are separated from the lung with blunt dilution, in places there is a tear of the visceral pleura. When calculating the number of specks, it was revealed that in 5 points of the defect, in most cases, adhesions with the parietal pleura were formed. In the area of the wound, there are spikes along the entire course of the surgical access. Of the 5 rats studied, in all cases there was an adhesive process, which was in most cases planar in nature. The area of the soft tissues of the chest

and skin had no signs of infection, there was no discharge.

**In the main group,** 5 animals were also removed from the experiment on day 7. As in the control group, no pathological changes were detected in the left pleural cavity. When opening the right pleural cavity, there is a loose adhesive process in the area of applying point defects in the area of the anterior surface of the lung. Of the 5 animals studied, 3 spikes out of 5 injuries occurred in 2 cases and a single spike out of 5 injuries occurred in one case. Visually, there are no signs of the presence of a coating, the visceral surface of the lung is covered with a thin, shiny film without color. The adhesions are easily separated without damaging the visceral pleura. The lungs are airy, not deformed. In the area of the surgical wound in the 6th intercostal space, there are also planar loose adhesions in all cases out of 5, easily separated.

**On the 14th day after the operation,** in the control group, when opening the chest, it was revealed: the left pleural cavity was intact, the lungs were asleep after air intake, air. The pleural cavity is clean. No adhesions or pathological manifestations were detected. The postoperative wound in the area of the right half of the chest is clean, without infiltration. Only in 1 case there was suppuration of soft tissues with the formation of an abscess in the ligature area. Right pleural cavity without pathological effusion. There are adhesions between the lungs and the parietal pleura (Fig. 9).



Fig. 9. 14 days. Adhesions between the visceral and parietal pleura in the form of cords in the control group



The area of surgical access in the 6th intercostal space is also located in the junctions with the right lung. Adhesions are poorly separated from the lung with blunt dilution, there is a tear of the visceral pleura. Calculating the number of specks is difficult due to the fusion of the adhesive process. Most of the adhesions are represented as strands in 2 cases in view of the planar adhesions of the visceral and parietal pleura (Fig. 10). In the area of a previously performed thoracotomy wound, there is an adhesive process with visceral pleura in the form of thin cords.



Fig. 10. 14 days. Planar adhesions between the visceral and parietal pleura in the control group.

In the main group, 5 animals were also removed from the experiment on day 14. As in the control group, no pathological changes were detected in the left pleural cavity. When opening the right pleural cavity, there is a single adhesive process in the area of applying point defects in the area of the anterior surface of the lung. Of the 5 animals studied, only 1 animal had adhesions; in other cases, no adhesions were detected. In the area of a previously performed thoracotomy wound, no adhesions were detected in any case (Fig. 11). The area of lung damage is determined by the barely noticeable scars and compaction of the lung tissue. The lung tour is not disturbed. Visual indication of the presence of the coating is not revealed. In the soft tissue area where the thoracotomy was performed, the inflammatory process was not detected.



Fig. 11. 14 days. Absence of lung adhesions in the experimental group of operated animals

21 days after the operation. When opening the chest in the control group, it was revealed: the left pleural cavity is intact, the lungs are dormant after air intake, air. The pleural cavity is clean. No adhesions or pathological manifestations were detected. When opening the right pleural cavity, there is no pathological effusion. There are splices between the lungs and the parietal pleura in the form of strands (Fig. 12).



Fig. 12. Control 21 days. There is an adhesive process between the visceral and parietal pleura in the form of dense strands and planar adhesions.

In the area of surgical access in the 6th intercostal space, adhesions in the form of thin cords with the right lung were also revealed. The adhesions are separated from the lung with the formation of tears in the visceral pleura. Of the 5 rats studied, there was an adhesive process in all cases. The area of the soft tissues of the chest and skin had no signs of infection, there was no discharge.

In the main group, 5 animals were removed from the experiment for 21 days. No pathological changes were detected in the left pleural cavity. When opening the right pleural cavity, the lungs subside, there are no signs of formed adhesions between the visceral and parietal pleura. Only in 1 case there was a thin layer between the area of the surgical wound and the visceral pleura (Fig. 13). At the site of the lung injury – small whitish scars, the lung tissue is airy, the elastic surgical wound is completely healed, there is no infiltration, the layers of tissue are distinguishable.

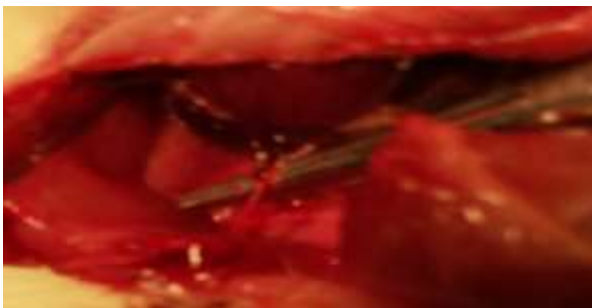
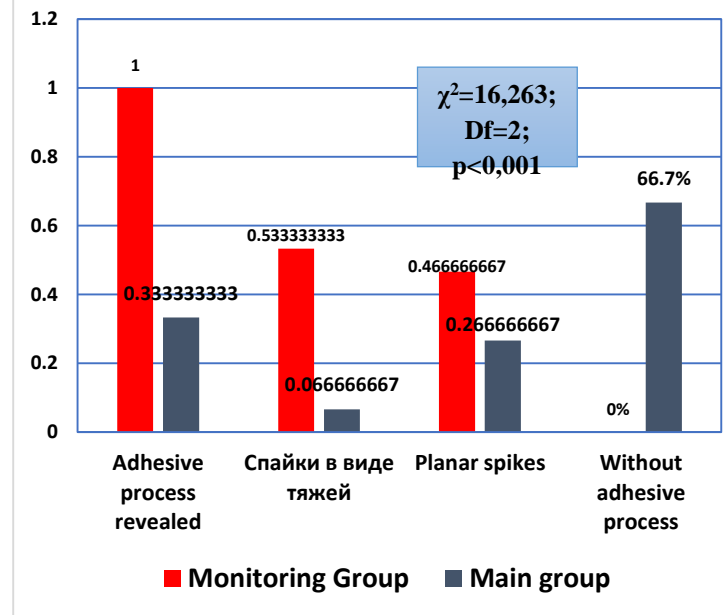


Fig. 13. The thin layer between the parietal and visceral pleura in the postoperative wound area in the main group

In this study, it was possible to demonstrate that the use of anti-adhesive coating allowed to reduce the risk of adhesions and the nature of their development (planar or in the form of strands) (Table. 2; fig. 14).

Table 2 Indicators of the formation of the adhesive process in the experiment

Indicator	Monitoring Group		Main group	
	abs	%	abs	%
7 days				
Adhesive process revealed	5	100,0%	3	60,0%
Spikes in the form of strands	0	0,0%		0,0%
Planar spikes	5	20,0%	3	12,0%
14 days				
Adhesive process revealed	5	100,0%	1	20,0%
Spikes in the form of strands	3	60,0%	0	0,0%
Planar spikes	2	40,0%	1	20,0%
21 days				
Adhesive process revealed	5	100,0%	1	20,0%
Spikes in the form of strands	5	100,0%	1	20,0%
Planar spikes	0	0,0%	0	0,0%



14. Summary results of experimental studies on the formation of adhesions in the abdominal cavity

Thus, the task of experimental studies was to create a model of lung damage that would allow to cause an adhesive process in the pleural cavity, while not causing such complications as pneumothorax, pleurisy and pleural empyema. The model should be feasible and reproducible, and not be accompanied by severe complications and death. The second task was to evaluate the effectiveness of the hemostatic domestic implant Geoprocil in preventing the formation of adhesions in the pleural cavity by a new method of forming an elastic coating using blood serum instead of blood. At the same time, the resulting coating does not have the character of a blood clot, i.e. it does not contain red blood cells, and therefore allows you to prevent the presence of blood cell elements in the process of biodegradation, thereby preventing the formation of adhesions.

The model of lung damage in the form of a right-sided thoracotomy with minimal tissue bleeding due to blunt separation of soft tissues and intercostal muscles made it possible to exclude the use of physical and chemical methods of hemostasis. Damage to a specific

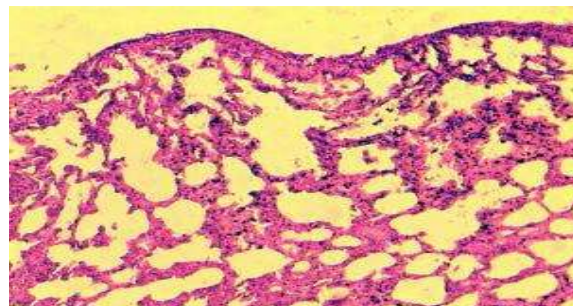
surface of the right lung allowed us to form a standardized model of lung damage. At the same time, the left pleural cavity served as a control. The operations were performed by the original mask anesthesia using halothane vapors with oxygen in a special evaporator.

The postoperative period was uneventful. The study of the state of animals, physiological parameters, as well as macroscopic changes during the withdrawal of animals from the experiment allowed us to come to the following conclusion. The domestic hemostatic implant Geoprocél adheres well to the tissues of the damaged lung, as well as to the edges of the surgical wound. The use of blood serum makes it possible to achieve the formation of a soft-elastic coating on the surface of the lung wound, which does not deform the lung and stretches when the lungs are opened. In comparison with the control group of animals, the new coating almost completely prevents the pronounced adhesive process in the pleural cavity, thereby preserving the physiological excursion of the lungs after wound exposure. The process of biodegradation is not accompanied by an inflammatory reaction of the tissues and effusion in the pleural cavity. The wound heals in the usual time frame. The behavior of animals and their condition does not undergo significant changes. The weight gain of animals begins as early as 14 days after the operation. Thus, a new method of coating formation using a domestic Geoprocél implant can be applied after performing surgical interventions on the lungs in order to restore the most complete physiological parameters of respiration.

### **Morphological features of the anti-adhesive effect in the experimental model on the thoracic cavity**

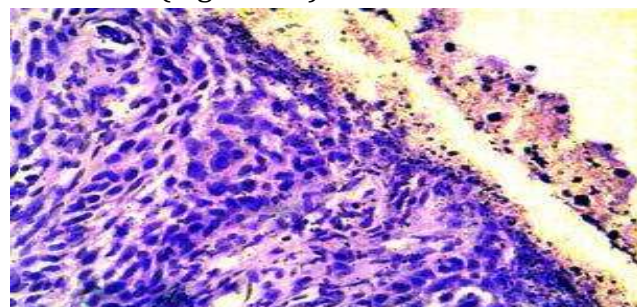
In the groups of animals in the norm (left lung), the pulmonary alveoli were airy. No

pathological elements or proliferative process were detected (Fig. 15).

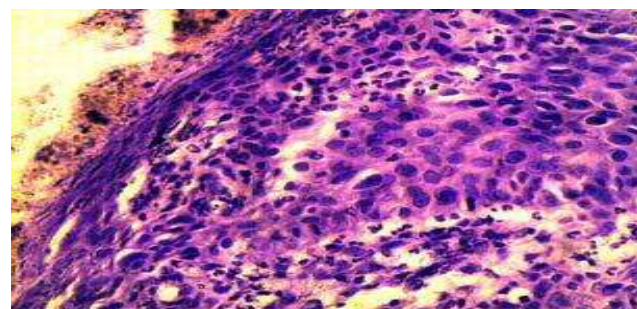


15. Visceral hysteron and pulmonary parenchyma with air alveoli. The norm of G-E is 10x10.

On the side of the wound defect (right lung) on Day 7, the mesothelial layer is destroyed, connective tissue cells are detected on the surface, the lung parenchyma is edematous (Fig. 16-17).



16. Violation of the integrity of the visceral pleura by numerous connective tissue cells on its surface. G-E. 10 x 40



17. Atelectasis of the alveoli with numerous connective tissue cells on its surface. G-E. 10 x 40

At the time of Day 14, the development of granulation tissue is noted, in the thickness of which connective tissue strands are formed (Fig. 18) with the development of coarse -



fibrous connective tissue-the formation of adhesions (Fig. 19), while quite numerous fibroblasts are located between the fibers of the connective tissue (Fig. 20).



18. Formation of connective tissue strands on the visceral pleura. G-E 10x10.

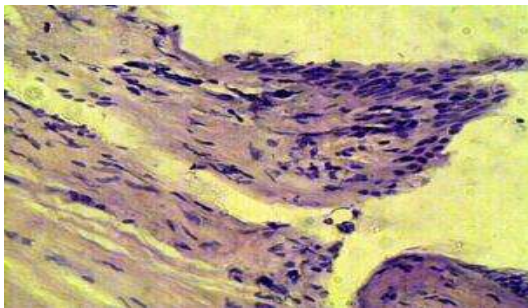


Fig. 19. Fragment of a spike on the visceral pleura. G-E 10x 40.

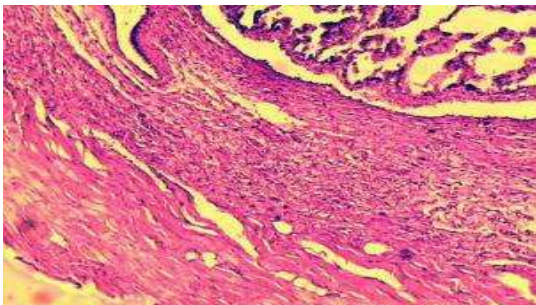
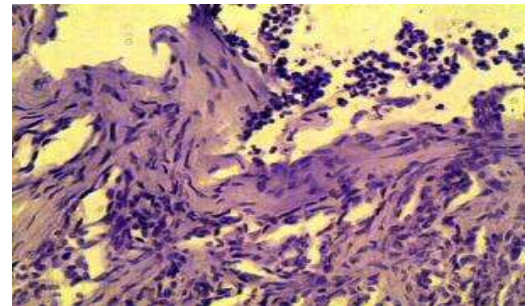


Fig. 20. Fragment of a spike on the visceral pleura. G-E 10x 10.

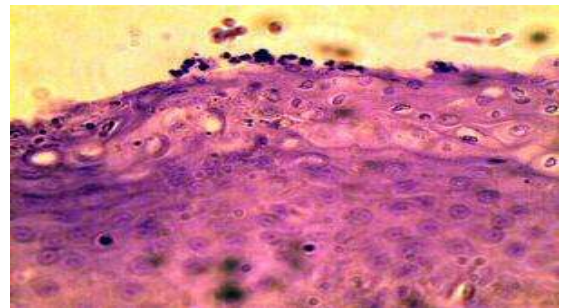
On the 21st day of observation, the connective tissue fibers become coarser. In the pulmonary parenchyma, the phenomena of atelectasis of the alveoli and the presence of exudate in their lumen are noted.

In the early stages of Geprocel application, the accumulation of fibroblasts is also noted (Fig. 21), but in the more distant periods, the number of migrated cells on the surface of the adhesions becomes smaller (Fig. 22, 23). And at the time of 21 days of

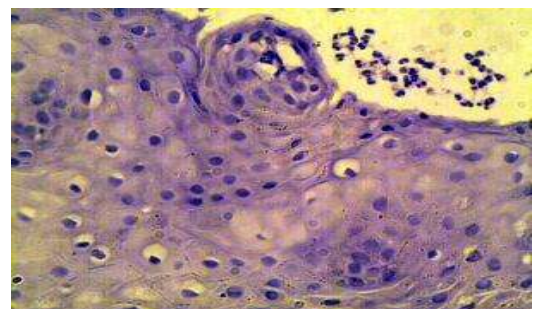
observation on the background of the use of Hepracel, the migrated cells on the surface of the adhesions are no longer detected (Fig. 24).



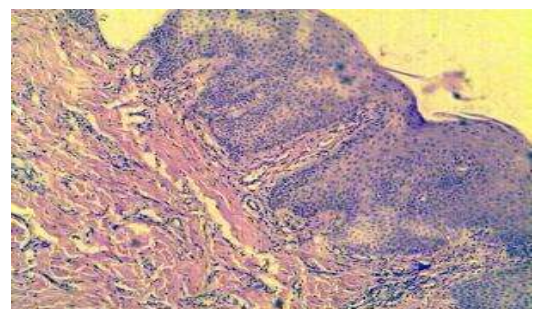
21. Accumulation of connective tissue cells of the inflammatory infiltrate on the surface of the adhesions. G-E 10x40.



22. Reduction of the number of connective tissue cells of the inflammatory infiltrate on the surface of the adhesions. G-E 10x40



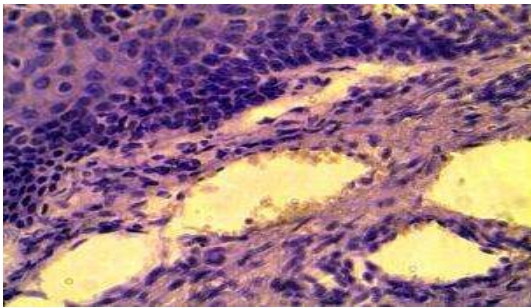
23. Reduction of the number of connective tissue cells of the inflammatory infiltrate on the surface of the adhesions. G-E 10x40



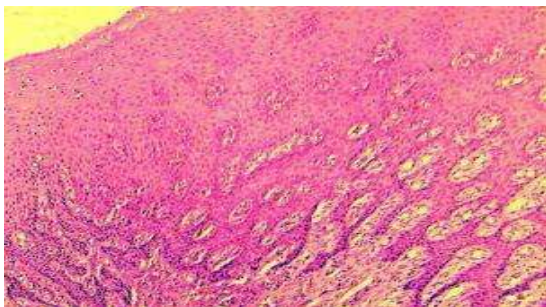
24. Absence of connective tissue cells of the inflammatory infiltrate on the surface of the adhesions. G-E 10x40.

At the same time, the number of atelectasis alveoli in the lung parenchyma decreases and their lumen does not contain exudate (Fig. 25-26).

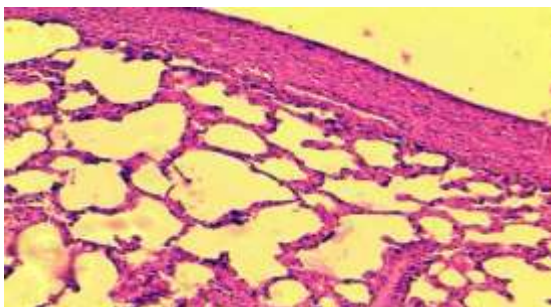
Upon completion of the course impact Garazel in the pleural cavity can not be detected spikes. The visceral pleura is thin and does not contain connective tissue cells (Fig. 27).



25. Restoration of alveolar airiness by the end of the course of Geoprocil exposure . G-E 10x40.



26. Absence of connective tissue cells of the inflammatory infiltrate on the surface of the adhesions. G-E 10x10.



27. Restoration of alveolar airiness by the end of the course of Geoprocil exposure. G-E 10x10.

The conducted studies have shown the positive effect of Hepracel as an anti-adhesive agent. Hepracel has a multi-sided effect on the anti-adhesive process. The appearance of

adhesions is promoted by a pronounced inflammatory process in the pleural cavity. The inflammatory process causes manifestations of atelectasis of the alveoli and the accumulation of exudation fluid in the lumen of non-atelectatic alveoli. Hepracel, on the one hand, contributes to a pronounced reduction in the inflammatory effect of agents that cause the formation of adhesions, and on the other hand, reduces the manifestations of alveolar atelectasis, contributing to the reduction of adhesions and the restoration of lung excursion.

### CONCLUSIONS:

The conducted research allowed to draw the following conclusion: in the formation of adhesions in the pleural cavity in the experiment established that in the control group in all cases is the development of adhesion, with 53.3 percent of the gross adhesions are formed of strands, and in 46.7% of the plane fusion, in turn, the use of domestic means Gabriel activated by the addition of serum helped reduce the frequency of postoperative adhesion formation to 33.3%, of which only 6.7% was in the form of strands and 26.7% - planar adhesions ( $\chi^2=16,263$ ; Df=2;  $p<0.001$ ). Morphological studies have shown a positive effect of Hepracel as an anti-adhesive agent after operations on the pleural cavity, characterized by a regression of the activity of the inflammatory process and local phenomena of alveolar atelectasis with the accumulation of exudation fluid in their lumen. This reduces the number of fibroblasts in the damaged area and prevents the formation of adhesions.

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**COMPARISON OF DEMONOLOGICAL AND MYTHOLOGICAL CHARACTERS OF UZBEK AND  
ENGLISH FOLKLORE**

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**ABSTRACT**

**The folklore of the Uzbek and English people is rich, varied and full of bright colors. It is folklore that reveals the true beauty of the people, from where the unique customs, traditions, way of life of people come. Demonology and demonological characters in the folklore of the nation's we study have their own special place, because it presents in every work, in oral folk art, it is considered to be a large component of the spirituality of the people.**

**KEYWORDS: Demonological images, functionality of characters, characteristics of demonology, mythological images, oral folk art.**

**INTRODUCTION:**

We tried to carry out our analysis with the help of the lower mythology of ancient Uzbek folklore, because it reflects traces of the worldview, way of thinking, ancient traditions and culture of the people. In folklore and ethnographic sources, data of this type are presented on the basis of materials in the form of legends and fairy tales. Without involving a wide range of the system of mythological images, it is impossible to identify and reconstruct the signs and functions of mythical characters. By the concept of a mythological text, we mean "... as a text that functions in various forms of everyday, semi-ritual and ritual speech, containing information about demonological phenomena and reproduced in certain thematic, linguistic and situational forms" [8, 85]. There are many dialect variants and local forms of demonological images. Such demonological characters as "Jin", "Ajina" play a key role in the folk art of the Uzbek

people. These demonological images often appear in the same way in folklore, as they have the same root of the word "jin" and are very popular in the East. People in folk legends try to subjugate him, since he has magical powers, and at the same time they are independent creatures with a choice to do well or harm a person, the environment, thereby the motive for the appearance of this image in folklore has similarities with a demon. Considering the image of a demon, Satan, "Mythological character" as one of the key elements of the demonological system in the visual arts of the Uzbek people, the image of a demon, Satan is not fully disclosed, and in English visual arts the first images of Satan show that he is holding scales in his hand; and the latter show that he is slyly trying with his hand or foot to press the side of the balance in which the evil deeds of the soul are weighed against the good. Later this image was depicted by S. Rosa.

In Anglo-Saxon times, it was customary to identify Lucifer with Satan and the devil, and all three with the serpent from Genesis and the dragon of Revelation. Here Anglo-Saxon demonology departs from well-established traditions to maintain a fairly consistent distinction between Satan, the fallen angel Lucifer who is bound in hell, from the devil, a more mobile instigator of evil, whose exact relationship with Satan is imagined in different ways. The main role of this composite figure is the tempter. The overwhelming majority of references to the devil in Old English give the impression of a psychological metaphor, evil impulses, and an inclination to sin is easily attributed to him.

By the end of the Middle Ages, the characteristics of this demonological image change: the

character of the devil, worked out in detail in treatises, dramatic images and folklore works, assimilates in local fairy tales and, within a Christian framework, becomes personal and vivid, even in circumstances in which its function is unclear or completely absent. The image is often associated with hell.... enim Deus angelis peccantibus non pepercit, sed rudentibus infemi detractos in britaniam tradidit in iudicium cruciatos reservari..

[...God did not spare the angels when they sinned, but cast them into hell and committed them to chains of deepest darkness to be kept until the judgment... (2 Peter 2.4)]

Angelos vero qui non servaverunt suum principatum sed dereliquerunt suum domicilium in iudicium magni diei vinculis aeternis sub caligine reservavit. [And the angels who did not keep their own position, but left their proper dwelling, he has kept in eternal chains in deepest darkness for the judgment of the great Day. (Jude 6)p1

While these passages may be cryptic due to the interpretation of the words "hell" and "deepest" darkness "by some patristic authorities as the air of this world (to be discussed briefly), the emergence of an independent literary tradition - the visions of hell and Descensus ad inferos - ultimately concluded Satan's underground prison is absolutely unambiguous. These ambiguities of function and location create an even more perplexing tension that recurs throughout the devil's narratives, the very distinction between devil and subordinate demons. As noted above, scientist notes that "sometimes, no doubt, the devil is simply used as a collective term for all evil spirits." In folklore, demonology encodes the main moral and ontological registers in literary and liturgical formulations, and expresses personal and social anxieties through concrete images. This is, of course, too simplistic to argue that folklore encodes its ideals in the divine and the taboo in the demonic; the divine is often a source of

suffering and fear, while the demonic can be comical or even useful as an ally. In fact, these two provinces are rarely so sharply dichotomized. Such a negative attitude towards evil spirits, demonology among the people arose in the opinion of the scientist Conway M.D. for the reason that for the first time a person fought for his daily food. With the help of a rough tool made of stone or bone, he had to get fish from the sea, a bird from the air, an animal from the forest. For centuries, with such poor equipment, he had to wrest dangerous livelihoods from nature. He also saw that all living things around him were equally trying to satisfy his hunger. It seemed that there was a Spirit of Hunger abroad. And at the same time, when he asked for bread, he came to the conclusion that there must be invisible voracious creatures who want all the best for themselves. Therefore, the ancient world was engulfed in a huge brood of Hungry Demons. Indeed, it is believed that all evil spirits are opposed by good ones who, with due propitiation, make it their business to protect the inhabitants of specific places from demonic encroachments. Every district, and even every village, has its own guardian genius, often called his Mother. Although there is a universal image of the demon, which is in the minds of not only the peoples we study, but also in almost all the peoples of the world, this is a demon that "lurks in cemeteries." [19, 90] In the East, it is represented mainly by such forms as the repulsive ghoul that preys on dead bodies; but it was developed in some strange way to a Slavic phantom called the vampire, whose particular fearfulness lies in the fact that it represents a form in which any deceased can reappear, not in order to beat the dead, but in order to suck the blood of the living.

Everyone who has had to deal with the practice of collecting folklore information of this type is well aware that the first difficulties begin with the need to comprehend what exactly stands (in terms of content) behind the first name of this or

that mythological character "[5.55]. The mythological characters of the Uzbek folklore are the images of "Qayumars", "Pari", "Ajdar", "Xizr" "Semurg". Mythological characters often have a close relationship with totemistic and animistic views and are the imagination of our ancient primitive ancestors, although much work has been done to study the essence, related beliefs of each mythical and demonological character, but the genetic roots of each of them, functionality, connection with ancient cults and beliefs are illuminated not bright.

As L. Vinogradova justly remarked, "Each of the features taken separately is practically never a property of one single mythological character, but is included in a combination of characteristics of one or another image." Following the developed Vinogradova's scheme, which includes a set of characteristics (hypostases, appearance, loci, characteristic names, functions and relationship with a person), we tried to give a set of characteristics, a holistic image, which are the central mythological character of Uzbek folklore. The available materials capture the Uzbek and English folklore traditions and materials and require further additions.

	mythological characters	such as "Pari" are given as a large number
6	Genesis	All of the above mythical characters, supernatural beings, often with unknown origins
7	Locus	Caves, rivers, water areas, heavenly destiny.
8	Time of functioning	Often at any time of the day, sometimes after sunset.
9	Functions	Guardian (performs the function of good, help the people,) Patronage (connection with the water element, causing or stopping wind, rain, impact on natural phenomena, harvest vegetation)

When studying the data of the mythological character, it becomes clear that Kayumars is a mythical image that is widely used in the oral and written literature of the Turkic and Persian peoples. In the book of Avesto, Kayumars is used as "Gaya Maritan" [1, 78], Firdavsi in "Shah name" explained one chapter to this image, describing it to the universe as a ruler who brought people out of darkness into residential buildings in the image of a titan. Omar Khayyam in the book "Nauroznoma" says that the division of a twelve months of the year and the beginning of the chronology was laid by Kayumars [9, 65]. According to Tolstoy S.P this word comes from the word Gavomard, which means (bull man). Beruniy in his work mentions him as Gilshakh or Hirshakh which means alive. [4, 45] Kayumars is the standard of justice, a symbol of life and goodness in all legends and myths. Also, Kaymars has similar physiological data with the Bukentaur mythical character of ancient Greece, who was the Bull Man, but he is a negative character with a dull mind. In the folklore of peoples, the mythological image "Pari" is widely used, which is a symbol of beauty. Following O. Karimov and G. Snesev, we believe that this mythological image was first recorded in the book of Avesto, and this image is also widely represented in Uzbek folklore

Nº	Description attributes	
1	Names	"Qayumars, "Pari", "Ajdar", "Xizr" "Semurg"
2	Hypostases	Anthropomorphic, zoomorphic creature
3	Social status, appearance	The image of "Qayumars" in the form of a half-man, half-bull, "Pari" a demonic creature in the form of a man, "Xizr" an old man with a friendly face, "Ajdar" a winged creature, Semurg's a bird with a dog's head
4	Attributes, satellites	"Xizr" has a staff ..
5	Quantitative characteristics of	All mythical characters are presented as a single image, although in some sources

"Xurshid va Laylo", "Oypari", "Odilbeki va Xurram", "Gulpari" and in classical literature in poetry by A. Navoi. The "Pari" locus was the Eram gardens, near Mount Kohi Kof. A characteristic feature of the character is a change in appearance, kind. In fiction, mythological subjects often have an anthropological shell. It is impossible to give a full assessment of diffusion, functional features, mythological transformation based only on the plot. The image of "Pari" is associated with the ideas of ancient peoples and nations. The appearance and introduction of this image into folklore plays a huge role in folk mythology. Researcher O. Karimov believes, based on popular beliefs, there are more than 170,000, each of which performs a certain function, often evil, sometimes good (to take revenge, live forever, love, harm a person physically or mentally, drive him crazy.) This mythical image is often realized in the human appearance, which once again emphasizes his dualistic nature. Based on the above legend, the image of "Pari" is closely intertwined with the image of an angel. Although the angels appeared from the rays of light, along the path of which there are "Pari", who were named "Jin". Later, based on folk notions and legends, the image of "Pari" was often intertwined with the image of "Jin". According to the testimony of the author R. Sharipova, Uzbeks living in the territory of Khatirchi and Nurota believe the myth that if "Pari" falls in love with someone, then this person turns into fire in the eyes of "Pari". This is where the Uzbek proverb "Falonchining qizi falonchining ko'ziga olov bo'lib ko'rindi" comes from.

The image of "Pari" is closely intertwined with the image of "Suv Parisi", this mythical character is associated with water. Their locus is seas, oceans, rivers, various basins. Among the people, there are many legends telling about this character, who has a dualistic nature. They had very beautiful physical characteristics. D.K. Zelenin, studying Slavic mythology, generalized

about the good and harmful functions of the MP "mermaids frightened night passers-by at night, chased or lured into the water, off-road, drowned in the river, could tickle to death, send storms and hail to the fields, harm crops, spoil and steal yarn, like other characters of evil spirits, they were capable of werewolf ... at the same time they protected the fields from natural disasters, promoted the flowering of rye, took care of the child ... "[7,75] But the first distinguishing feature is their face. In Uzbek folklore, they are described as very beautiful, attractive creatures, while in Russian folklore they did not have beautiful facial features. In English folklore, mermaids perform a dualistic function, although they often personify bad events or not good omens, the word Mermaid comes from the Old English word for "sea and girl", which once again emphasizes the inextricable connection between mythological character and water, although there are several variants of the name mythological character in English folklore ceasg, ben-varrey, selkies ... At first glance, mythological character "suv parisi" "marmaid" and "mermaid" are one and the same mythological character, since there are similar characteristics in physiological and mental data, and all mythological characters have a dualistic nature and are inextricably linked with water ... But on the other hand, each of these images perform a different negative or positive function, have a different appearance, since in Uzbek folklore they are described as very beautiful creatures, and in Slavic folklore these creatures are often described as an old woman with an ugly face. Based on the above analysis, we believe that these images are different subsystems of mythology.

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# **HOW DO HOTEL UNIFORMS CREATE PERCEPTIONS OF HOTEL IMAGE AND COMPETITIVENESS FROM EMPLOYEE'S PERSPECTIVE: A CASE STUDY OF HYATT REGENCY TASHKENT**

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## **ABSTARCT:**

Staff uniform can be used as one of marketing tools, which are neglected by competitors in creating successful corporate image and high competitiveness. This research aims to investigate how staff uniform can create employee perceptions on a corporate image of an organization and can increase its competitiveness by increasing employee satisfaction.

In order to achieve the research objectives, appropriate research methods have been selected. The study has been based on interpretivism philosophy. Accordingly, mixed research approach - adductive research approach has been selected. The case study type of research strategy was also appropriate. When it comes to research design, qualitative research has been selected. In total, 4 employees of Hyatt Regency Tashkent have been interviewed and the data collected has been analyzed by applying content analysis technique, identifying themes patterns and so on.

The findings suggest that Hyatt Regency Tashkent has been operating in the growing and ever-competitive market. All of the interviewees are young with fresh knowledge,

wear uniform and have been working since opening of the hotel. The employees wear uniform every day and uniform features mostly meet their expectations. The employees have very positive perceptions on corporate image of their hotel. They feel strongly satisfied because they have many sources of satisfaction. Thus, they show great productivity, positive attitude and strong commitment. By wearing uniform, whose features meet expectations of the employees, they start thinking that the company has professionalism, management cares about them and the organization has been running effectively. What is more, uniform can increase competitiveness of the hotel on several business conditions. One of them is employee satisfaction, which is created when employees feel proud, cared, and comfortable.

**KEYWORDS:** competitiveness, corporate image, customer satisfaction, staff uniform

## **INTRODUCTION:**

Corporate image/corporate identity is the reputation of corporations and even small companies, and it can be understood as the way, in which those organizations are presented to and perceived by the public such including



customers, employees, investors, governments and all others (Olins, 2000). According to Mitki and Jaffe (2008), the importance of managing corporate image has been increasing in service sectors. They explain that service providers are increasingly interested in changing their corporate image to achieve a more modern and updated identity. One of the key determinants of corporate image is employee uniforms, which can create overall expected service quality and ambience level. As hotels provide guests with both tangible and intangible services, employee uniform as a tangible service element, can have a powerful role in shaping customer opinions, thus affecting their experience, satisfaction and loyalty (Tu et al., 2011). At the same time, uniforms can impact employee perceptions on hotel image, as well as employee satisfaction and commitment levels too. First of all, uniforms should have a design in a way to make employees feel comfortable, confident, and proud while serving the guests, who often pay attention to staff uniform and comment on it (Daniel et al., 1996). Second of all, uniforms serve as the shop front of a company, they can symbolize a company corporate image, they can serve as important channels, through which the company can express its professional services, service quality and cultural values (Kandampully, 2007). In this vein, the relationship between hotel staff uniform and hotel staff perceptions on hotel image should not be neglected, as it can affect significant organizational performance elements such as staff attitude and behavior to guests and other stakeholders of hotels. (Kim et al., 2012).

As it is in the case of almost any industry in the world, hotels have also been facing the challenge of satisfying and retaining customers, who have too many choices, thus are critical about their service purchase. However, meeting expectations of external stakeholders is not the end of challenging story for hotels – they must consider the importance of attitudes,

satisfaction and retention of their internal stakeholders such as employees (Peters, 2017). While ambience and corporate image can affect overall customer satisfaction, these attributes of hotels can also impact on employee perceptions (Yeh et al., 2013). Although it has been clear that staff uniform is important for hotels to consider in influencing their customer purchase behavior, the focus of this research is on the role of hotel staff uniform in hotel staff perceptions about hotel corporate image, and the role of staff uniform on hotel staff satisfaction.

#### **ANALYSIS OF THE RELEVANT LITERATURE:**

**Uniform features and benefits:** It has been confirmed in several studies (Kandampully, et al., 2007; Quinn, 2008) that a staff uniform is very important in representing an organization's image and culture. The effect of a staff uniform on corporate image is important in creating a work environment that provides greater employee satisfaction and performance than for employees who do not wear a hotel uniform. As a result, the outcomes of employee satisfaction and performance will have a large impact on the customer experience (Earle, 2003).

This research area focuses on employee satisfaction and indicates that the design features of a uniform such as its function, its importance to the job task, the fit and comfort of a uniform are very important for employees. If the uniform design features positively impact on employees, then those employees will have positive attitude toward both their job and the organization that they work for (Nelson and Bowen, 2000). In addition, it was confirmed by Adomaitis et al., (2012) that both formal and informal clothing of employees can affect their behavior at work, as well as customer responses such as actions and reactions. Further, staff uniforms can also increase the organizational productivity and serve as a morale booster for employees (Solomon, 1986). What is more

important, the uniform of personnel can shape customer expectations in regard to the level of performance quality that is required (Wang, 2010).

If the literature is reviewed in regard to the benefits of uniforms, several categories of benefits have been discovered. According to Sterman (2011) a staff uniform can protect those who wear it. At the same time, the uniform can foster standardization in the process of service delivery. Martinez-Tome et al., (2000) also determined there are other important purposes of staff uniform management and its design. They found that employees have high needs for functionality which can be met through their uniform. It can also provide workers, particularly in the hotel catering sector, with better health and safety standards (such as?). In comparison, Lurie (1983) looked at the benefits of uniforms from a marketing perspective. He explained that uniforms enable companies to use visual symbols when transferring company values to, and among employees. It is worth noting here that uniforms have communicative power both in the internal and external operations of corporations. Furthermore, when taking into account that in many hotels, uniforms make up a part of the employee benefit package, it can be argued that uniforms add to the level of employee satisfaction and commitment (Dipietro et al., 2008). Overall, the features of staff uniforms in service industries, including the hotel sector are their functionality, material comfort, fitness to the tasks of the job, their color, and overall suitability.

Corporate image: The word “image” can have different meanings depending on what aspect of it is considered. To be more exact, researchers defining, explaining and discussing image have approached the subject either positively, or consider it as a fake and being far from reality. The latter stream of thought indicates that image has artificial characteristics

and behavioral patterns (Taskiran and Gokce, 2017). Regardless of the complexity and inconsistency of thoughts on corporate image in the literature, it is impossible to deny the importance of image in personal and business life (Ozupek, 2013, cited in Taskiran and Gokce, 2017).

According to Hsu et al., (2010) image is a, “form of subjective perception which is not based on the content of actual events and personal behaviors are not completely based on information or news, instead, they are based on perceptions and their consequences” (page?). When it comes to corporate image, it can sum up the total perceptions of individuals about an organization. It should be noted that such conceptualization is relevant not only to perceptions of people external to an organization, but also to the members of that organization as well (Rho and Lee, 2015). Interestingly, Waiwei (2007) suggested to divide corporate image into functional and emotional components. The former is about material qualifications and is easy to measure, while the latter component includes psychological factors such as emotions and attitudes. The source of such attitudes and emotions are outcomes of processing personal experiences, observations, perceptions, knowledge, attitudes and information. Therefore, the implication here is that corporate image serves as the outcome of comparing different characteristics of companies.

It has been argued by Rahhanaphan and Mat (2014) that corporate image is the hardest resource for companies to imitate. They explained the reason for them by explaining that corporate image as an attractive concept, depending on intuition that is linked to attitude. It also requires a tremendous amount of time to develop fully. Corporate image is based on corporate identity, where both physical and cultural characteristics of companies are involved. The link between corporate image and

identity is that image which is a reflection of identity (Olmedo-Cifuentes and Martinez-Leon, 2014).

In regard to the effectiveness of corporate image, Tran et al., (2015) stated that corporate image is the first impression of a company and a positive impression reflects the company without making detection too. The researchers pointed out that because of corporate image being the internal picture that is reflected externally, it does not become negative unless companies want this to occur. To be exact, corporate image is created from within an organization. For instance, a company may indicate in the design of employee uniforms that its employees are their partners. This can show that the company is valuing and respecting its internal stakeholders.

Creating or changing corporate image is conducted through the process of communicating the corporate image to both internal and external stakeholders of companies. According to Balmer and Gray (2003), corporate communication refers to... "the process through which stakeholders perceive that the organization's identity, image, and reputation are formed" (page).

Melewar and Jennikis (2002) also pointed out that companies that operate in the service sector are becoming increasingly aware of the significance of creating, developing and maintaining their corporate image. The main reason is that corporate image enables companies to achieve and keep reputation in the perceptions of internal and external stakeholders. Balmer (2001) explained the requirements that are needed for developing an effective corporate image. According to the author, corporate image needs to highlight the ethos, goals and values of organizations and their need to own its feeling of individuality, which enables the organization to differentiate itself from its competitive environment. To be effective, corporate image needs to reflect

organizational goals and values in the form of both visual symbols (e.g., logo, uniforms, promotion) and non-visual symbols (e.g., procedures, common language, and methods of training). Researchers have also mentioned the challenges associated with corporate image management. For instance, Olins (2000) asserted that time and environmental factors affect corporate image and make it inconsistent. As a result of this, management of companies are required to reconsider their corporate/organizational image on a regular basis. In addition, the process of communicating the corporate image to multiple target audiences also creates a challenge for managers (Kedidi and Torfve, 2005).

#### **RESEARCH METHODOLOGY:**

**Participants and sampling:** The participants of the research are the employees of the case organization – Hyatt Regency Tashkent. As the main research goal is to examine how uniform affects employee perceptions on company image and employee satisfaction, it was logical and correct to target employees to investigate this topic. When selecting the employees, it was required that they had to be current employees of the selected organization, and they had to be wearing uniform too. This means that the researcher used purposive sampling method. The employees were approached at the office of the case company, meaning that convenience sampling method has also been used. When it comes to the sample size, the research has been based on a single sample company because this is a case study.

**Demographics of the respondents:** There are 4 interviewees participated in the interview process and 2 of them are males and 2 of them are females. This is a positive scenario for the research findings to be reliable because there is no gender bias. However, when it comes to age, all of the participants are aged between 23-35.

Although absence of representation of other age categories might create age bias, young people may have shared their fresh knowledge. Next, half of the respondents work in low management, while the rest work in middle management positions at the case company. Then, 3 of the sample employees are front-office staff, while the rest works in food & beverages department. This may also come out as a beneficial situation because front-office employees interact with guests more, meaning they have the most pressure to wear uniform. The more experience with uniform, the better knowledge they can share on its effectiveness. Finally, 3 out of 4 employees interviewed have been working at Hyatt Regency Tashkent since fall of 2016 and this means that most of the respondents have been working in the company since its opening.

**Data collection and analysis:** In this research, methods of collecting both secondary data and primary data have been used. Secondary data collection has included gathering industry-related and company-related information, as well as accessing academic sources to present the evidence of reviewing the literature. Some of the main sources accessed were Research Gate, Science Direct and JSTORE. The researcher looked for definitions of the research concepts (e.g. staff uniform, employee perception on corporate image) and their dimensions (e.g. how employee think about the company, how employee think about the company services).

When it comes to collection of primary data, interview has been used as a research instrument. The interview created in an electronic format and was sent to the employees of the case organization to complete. The interview had a total of 27 questions. Out of them, 6 asked the respondents (employees of Hyatt Regency Tashkent) for their demographics information and general

information about their employment in the sector and in the organization. Rest of the questions were designed to assess the presence and strength of the research concepts, as well as to identify how they become effective. The researcher drew upon his own knowledge of the topic to determine what kinds of data will provide the best information to help answer research questions.

**Coding:** Inductive coding method has been used as little information was known about the research subject and conducting heuristic or exploratory research. The majority of the data collected was coded and the researcher was able to form a narrative.

**Stage 1. Initial Coding:** The researcher read through data found and got familiar with it. At this point, broad code names were established.

**Stage 2. Line-By-Line Coding:** At this phase, the data was further examined with a closer eye. Codes had more details.

**Stage 3. Categorization:** When the line-by-line coding was finished, the process of putting similar codes into the same categories has started and codes were moved around in order to find out a way that reflects the analysis the best. By analyzing and sorting your codes into categories, consistent and overarching themes for the data were detected.

**Stage 4. Determining Themes:** The categorization of codes reflects themes. The bigger categories are the overarching themes while the sub-categories supporting themes. The themes can tell the same story from different perspectives, or several different stories that connect with each other. With great narratives created from the themes, the messy qualitative data became in a meaningful order.

Finally, data analysis has been conducted by using the content analysis technique. This ensured application of a research technique to produce replicable and valid inferences through interpretation of textual material. In other

words, this technique allowed systematically evaluating texts. Specifically, the researcher structured the raw collected data similar to the literature review structure, then sub-themes have been identified to include newly emerged insights on the issue.

## **ANALYSIS AND RESULTS:**

### **Staff Uniform:**

Theme 1: High uniform wearing frequency

The sample of Hyatt Regency Tashkent employee wear uniform every working day because it is a must.

Theme 2: Satisfactory uniform features

Both male and female personnel of the hotel have confirmed suitability of the uniform. One of the responses has revealed however, that there is lack of consistency on this matter:

“...sometimes they would give new employees uniforms left from old employees” – BV

All the interviewees agree that their uniform has such features as professional, safe, functional, suitable. However, half of the employees disagree that their uniform has sufficient level of comfortability. The following statements reflect this situation and confirm the issue of using previous staff uniform by the hotel.

“Not so much comfortable, especially shoes” – NE

“...but sometimes, it would feel uncomfortable as sometimes I would wear uniforms bigger than my size”.

When the employees were asked if they would change anything with their uniform, shortcoming of the hotels uniform features were obvious: quality of its material and color.

Employee perceptions on corporate image

Theme 1: Positive employee opinion on the company

From the interviews, it has been identified that the employees perceive Hyatt Regency

Tashkent as a company, which cares and creates value to its employees, while delivering high service to its guests. This has been clear from their opinions:

“One of the best hotels providing high level of service quality” – BV

“Guest oriented and at the same time caring about its internal customers as much as possible” – NA

All of the employees of the hotel would recommend working at the hotel to their friends and family. This shows how the employees strongly and positively think about the hotel.

Theme 2: Positive employee opinions on company services

Given that fact that hotel facilities are its products, half of the sample employees think that Hyatt Regency products are modern, and convenient, while the other half think that there is room for improvement:

“Design is well done, but there’s some room for improvement” – BV

“They are all of great design and comfortable. Yet there are some areas to work on” – AA

Employee satisfaction

Theme 1: High employee satisfaction and varied sources of satisfaction

Almost all of the employees of the case organization feel satisfied at all times, but the sources of their satisfaction differ from the good atmosphere and colleagues, low workload and stress to feeling sufficiently cared and good salary.

Theme 2: Employee productivity

While half of the respondents feel productive at all time, the productivity of the rest is not consistent because of what they do. For example, one of them stated that:

“Mostly I am//however, as because we work by standing, physically it is hard, but legs hurt” – NA

Theme 3: Employee attitude and commitment

It has been identified that the sample group of Hyatt Regency Employees have a very positive attitude towards guests, which largely decides their satisfaction from their jobs:

“I do love the hotel//the guests are utmost important to me as because of them I come to work” - NA

“yes, and as well as its guests” - NE

Most of the employees have the intention to stay at Hyatt Regency Tashkent, which shows overall high level of their commitment too. How staff uniform affects employee perceptions on corporate image

Theme 1: Uniform and the hotel

Overall, the uniform can offer several benefits to Hyatt Regency Tashkent. For example, it can increase effectiveness of achieving high customer perceptions on the hotel services. In addition, the uniform can help the management foster manners, positions and respect throughout the organization.

Theme 2: Uniform and corporate image

The sample of hotel employees perceive that the hotel focuses on professionalism, its employees are committed to their jobs and keep neat look. Most of them also think that Hyatt Regency cares about its employees and the management is effectively running the hotel. However, half of the responses indicate that Hyatt Regency Tashkent does not try to maintain a status or prestige by its employee uniform:

“I would not say it gives better status or prestige, it meets the borderline requirements” – BV

“Hotels aim is not prestige but simplicity yet elegance”. – AA

Theme 3: If and why the uniform is good enough

Some of the employees of the hotel think that the hotel’s uniform is good enough, while some others want improvement. One of them thinks that the hotel provides them with moderate-quality uniform to keep costs low:

“maybe because of budget” – NE

Uniform and employee satisfaction

Theme 1: Uniform and competitiveness

It has been found that the uniform can affect competitiveness of the case company by increasing effectiveness of its marketing, increasing employee satisfaction, and increasing customer satisfaction.

Theme 2: Uniform and employee satisfaction - AA

It has been clear that uniform of Hyatt Regency Tashkent adds to satisfaction of its employees by making them feel proud, feel cared, being comfortable, being tailor-made, giving appreciation from people. However, not all of the employees participated in the process of making them:

“It makes us feel more empowered but at the same time they do not leave us much choice” - AA

Overall, it has been identified that high employee uniform wearing frequency and presence of satisfactory uniform features in Hyatt Regency Tashkent creates positive employee opinions on the organization and its services. In simple words, good employee uniform can lead to positive employee perceptions on the corporate image in the case of Hyatt Regency Tashkent. In addition, such a uniform can lead to high employee satisfaction, positive productivity, employee attitudes and commitment too. To sum up, good employee uniform can lead to positive corporate image and employee satisfaction, which can well increase competitiveness of the case organization. These relationships have been better understood by the manual coding process, which is presented in the tables below:

Table 1: Coding used for the “staff uniform” variable

Preliminary codes	Final codes	Categories	Themes
Often Must Special design Purposed design No change Every day Old Uncomfortable Too big size Low material quality Always Comfortable Suitable Color change Every day Not much comfortable Quality change	Always Must Special Purposed Color change Material change No change Old Uncomfortable Too big Low quality Suitable	Always worn Specially designed Changes needed Inconsistent comfort	High uniform wearing frequency; Satisfactory uniform features;

Table 3: Coding for “employee satisfaction” variable

Preliminary codes	Final codes	Categories	Themes
Satisfactory atmosphere, colleagues, and managers Great guests Guests with different backgrounds Inconsistent satisfaction at work Mostly productive Love Great guests Interesting Conditional wish to stay Feeling cared Mostly productive Physically hard for legs Strongly loved Customers are most important Staying 1 more year Good salary Conditional productivity No wish to stay long	Good working environment Great employee satisfaction on guest behavior High employee positive attitude Moderate employee motivation Moderate employee commitment Moderate employee satisfaction High employee productivity Some employee complaints on work terms Considerable employee loyalty	High employee satisfaction on the company High employee satisfaction on services Positive employee attitudes Positive employee commitment	High employee satisfaction and varied sources of their satisfaction; High employee productivity; Positive employee attitude and strong commitment;

Table 2: Coding used for “employee perceptions on corporate image” variable

Preliminary codes	Final codes	Categories	Themes
Top-class Great employee value Great design Comfortable Areas to work on One of the best High service level Well done design Room for improvement Guest-oriented Caring about employees Always recommended Up-to-date Convenient Professional service High service level Recommendable to the interested Classic style	Employee-oriented Customer-oriented Comfortable Quality design	High customer service High employee satisfaction Quality facilities	Positive employee opinion on the company; Positive employee opinions on the company services;

## CONCLUSION:

It was identified that uniform is largely present among staff members of Hyatt Regency Tashkent. Features of the uniform meet expectations of the employees most of the time, but there is some room for improvement. Employees perceive Hyatt Regency Tashkent as a company, which cares about its employees and delivers high level of services to customers. They have strongly positive opinions on the company overall and on its products and services.

Staff satisfaction is high in the hotel because there are many sources of satisfaction. The level of their satisfaction is reflected by their high productivity, positive attitude and strong enough commitment. Staff uniform can add to marketing success and bettering organizational environment as a whole.

Presence of staff uniform shapes opinions and thoughts of employees about the organization. For example, the uniform gives them feeling of professionalism by the company, committed and neat-looking employees. Uniform also affects the way employees think about the management. By having adequate uniform, which meets most of their expectations, the employees start thinking that their management is effectively running the company and is caring about the employees. Although staff uniform can give a company some prestige, this is not the goal of Hyatt Regency Tashkent. Staff uniform can add to competitiveness of the company in terms of its marketing, customer relations and human resources success. When it comes to employee satisfaction, employees of the hotel form better feelings about themselves, more positive attitudes towards the company, and better relations with the guests.

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## OXYMORON AND ITS METHODOLOGICAL-SEMANTIC FEATURES

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### ABSTRACT:

The article discusses about oxymoron's. Their use and meanings in speech are explained with proverbs. The article deals with the educational management teaching process in higher education systems. The article deals with the education process in higher education systems. There are given some examples of usage oxymorons in literature. Examples are taken from Uzbek and English literature and poetry. The oxymorons is one of the main compact, methodologically powerful, incomparable power of the languages. Oxymorons also help to explain the contents of a whole large text before acknowledging the whole story. So some of the writers and poets have taken their titles from the oxymorons. Important features of the use of oxymorons in the advertising process is their easy remembering. Modern oxymoron's often used in advertising, because they are a very effective tool for attention, because of their brightness and surprise.

**KEYWORDS:** oxymoron, methodological-semantic, phenomena, etymologically, stylistic effects of speech, modern oxymoron.

### INTRODUCTION:

**OXYMORON** is a figure of speech in which two seemingly opposing and contradictory elements or equivalents are juxtaposed. Oxymoron comes from the Ancient Greek word oxumoron, a compound of the words "oxus", meaning "sharp", "keen" and

moros meaning "dull" or "stupid". Oxymora are often pairs of words such as the adjective-noun combinations of a "new classic" or a "big sip" or noun-verb "the silence whistle". Now let's analysis some of the existed common examples: Examples are given from Uzbek and English literature. We will analyzes them turn by turn and explain the verity of the translation by poems.

The phrase original copy is a good illustration of an oxymoron. This is a pairing of opposing words that contradict each other. If something is original, then it is not a copy. In turn, if something is a copy, then it is not original. Yet, original copy as an oxymoron commonly and figuratively means that the content of the copy is original.

Here are some examples of oxymoron that may be found in everyday expression:

- Only Choice
- Same Difference
- Friendly Fire
- Virtual Reality
- Controlled Chaos
- Freezer Burn
- Silent Scream
- Terribly Good
- Wise Fool
- Close Distance
- Stiff Drink
- Black Light
- Clearly Confused
- Genuine Fake
- Living History
- Exact Estimate
- Quiet Roar
- Student Teacher

- Passive Aggressive
- Smaller Half
- Magical Realism
- Loyal Opponent
- Random Order
- Live Recording
- Jumbo Shrimp
- Kill With Kindness
- Small Giant
- Original Copy

### USAGE OF OXYMORON IN SPEECH OR WRITING:

Here are some examples of oxymoron that may be found in everyday writing or conversation:

- My sister and I had a **friendly fight** over the lipstick.
- I think the professor stated his **unbiased opinion** regarding the student response.
- You look **awfully pretty** in that coat.
- Sarah ate the **whole piece** of pie.
- The carpenters left the bench **completely unfinished**.
- The new kittens enjoyed being **Alone together**.
- **True fiction** is my favorite genre to read.
- It is considered a **false truth** that a broken mirror means bad luck.
- Joe considers himself to be a **ladies' man** when he's at a club.
- Jenny thinks of her garage as an **organized mess**.

### LITERATURE REVIEW:

#### Examples of Oxymoron in Literature:

Oxymoron is an effective literary device. Here are some examples of oxymoron phrases in well-known literary works, along with how they add to interpretation:

Example #1: Romeo and Juliet (William Shakespeare)

Good night, good night! Parting is such sweet sorrow,

That I shall say good night till it be morrow.

In perhaps the most well-known oxymoron in literature, Juliet describes her feelings about Romeo leaving her presence as "sweet sorrow." Shakespeare's use of oxymoron indicates that Juliet's "sorrow" and sadness at the thought that Romeo must part from her is also "sweet" and pleasant. She feels sadness knowing she must say good night to Romeo. However, she lovingly anticipates seeing him again which a pleasant feeling is.

Example #2: Don Juan (George Gordon, Lord Byron)

It is an awful topic—but 't is not

My cue for any time to be terrific:

For checker'd as is seen our human lot

With good, and bad, and worse, alike prolific

Of melancholy merriment, to quote

Too much of one sort would be soporific;—

Without, or with, offence to friends or foes,

I sketch your world exactly as it goes.

In this poem, Lord Byron uses the oxymoron "melancholy merriment" to describe the feelings and connections between sadness and joy. This oxymoron is symbolic of the human condition as reflected in the poet's mention of "our human lot." In addition, this oxymoron supports and complements the balance of oppositions featured in the rest of the poem's structure, such as good and bad, without or with, and friends or foes.

Example #3: Funeral Blues (W.H. Auden)

Stop all the clocks, cut off the telephone,

Prevent the dog from barking with a juicy bone,

Silence the pianos and with muffled drum

Bring out the coffin, let the mourners come.

In this poem, Auden utilizes the oxymoron "juicy bone." Of course, a bone is generally considered dry and the opposite of juicy. However, a bone may seem juicy to a dog that

is salivating at the thought of chewing it. Also, this oxymoron is ironic in the context of a poem in which a funeral is the subject. The “juicy bone” is a contrast in its own phrasing, as well as a contrasting image with the coffin and the implied corpse’s bones inside.

Example #4: The Catcher in the Rye (J.D. Salinger)

I’m the most terrific liar you ever saw in your life.

Salinger uses an oxymoron in this quote by Holden Caulfield, the narrator of the novel. The phrase “terrific liar” pairs two words that have opposing connotations. “Terrific” has positive connotations, as in wonderful or extraordinarily great. However, “liar” has negative connotations, as in someone who is untruthful or deceptive. Together, these words indicate that Holden takes pride in how adept he is at lying—a behavior that is generally associated with indignity.

This statement made by Holden reveals the level of complexity and impact an oxymoron can have as a literary device when it comes to interpretation. Through the phrase “terrific liar,” Holden is admitting that he is both a deceptive person and that he’s extraordinarily great at being so. Therefore, Salinger cleverly calls into question Holden’s reliability as a narrator through just this figure of speech. If Holden’s claim is that he is wonderful at being an untruthful person, then he casts doubt as to the truth of his own statement to the reader about being a terrific liar as well.

“As for believing things I can believe anything provided that it is quite incredible”  
(The Picture of Dorian Grey)

In this case, the oxymoron is created by the juxtaposition of “believe” and “incredible”. The word “incredible” stems etymologically from the negative form of “credible” which means “believable”. Wilde has written that his character will believe anything that cannot

be believed. Such kind of meaning force to think the reader deeply.

Other examples from Uzbek literature. The great Uzbek poetry Mukhammad Yusuf ‘s works we can face with oxymorons.

He is in a bright world	U yorug’ dunyoda
No human being	Tengi yuq inson
Dear stranger	Qadr don begona
The evil kind	Yovuz mehribon

One of the examples given is that we analyze the phenomena of “dear stranger”: the words “dear” and “stranger” are semantically contradictory words, but the fact that these two words with opposite meanings, one of the other definite, gives rise to a new meaning.

Such a phenomenon is of great importance in the placement of words, because when the place of the determiner is replaced by the determiner, a completely opposite meaning occurs: the close relationship between strangers when we say “dear stranger”; “alien darling” means a long, relationship between people, even if they are dear.

### ANALYSIS:

Famous Oxymorons. Here are some well-known and recognizable examples of this figure of speech:

Titles

Little Bighorn Battlefield (national monument in Montana)

“True Lies” (American film)

“CatDog” (American animated television series)

“Pretty Ugly” (book by Kirker Butler)

“Big Little Lies” (book by Liane Moriarty, adapted into television series for HBO)

“Quotes from a Devout Atheist” (compilation book of Richard Dawkins quotes)

“Waking Dream” (American documentary film)

“Steel Magnolias” (American stage play by Robert Harling)

Quotes

“You can’t have more types of fake news than real news.” (Elon Musk)

"I am a deeply superficial person." (Andy Warhol)

"I'm nobody! Who are you? Are you – Nobody – too?" (Emily Dickinson)

"Cruel kindness drew me near and held me close" (InsideOut song lyric)

"Ordinary riches can be stolen; real riches cannot." (Oscar Wilde)

"... this was fancy terrible." (Dorothy Parker)

"Vidia was complicated, two fairies in one, a loyal traitor." (Gail Carson Levine)

#### Difference Between Oxymoron and Paradox

People are often confused by the difference between oxymoron and paradox. Paradox is a literary device in which a statement or group of statements features initially contrasting ideas. However, with applied thought, paradoxes make sense. Also, they often lead the reader to an underlying truth. One example of a paradox is the following conflicting idea. The best way to make money is to spend money.

Oxymoron is also a literary device, but is considered a "condensed" paradox. This means that oxymoron is a figure of speech that includes just a couple of contradictory words that are paired together rather than a full statement of ideas. Oxymoron phrases can be figuratively true, but not literally true.

#### Writing Oxymoron

Overall, as a literary device, oxymoron functions as a means of getting the reader's attention through the pairing of opposing or contradictory words. Reading these words together will often cause a reader to pause and think about what the writer is trying to convey. These figures of speech can enhance a reader's understanding of a concept, interpretation of a phrase, or enjoyment of language.

Here are instances in which it's effective to use oxymoron in writing:

#### Demonstrate Linguistic Skill:

Since most people don't use oxymoron very often when speaking, it does take linguistic skill to create one that is successful. For example, just pairing any two words that are contradictory won't make for an effective oxymoron. The phrase daily night certainly features contrary wording. However, if there is no figurative or underlying meaning to the phrase, it shouldn't be used as a proper oxymoron. Instead, it takes linguistic skill in knowing which words, though opposing, will work together to have an effect on the reader.

One example of a skillful oxymoron is real fake. This figure of speech is clever in that utilizing the word "real" to describe something that is "fake" actually lends a sense of truth and authenticity to something that is, by nature, untrue and inauthentic. Therefore, the linguistic skill demonstrated in this oxymoron is a layered. Real fake is a combination of contradictory terms. However, the terms are also complementary as a pair.

#### Enhance Drama:

Oxymoron can enhance drama in writing. This is especially achieved if the word pairing reveals intensity or a great difference in quality. For example, if a character receives a painful smile, this creates a significant dramatic effect. Smiles are rarely associated with pain. Therefore, the reader is left in some suspense to wonder what events or feelings would result in such a response received by the character.

However, it's important that writers don't overuse oxymoron as a literary device. Too many uses of oxymoron can be either distracting or tedious for the reader. Their dramatic effect is much more powerful with sparing use.

#### Create Humor

Oxymoron can be an excellent tool in creating humor for a reader. For example, if a

character is described as a man child, this oxymoron calls up a humorous image of a child that looks like a man or vice-versa. It is also comedic in terms of behavior, both in terms of a man acting like a child or a child behaving like a man.

### **Indicate Irony:**

Oxymoron can also serve as a means of elevated language when used to express a sense of irony. For example, oxymoron phrases such as marital bliss, military intelligence, and business ethics, depending on how they are used as figures of speech, can be effective literary devices to indicate irony. These word pairings are not inherently opposite, but their individual concepts can seem contradictory when combined.

### **DISCUSSION:**

Hence, in the illogical connection that occurs between the determiner and the determinant, the main focus is on the determiner, because the determinant reveals the meaning of the determiner. As the result of the relationship between the determiner and the determinant, an unexpected new meaning emerges. This gives the image an emotional colour.

Oxymorons also help to explain the contents of a whole large text. So some of the writers and poets have taken their titles from the oxymorons. Including, Abdulla Kahhor's "The Headless Man", "The Thousand People", "The Dead Body" by Gafur Gulyam, "Golden Wall" by Erkin Vohidov, O.Mukhtor's "Stone from the Head" and many more.

In the story of Abdulla Kahhor's "The Headless Man", the heroine of the work Fakhridin works with his father's words, not his own.

- Get a little trash out of the way. After you entrance, ask first, if its light, say blessing of God ( xayriyat.) I can't stay home because of

your absence. Say it would be bad. ( Extract from Abdulla Kahhor's "The Headless Man" ). The author portrayed and compact titled the story as "The Headless Man" for foolish, thoughtless, ineffective hero.

The oxymoron in prose is less popular. As an illustration, we quote from the famous novels of 1984 by J. Olvir. "War is peace. Freedom is slavery. Ignorance is power". Where each part of the dystopian motto is a combination of inconsistencies that allow the writer to open his or her thoughts in the most obvious and memorable way. As well as examples of such artistic techniques can serve as popular Latin words. "Prepare for war if you want peace".

Modern oxymorons. Oxymorons are often used in advertising, because they are a very effective tool for attention. Usually, they work because of their brightness and surprise. So, people know what kind of product they want to offer under a particular name or slogan. Another important features of the use of oxymorons in the advertising process is their easy remembering.

In Russian, authors generally use this method in a similar manner to enhance the stylistic effects of speech. In this case, the oxymoron will remain alive or understandable for readers. For examples: "Remaining for a living" (Tiriklik qoldiqlari) by I.Turgenov; "The honest thief" (Halol o'g'ri) by F. Dostoevskiy; "The rich begging" L. Martinov; "The end of the dead" by D. Galkovskiy.

### **CONCLUSION:**

In conclusion, the volume of oxymorons is one of the most compact, methodologically powerful, pictorial means of incomparable power. This method of non-logical division in language serves to increase the effectiveness and consistency of the text, to reveal the content of the text in short and concise lines under humorous-satirical paint.

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## PHARMACOKINETICS OF ANTIBIOTICS IN EXPERIMENTAL GUNSHOT WOUNDS

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### ABSTRACT:

Experimental studies on the pharmacokinetics of gentamicin were performed on 40 rabbits with various methods of injection after the infliction of gunshot wounds on extremities. The results showed that the method of lymphotropic antibiotic therapy provides a more stable and long-term saturation of blood. The highest and the longest retaining concentration of gentamicin in the lymph nodes and soft tissue of gunshot wounds is reached at lymphotropic method of injection.

**KEYWORDS:** gunshot wound, lymphatic antibiotic therapy, antibiotics pharmacokinetics.

### INTRODUCTION:

The use of firearms possessing high kinetic energy has led to an increase in the number of serious injuries that significantly damage the soft tissues, but the problem of prevention and treatment of purulent complications of gunshot wounds remains topical. There is a lot of experience in the effective application of lymphotropic therapy (LT) in the treatment of surgical infections, but there are only a few studies

on the lymphotropic antibiotic treatment for gunshot wounds and on its pharmacokinetics.

### RESEARCH OBJECTIVE:

Pilot study of the pharmacokinetics of gentamicin in lymphotropic therapy (LT) with regional lymphatic stimulation (RLS) compared to conventional injection methods

### RESEARCH MATERIALS AND METHODS:

Experimental studies were conducted on 40 rabbits of both sexes with a weight of 5-6 kg. An experimental model of gunshot wounds was used. Fifteen minutes before the injury all the animals from experimental and control groups were under kalipsol anesthesia, after which they were fixed on special plates. Standard gunshot wound of the soft tissues was applied to the region of the middle third of the right femur of the rabbit. For the study of pharmacokinetics we used gentamicin 1 mg/kg, which corresponds to the average therapeutic dose for an adult.

Regional lymphatic therapy (RLT) was carried out by the following method. Under the skin of the calf on the border of the lower and middle thirds of the rear surface the



lydasa (Hyaluronidasum) solution was injected in the amount of 16 units. After 4-5 minutes, without removing the needle, an antibiotic (gentamicin at a dose of 1 mg/kg) was injected. In the same section heparin was injected at a dose of 70 units/kg. Lymphotropic infusion of antibiotics with RLS was performed 1 time per day.

The experimental animals were divided into 4 groups. In (the first group of experiments gentamicin was injected lymphotropically (LT) to 10 rabbits, as in the method described above.

In the second group (control), 10 rabbits were injected subcutaneously (SC) with gentamicin without using lymph stimulators. In the third group (10 rabbits), gentamicin was injected intramuscularly (IM) in the thigh area.

In the fourth group of experiments (10 rabbits), gentamicin was infused into a peripheral vein - intravenously (IV). To determine the concentration of antibiotic, the serum of blood in the amount of 1.4 ml was taken after 0.5, 1, 3, 6 and 24 hours after the injection of gentamicin. After 6 hours a part of the animals following the IM (5 rabbits), IV (5 rabbits), SC (5 rabbits) and LT (5 rabbits) infusions were deliberately withdrawn from the experiment by injection of high doses of kalipsol. Another part of the animals following the LT (5 rabbits) and then SC, IM, IV (5 rabbits in each series) infusion methods were pulled out from the experiment 24 hours after the injection of kalipsol. It allowed at a specified time to extract the inguinal lymph nodes and slices of soft tissues from a gunshot wound. Gentamicin in extracts of biological material was detected by high performance of liquid chromatography (HPLC) after prior receipt of phenyl derivative gentamicin using phenyl isothiocyanate - PhITC (Sigma, USA).

## RESEARCH RESULTS:

The analysis of the pharmacokinetics of gentamicin at various methods of injection shows that traditional methods reach the peak concentrations in the period of time equal to 0,5-1 hour. Then, the concentration quickly drops and within 6 hours after the injection, the drug levels in different animals range from "marks" of the antibiotic to 1,6 mcg/ml. Mean values of concentration did not reach therapeutic values. By the lymphotropic injection the highest concentration falls within the period of time of 1 hour, and this testifies to the relatively rapid penetration of the drug in high enough concentrations into the blood. After 6 hours the concentration of antibiotic in the blood by lymphotropic injection is 1.8-3.4 times higher than in the experiments with intramuscular, intravenous and subcutaneous injections of the drug. After 24 hours, with the traditional injections, gentamicin in the blood was not detected in any of the animals, whereas, lymphotropic injection created a concentration of gentamicin, similar to therapeutic value, an average of  $1.07 \pm 0.23$  mcg/ml. These concentrations are inhibitory to most microorganisms, which are most frequently encountered in surgical patients. Also, it should be noted that after a single lymphotropic injection of the drug in the medium therapeutic dose it creates subtherapeutic concentrations in the blood in 24 hours, given the possibility of lymphotropic antibiotic therapy once a day.

Comparing the contents of gentamicin in the inguinal lymph nodes and soft tissue gunshot wounds of extremities with various methods of application showed that 6 hours after the injection the largest concentration, corresponding to  $1.44 \pm 0.64$  mcg/g, in the inguinal lymph nodes was created by the

lymphotropic method. With intramuscular injection after 6 hours in the inguinal lymph nodes only "marks" of the antibiotic were noted. In soft tissue gunshot wounds 6 hours after the intramuscular and subcutaneous injection an antibiotic was either not detected or it was kept in small concentrations. By intravenous infusion the antibiotic concentrations in the soft tissues remained low ( $0.12 \pm 0.06$ ). The lymphotropic method does not provide high concentrations in the soft tissues of the extremity. However, 24 hours after the lymphotropic injection gentamicin was still determined in the inguinal lymph nodes and soft tissues of gunshot wounds of extremities in concentrations of "marks" up to 0.87 mcg/g, whereas the traditional methods of drug were not detected in the study.

## CONCLUSIONS:

1. Lymphotropic antibiotic therapy method, when used with the medium therapeutic dose of the antibiotic, injected one time, in comparison with traditional methods provides a more stable and long-term saturation of blood.
2. Comparatively high and continuously retaining concentrations of gentamicin in the lymph nodes are reached by lymphotropic injection. Injected this way an antibiotic is kept in the soft tissue gunshot wounds of extremities for a longer time than with traditional methods.

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## EFFECTIVENESS OF NEW CHEMICALS AGAINST CHANNELS OF THE TETRANYCHIDAE FAMILY IN INTENSIVE SEED ORCHARDS

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### ABSTRACT:

**In this article, the Lambda-plus 20% k.e (0.1l/ha) effectiveness was determined in order to test and determine the effectiveness of new anti-cannabis chemicals in intensive seed orchards. According to him, the control was carried out 3,7,14,21 days after drug administration. The highest efficiency was observed at 7 days, i.e. 87.5%. As the obtained experiments result, practical conclusions and recommendations for production were given.**

**KEYWORDS:** pest, spider, tetranychidae, intensive seed orchard, leaves and young twigs.

### INTRODUCTION:

The United States and Turkey are the leading countries in Europe in the apples cultivation and export, while China and Iran are the leaders in Asia. However, in high rainfall years, low air temperatures and high humidity, up to 90.0% crop yields in apple orchards were lost due to pests and diseases. Decree and resolution of the President of the Republic of Uzbekistan "On organizational measures to reform the fruit and vegetable and viticulture sectors", orders and resolutions of the Cabinet of Ministers, the Ministry of agriculture and water resources of the Republic of Uzbekistan has played an important role in the organization

of firms and the management system improvement of the fruit and vegetable industry. Central Asia, including Uzbekistan, is one of the centers of many agricultural origins, including fruit and grapes. From ancient times the region has preserved valuable local varieties of fruit crops such as apricots, blackberries, apples, pears, cherries, pistachios, almonds, walnuts, grapes, vegetables such as carrots, cucumbers, onions, melons, watermelons, and pumpkin. At present, the country needs to grow at least 330-400 g per capita per day or 115-120 kg of fruit per year, including 15 kg of grapes and 10 kg of berries. The Uzbek regional medical institute recommends increasing the consumption of grapes by 25 kg and an additional 10-11 kg of dried fruits. However, today the population produces 94 kilograms of fruit per year, including 12 kilograms of grapes. In the United States, Italy, Spain, and France, the figure is 120 to 230 kilograms [4,5].

Ensuring food security and producing high-quality and environmentally friendly products for the population is one of the most important tasks in our country today. This includes timely and effective protection of orchards and vineyards against pests and other agro-technical measures. Orchards and vineyards can lose up to 60-70% of their yield due to pests.

At present, new orchards based on intensive, high-yielding, disease and pest-

resistant varieties are being established on horticultural farms in accordance with the decisions and decrees of our government. One of the urgent tasks is to preserve the crop grown in these intensive seed orchards due to the significant increase in pest infestation and the timely and effective control of these pests [5].

One of the pests that in recent years in orchards sucks the sap of leaves and young twigs and seriously harms the yield is the apple red mite (*Panonychus ulmi* Koch)[1]].

This pest feeds mainly on the sap of leaves and young twigs. As a result, the leaves lose their natural color, form spots, and then turn yellow and fall out. The fruits begin to fall off before they ripen and mature. In turn, the quality of ripe fruit decreases, and the yield decreases by 50-60%. [7], [8], [10]].

One of the most harmful canals in intensive seed orchards is the brown fruit canker (*Bryobia redikorzevi* Reck) belonging to the family Tetranychidae. The pest spreads from the Baltic states, Leningrad and Moscow regions to the Caucasus and to the western borders of the European part of Russia, Uzbekistan and Kazakhstan. [9]]. Brown fruit cannabiss seeds are more likely to damage apples from fruit trees during the growing season. The pest feeds by sucking the sap of leaves and buds and avoids sunlight, and most of them are observed in the middle and lower parts of the tree. [2], [3], [6]].

#### RESEARCH METHODS:

In order to determine the effectiveness of new chemicals against canals in intensive seed orchards, research was conducted on a 2.5-hectare intensive seed orchard of the farm "Erkin Shahina Shahzoda" in Qibray district of Tashkent region. Entomological calculations and observations in the experimental field were performed on the basis of G.Y. BeyBiyenko, K. Fasulati methods for determining the density and level of occurrence of

pests. AgROTOXICOLOGICAL experiments were carried out according to the method of K.A. Gar, S.H.T. KhojayeV. Biological efficacy in field and laboratory experiments was determined using the W.S. Abbot formula.

#### RESEARCH RESULTS AND THEIR DISCUSSION:

During the study, Lambda-plus 20% k.e (0.1 l/ha) was obtained to test and determine the effectiveness of new antifungal chemicals in intensive seed orchards. As a benchmark for this drug, Vertimek is 1.8% em.k. (0.4 l/ha) were obtained. The controls were analyzed from 3 days of use of the experimental drugs. Prior to treatment, Lambda-plus averaged 20.5 units per leaf in the 20% k.e version and Vertimek 1.8% in the 21.8% version.

According to the results of the study, our observations effectiveness in the variant where the drug was previously used Lambda-plus 20% k.e. (0.1 l / ha) was 78.2%, 3 days after the drug was administered, was the highest in 7 days, at 87.5%. For 14 days of our observations, the efficiency was 82.1%, and for 21 days it was 74.3%. From the 21st day of the study, the amount of pest began to increase again.

In the variant with the following template, Vertimek was 1.8% em.k (0.4 l / ha), the efficiency was 76.7% for the next 3 days of treatment of trees, while the biological efficiency was the highest on day 7, that is, 85.7%. On day 14 of our observations, the efficiency was 81.9%, and on day 21 it was 75.4%. In this case, too, the efficiency was found to decrease after 21 days. It was observed that the eggs and nymphs of the pest were less affected by chemicals. The results are presented in Table 1 below.

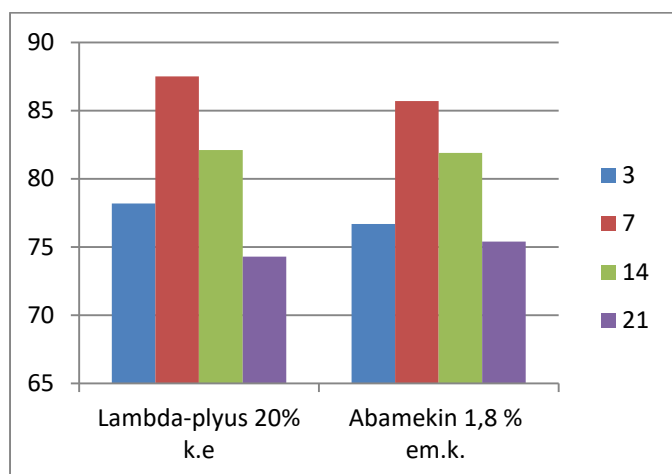


Diagram 1. Biological efficacy of spider acaricides in intensive orchards ("ErkinShakhinaShakhzoda" farm in Qibray district of Tashkent region, July 2, 2020)

### CONCLUSIONS AND SUGGESTIONS:

Research has shown that in intensive seed orchards, spider mites are an important factor in managing the number of timely control measures using effective chemicals, taking into account their bioecology and survival. High biological efficiency can be achieved by first applying Lambda-plus 20% k.e at a rate of 0.1 l/g per hectare of chemical control measures against spider mites.

Timely implementation of agro-technical measures in late autumn and early spring in the fight against spider mites in intensive seed orchards, the crop grown maintenance during the growing season using low-toxic chemicals for the environment and beneficial insects possible.

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## **TREATMENT OF OPEN FRACTURES OF THE BONES OF THE SHIN, COMPLICATED BY DEFECTS OF SOFT TISSUE**

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### **ABSTARCT:**

**The study retrospectively and prospectively studied the results of treatment of 42 patients with open fractures of the shin bones, complicated by soft tissue defects. Patients, conditionally divided into the control (n = 28) and the main group (n = 14), were treated at the traumatology department of the AF RSCEMP in the period from 2015 to 2019. In the treatment of patients in the study group, the identified algorithm of urgent plastic surgery of soft tissue defects in patients with open fractures of the shin bones. Used complex, that is - clinical, laboratory, radiological and statistical research methods.**

### **SUMMARY:**

The study examined the results of treatment of 42 patients with open fractures of the bones of the leg, complicated by soft tissue defects. Patients conditionally divided into the comparison group (n = 28) and the study group (n = 14) were treated in the Department of Traumatology of the AF RSCEMP from 2015 to 2019. In the treatment of patients of the study group, the identified algorithm of emergency plastics of soft tissue defects was applied. in

patients with open fractures of the bones of the leg. Clinical, laboratory, X-ray and statistical methods of research were used.

### **RELEVANCE OF THE TOPIC:**

The problem of treating victims with severe injuries of the extremities does not lose its relevance. Most often, severe injuries to the limbs are observed in road traffic accidents. Despite progress in improving the safety of vehicles that protect vital organs, at the same time, do not protect limbs from impacts, high-energy kinetic effects [1 p. 47].

Purulent-inflammatory complications in open bone fractures, according to various authors, are observed in 11-62% of cases. Their successful treatment largely depends on the timely and radically performed PST of the wound, methods of fixing the fragments and early targeted antibacterial therapy.

The results of treatment of patients with open fractures of the leg bones complicated by soft tissue defects are in most cases recognized as unacceptable. About 20 a quarter of such patients, due to severe purulent complications, in particular osteomyelitis, undergo amputation and / or disarticulation, sometimes upon admission, and sometimes on a delayed basis [2 p. 20]. In 7-22% of cases, a deep



purulent infection develops with the transition to chronic osteomyelitis [2 p. 21]. In 40%, violations of the processes of fracture healing are observed. All this leads to the fact that almost half of the victims become disabled [3 p. 341].

The reasons for such poor treatment outcomes for open fractures of the lower leg bones complicated by soft tissue defects are varied. This is largely due to the unique features of the segment. The tibia along its entire length along the anteromedial surface is covered with only a thin layer of subcutaneous fatty tissue and skin, due to which the bone is exposed even with minor injuries [4 p. 891]. The lower leg, in comparison with other parts of the body, is characterized by relatively poor nutrition of soft tissues. This feature causes a high incidence of necrosis of the integumentary tissues of the lower leg in trauma [4 p. 895].

The development of the wound process is based on the pathological effect of the etiological factor and the patient's response, which has a protective and compensatory nature.

The important role of the lymphatic system in the development and outcome of the purulent-inflammatory process has been established.

Pathogenetic remedies can prevent disease progression or make it milder. One of the directions for solving this complex problem is the development of ways to increase the effectiveness of administered drugs. In this regard, we consider the use of antibiotics by the lymphotropic method promising. At the same time, the effect of treatment is achieved from the direct effect of antibiotics on microorganisms in the lymphatic vessels, as well as from an increase in the immunological activity of lymphocytes in the lymphatic system due to lymphostimulation.

#### **THE AIM OF THE WORK:**

To determine the effectiveness and implement the methodology of emergency soft tissue plastics in persons with open fractures of the lower leg bones, in order to optimize the results of treatment and prevent secondary osteomyelitis.

#### **RESEARCH MATERIAL:**

The study retrospectively and prospectively studied the results of treatment of 42 patients who were treated in the Department of Traumatology of the AF RSCMP in the period from 2015 to 2019 with open fractures of the shin bones complicated by soft tissue defects. The patients were conditionally divided into control (n = 28) and main groups (n = 14).

Case histories of 14 patients were subjected to prospective analysis, of which 12 (89.3%) were men and 2 (10.7%) were women. The results of treatment of 28 patients were retrospectively studied, including 22 (85.7%) men, 6 (14.3%) women.

The distribution of patients by the type of open fracture according to the Castillo-Anderson classification was as follows: in the main group with type A fractures there were 4 (28.6%), type B - 8 (57.1%), type C - 2 (14.3 %). In the control group, patients were distributed as follows: there were 15 type A fractures (55.4%), type B - 12 (41.1%), type C - 1 (3.6%).

#### **RESULTS AND DISCUSSION:**

When analyzing the effectiveness of therapeutic measures in the main group in relation to the control group, a significant tendency towards a decrease in limitation of movements in the knee joint (21.4% versus 34.5%) and in the ankle joint (53.6% of joints 84.5) was revealed. Improvement of functions according to the LEFS scale was statistically valid and significant: 64.8 in the study group,

57.7 in the comparison group. These data, in my opinion, are sufficient indicators of effective treatment of patients with open fractures of the lower leg bones, complicated by soft tissue defects. Reducing the development of wound infection, preventing the development of a defect in the integumentary tissues, reducing the duration of treatment, improving the fusion of leg fractures, all this ultimately leads to an improvement in the function of the limb after reconstruction.

The tactics of plastic replacement of the soft tissue cover in open fractures of the shin bones depends on the general somatic condition of the patient. We have proposed the following methodology for emergency plastics of the soft tissues of the lower leg in persons with open fractures.

- Patients in stable condition are shown the use of all methods of plastic defect replacement upon admission.
- In patients in a terminal state after intensive therapy and stabilization of the condition, it is possible to use local flaps on the vascular pedicle to restore the soft tissue cover of the lower leg.
- For victims in an unstable state, operations to restore the shin cover, mainly with local flaps, should be carried out 4–5 days after the injury, in order to stabilize the general condition of the patient.
- For patients in critical condition, the restoration of the integumentary tissues of the lower leg is shown in a delayed period (by 10-15 days), after the final stabilization of the condition and treatment of associated injuries.

The choice of a specific restoration method is proposed to be carried out depending on the scale and location of the defect.

In addition, the applied complex therapy included therapeutic and prophylactic measures:

- X-ray and determination of the microflora of the wound and its sensitivity to antibiotics
- preparation of the patient for surgery (anti-shock therapy, normalization of hemodynamic parameters and preparation of the damaged segment).
- selection of an adequate method of pain relief
- radical primary surgical treatment of the wound with excision of all non-viable tissues and dissection of pockets
- adequate drainage with perforated PVC tubing
- immobilization of the injured limb with a plaster cast, skeletal traction or compression-distraction devices. At the same time, we give preference to the Ilizarov apparatus with a rod device
- improvement of microcirculation in damaged segments by regional lymphatic stimulation
- desensitizing and stimulating therapy, providing an increase in the body's immunobiological reactivity.

During follow-up observation of patients, a significant decrease in the incidence of chronic osteomyelitis was observed in the main group relative to the control group (14.3% versus 53.5%). It should be noted that the urgent restoration of the soft tissue cover in the area of the fracture of the shin bones allows preventing infection and death of bone structures, that is, avoiding a key stage in the development of chronic purulent infection.

#### **OUTPUT:**

Analysis of the results of treatment of patients with open fractures of the leg bones with extensive soft tissue injuries showed that conservative treatment of the damaged area and plastic replacement of the integument in the long term (more than 15 days after injury) lead to the development of wound infection, and as a consequence, necrosis of the tibia, contribute an increase in the duration of

treatment and a deterioration in functional results.

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## **SOCIO-PSYCHOLOGICAL FUNCTIONS OF THE FAMILY AND METHODOLOGICAL CONCISENESS**

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### **ABSTRACT:**

**This article covers the role and role of the family in the life of society and the state, as well as socio-psychological aspects. It also talks about the upbringing of children in the family, the conditions created for the younger generation in our state, the level of use of these opportunities by family members. The opinions in the article were analyzed comparatively with the psychological ideas of researchers of space and time.**

**KEYWORDS:** society, state, socio-psychological, younger generation, family, idea.

### **INTRODUCTION:**

The establishment of the scientific and practical Center "family" in the Republic of Uzbekistan aimed at the interests of the family, the organization of various counseling centers serving the family in the regions, the organization of activities on the problems of Family Psychology for the first time in the history of Uzbekistan for the purpose of scientific study of family problems, the organization of

We all understand well, a strong family and a happy life depend primarily on the young people who build a family, on their spiritual qualities, on their deep understanding of their duty and responsibility before the family, society. No one can deny this fact, it is only when parents, first of all the state and society are responsible for providing housing to a young family with great hope to support them

financially and spiritually, to provide them with Support, Privileges and opportunities, we will tell the same truth. In particular, the protection of a young family from various storms of life, its being an elkadash for standing on a solid foot, the role and importance of the neighborhood in the provision of the necessary support advice in this regard cannot be compared with anything.

### **MATERIALS AND METHODS:**

I think that the implementation of all the tasks that the family faces is primarily related to the solution of such important issues as material, spiritual syllable, the solution of educational problems that are becoming more urgent, the facilitation of all-all the worries of the family, which we all understand well.

I would like to remember that the solution of such issues is that the burden of any family is equal to the relief of the pain of the female breed, the sisters, who, thanks to life, carry on their shoulders, the beauty and splendor of the family's stronghold, without groaning at all. To carry out such important tasks it is necessary to take specific measures in the program.

We see the family as a strong base in elevating our spiritual life, finding a wide decision of noble human qualities in our society, preserving our age-old values in the face of destructive ideas of any harmful effects that are increasingly contrary to our national values and traditions. In this regard, both physically and spiritually mature, having their own independent opinion, capable of competing with their peers in the states that

have developed to separate the White from the black, we highly appreciate the fact that the position of the family cannot be overestimated in sending them to life to preserve their health, in this sense, the educational sphere of the, the tasks of further practical cooperation with such issues, whether it is lyceums, colleges or universities, should occupy an important place in the lessons.

While we are putting before us such noble tasks in the New Year, state and authority agencies, neighborhoods, women's and youth organizations, the general public believe that our entire nation will take an active part in the realization of such aspirations as the president.

President Sh. While reading the reports of Mirziyoyev on this topic, I think that since the family is healthy, the society is strong, the society is strong, the country is stable, for our country to be stable, and we teachers, educators, and all employees of the organization should contribute to all and carry out the tasks set before us.

The person himself is solid as a whole thing. The essence of this integrity is that it is stored only in motion. Movement and inactivity cannot be neither character, nor ability, nor enthusiasm, nor self-awareness, nor the path of an individual.

The fact that both the child himself and the educators participate in the formation of the child personality is proved by the perfection of the individual, and the process takes place in various spheres of activity by scientific pedagogy and psychology.

The knowledge of the world, which is constantly opening before the eyes of a growing person, the strong need for its assimilation, leads to no unexpected results. Without stopping, his organism, feeling, striving for progress in the influence of life events, unites with him not only nonstop

aspiration to life events, which sympathize with his psyche.

Children remain an integral part of their passion, aspirations, the era, a wonderful, dominant and bright world. With the surrounding being, there is a peculiar organic connection of the individual, which contributes to physical and moral growth. Anxiety, character conflicts, is a whole world of will. This is a meticulous search for a relationship in self-life to its place in things, nature, society as a whole.

The child creates his own upbringing himself. And the task of an adult is a lesson from helping him develop his abilities to the fullest extent. This assistance is not only an expression of respect for the fullness of the child's nature, but also an expression of attraction to training aimed at creating educational conditions, rational organization of the life of the child, more fully revealing its natural features. Bunda ways to find perfection in a person:

1. There is a pedagogical inner feeling in all parents, and to open a wide way to this talent in people is a great happiness.
2. The child will always be in the influence of sharp contradictions. Help him overcome obstacles, do not touch the child's disappointments.
3. Every child has a World secret. These secrets come to life with special force in front of sleep. Do not leave alone when the child is worried. Caring for a good and calm sleep is the basis for the normal psychological development of the child.
4. Communication with peers is an important condition for the normal development of the child.
5. The basis of harmonic development is enthusiasm. Harakat move passion nurturing. Riddle, fearlessness, bravery - it cannot be a person without these characteristics.

6. There is no decent upbringing. The image of parents is achieved due to high demand for the child, respect for him and his interests.

7. Children's communication is full of contradictions, there is no progress without it, skillfully resolving conflicts is the basis of positive upbringing.

8. It does not deny entrepreneurship, softness, perseverance and firmness in education. Sometimes there is a lack of fair, hard, moral perseverance, which parents irrevocably refuse any deviations from the spiritual order.

9. If you have made a moral mistake, do not be afraid to correct it, even if this will lead to a temporary break in relations with your loved ones.

10. It is important to see in your own child not a pupil, but a human being.

When raising children, the following rules should be observed

First of all, whatever your child is, do not try to educate him with the strength to read your own opinion, so that the adoption is gaining weight.

Secondly, do not compare your child with someone else, do not show him as an example and an example, do not forget that the main thing is to be able to think freely, feel, because the child himself independently chooses an exemplary person.

Third, respect the personality of the child, try to put yourself in his place, look at the situation with the child's eyes, only then you can find a way to his soul.

From the quatrain, when you communicate with the child, it is better to withdraw from the relationship that he can resist, because it will not help, but on the contrary will aggravate the situation.

The family is a sacred abode. And the formation of educated families in society is our main goal to bring the country to the level of a developed state. To do this, first of all, we should pay special attention to young families,

education of the future generation. The president of our country also noted in his works and lectures that young people with knowledge and education are our future. The last twenty years of our country's independence were spent in the spirit of creation and creativity. During this period, the achievements made in the field of successfully passing the difficult tests, strengthening our national statehood, building the foundation of our great future, taking a worthy place in the world community, integrating the ideas of national traditions, humanism, restoring our values, maintaining peace and stability on a moderate ground, improving the standard of living of every person and every family living in The Uzbek Youth is equated with the countries of the world with their knowledge and experience.

In fact, since the independence of our homeland, the further development of the legal and social protection of the family, the formation of a healthy family are becoming one of the important issues at the state level. The legal-normative documents adopted in this regard serve the interests of the family, the development of society. After all, the family is the main link of our society. And the marriage contract is the Golden Key of the family stronghold, a legal document regulating the property relations of the couple. Each people has its own traditions, customs, traditions. These values are formed in the family and are perfected in society. In addition to the fact that some traditions of Uzbek families are similar to other families in the world, they themselves are similar to each other. Their happiness is in such a similarity.

The prosperity and development of society is due to this similarity. What does this similarity look like? In the peoples of the East, the school of special education and spirituality of the family was created in ancient times. In it, universal, universal values are expressed and

have been polished for centuries. For the prosperity and development of our society, first of all, the broad promotion and integration of humanistic ideas in the minds of young people is evidence of the future prospects.

After all, the prosperity of society, the state and the bright future are, of course, a link to our knowledge-hungry, intelligent, aspiring, demanding youth. In fact, the ideas of humanism are formed not only in some institution, educational institution or institutions, but also in a real foundation family. And for this, it is necessary, first of all, that a healthy environment is formed in the family. If the family is calm, comfortable, the parent is educated, hardworking, attentive and demanding, then the child raised in the same family can see the future prospects.

The Uzbek family can regard such qualities as its childishness, sincerity of relations between the couple and children, the strength of self-esteem, respect for young people, respect for the elderly as humane, humanistic features. In the East, the father is the head of the family, the supplier and the educator, and the mother is the seer and fayzi of the family. To the children is regarded as the grace, blessing of the creator. When leaving the house, a blessing is received from the adults of the family - grandmothers or parents. Even when they return, they are first asked for a condition. So, the first fact of life is that when the upbringing begins with the family, parents are responsible for this, and in the family, in harmony with the Eastern code of ethics, parents should be brought up who love their parents, relatives, motherland, are fond of them, are fond of them, are ready to sacrifice their lives in case of necessity. In this regard, the president of Uzbekistan Mirziyoyev "deep study, deep understanding and popularization of the works of thinkers of the Islamic world, our great ancestors, their invaluable contribution to the development of world

civilization are of particular importance. This issue is important in order to instill in young people the feeling of striving for science and education, to properly understand and accept Islamic values and culture in all societies, to convey the true essence and essence of Islamic religion to all peoples of the world. It also plays an important role in establishing dialogue and achieving peace and harmony with international organizations, Nations and cultures today" - he says. The role of the family in the implementation of the above tasks can not be overemphasized. Because the role of the family is very important in the adult life of our children as a person who is mature in all respects, serves for the prosperity of the country and for the future of the country. Therefore, the family that forms the main tier of society is in the protection of society and the state.

Because how not to explain the reason for the violation of the family, do not blame someone, the victim of this is attracted by innocent children, and from this the society will suffer. Therefore, "the rights and freedoms of minors established in our Constitution and laws are fully guaranteed. It is established in Article 45 that the rights of minors are in the state protection, while in Article 64 parents are obliged to feed and educate their children until they reach adulthood."

In fact, the mother can not replace the father, just as the mother can not give her love to the father. It is also not surprising that the Sultan of Gazal estate, the great-grandfather of hazrat Mir Alisher Navoi, glorified parents and said: "understand one and the moon, one and the sun." The Uzbek family is distinguished by its national, religious views and peculiarities regulated by our legislation and, accordingly, differs from international marriage relations. When building a Uzbek family, of course, he makes a wedding. In the eyes of many, the guy-

girl, who married as a wedding, deeply understands the responsibility of the family.

The primary function of the family in the development of society is spiritual integrity. Without spirituality, neither material prosperity nor progress can be achieved. Spiritual poverty leads to national degradation. Impure, morally impoverished parents can not raise an honest, morally mature child. Because children usually take a lesson from their parents. In the family, children are also brought up accordingly, if the parents are in love with each other. When they grow up and step into an independent life, the upbringing they receive from their parents when they are in a household serves as a school of life, and such a family will have a solid foundation. The ultimate goal of the people of our independent country is to restore the Society of mature and harmonious people in all respects, to build a great state of the future. As well-cared for seedling sprouted into the sun and grew luxuriantly, our young people, whose soles are enjoyed by a strong family, parental affection, the dignity and care of society, also grow harmoniously and make a worthy contribution to the great future of our country. This is the noble dream of our people and the ultimate goal of the humanitarian policy of our state.

Today, a number of tasks are being carried out in all spheres of society in order to deepen democratic reforms in our country and to consistently continue the processes of modernization. In order to practically ensure the interests, well-being, rights and freedoms of the people, as well as to create and use various opportunities, to make amendments and additions to the current laws and to improve the legislation, it serves to strengthen reforms in all spheres, including the family, which is the main link of society.

The role of the state in the development of the family institution in our country is very important. Social protection of the state is

established in this area. The First President Of The Republic Of Uzbekistan As Karimov noted " today we are living with the goals of building a Democratic state, a free and prosperous life for our people, which is no less important than anyone else, it is of particular importance to further strengthen the family institution and raise it to a new level"

We can also see from foreign experience in this regard that strengthening the family, its social protection, along with ensuring stability in society, creates new opportunities for the future of the country.

In particular, France is a country with a lot of children in relation to its troops. This is exactly what is being interpreted as the effect of good family policy (*politique de la famille*) in its pursuits.

By the end of the 30-ies in France, a truthful family policy was established. It has three main objective functions (*objectifs*): to support the renewal of generations, to ensure equality between families and childless persons, to strengthen (maintain) the family model built on the basis of marriage.

In the era of the political institutionalization of the family "Libération" (Liberation) found its affirmation and expression, mainly as a body of legal manifestations of family interests and as a "listener" of Social authorities (*pouvoirs publics*) (*interlocuteur*): the National Association of Family Associations (*Unaf – Union nationale des associations familiales*), and then the National Bank of family contributions for the management of social benefits to families (*Cnaf – Caisse nationale d'allocations familiales*) and its local Cash network (*les CAF – specialized organizations such as les Caisses d'allocation familiales*) were established. This organization relies on the services of another official body of research and forecasts - the National Institute of Demographic Studies



(Institut national d'études démographiques). This body illuminates social policy.

Today, the state Family Institute acts as the chief arbitrator in its evolution. At the same time, the circle of family policy is spinning with new facets.

A number of priority tasks are also being carried out in Uzbekistan on the development and improvement of the Family Institute.

First, the introduction of amendments and additions to the current legislation in the field of the family;

Secondly, when building a family, every young person should have a deep understanding of his duties and responsibilities, appreciate family relationships;

Third, the practical maintenance of the activities of the neighborhoods, which are the self-governing bodies of citizens, the strengthening of their role in the strengthening of families;

From the four, it is necessary to ensure that the person in the family is morally harmonious, educated.

Fifth, a strong family creates the most noble human qualities in our society, any threats that absolutely contradict our mentality, play a key role in the formation of ideological immunity in the fight against destructive ideas.

## CONCLUSION:

In strengthening the Family Institute, it is necessary to strengthen not only the family, but also the practical cooperation between all educational institutions of the Republic. Because education and training in harmony with each other serve as a guideline in the upbringing of an intelligent person in adulthood, and in the upbringing of his future harmonious generation.

In many countries of the world, family relations are strengthened on the basis of law. And families based on the Uzbek mentality, unlike the world's families, are considered

sacred by their age-old values, customs, human qualities, and kindness. Social protection of the family is provided by the state.

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## **DIFFERENTIAL DIAGNOSIS AND PATHOGENESIS OF THE DEVELOPMENT OF CICATRICAL ADHESIVE EPIDURITIS IN THE POSTOPERATIVE PERIOD**

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### **ABSTARCT:**

**One of the most difficult tasks in neurosurgery is the problem of differential diagnosis of cicatricial adhesive epiduritis and recurrent disc herniation in the postoperative period. Our studies show that the use of the STIR mode in MRI studies can effectively distinguish between compression epiduritis and recurrent disc herniation.**

**KEYWORDS:** cicatricial adhesive epiduritis, clinical picture, diagnosis, pathogenesis.

### **INTRODUCTION:**

The increase in the number of surgeries for osteochondrosis of the spine is becoming increasingly important to the problem of differential diagnosis of cicatricial adhesive epiduritis and recurrent disc herniation of the lumbar spine. According to the literature, postoperative cicatricial adhesive epiduritis is diagnosed in 8–14% of patients who did not have adhesive changes in the epidural space during the primary operation (J. Brotchietal., 1999).

### **MATERIALS AND METHODS:**

The analysis of observations of 237 patients with a herniated disc of the lumbar

spine who were operated on in the neurosurgical department of the Andijan branch of the RSCEMPS from 2018 to 2020 is presented. 27 of them (11.4%) repeatedly consulted a neurosurgeon due to persistent pain syndrome. All patients underwent an MRI scan of the lumbar spine with a GyroscanIntera 1.0 T device from Philips. Scanning was performed in sagittal and axial projections in T1 and T2-B / I sequences. A fat suppression sequence, STIR, was also used.

### **RESULTS AND ITS DISCUSSION:**

The most common complaint of a patient with cicatricial adhesive epiduritis (RSE) in the postoperative period, complicated by secondary stenosis of the spinal canal in the lumbar region, is chronic lower back pain radiating to one or both legs. Lumboischialgia has a remitting course. Pains of a predominantly postural nature, accompanied by dysesthesia, a feeling of heat or cold. Some patients have lightning-fast shooting pains in the legs, transient short-term weakness in them. Over time, the syndrome of one- or two-sided intermittent claudication joins.

Constantly determined by the limitation of the mobility of the spine, especially in the morning. Patients cannot sleep while lying on their

stomach. Symptoms of Lasegue, Wasserman are absent or mild. Asymmetric muscle wasting, hyporeflexia, hypesthesia of the polyradicular or pseudo-polyneuritic type appear several years after the onset of the disease. With local ESR with root compression, a monoradicular syndrome is observed, which is difficult to distinguish from lateral disc herniation. In the late stage of the disease, urinary and fecal incontinence with physical exertion is occasionally noted.

The study of wound healing and other fibrosing processes made it possible to put forward the concept of autoregulation of connective tissue growth based on the interaction of cellular elements (fibroblasts and macrophages) and collagen [1]. The morphological manifestations of the first phase of healing, i.e. traumatic edema caused by necrotization of adjacent tissues and blood residues in the operating field includes vascular hyperemia, increased serous exudation, neutrophilic infiltration, alternating macrophage reaction [2]. This phase lasts from 2 to 7 days. The influence of neutrophils and macrophages in the operating field is associated not only with their function of wound cleansing by phagocytosis of erythrocytes, fat cells, necrotic masses, but also with the secretion of specific substances by them, which enhance the proliferation of fibroblasts. Other cellular elements that appear in the wound during aseptic inflammation also affect the proliferative stage. A factor that enhances the proliferation of fibroblasts is released from the aggregated blood plasma platelets. The second phase of wound healing - the development of connective tissue - usually begins from the 4th to 6th day, when fibroblasts become the predominant cellular elements. The neoplasm and maturation of connective tissue ends with biosynthesis and

fibrillogenesis of collagen, the formation of fibrous tissue [1].

One of the methods for diagnosing RSE, according to O.M. Tarasenko [3], is a contrast-enhanced MRI, which allows to reliably distinguish postoperative ESR from recurrent disc herniation according to the following criteria: scar tissue is contrasted after 6-10 minutes, and disc herniation - after 30-45 minutes, besides, the contrast intensity is much less compared to scar tissue.

When performing CT or MRI studies in standard modes in patients with RSE, relapses of disc herniation have been described. However, during the second operation, herniated discs were not found in some patients. On the contrary, the RSE attracted the attention [3]. The wrong choice by the surgeon of the surgical access, the method and volume of the surgical intervention, and the methods of preventing ESR is the main reason for the unsatisfactory results of the operation. A condition for a successful rehabilitation process is the differential diagnosis between RSE and recurrent disc herniation.

For this purpose, MRI studies were carried out on a GyroscanIntera 1.0 T apparatus from Philips. Scanning was performed in sagittal and axial projections in T1 and T2-B / I sequences. A fat suppression sequence, STIR, was also used. On MRI scans in the spinal canal epidurally visualized many small structures of linear and irregular shape with an MR signal of medium intensity in T1 and T2-I / I. With suppression of the signal from fat on the side of the operation, the deformation of the dural sac was determined and an increase in the intensity of the MR signal was noted due to the inflammatory component.

**FINDINGS:**

The use of the STIR sequence allows for the differential diagnosis of RSE and recurrent disc herniation, which ultimately allows a more selective approach to the indications for surgery and the search for a method to prevent compression cicatricial adhesive epiduritis

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## DIFFERENTIAL DIAGNOSIS OF CICATRICAL ADHESIVE EPIDURITIS IN THE POSTOPERATIVE PERIOD

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### ABSTRACT:

**At present, one of the complex tasks of modern neurosurgery is the problem of differential diagnosis of cicatricial adhesive epiduritis and recurrent disc herniation in the late postoperative period. The studies have shown that the use of the STIR mode in MRI examination allows a more reliable distinction between epiduritis and recurrent disc herniation.**

**KEY WORDS:** cicatricial adhesive epiduritis (ECE), clinical picture, diagnosis, recurrent hernia.

### RELEVANCE:

In recent decades, there has been a significant development in spinal surgery. With the increase in the number of surgeries for osteochondrosis of the spine, the problem of differential diagnosis of cicatricial adhesive epiduritis and recurrent disc herniation of the lumbar spine becomes more and more urgent. According to literature data, especially often in 10–14% of patients, postoperative cicatricial adhesive epiduritis (RSE) is diagnosed.

### MATERIALS AND METHODS:

A retrospective analysis of 237 patients with disc herniation of the lumbar spine who were operated on in the neurosurgical department of the Andijan branch of the RSCMPS from 2018

to 2020 was carried out. Of the total number of 27 (11.4%) patients, they returned to the neurosurgeon. The reasons for repeated treatment were persistent pain syndrome in the operated segment of the spine, irradiation of pain in the lower extremities, impaired sensitivity and limitation of movements in the spine. All patients underwent an MRI scan of the lumbar spine on a Byork apparatus of the ShenztenAnkeHigh-tech 1.0 T. Scanning was performed in sagittal and axial projections in the T1 and T2 sequences. For the differential diagnosis of cicatricial changes and recurrent disc herniation, a sequence with suppression of the signal from fat, STIR, was used.

### RESULTS AND ITS DISCUSSION:

When re-applying complaints of patients, complicated by secondary stenosis of the spinal canal due to the development of cicatricial adhesive epiduritis, is lower back pain, radiating to one or both legs. Pains of the type of lumbodinia and sciatica have a remitting course. The pain is accompanied by dysesthesia, a feeling of heat or cold. Some patients have shooting pains in the legs, there is transient short-term weakness. With static loads, the limitation of the mobility of the spine, which is often observed in the morning, is determined. The horizontal or prone position increases the

pain syndrome. Symptoms of root tension (Lasegue, Wasserman, Neri) are absent or mild. When examining patients, asymmetric hypotrophy of the leg muscles, hyporeflexia, and hypesthesia in the innervation zone of the corresponding root involved in the process are noted. With local ESR at the level of the operated segment with root compression, a monoradicular syndrome is observed, which can be difficult to distinguish from posterolateral herniated intervertebral disc.

One of the methods of differential diagnosis of ESR is contrast-enhanced MRI, which allows one to reliably distinguish postoperative ESR from recurrent herniated discs.

MRI signs of cicatricial adhesive epiduritis: if the scar tissue is contrasted in a shorter period of time (after 5–10 minutes), then the herniated disc is contrasted after 30–45 minutes, compared to the scar tissue, the contrast intensity of the herniated disc is much less.

When performing CT or MRI studies in standard modes in patients with ESR, they have been described as recurrent disc herniation. But, despite this, during repeated surgical interventions in some patients, herniated intervertebral discs were not found. On the site of the previous operation, the development of the RSE was noted [1,2].

Based on this, it can be concluded that the surgeon's incorrect choice of the surgical access, the method, the volume of the planned surgical intervention and the methods of preventing RSE is the main reason for the unsuccessful results of the operation. A condition for the successful outcome of the planned surgery is the preoperative differential diagnosis between RSE and recurrent disc herniation.

For the purpose of preoperative differential diagnostics, all re-applied patients underwent an MRI study using a Byork apparatus of the ShenzenAnkeHigh-tech 1.0 T. Scanning was performed in sagittal and axial projections in

the T1 and T2 sequences. Sequential fat suppression (STIR) was applied. On MRI in the spinal canal, many small structures with a linear and irregular shape in the epidural space were identified with an MR signal of medium intensity in T1 and T2 modes. During the study, with suppression of the signal from fat on the side of the operation, the deformation of the dural sac due to compression by the cicatricial process was determined, and an increase in the intensity of the MR signal due to the inflammatory component was noted.

### **FINDINGS:**

The use of sequential suppression of the signal from fat (STIR) allows differential diagnosis of RSE and recurrence of disc herniation, which allows a selective approach to the indications of surgery and the development of various methods for the prevention of compression cicatricial adhesive epiduritis.

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# **PLASTICS OF DEFECTS OF THE BONES OF THE CRANIAL VAULT WITH A CARBON IMPLANT**

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## **ABSTRACT:**

The study is based on the analysis of the results of surgical treatment of 67 patients aged 25 to 55 years, with the consequences of traumatic brain injury. Defects of the cranial vault bones are divided, depending on the size, into small, medium and large. Primary plastic surgery was performed in 3 patients, the rest at various times after the injury. A carbon implant of 2 types (contrasting, non-contrasting) was used as a plastic material. As a result of the treatment, good results were obtained in 52, satisfactory in 9 patients. Based on the results of the treatment, it was concluded that carbon implants are promising as a material for cranioplasty.

**KEYWORDS:** fracture of the cranial vault, bone defect, carbon implant, primary cranioplasty, delayed cranioplasty, reconstructive surgery.

## **RELEVANCE:**

An increase in the number of severe craniocerebral injuries, the number of surgical interventions for volumetric brain lesions are accompanied by the formation of postoperative defects in the bones of the cranial vault of various sizes. Disorders of hemo- and liquorodynamics occur, which are combined under the concept of "trepanned skull syndrome". The reasons for disability in these cases arise from neurological and mental

disorders. Surgical interventions for cranioplasty lead to the regression of these disorders. Despite the continuous development of new techniques and materials for the reconstruction of defects of the cranial vault, the problem of cranioplasty is still relevant (7, 9). Until now, there is no consensus and no algorithm for the choice of materials and timing of cranioplasty.

## **REQUIREMENTS FOR MODERN PLASTIC MATERIALS:**

1. Biological compatibility;
2. Lack of carcinogenic effect;
3. Plasticity;
4. Possibility of sterilization and combination with adativny technologies;
5. Compatibility with neuroimaging techniques;
6. Resistance to physical and mechanical stress;
7. Low level of heat and electrical conductivity;
8. Optimal cost;
9. Low risk of infectious and inflammatory complications.

## **PURPOSE OF THE STUDY:**

The aim of this study is to improve the results of surgical interventions by using carbon implants for cranioplasty.

## **MATERIAL AND RESEARCH METHODS:**

The present work is based on the analysis of the results of surgical treatment of 67 patients with craniocerebral injuries treated in the neurosurgical department of the Andijan branch of the RSCMP from 2013 to 2019.

Distribution by sex: men - 53 (79.1%), women - 14 (20.9%). The patients' age is from 25 to 55 years. According to the mechanism of the injury received: road - 34 (50.7%), beatings - 21 (31.3%), domestic - 9 (13.4%) and industrial - 3 (4.4%) patients. All patients underwent decompressive osteo-resection craniotomy for the received trauma. According to the location of the defect in the bones of the cranial vault: frontal - 5 (7.4%), temporal - 21 (31.3%), parietal - 39 (58.2%) and occipital - 2 (2.9%) patients. The reasons for the repeated treatment of patients were: persistent headaches, neurological disorders (memory impairment, speech, aphasia), epileptic seizures, fear of re-traumatizing the brain, the presence of a cosmetic defect. All patients underwent a comprehensive clinical and instrumental examination, which included clinical and neurological, neuro-ophthalmological examination, examination by an anesthesiologist, consultation with an ENT specialist, craniography; 62 (92.5%) patients underwent multispiral computed tomography (MSCT). In terms of size, the defects of the skull bones are divided into: small (up to 10 cm<sup>2</sup>) - in 25 (37.3%) patients, medium (from 10 to 30 cm<sup>2</sup>) - in 36 (53.7%), large (from 30 to 60 cm<sup>2</sup>) - in 6 (8.9%). Reconstructive surgical interventions for defects in the bones of the skull were performed within 24 days to 3 years from the moment of injury. Primary cranioplasty was performed in 3 (4.4%) patients, 48 (71.6%) were operated on within 6 months from the moment of injury, from 6 to 12 months - 13 (19.4%), later than 12 months - 3 (4.4%) patients.

Primary cranioplasty was performed in the absence of signs of significant damage to the brain substance and severe cerebral edema. The rest of the patients underwent repeated surgical interventions to eliminate defects in the bones

of the cranial vault within the specified time frame.

In order to eliminate defects in the bones of the cranial vault, carbon implants of 2 types were used:

- 1 non-contrast carbon composite implants;
- 2 contrasting carbon composite implants.

All surgical interventions were performed under general anesthesia. The surgical technique for performing cranioplasty in all patients is standard. Initially, external meningeolysis was performed, followed by implantation of the plate: a carbon-carbon implant was placed in the defect joint to joint and fixed with bone sutures; The sutures were removed 8–10 days after the operation.

## RESULTS AND ITS DISCUSSION:

When analyzing the effectiveness and advantages of using implants, attention was drawn to the possibility of intraoperative modeling of the shape of the implant. The biocompatibility of carbon materials is high, which has been proven in clinical and experimental studies. Carbon-carbon composite material is produced by bonding carbon fibers with carbon in methane (CH<sub>4</sub>) medium when heated to a temperature above 1000 ° C. It is a graphite or carbon matrix reinforced with carbon fibers. Physicochemical properties of carbon-carbon and corundum implants, the strength properties of which, with a typical implant manufacturing technology, significantly decrease with decreasing material thickness, which does not allow modeling thin highly angular surfaces. The properties of carbon-carbon composite implants provide almost unlimited possibilities for their saturation with antiseptic or antibacterial drugs, this is facilitated by the porous structure of the carbon-carbon material. The property of slow gradual biodegradation (the ability of the material to be resorbed in an organic



environment) with osteoinduction (stimulation of the growth of the surrounding bone) is inherent only in carbon-carbon materials, which makes it possible to achieve the restoration of the maternal bone after plastic surgery of limited defects. The clinical efficacy of cranioplasty was assessed by analyzing the quality of life of patients using the standardized Glasgow outcome scale, generally accepted for patients in the intermediate and long-term TBI period.

Taking into account the common pathogenetic mechanism of the effect of closure of the skull bone defect on the patient's condition, the clinical response to surgery was assessed in all patients. Therefore, the restoration of the tightness of the skull and the elimination of the cosmetic defect.

Taking into account the common pathogenetic mechanism of the effect of closure of the skull bone defect on the patient's condition, the clinical response to surgery was assessed in all patients. Consequently, the restoration of the tightness of the skull and the elimination of the cosmetic deficit led to the elimination of the "trepanned" skull syndrome. All patients underwent electroencephalography using a multichannel computerized electroencephalograph DX-NT-32, before and after surgery. In all observations, a decrease in diffuse disorganization of the rhythm with a smoothing of the asymmetry of the cerebral hemispheres was noted. In 47 (70.192%) cases, in the absence of dynamics, both before and after surgery, slow-wave activity was recorded in the areas of the brain subject to the implant, which is due to neuronal depletion (cystic-glial transformation) in the outcome of contusion injury. Focal epic activity in the form of spike waves, hypersynchronous rhythms in 39 (58.2%) patients was controlled using drugs (iminostilbens) and was detected only during provocative tests. The cosmetic result was

subjectively assessed by 54 (80.6%) patients as good, 9 (13.4%) - satisfactory, which is due to severe scar deformity of soft tissues. Reactive seroma occurred in 6 (8.9%) patients 3-7 days after the operation; one or two percutaneous aspiration was performed. The reaction of the tissues was due to a significant area of the wound surface and the need to mobilize extensive muscular-fascial flaps, to perform manipulations in the area of the basal venous collectors of the integumentary tissues of the head. Postoperative complications were observed in 9 (13.4%) patients, including hemorrhagic - in 1 (1.4%), infectious-inflammatory - in 8 (11.9%). Superficial wound infection was eliminated in 5 (3.3%) cases using antibacterial therapy.

## CONCLUSIONS:

1. Analysis of the results of neurosurgical treatment of 67 patients for post-traumatic defects of the skull bones indicates the possibility of using carbon composite materials for cranioplasty.
2. The use of implants is not indicated for patients with infectious inflammatory complications with lesions of the soft tissues of the head, skull bones, and central nervous system in history, regardless of their age
3. Integration of antibacterial agents into the structure of carbon-carbon implants will allow the use of these implants at a high risk of inflammatory complications, however, additional studies are required to determine the concentration and toxicity of the drugs.
4. The introduction of a carbon-carbon composite material, an economically inexpensive bioinert material with a low profile and the possibility of saturation with antibacterial drugs, creates conditions for the use of this material in emergency and planned neurosurgery.

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## **SURGICAL TACTICS IN THE CERVICAL SPINE INJURY TREATMENT**

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### **ABSTRACT:**

**One of the most important surgical treatment stages of complicated cervical spine injuries, along with spinal cord adequate decompression, is the optimum damaged vertebral-motor segment stabilization. Getting reliable primary operated segment stabilization, allowing as soon as possible strengthening the patient without external immobilization, it is the primary goal of stabilizing stage surgery.**

**KEYWORDS:** posttraumatic instability, granular "CollapAn", primary stabile arthrodesis.

### **INTRODUCTION:**

The increase in road traffic injuries is accompanied by an increase in the injuries frequency to the cervical spine, possibly due to the seat belt negative role, which reduces the damage risk to the chest and head, but contributes to the flexion or "whiplash" injury mechanism to the cervical spine. If in the 60s of the last century, cervical spine injuries were mainly a "diver's" injury result, now the leading position belongs to a road accident [7, 12]. The reason for the neurological complications variety is the anatomical relationship peculiarities of the spine with the spinal cord, roots, and vertebral arteries. On this basis, some authors consider the term "uncomplicated" injuries of the cervical spine questionable [2, 10, 12]. The majority of

traumatologists and neurosurgeons are convinced that only a surgical method can be used to achieve full decompression of the spinal cord and roots with reliable spine stabilization [11, 12]. Preference is given to operations from the anterior approach. This position has not always been recognized by clinicians. The widespread introduction into practice of the Cloward operation or its modifications has shown that this method is not without its drawbacks. Orthopedic complications (migration, bone grafts resorption, etc.) are not uncommon, they reach 25% even on the material of the operation author. The clinicians desire to modify the operation in accordance with the requirements for primary stable spinal fusion, allowing for early rehabilitation of patients, is understandable. To nowadays, various methods have been developed to stabilize the spine using metal structures [1, 6], ceramic-based implants [5, 9], composite materials [2, 4], titanium nickelide [3, 7, 8]. Without diminishing these methods advantages of spinal fusion, we note that the implants use does not exclude the late complications occurrence [7]. Our own experience in treating cervical vertebrae injuries allows us to assert that primary stable fusion is achievable without the metal or ceramics use and excludes the complications development specific to them.

## **MATERIAL AND METHODS:**

This study was based on 135 patients' clinical observations who were treated in the period from 2002 to 2015. Most of the patients were young men (average age is 28.0). In 80% cases, the cervical spine injury was obtained in car accidents. In equal numbers of observations, a neck injury was stated both among patients using a seat belt and without it. A "diver"'s injury occurred in 12% cases, including 8% patients hospitalized before 2005. In the acute period of injury (up to 10 days), 63 patients were admitted, in the early period (up to 3 weeks) - 22 patients. Old injuries (more than 3 weeks) were recorded in 50 cases. Over the past 10 years, the chronic injuries proportion has significantly decreased (11 patients). This indicates an improved diagnosis this type of spinal injury. Vertebrae dislocations and subluxations were present in 90, fracture-dislocations - in 32, the vertebral bodies' fractures - in 13 patients. Neurological vertebrogenic syndromes were observed in 127 patients. In total, 80 patients had no clinical manifestations of spinal cord and root trauma. In most cases (81), the neurological picture corresponded to radicular syndrome, less often (46) - to myeloradiculopathy syndrome. We have not established clear clinical vertebral artery syndrome manifestations. However, 3 patients noted short-term consciousness loss followed by headache and nausea for 3-4 days. The vertebral arteries scanning carried out in these observations, excluded the blood disturbance flow in them and in the posterior cranial fossa. According to Frankel's classification, the neurological complications severity in group B corresponded to 10, C - in 30, D - in 90, E - in 5 patients. All patients were operated on from the anterior approach. In the early and early period of injury, the dislocations and subluxations were repositioned using a

reponator. In fractures case, the vertebral body resection was considered indicated up to complete replacement and transcorporeal decompression of the spinal cord with stenospinal canal. To eliminate the vertebrae displacement in fracture-dislocations case in the acute and early periods, we have proposed a reponator that provides dosed distraction of the vertebrae and their movement relative to each other. In reposition failure case, the spinal cord and roots decompression was carried out by vertebral bodies' resection with the corresponding uncovertebral joints. We consider this operation as the choice method in the late injury period, since due to fibrous spine stabilization; repositions are dangerous due to possible iatrogenic complications. The operated spine segments stabilization was carried out with the biocomposite material "CollapAn". Bone cement was used to fix them in the vertebral bodies. The experiments carried out by us in 2002 on nabiomanikins showed that this fusion method meets the primarily stable fusion requirements. Spondylodesis was found to be effective under static and dynamic loads within the physiological loads parameters on the cervical spine. This made it possible to apply early rehabilitation of patients in the postoperative period without a plaster cast or orthosis. However, when using transport, we recommended that patients use a removable orthosis.

## **RESULTS AND DISCUSSION:**

The spinal cord and roots decompression with primary-stable spinal fusion contributed to a high analgesic effect of the operation with an intense neurological syndromes regression. It is noted a typical feature of the neurological syndromes regression - a lower intensity and longer

duration of this process in patients with chronic injuries.

The average duration of the recovery period for neurological complications of chronic trauma was 60 days, with other complications - 25 days. 3 months after the operation, the neurological status assessment according to Frankel was as follows: B - no, C - 6, D - 5, E - 124 patients. Thus, with the surgical treatment help, it was possible to interrupt the neurological complications pathogenesis in most cases. Bone or bone-carbon block due to "CollapAn" was achieved in all patients.

At the same time, there was no difference in the bone block formation timing when using granular "Collapan". The average duration of bone block formation in one segment is 7 weeks, and for two segments, 11 weeks. Postoperative complications occurred in the initial work period. Spondylodesis failure with migration was noted in 9 cases. The reason for this complication is technical. The groove formation in the vertebrae was performed by electrophoresis, and the graft had a "siskin" shape. In the future, the grooves were formed manually with a graver, giving them a dovetail appearance. The graft was made with the supporting shoulders of the ulcer protrusions inserted into the vertebral bodies' grooves. When using this technology, there was no grafts migration. In the graft migration case, the patients were operated on again with a positive result. Neurological status deterioration in the immediate postoperative period was observed in 2 patients. This complication cause, in our opinion, is traumatic reduction, as well as vibration when using electrofresis for vertebral bodies' resection and grooves formation. This served as the basis for the electrophoresis rejection. Subsequently, the vertebrae resection and the grooves formation were performed manually with nippers and incisors, and the reposition was carried out

without rough techniques and only once. If the reduction fails, we consider it safer to perform decompression of the spinal cord and roots by resecting the vertebral body. Wound suppuration was noted in 6 patients also in the initial work period. When mastering the anterior approach technique, the operations were performed traumatically and, possibly, with imperfect hemostasis. In addition to mastering the operation technique, wound suppuration became rare. Early treatment outcomes were assessed based on the following criteria:

- Analgesic effect of surgery;
- Regression of neurological syndromes;
- Reaching the bone block of damaged vertebral segments;
- Restoration of working capacity.

Good results were noted in 114, satisfactory - in 19, poor - in 2 patients. Long-term results with a follow-up of more than 5 years were followed in 12 patients. There was no overestimation of the treatment results. In all cases, a consistent bone block of damaged segments was established. However, 9 patients showed signs of discs degeneration located adjacent to the fusion level. We associate previously healthy discs degeneration with previous trauma and surgery, since fusion is accompanied by segments overloading adjacent to immobile ones. Despite the fact that patients have no clinical manifestations of osteochondrosis, we regard the healthy discs degeneration as a negative treatment result.

Obviously, this complication does not depend on the fusion method and a real measure of its prevention is the methods development for dynamic damaged vertebral segments stabilization.

Thus, the proposed surgical treatment tactics of cervical spine injuries, including spinal cord and roots decompression with primary stable fusion, provides a stable

positive result in most cases. Refusal to use metal structures for fusion allows avoiding the complications typical for them the late postoperative period and excluding the repeated operations possibility. A specific late complication of fusion is segments adjacent degeneration to the stabilization level due to compensatory overload. Probable prevention of this complication is the methods development for dynamic damaged vertebral segments stabilization.

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# THE IMPORTANCE OF THE SOUND OF TONES IN INSTILLING ELEMENTS OF NATIONAL SPIRIT IN THE HEARTS OF STUDENTS

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## ABSTARCT

**The article discusses the role of music science in teaching students national traditions. Particular emphasis is placed on the unique charm of the sounds of music.**

**The ancient and rich musical culture of the Uzbek people has been a source of spirituality for centuries.**

**Indeed, the ancient and modern folk songs, chants, epics of Uzbek music have been enriched and developed over the years.**

## INTRODUCTION:

Thanks to independence, our people have had the opportunity to study the rich cultural heritage, restore our national values and traditions. Our spiritual wealth, which has reached today - the education of the younger generation in the national spirit through the study of musical works at the level of modern requirements, their restoration and careful preservation, is considered at the state level. Accordingly, as an integral part of our spiritual heritage, one of the most important tasks is the consistent study and recording of Uzbek traditional music, folklore and classical music and traditional music, their development and use in new creative areas and popularization of the younger generation.

A lot of work has been started in the Republic to implement these tasks. According to R.Abdullaev, Doctor of Arts, the transfer of unique musical recordings to audio and video discs by modern technical means, the inclusion of samples of our cultural musical heritage in educational programs, textbooks, textbooks, local scientific and folklore expeditions,

collection and writing of unique masterpieces. , Cultural activities in cooperation with UNESCO to promote such cultural masterpieces as Boysun and "Shashmaqom".

Also, the study of "Khorezm tanbur line" in the modern notation system, ceremonial songs, drums, thirsty musical melodies and epic performance styles typical of the Surkhandarya oasis are being studied. Traditions of folk art are studied at the Tashkent Institute of Culture, Khiva music schools at Khiva, great singing traditions at the Fergana College of Arts, R. Glier Academic Lyceum, traditional performance styles and traditions at the Uzbek Conservatory, regional and music colleges.

But all these positive things are being overlooked in higher education as well as colleges and lyceums, special music schools and secondary schools. However, the problems of inculcating national traditions in the younger generation in the educational process, their aesthetic upbringing have been studied by a number of researchers. In particular, F.Khalilov, I.Kirgizov, R.Mamatkulov, I.Nisanov, B.Karomatova, D.Djamolova conducted research on moral and aesthetic education of students in music lessons.

S.Annamuratova, T.Gafurbekov, M.Kuronov, S.Fayzulina, H.Nurmatov, K.Mamirov, F.Turaev, B.Matyokubov, A.Kushaev use the basic solutions of national education, music folklore, folk songs in upbringing of the younger generation, important aspects of musical and aesthetic education of students are reflected in a number of works. However, the problem of cultivating the national spirit in

students through music has not been specifically studied.

After all, musical works, which combine a complex of different types of musical activities, have the ability to provide a certain educational orientation of the psycho-physiological characteristics of students.

The ability of music, in particular, to instill elements of national spirit in the hearts of students is primarily based on the sound of the melodies. After all, the psyche of each nation is determined by what nation it belongs to, the texture, moods and tones of its musical tones. The tongue may deceive, but the tone does not deceive. It is possible to learn a certain language by speaking it, to find out what nation it belongs to in its speech. But when it is sung, it is definitely expressed on the basis of their national melodies. This is because language is often used as a means of communication, and when melodies are used as a means of communication, they are used as a basis for their experience.

This is because they rarely refer to the language of tones, while they often refer to the spoken language.

With this in mind, it is especially important to instill a national spirit in students. For example, the Japanese, Koreans, and Chinese make extensive use of pentatonic in their tones. In Uzbek tones, it has its own style and, most importantly, its own character. It has intervals of movement, mood, and groans, which belong only to Uzbeks, which is the basis of its mental state, which distinguishes it from other nations.

There are a number of important elements in the melodic structure of Uzbek music that can be found without hesitation. The most important of these elements is to sing the melody with a sweet, lyrical, melancholy, sigh. In particular, these elements are clearly expressed in the mother goddess. A characteristic feature of Uzbek music is the fact

that the intervals in the melody move with half-tone and one-tone, following the mood, without mixing the sounds of other tones. In the melody process, sometimes even transient small tertiary elements are used gently without disturbing the rhythm of the melody. At the end of the melody, there are sometimes jumps in the intervals of the quartet or quintet, which belong to Uzbek music.

The rhythmic vibration, interconnectedness, and creative softness of the melody also have a strong effect on the baby's psychology and lead him to a peaceful sleep.

There are also elements of narration in the mother goddess, and this also has a strong influence on the psychology of the child. Even if the child does not understand what the mother is saying, she will feel from the caressing tones that important points are being made in this statement. Mothers sing in their gods dreaming that their child will grow up to be a man of dignity, courage and kindness.

For example:

God willing, my dear child

Listen carefully.

Luckily you grow up

My sweet lamb is alla.

Jumping on quartet-quintet intervals also sounds like trumpets and horns of Uzbek musical instruments.

It is important for students to listen to the melodies of the trumpet and trumpet, accompanied by a circle and drums, focusing on the quartet-quintet intervals, jumps, typical of Uzbek music.

Since students have witnessed the movement of the melody at such intervals from elementary school to songs such as "Boychechak," "The stork has come, summer has come," and "Chuchvara is boiling," it is only natural that these elements be absorbed into their ears.

The fact that there is such a leap in the final part of the Mother Goddess, and the



connection of such characteristic features, allows the national tones to be absorbed in the students. One of the main criteria on the basis of music education is not only the acquisition of certain knowledge, but also the acquisition and application of ethical concepts.

One of the important criteria for the effective implementation of the musical education of young people is the environment in which students grow up in everyday life, that is, directly related to the conditions of the child. There is a saying, "He does what he sees in the bird's nest." Because the child receives the first lessons of education in the family.

Therefore, it is extremely important to inculcate in the younger generation the national and moral views of our people.

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## ROOT AND CROP RESIDUES IN THE SOIL WITH FORAGE CROPS

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### ABSTRACT:

When using the land during the year, sowing soybeans for grain after four-component (triticale + rapeseed + green peas + oil radish) winter catch crops, the number of feed units was 13380, the amount and quality of protein increased, the bulk soil mass decreased by 0.05-0, 03 g / cm<sup>3</sup>, and the water permeability increased by 20.9 mm / h. When sowing soybeans after one type of food crops in 0-30 cm soil layer, the humus content increased from 1.103% to 1.116%, and when sowing soybeans after four types of catch crops it increased from 1.145% to 1.165%, the total amount of nitrogen from 0.121% to 0.141%, the humus content after four types of soybean catch crops increased by 0.042-0.049%, and the amount of nitrogen by 0.020%.

**KEYWORDS:** fertility; crop rotation; mustard; barley; triticale; rape; Vika; green peas; oil radish; corn; soy; feed unit.

### INTRODUCTION:

Intensification of agriculture with intermediate crops is achieved in two ways: by selecting crops and breeding varieties with a long growing season, with high productivity, or with a short-term formation of two harvests per year or three harvests per year with the current level of scientific knowledge and technical equipment of agriculture, it is

possible with the help of crops catch crops, allowing for tighter rotations in early spring and after the main crops have been harvested.

Intermediate crops leave behind 5-6 tons of root and crop residues, contribute to the greatest accumulation of bolls on cotton (9.3 pieces), and increase the yield of raw cotton to 33.2 c / ha. The yield increase compared to the control was 2.5 c / ha. (1)

For annual crops, the most effective means of enriching the soil with organic matter is corn, which leaves 70-84 centners / ha of roots in a 50 cm layer. Grain crops accumulate less root mass, winter crops - 39-41, spring crops 18-19 c / ha. All of them in the intermediate stages serve as a large reserve of soil enrichment with organic matter. (3)

It was found that annual forage crops, leaving organic matter of root and crop residues in the soil, contribute to an increase in soil fertility and an increase in cotton yield (2)

The objective of the experiment was to determine the increase in the productivity of the forage field, cotton crop rotation by maximizing the compaction of crops (from one crop to four) and in the stubble sowing of soybeans for grain in order to increase the yield of forage and simultaneously improve its quality.

The studies were carried out on light gray earth soils of the Andijan region, on the territory of the Andijan branch (UzNIHI), the area of the experimental site is 2 hectares. The

total area of the plot is 240 m<sup>2</sup>, the counting area is 120 m<sup>2</sup>. The arrangement of the plots is single-tier. The variants are repeated four times.

An increase in the yield and an improvement in its quality with clean crops (mustard and barley) was supposed to be achieved by compaction of crops with double (triticale + rapeseed), triple (triticale + rapeseed + vetch), quadruple (triticale + rapeseed + vetch + peas) and ( triticale + rapeseed + peas + oil radish) mixtures.

The accumulation of organic residues in the soil is one of the main factors for increasing its fertility and, first of all, for improving the agrophysical properties of the soil. Different forage crops and their combinations accumulate different amounts of root and crop residues in the soil.

In the experiment we have studied a different combination of forage crops in order to obtain two harvests per year. Annual forage crops were cultivated in pure and mixed crops, which show a clear pattern in the increase in the root mass in the soil during the compaction of crops. A chamber in a clean sowing accumulates in the 0-50 cm soil layer, on average, over three years, 26.5 centners per hectare, and barley - 35.2 centners per hectare of crop and root residues. With a double mixture of forage crops, root and crop residues were 24.4-15.7 centners / ha more than with pure crops of mustard and barley. As a result of the cultivation of triple and quadruple mixtures of forage crops, the accumulation of stubble and root residues from 63.3 to 67.9 c / ha is provided.

In clean sowing, soybeans (var-2) accumulate root and crop residues up to 36.7 c / ha. Cultivation of winter triticale + rapeseed + vetch + green peas and winter triticale + rapeseed + green peas + oil radish and in the stubble planting of soybeans for grain (version 7-8), provide a greater accumulation of stubble

and root residues by 16.9-18, 4 kg / ha more in comparison with the combination of corn for grain (version 1) and 63.8-65.3 kg / ha more in comparison with the combination of soybeans for grain (version 2).

With an increase in the competence of food crops, the stubble and root residues increase with the overlapping of soybean residues sown after them. In experiments, a relatively large amount of residues was observed in the 8th variant with sowing triticale + rapeseed + green peas + oil radish as food crops and soybeans for grain, which, respectively, in the experimental fields amounted to 101.4; 106.9 and 108.0 c / ha, these indicators were respectively 2.6 higher; 7.5 and 2.7 c / ha compared to the 7th option when sowing in 4 components (triticale + rapeseed + vetch + green peas).

Experimentally, relatively high indicators of nitrogen content in the soil were obtained in the 8th option under the influence of sowing food crops in mixed four components (triticale + rapeseed + green peas + radish), where the initial amount of total nitrogen in the 0-30 cm soil layer was 0.147%, and after sowing food crops, it decreased and amounted to 0.141% (1989), 0.087-0.083% (1990), 0.108-0.101% (1991), and after soybeans, it accordingly increased 0.160% (1989), 0.109% (1990) and 0.114 % (1991), which was 0.013 higher than the initial indicator; 0.022 and 0.006%.

Due to the stubble and root residues left in the soil after sowing autumn food crops of three or four types (triticale + rapeseed + vetch + radish) in the 0-50 cm soil layer, the amount of stubble and root residues increased by 102.0 centner / ha (in one component per 36.7 c / ha), as a result, the soil fertility increased, its agrophysical and agrochemical properties improved.

When using the land during the year, sowing soybeans for grain after four-component (triticale + rapeseed + green peas + oil radish) winter catch crops, the number of feed units was 13380, the amount and quality of protein increased, the bulk soil mass decreased by 0.05-0, 03 g / cm<sup>3</sup>, and the water permeability increased by 20.9 mm / h. When sowing soybeans after one type of food crops in 0-30 cm soil layer, the humus content increased from 1.103% to 1.116%, and when sowing soybeans after four types of catch crops, it increased from 1.145% to 1.165%, the total amount of nitrogen from 0.121% to 0.141%, the humus content after four types of soybean catch crops increased by 0.042-0.049%, and the amount of nitrogen by 0.020%.

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## PRINCIPLES OF PRESENTING THE MATERIAL ON VOICE FORMS

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### ABSTRACT:

The category of voice differs radically from all other hitherto considered categories from the point of view of its referential qualities. Indeed, all the previously described categories reflect various characteristics of processes, both direct and oblique, as certain facts of reality existing irrespective of the speaker's perception. For instance, the verbal category of person expresses the personal relation of the process. The verbal number, together with person. The verbal primary time denotes the absolute timing of the process, i.e. its timing in reference to the moment of speech. The category prospect expresses the timing of the process from the point of view of its relation. But we cannot say the same about the category of voice.

As a matter of fact, the situation reflected by the passive construction does not differ in the least from the situation reflected by the active constructions – the nature of the process is preserved intact, the situational participants remain in their places in their unchanged quality. What is changed then, with the transition from the adjective appraisal of the situation by the speaker the plane of his presentation of it. It is clearly seen when comparing any pair of situation by the speaker, the plane of his presentation of it.

**KEYWORDS:** the voice form, comparative analysis, category, syllabus, teaching English.

### INTRODUCTION:

The teacher should realize difficulties the sentence pattern presents for his students.

Comparative analysis of the grammar item in English and in Russian or within the English language may be helpful. He should think of the shortest and simplest way for presentation of the new grammar item. The teacher should remember the more he speaks about the language the less time is left to practice. The more the teacher explains the less his students understand what he is trying to explain, this leads to the teacher giving more information than is necessary, which does not help the students in the usage of this particular grammar item, only hinders them.

It means that students learn those grammar items which they need for immediate use either in oral or written language. For example, from the first steps of language learning students need the Possessive Case for objects which belong to different people, namely, Mike's textbook, Ann's mother, the girl's doll, the boys' room, etc. The teacher masters grammar through performing various exercises in using a given grammar item.

Grammar items are introduced and drilled in structures or sentence patterns. It has been proved and accepted by the majority of teachers and methodologists that whenever the aim to teach students the command of the language, and speaking in particular, the structural approach meets the requirements.

Students are taught to understand English when spoken to and to speak it from the very beginning. This is possible provided they have learned sentence patterns and words as a pattern and they know how to adjust them to them to the situations they are given.

In our country the structural approach to the teaching of grammar attracted the attention of

many teachers. As a result structural approach to grammar teaching has been adopted by our schools since it allows the pupil to make up sentences by analogy, to use the same pattern for various situations. Students learn sentence patterns and how to use them in oral and written language.

The teacher should furnish students with words to change the lexical (semantic) meaning of the sentence pattern so that students will be able to use it in different situations. He should assimilate the grammar mechanism involved in sentence pattern and not the sentence itself.

Students learn a grammar item used in situations. For example, the Possessive Case may be effectively introduced in classroom situations. The teacher takes or simply touches various things and says this is Nina's pen; That is Sasha's exercise-book, and so on.

The teacher should select the situations for the particular grammar item he is going to present. He should look through the textbook and other teaching materials and find those situations which can ensure comprehension and the usage of the item.

In order to understand a language and to express oneself correctly one must assimilate the grammar mechanism of the language studied. Indeed, one may know all the words in a sentence and yet fail to understand it, if one does not see the relation between the words in the given sentence. And vice versa, a sentence may contain one, two, and more unknown words but if one has a good knowledge of the structure of the language one can easily guess the meaning of these words or at least find them in a dictionary.

No speaking is possible without the knowledge of grammar, without the forming of a grammar mechanism.

If learner has acquired such a mechanism, he can produce correct sentences in a foreign language. Paul Roberts writes:

"Grammar is something that produces the sentences of a language. By something we mean a speaker of English. If you speak English natively, you have built into you rules of English grammar. In a sense, you are an English grammar. You possess, as an essential part of your being, a very complicated apparatus which enables you to produce infinitely many sentences, all English ones, including many that you have never specifically learned. Furthermore by applying you rule you can easily tell whether a sentence that you hear a grammatical English sentence or not."

A command of English as is envisaged by the school syllabus cannot be ensured without the study of grammar. Students need grammar to be able to aud, speak, read, and write in the target language.

This "grammar" functions without the individual's awareness of technical nomenclature; in other words, he has no idea of the system of the language, and to use all the word-endings for singular and plural, for tense, and all the other grammar rules without special grammar lessons only due to the abundance of auding and speaking. His young mind grasps the facts and "makes simple grammar rules" for arranging the words to express carious thoughts and feelings. This is true because sometimes little children make mistakes by using a common rule for words to which that rule cannot be applied. For example, a little English child might be heard to say Two mans comed instead of Two men come, because the child is using the plural "s" rule for man to which the rule does not apply, and the past tense ed rule for come which does not obey the ordinary rule for the past tense formation. A little Russian child can say ножов instead of ножей using the case-ending "ов" for ножи to which it does not apply. Such mistakes are corrected as the child grows older and learns more of his language.

By “grammar” we also mean the system of the language, the discovery and description of the nature of language itself. It is not a natural grammar, but a constructed one. There are several constructed grammars: traditional, structural, and transformational grammars. Traditional grammar studies the forms of words (morphology) and how they are put together in sentences (syntax); structural grammar studies structures of various levels of the language (morpheme level) and syntactic level; transformational grammar studies basic structures and transformation rules.

What we need is simplest and shortest grammar that meets the requirements of the school syllabus in foreign languages. This grammar must be simple enough to be grasped and held by any pupil. We cannot say that this problem has been solved.

Since graduates are expected to acquire language proficiency in aural comprehension, speaking and reading grammar material should be selected for the purpose. There exist principles of selecting grammar material both for teaching speaking knowledge (active minimum) and for teaching reading knowledge (passive minimum), the main one is the principle of frequency, i.e., how frequently this or that grammar item occurs. For example, the Present Simple (Indefinite) is frequently used both in conversation and in various texts. Therefore it should be included in the grammar minimum.

For selecting grammar material for reading the principle of polysemia, for instance, is of great importance.

Students should be taught to distinguish such grammar items which serve to express different meanings.

For example, -s (es)

The selection of grammar material involves choosing the appropriate kind of linguistic description, i.e., the grammar which constitutes the best base for developing speech habits.

Thus the school syllabus reflect a traditional approach to determining grammar material for foreign language teaching, students are given sentences patterns or structures, and through these structures they assimilate the English language, acquire grammar mechanisms of speech.

The content of grammar teaching is disputable among teachers and methodologists, and there are various approaches to the problem, students should, whatever the content of the course, assimilate the ways of fitting words together to form sentences and be able to easily recognize grammar forms and structures while hearing and reading, to reproduce phrases and sentences stored up in their memory and say or write sentences of their own, using grammar items appropriate to the situation.

The property of the category of voice shows the its immediate connection with syntax, which finds expression in direct transformational relational between the active and passive constructions

The said fundamental meaningful difference between the two forms of the verb and the corresponding constructions that are built around them goes with all the concrete situational contexts. In particular, we find the object – experience featuring achieved by the passive in its typical uses in cases when the subject is unknown or is not to be mentioned for certain reasons, or when the attention of the speaker is centered on the action as such respectively.

*Another act of terrorism has been committed in Argentina. Dinner was announced, and our conversation stopped.*

All the functional distinctions of the passive both categorical and contextual connotative are sustained in its use with verbids.

For instance, in the following passive infinitive phrase the categorical object

experience featuring is accompanied by the logical accent of the process characterizing the quality of its situational object. *This event will never be forgotten.*

The past participle of the objective verb is passive in meaning, and phrases built up it by display all the cited characteristics. E.g. *Seen from the valley, the castle on the cliff presented a fantastic sight.*

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## ULTRASOUND CRITERIA FOR DIFFERENT FORMS OF ENDOMETRIOSIS

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### ABSTRACT:

**In the structure of gynaecological morbidity, endometriosis ranks third after inflammatory diseases and uterine myoma. This disease is diagnosed in 21-40% of women with infertility, in 70-90% it is the cause of chronic pelvic pain. Clinical examination besides analysis of complaints, anamnesis, social status, and anthropometric data includes an ultrasound examination.**

**KEYWORDS:** Endometriosis, ultrasound, female infertility.

### INTRODUCTION:

In the structure of the causes of female infertility, endometriosis ranks among the first and occurs with a frequency of up to 50%. The prevalence of retrocervical endometriosis among all locations ranges from 0.5% to 6.5% and is second only to uterine and ovarian endometriosis. The disease is characterized by tumour-like growth, affects adjacent organs, significantly worsens the quality of life of patients, and in some cases leads to severe complications and even disability of the

patients: sprouting of the intestine, bladder, intestinal obstruction, spontaneous pneumothorax, etc.

Verification of the diagnosis of advanced endometriosis is still the prerogative of academic centres and large federal hospitals. The question of the "gold standard" for diagnosis in endometriosis is still relevant. Many researchers refer to the priority of magnetic resonance imaging, but this method also has low sensitivity and specificity in stage I-II peritoneal endometriosis. In the absence of clear examination algorithms for peritoneal and retrocervical endometriosis, determining the extent of its spread and the severity of adjacent organ involvement is difficult, whereas the development of a clear diagnostic scheme will greatly simplify this process and improve the quality of examination.

Ultrasound diagnosis of endocervix is poorly developed in both domestic and foreign medical science. Existing diagnostic criteria for external genital endometriosis have been developed mainly for severe disseminated forms of the disease, which are the extreme stage of the process with deep organ

involvement. The clinical picture in such cases has a detailed pathognomonic picture and the degree of organ damage (ovaries, fallopian tubes, peritoneum, sacro-uterine ligaments, etc.) is maximal.

Existing guidelines for ultrasound diagnosis have high sensitivity and specificity only for common forms of endometriosis (stages III-IV according to rAFS), whereas the initial disease processes remain invisible to the proposed methods. Currently, there is no description of the ultrasound picture of the initial stages of external genital endometriosis, and no diagnostic criteria have been developed for these forms of the disease. A distinction is made between diffuse, focal and nodular forms of uterine endometriosis. Internal endometriosis is most often represented by the diffuse form. The most characteristic echographic features of diffuse internal endometriosis are:

1. Rounded shape of the uterus due to increased anteroposterior size;
2. Asymmetry in the thickness of the uterine walls, with a more likely A thickening of the posterior uterine wall;
3. Presence of an area/areas of increased echogenicity in the myometrium with an interrupted contour and often with hypoechogenic inclusions;
4. Hypo- or anechogenic small (1-5 mm) inclusions throughout the uterus throughout the uterus;
5. Visualization in areas of myometrium with a heterogeneous structure bands of increased or decreased echogenicity, directed perpendicularly to the scanning plane;
6. An irregular, indistinct endometrial contour



Fig.1. Internal endometriosis, diffuse form. The rounded shape of the uterus. (TV scan)

Nodular disease is characterized by:

1. The appearance in the uterine wall of a zone of increased echogenicity Round, oval or irregularly shaped, resembling a myomatous nodule;
2. The presence of small (2-6 mm in diameter) an echogenic inclusions or cystic cavities (7-32 mm in diameter), containing fine disseminated suspended matter
3. Indistinct contours of the mass;
4. An endometrioid nodule is always located interstitially, but when large, can cause a displacement of the M-echo, without a pronounced deformity of the uterine cavity;
5. There is increased echogenicity near the anterior contour increased echogenicity is noted near the anterior contour of the mass and decreased echogenicity near the posterior one;
6. The pathological focus shows closely spaced bands of medium and low echogenicity, oriented perpendicularly to the scanning plane.



Fig. 2 Endometriosis of the uterine corpus, small interstitial nodule (indicated by arrow)

There are several classifications of endometriosis, based on both the clinical symptoms of the disease and the depth of the anatomical involvement of the organs and the extent of the pathological process detected by surgical treatment. In addition, there is an endometriosis score to predict fertility recovery. Endometriosis is capable of infiltrative growth and dissemination, spreading through blood and lymphatic vessels, which unites it with malignant tumours. Endometrioid heterotopias do not have a connective tissue capsule, but unlike malignant processes, most authors do not note cellular atypia and progressive autonomous growth. In addition, pregnancy has a beneficial effect on the clinical course of endometriosis due to prolonged exposure to luteal and placental hormones, which also distinguishes endometriosis from malignant tumours, which are known to progress significantly during pregnancy. Due to the controversial position regarding the possibility of endometriosis malignisation, some similar clinical and echographic signs, oncological caution should be exercised. Careful differential diagnosis with malignant neoplasms must be made, and in doubtful cases, the oncological process must be excluded first.

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# PROPERTIES OF CENTRAL CC INTERACTIONS AT A MOMENTUM OF 4.2 GEV/C PER NUCLEON

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## ABSTRACT:

In this paper the multiple of secondary hadrons( $\pi^\pm$ -mesons and protons)inCC-interactions, depending on the degree of collision centrality was studied. As the degree of centrality accepted number of protons participating formed in the event. The experimental values of the mean multiplicity  $\pi^\pm$ -mesons, protons, proton-participants identified for 4 methodically selected types of collisions. Estimate the yield of protons in different momentum intervals depending on the value of the impact parameter. The experimental data are compared with the results of theoretical calculations of the model FRITIOF. It is shown that the multiplicity of slow and evaporated protons model reproduced unsatisfactorily.

**KEYWORDS:** reaction, exit, participant proton, centrality, multiplicity, interval, model, distribution.

## INTRODUCTION:

The cascade-evaporation model (ECM) is based on the idea of a cascade of interactions inside the nucleus during a nuclear reaction. Thus, the formation of fast nucleons in hadron-nuclear and nucleus-nuclear collisions can be explained [1,2]. The great significance of the reaction yield in the regions of nuclear fragmentation in the EMC is due to a cascade of region exchanges. According to [3], in hadron-nucleus interactions it is possible not only sequential knockout of nucleons, but also simultaneous knockout of nucleons, described by non-planar amplified diagrams. With simultaneous knocking out of nucleons, all of them are in a state characterized by the same physical characteristics, and therefore we can expect a weak dependence of the spectra of nucleons on the centrality of collisions.

Central and peripheral interactions differ primarily in the number of primary intranuclear collisions. In central interactions, the nucleon participants must be concentrated in the central rapidity region due to multiple scattering of nucleons inside the nucleus, i.e. we can expect a predominant nucleon production in nuclear

fragmentation regions. With a decrease in the impact parameter, the number of primary collisions and the number of cascade interactions in residual nuclei increase, and therefore the yield of nucleons in the regions of nuclear fragmentation should be minimal. Therefore, according to the IMC, the shape of the nucleon spectra should change in the regions of nuclear fragmentation. The calculations presented in [4] confirm this reasoning. However, the opposite is observed in the experiment: with an increase in the centrality of collisions, the yield of protons in the central region increases rather than in the regions of nuclear fragmentation. Therefore, it is interesting to study the yields of nuclear reactions as a function of the degree of centrality and at different pulse intervals of secondary hadrons.

This paper is a continuation of the analysis of experimental data [5–8] on interactions of light nuclei with carbon nuclei at a pulse of 4.2 GeV/c per nucleon in the framework of the FRITIOF model, adapted to energies below 10 GeV/c [9].

### Receiving and processing techniques of experimental material:

For processing, we used experimental material obtained on a 2 m propane bubble chamber placed in a magnetic field with a strength of 1.5 T and irradiated in a  $^{12}\text{C}$  nuclear beam with a pulse of 4.2 AGeV/c at the JINR Synchrophasotron (Dubna, RF). The selection of events of inelastic CC interaction from the complete ensemble of interactions of carbon nuclei with propane (more than 37,000 events), as well as the introduction of corrections for the number of secondary particles and their momentum and angular characteristics are described in detail in [10]. Of all  $^{12}\text{C}(\text{C}_3\text{H}_8)$  interactions, according to the established criteria, 20527 inelastic CC events were identified.

In the considered CC interactions, among the secondary particles,  $\pi^+$  and  $\pi^-$  -mesons, evaporative protons (protons with a momentum of  $p < 0.3$  GeV/c), stripping fragments from an incident carbon nucleus ( $p > 3$  GeV/c, and angles departures  $\theta < 3^\circ$ ), and protons participants ( $p > 0.3$  GeV/c without stripping particles). Also, the “behavior” of protons with a pulse in the range of  $0.3 < p < 0.75$  GeV/c is studied - proton participants from the target and protons with a pulse of  $p > 0.75$  GeV/c - proton participants from the projectile nucleus. The whole ensemble of inelastic CC collisions was divided into three groups:

1. Peripheral interactions - the number of proton participants in which  $\leq 4$ . The average value of the impact parameter  $\langle b \rangle$  for these events is greater than 4 fm and the average value of the participating protons is 4.41.
2. Events with the number of protons  $4 < n \leq 9$ . For these events, the average value of the impact parameter lies in the range from 2 to 4 fm.
3. Central events, where the number of proton participants is greater than 9. For these events,  $\langle b \rangle$  is less than 2 fm.

In addition, a group of carbon-carbon events was identified in which the total charge of the stripping fragments  $Q_{\text{str}}$  of the projectile core is zero.

### Experimental results and comparison with model calculations:

The results obtained on the multiplicity of secondary particles for the considered groups of CC-collisions are shown in Table 1. The results of processing experimental material (20527 CC events) using the algorithmic program FORTRAN-77 showed that more than half of the CC-collisions are peripheral interactions and only a few percent of CC collisions satisfies the above conditions of centrality of events. From the analysis of the data given in Table 1 (Fig. 1), it is clearly seen that with an increase in the degree of centrality, the multiplicity of

secondary charged particles increases. For example, when moving from peripheral collisions to deep central events, the  $\pi$ -meson fraction increases from 23% to 35%. The reasons for this is that as the measure of centrality increases, the number of nucleon-nucleon interactions with pion production will increase.

In the group with  $n_p \leq 4$ , the average multiplicity of  $\pi^+$  -mesons is higher than the average multiplicity of  $\pi^-$  mesons. This is due to the fact that the group with  $n_p \leq 4$  included more events with the charge exchange of protons into neutrons ( $p \rightarrow n\pi^+$ ) than with the charge exchange of neutrons into protons ( $n \rightarrow p\pi^-$ ). And in the group with  $n_p > 9$ , the opposite is observed. Where charge exchange processes are equally likely,  $\langle n_{\pi^-} \rangle = \langle n_{\pi^+} \rangle$ . This ratio was obtained for groups with  $4 < n_p \leq 9$  and  $Q_{str} = 0$ .

During the transition from peripheral to central interactions, the shape of the event distribution by the number of  $\pi$  mesons changes significantly (see  $\pi$  for mesons fig.2). The number of events without the production of  $\pi$ -mesons sharply decreases, and the share of multi-meson events increases, as a result of this, an increase in the average multiplicities of  $\pi^+$  and  $\pi^-$  mesons is observed (Table 1). In terms of the mean pion multiplicities per proton participant, it turned out that in the  $\langle n_{\pi^-} \rangle$  and  $\langle n_{\pi^+} \rangle$  events the  $\langle n_{\pi^-} \rangle / \langle n_{p^{par}} \rangle$  relations coincide with the corresponding  $\langle n_{\pi^+} \rangle / \langle n_{p^{par}} \rangle$  ratio for inelastic CC interactions equal to  $0.325 \pm 0.003$ . Different ratios between mean multiplicities of  $\pi^+$  and  $\pi^-$  -mesons in peripheral and central CC interactions leads to a different dependence of the mean values of negative and positive pions on the degree of centrality (Table 2).

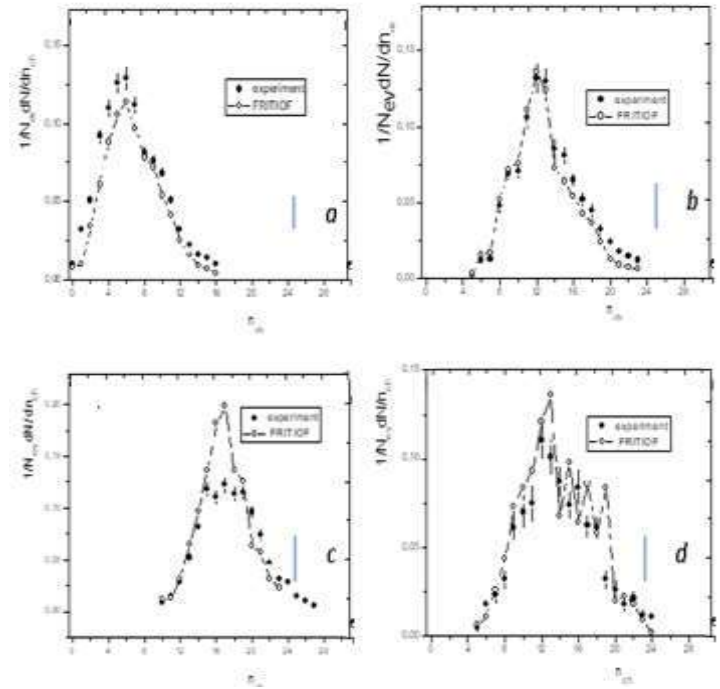


Fig.1. Multiple distribution of charged particles in CC interactions.

a)  $n_{p^{par}} \leq 4$ , b)  $4 < n_{p^{par}} \leq 9$ , c)  $n_{p^{par}} > 9$ , d)  $Q_{str} = 0$ .

Table 1. The average multiplicities of charged hadrons in CC interactions with a different number of proton participants (the upper line is the experimental results, the lower line is calculations using the FRITIOF model).

Event type	$n_{p^{par}} \leq 4$	$4 < n_{p^{par}} \leq 9$	$n_{p^{par}} > 9$	$Q_{str}=0$
$N_{ev}$	12010 24501	7101 21351	1416 4150	672 2313
$\langle n_{\pm} \rangle$	$6.82 \pm 0.02$ $6.61 \pm 0.02$	$13.77 \pm 0.04$ $12.38 \pm 0.02$	$19.34 \pm 0.09$ $17.12 \pm 0.07$	$17.48 \pm 0.16$ $15.22 \pm 0.08$
$\langle n_{\pi^-} \rangle$	$0.714 \pm 0.005$ $0.698 \pm 0.005$	$2.158 \pm 0.016$ $1.633 \pm 0.008$	$4.05 \pm 0.04$ $3.46 \pm 0.02$	$3.25 \pm 0.07$ $2.58 \pm 0.003$
$\langle n_{\pi^+} \rangle$	$0.892 \pm 0.006$ $0.898 \pm 0.006$	$2.152 \pm 0.018$ $1.666 \pm 0.010$	$2.96 \pm 0.04$ $2.08 \pm 0.02$	$3.35 \pm 0.07$ $2.81 \pm 0.03$
$\langle n_p \rangle$	$4.223 \pm 0.04$ $4.366 \pm 0.03$	$1.822 \pm 0.024$ $2.012 \pm 0.014$	$0.42 \pm 0.10$ $0.55 \pm 0.09$	$1.18 \pm 0.08$ $1.44 \pm 0.06$
$\langle n_p \rangle$	$0.682 \pm 0.007$ $0.367 \pm 0.005$	$0.865 \pm 0.012$ $0.674 \pm 0.006$	$0.54 \pm 0.02$ $0.40 \pm 0.01$	$0.86 \pm 0.04$ $0.62 \pm 0.02$
$0.15 \leq p < 0.3$	$0.728 \pm 0.005$ $0.626 \pm 0.005$	$1.744 \pm 0.015$ $1.726 \pm 0.009$	$2.66 \pm 0.04$ $2.52 \pm 0.02$	$1.86 \pm 0.06$ $1.52 \pm 0.03$
$0.3 < p \leq 0.75$	$1.611 \pm 0.007$ $1.718 \pm 0.007$	$4.936 \pm 0.019$ $4.961 \pm 0.012$	$8.44 \pm 0.05$ $8.51 \pm 0.05$	$8.44 \pm 0.09$ $8.12 \pm 0.04$
$\langle n_p \rangle$	$2.282 \pm 0.007$ $2.344 \pm 0.008$	$6.605 \pm 0.016$ $6.676 \pm 0.009$	$12.04 \pm 0.03$ $11.23 \pm 0.02$	$11.12 \pm 0.09$ $9.14 \pm 0.05$

From Table 2 it can be seen that during the transition from CC events from  $n_p < 4$  to events from  $n_p > 9$ , there is a slight decrease ( $\sim 10\%$ ) of the yield of charged pions per proton-participant. With a decrease in the impact

parameter, the average number of proton participants both from the projectile nucleus and from the target nucleus naturally increases and, accordingly, the multiplicity of stripping fragments of the projectile nucleus and evaporative protons of the target nucleus decreases, and to a greater extent due to protons with impulse less than 0.15 GeV/c (Fig.3-4). The average number of protons with  $p < 0.15$  GeV/c was estimated by the missing charge in the event (Table 1). It should be noted that the average multiplicity of proton participants in a subgroup with momenta from 0.3 to 0.75 GeV/c grows more slowly than in a subgroup with  $p > 0.75$  GeV/c. Analysis of the experimental data showed that part of the proton participants from the target nucleus (40-50%), when colliding with the nucleons of the projectile nucleus, receives large momentum transfers and transfers to the group of proton participants with a momentum of  $p > 0.75$  GeV/c. Hence a significant increase in the average number of proton participants with an impulse greater than 0.75 GeV/c in central interactions.

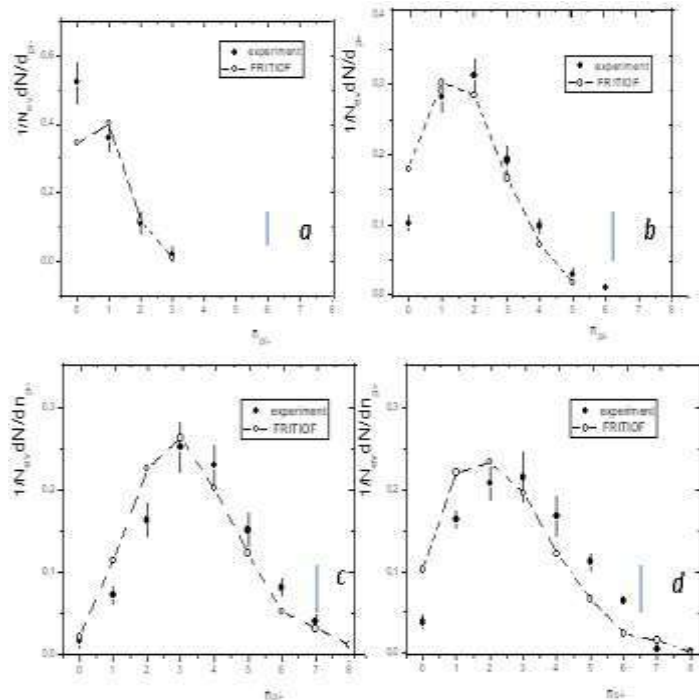


Fig.2. Multiple  $\pi$ -mesons distribution in CC interactions.

a)  $n_p^{\text{par}} \leq 4$ , b)  $4 < n_p^{\text{par}} \leq 9$ , c)  $n_p^{\text{par}} > 9$ , d)  $Q_{\text{str}} = 0$ .

Table 2 Relative multiplicities of  $\pi^-$  and  $\pi^+$  - mesons in CC interactions with different number of proton participants (top line – experimental results, bottom line - calculations using the FRITIOF model).

Event type	$n_p^{\text{par}} \leq 4$	$4 < n_p^{\text{par}} \leq 9$	$n_p^{\text{par}} > 9$	$Q_{\text{str}} = 0$
$\langle n_{\pi^-} \rangle / \langle n_p^{\text{par}} \rangle$	$0.312 \pm 0.003$ $0.296 \pm 0.002$	$0.326 \pm 0.003$ $0.249 \pm 0.002$	$0.363 \pm 0.004$ $0.290 \pm 0.003$	$0.314 \pm 0.007$ $0.239 \pm 0.004$
$\langle n_{\pi^+} \rangle / \langle n_p^{\text{par}} \rangle$	$0.385 \pm 0.003$ $0.384 \pm 0.003$	$0.321 \pm 0.003$ $0.245 \pm 0.002$	$0.263 \pm 0.004$ $0.179 \pm 0.003$	$0.329 \pm 0.008$ $0.267 \pm 0.006$
$(\langle n_{\pi^-} \rangle + \langle n_{\pi^+} \rangle) / \langle n_p^{\text{par}} \rangle$	$0.697 \pm 0.004$ $0.680 \pm 0.004$	$0.647 \pm 0.004$ $0.494 \pm 0.003$	$0.626 \pm 0.006$ $0.469 \pm 0.004$	$0.643 \pm 0.010$ $0.506 \pm 0.007$

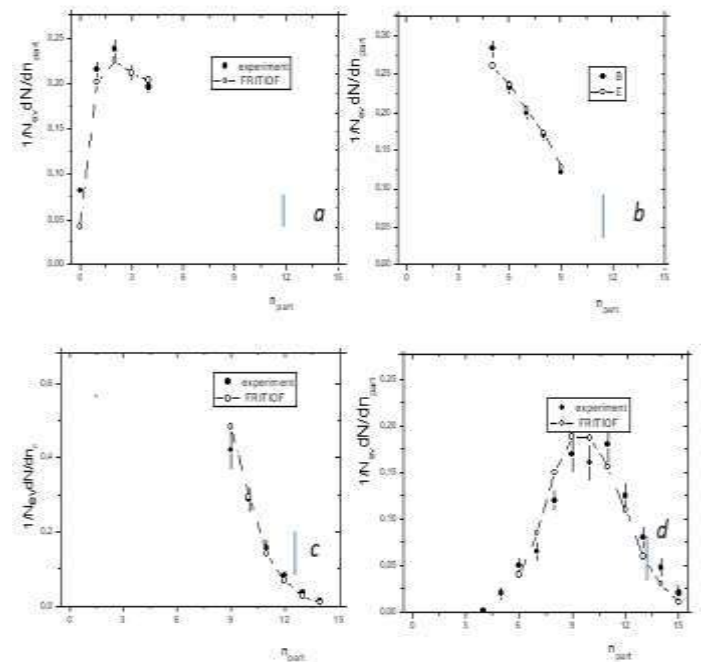


Fig.3. Multiple distribution of proton-participants in inelastic CC interactions. a)  $n_p^{\text{par}} \leq 4$ , b)  $4 < n_p^{\text{par}} \leq 9$ , c)  $n_p^{\text{par}} > 9$ , d)  $Q_{\text{str}} = 0$ .

A comparison of the mean multiplicities of particles in CC groups of events with  $n_p^{\text{par}} > 9$  and  $Q_{\text{str}} = 0$  shows that events with  $n_p^{\text{par}} > 9$  are distinguished by a higher average multiplicity of secondary charged particles, a significantly smaller average multiplicity of evaporation protons and the presence of stripping fragments of the projectile nucleus (Table 1).

In events with  $Q_{\text{str}} = 0$ , by definition, all six protons of the carbon nucleus interact with the target. Of the target nucleus, on average, 4.2 protons take part in the interaction. In events  $n_p^{\text{par}} > 9$ , these numbers are respectively 7.78 and 5.13. They obtained using the average



multiplicities of stripping particles and evaporative protons from Table 1. A visual representation of the features of the two types of central CC interactions ( $n_{p^{par}} > 9$  and  $Q_{str} = 0$ ) can be obtained from Fig. 3 c, d.

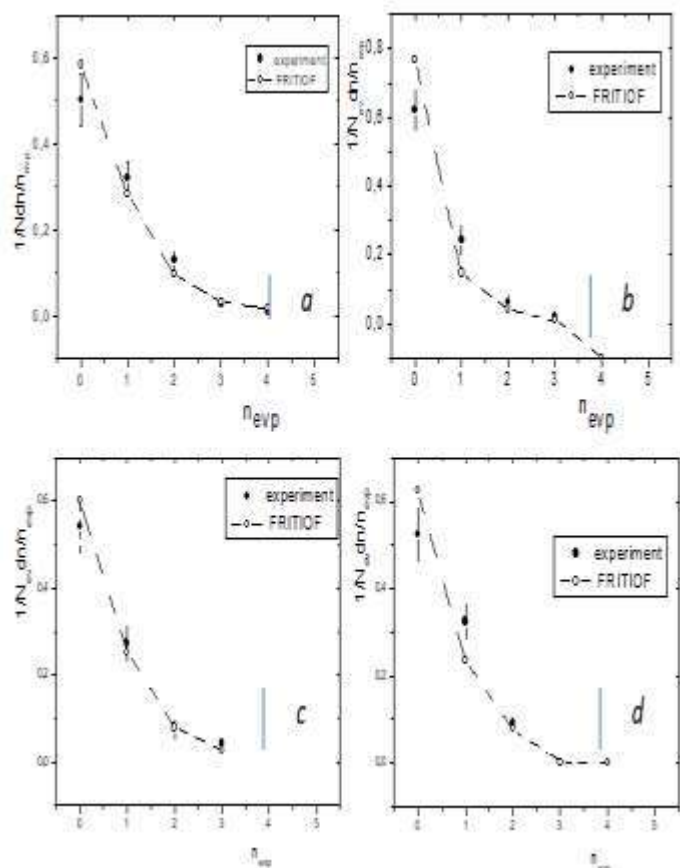


Fig.4. Multiple distribution of evaporative protons in CC interactions. a)  $n_{p^{par}} \leq 4$ , b)  $4 < n_{p^{par}} \leq 9$ , c)  $n_{p^{par}} > 9$ , d)  $Q_{str} = 0$ .

Obtained using the average multiplicities of stripping particles and evaporative protons from Table 1. A visual representation of the features of the two types of central CC interactions ( $n_{p^{par}} > 9$  and  $Q_{str} = 0$ ) can be obtained from Fig. 3 c, d.

## CONCLUSION:

The result of the analysis of the obtained experimental data and their comparison with the calculations of the FRITIOF model allows us to draw the following conclusions:

- With close values of the average multiplicities of the protons involved (difference of about 10%), the SS-events have completely different

distributions by hand. By virtue of the selection criterion, events  $n_{p^{par}} > 9$  are concentrated in a narrow interval of  $n_{p^{par}}$ , while for events with  $Q_{str} = 0$ , the distribution of  $n_{rubs}$  is quite wide (Fig. 3d). Apparently, in events with  $Q_{str} = 0$ , proton-neutron interactions ( $pn \rightarrow pnX$ ) and interactions with proton charge exchange ( $pn \rightarrow nn\pi^+$ ) play a significant role. This may explain the occurrence of events with  $n_{p^{par}} > 9$  at the interaction of six protons from the incident carbon nucleus with a carbon target.

- As a result of the comparison, we can conclude that the degree of centrality of CC-interactions with  $n_{rubs} > 9$  and  $Q_{str} = 0$  is approximately the same.

- Comparison of experimental data on the multiplicity of secondary particles with calculations using the FRITIOF model shows that the model satisfactorily reproduces the average multiplicities of all charged particles, proton participants and evaporative protons in all analyzed groups of events (Table 1 and Figure 1,3). The greatest discrepancy between the experiment and the model is observed when comparing the multiplicities of  $\pi$ -mesons and evaporative protons in subgroups with momenta of  $p < 0.15$  GeV/c and  $0.15 \leq p < 0.3$  GeV/c.

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# FUNCTIONING OF ETHNOGRAPHIC TERMS IN THE RUSSIAN LANGUAGE AT THE LEVEL OF POLYSEMY, HOMONYMY, SYNONYMY, ANTONYMY

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## ABSTRACT:

**The article examines the functioning of ethnographic terms from a functional and semantic point of view, as well as the specific manifestation of synonymic, antonymic, hyponymic relations, and their manifestation in derivational activity at three levels-intra-word, word-forming and phraseological.**

**KEY WORDS:** Etnograficzny, synonymic relations, ethno-psychological features, comparative and statistical method, diversion activity, lexical units, the specificity of knowledge of contemporary Ethnography

## INTRODUCTION:

In view of the complexity of ethnographic phenomena, Tylor and Spencer put forward a special method-comparative-statistical. Tables are compiled in which each nation is entered in a column with a number of phenomena that characterize the main features of its social life (the surrounding nature, the form of economy, the type of tools, family forms, beliefs, political system, degree of communication, etc.). The more detailed the headings, the more correct and unexpectedly interesting the conclusions can be. Then, if you want to find out the nature of a phenomenon, look at what accompanying phenomena it is most often accompanied by in the table. Here the ethnographer does what the physicist does in his observations, distinguishing random concomitant

phenomena from the necessary ones. This method is still too little used: but we see grouped together, facts of a general order, phenomena taken from peoples standing at completely different stages.[1, 21]

With the functional-semantic point of view, etnografiska divided by the archaisms, neologisms and historicism.

In the present study also identified the main methods and principles of the nomination of ethnographic words:

a) Function; b) To the material; C) The category associated with the shape, size, way of buildings, cooking, d) On the morphology of the place; d) In color characteristics; e) The property, quality of realities; g) The similarity of action.

In each of these types, subtypes, types, groups, subgroups, and other categories can be distinguished. However, they can be subdivided depending on additional factors. For example, the names of dairy drinks are based on milk (the main feature by which they are combined into one group), and they can be named according to the following characteristics: 1) by composition; 2) by the method of preparation; 3) by the main properties acquired during preparation.

## THE MAIN FINDINGS AND RESULTS:

The specific manifestation of synonymic, antonymic, and hyponymic relations is determined by the thematic affiliation of lexical units. Consideration of the paradigmatic relations of ethnonyms allowed us to find out the differential features on the basis of which the values of ethnonyms differ from each other.

These are, first of all, the attitude to the historical era, race, language group, territory of residence (north - south, west - east of the country), the nature of the landscape (mountain-plain), the continent, as well as the level of generalization (the place of the ethnonym in the taxonomic hierarchy).

Under certain conditions, synonymous relations are established between ethnonyms due to the presence of similar connotative features in the names of completely different peoples. Ethnonyms may be synonymous in their figurative meanings or become variable elements of a single phraseological unit due to the fact that similar semes are actualized when transferring the meaning or in the context of a particular FE.

A kind of antonymic relationship is established between ethnonyms in the special comparative context of some proverbs. It can be concluded that the peoples mentioned in the proverbs are associated in the naive linguistic consciousness with ideas about the poles of ethnic dissimilarity, about their cardinal difference from each other in ethnopsychological features.

In the microsystem of phraseological units with an ethnonymic component, there are units of different structural and semantic groups (nominative, nominative-communicative, interjective and communicative), as well as units that differ in their structural and morphological features (with the structure of a phrase and a sentence), which, in turn, are represented by different structural models. The specifics of the semantics of ethnonyms in the FE are largely determined by the structural organization of the latter. Therefore, the meaning-forming role of the ethnonymic component was considered within the framework of the FE of certain structural types.

Nouns-ethnonyms most often turn out to be the semantic center of the FE and determine

the semantic and emotional-expressive character of the FE as a whole. In the context of FE, some semes of the ethnonym are extinguished and others are actualized due to the opportunities that open up within the framework of a combination of words. In FE, the part of the connotations of ethnonyms that does not find implementation in the usual ethnometaphors is also realized.

The analysis of the material showed sufficient derivational activity of ethnonyms at three levels-intra-word, word-forming and phraseological. Thus, ethnonyms contribute to the development of the lexical system of the Russian language. This is a huge nominating potential of the ethnonyms. In addition, the ability of a word to serve as a basis for the formation of new lexical units is considered an important sign of the word's belonging to the main vocabulary. Thus, it can also include the most active ethnonyms in the word - and phrase-forming process.

According to their stylistic parameters, ethnonymic units of different levels are most often units from the sphere of colloquial vocabulary, some of them take their origin from the soldier, marine, student and school jargon.

The results and conclusions obtained in the course of the study can be expanded by attracting new dictionaries, as well as text materials. The emphasis can be placed on the dynamics of the functioning of Russian ethnonyms in speech. It is recognized in linguistics that the semantic structure of a word combines not only its meanings, but also its uses (socially accepted and individual), which contain the potencies of the future semantic development of the word (Olshansky 1982; Silinsky 1995). It would be interesting to further study the ethnic words of other ethnic groups.

The material of Turkisms can be used to trace various sound processes, lexical and semantic phenomena, and morphological changes, which, of course, is of considerable

interest for the study of Russian and other Slavic languages. For the Russian language, the results of a comprehensive study of Turkisms, especially ethnocultural vocabulary, can serve as an invaluable source for restoring individual fragments of its history. The identification of three main lexical and thematic layers in Russian borrowed onomastics: anthroponyms, toponyms, and ethnonyms gives a sufficient idea of the nature of the Turkic onomastics, its distinctive features and common features with other languages.[2,24]

Other forms of religious art are experiencing the same evolution. For example, a stone axe, which once served as a tool, later becomes an object of worship and magic. The totem, which was depicted on the body, clothing, and walls of the dwelling, as a protective means against the evil spirit, gradually, due to the habit of constantly depicting the same object, eventually becomes stylized and turns into an ornament that no longer satisfies religious, but aesthetic needs and in turn begins to evolve independently as a field of art.

Another example, fly agaric and tobacco, which originally served as means for shamans, turned into flavoring substances of material culture. Or, for example, a sacred animal, originally kept in a cage as a beneficent protective deity, turns into a pet, a servant of man. The physical image of a shadow or a material double of a person is transformed into the idea of a soul, disembodied, immortal, spiritual... A crude object becomes an image, an image becomes a symbol, a symbol becomes an idea, an idea becomes a philosophy. [3, 64]

Thus, it is important to note that to capture in each individual phenomenon and in their entire categories, small and large, coarse and ideal, all the secrets of evolution and to reduce each to its original genesis — such is the difficult task of ethnography.

Another feature of ethnography when applying the natural history method is that in each given case, the researcher has to solve the question of cash and the absence of borrowing. In simpler cases (for example, the borrowing of certain tools, rites, legends, etc. by primitive peoples from Europeans), it is relatively easy to navigate; but there are cases that are very complex, the explanation of which can lead to the solution of important problems. The merit of G. D. Gachev as a scientist also lies in the special epistemology that "for the knowledge of the" national image of the world "it is necessary to have its own methodology, a metalanguage that will allow us to decipher the cosmo - psychologos of the people". [4, 89]

The question of the criteria for the "dialogue" of national cultures also deserves attention, since not every interaction of ethnic groups is dialogical and serves for mutual spiritual enrichment. Here, the value-semantic core of ethnic culture comes to the fore, defining the logic of thinking of an ethnic group, the "national image of the world". Direct contact and close "communication" of one ethnic group with foreign cultures, with other ethnic groups leads it to the realization of universal values and "universal", world culture.

## CONCLUSION:

The need to study the ethnocultural vocabulary of the Russian people is dictated by the material itself: data on other languages complement each other and allow us to determine the genesis and development of a number of concepts and expressions.

The Russian language and people over the last millennium, i.e. during the period of formation in the form in which we see today, developed in the same or very similar socio-political and economic conditions. This circumstance predetermined the intense mutual influence. The specifics of cognition in any science, in particular, modern ethnography,

inevitably poses a problem for researchers about the nature of the materials involved, which can be solved by mobilizing the entire available volume of knowledge. Indeed, the most complete and accurate knowledge about the object under study can be obtained by studying and analyzing the most diverse scientific material. These include the results of ethnographic research (ethnosociological and ethnopsychological research), studies of scientists-ethnographers, ethnologists (journalistic materials, travel notes, folklore and artistic texts, official documents, historical and socio-political literature, etc.). In addition, in modern ethnography, materials on direct contacts of the "titular ethnos" with representatives of different ethnic groups living on the same territory are also used for scientific analysis. Here, valuable materials are real observations of researchers on the linguistic reactions of the contacted ethnic groups to various life situations, the logic of their

arguments in disputes and arguments used in conversations, ways of explaining various phenomena of the surrounding world and their own behavior, etc. [5, 12]

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## LOW-BURNED GYPSUM BINDERS BASED ON GYPSUM MINERALS OF USTURTA DEPOSITS

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### ABSTRACT:

The article presents the results of a study of the effect of heat treatment on the physicochemical and technological properties of gypsum minerals from the Ustyurt deposits. The results of diffraction patterns, differential thermal analyzes of gypsum minerals are presented. The possibility of obtaining low-calcined gypsum binders based on gypsum minerals from the Ustyurt deposits is shown, their physicochemical and physicomachanical properties are studied.

**KEYWORDS:** Gypsum binders, dihydrate gypsum, semi-aqueous gypsum, soluble gypsum, insoluble gypsum, anhydrite, Ustyurt.

### INTRODUCTION:

At the present stage of economic and social development of the Republic of Uzbekistan, the issue of the integrated use of local raw materials, the development of environmentally friendly, energy and resource-

saving highly efficient technologies for the production of composite and building materials is gaining great importance. The creation of building materials with optimal mechanical properties based on mineral binders is also one of the important tasks of modern applied colloidal chemistry and its section - physicochemical mechanics of dispersed systems. There is every reason to assert that the physicochemistry of dispersed systems and surface phenomena is the scientific basis of technological processes occurring in heterogeneous systems, including the processes of creating a variety of binders [1-2].

It is known that gypsum binders are the most effective in technical and economic terms, especially in terms of the specific consumption of raw materials, fuel, electricity and labor per unit of product. The reserves of the original natural raw materials, as well as by-product gypsum-containing materials for the production of gypsum binders, are also unlimited. For the production of gypsum and anhydrite binders, natural dihydrate gypsum, anhydride, clay gypsum, as well as gypsum-

containing waste from the chemical industry - phosphogypsum, borogypsum, etc. are used as raw materials.

Natural dihydrate gypsum is a rock of sedimentary origin, composed mainly of large or small crystals of calcium sulfate  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ . By the appearance and structure of the rock, gypsum, transparent crystalline gypsum, gypsum spar, fine-fiber gypsum with a silky sheen (selenite) and granular gypsum are distinguished. The purest variety of granular gypsum, resembling marble in appearance, is sometimes called alabaster. The average density of gypsum stone depends on the amount and type of impurities and is 2,2 – 2,4 g/cm<sup>3</sup>.

Natural anhydride is a rock of sedimentary origin, consisting mainly of a mineral - anhydrous calcium sulfate  $\text{CaSO}_4$ . Anhydride deposits are usually underlain by a layer of gypsum dihydrate. Anhydride is a rock that is stronger and more dense than gypsum dihydrate. Its true density reaches 2,9-3,1 g/cm<sup>3</sup>, pure white anhydride, but depending on impurities, it, like gypsum, has different shades. In nature, anhydride is less common than gypsum dihydrate [4].

## MATERIAL AND METHODS:

Gypsum stones of the studied deposits of Ustyurt belong to the rock of sedimentary origin, the content of dihydrate calcium sulfate in them varies from 60 to 98%. For the study, samples were taken from two deposits: Urge (sample no. 1) and Raushan (sample no. 2) of Ustyurt, and their complete silicate analysis was carried out.

The work used X-ray phase, structural-mechanical, DTA thermographic, chemical and other research methods. X-ray diffraction patterns were taken on a DRON-05 diffractometer.  $\text{Cu}_2$  was studied, the voltage and current of the X-ray tube were 30 kV and 12 mA, respectively. The shooting speed is 2

deg/min. DTA was carried out on the Q-Derivatograph system F. Paulik, N. Paulik and L. Erdeya.

## RESULTS AND DISCUSSIONS:

The results of complete silicate analyzes of samples of gypsum minerals from the Ustyurt deposits are presented in Table 1.

Table 1. Chemical composition of gypsum minerals from Ustyurt deposits

Oxides		Field	
		Urge	Raushan
Mass content in % on air dry matter	$\text{SiO}_2$	1,37	4,85
	$\text{TiO}_2$	<0,01	0,035
	$\text{Al}_2\text{O}_3$	<0,10	0,53
	$\text{Fe}_2\text{O}_3$	0,17	0,31
	$\text{MgO}$	0,65	0,70
	$\text{MnO}$	<0,01	<0,01
	$\text{CaO}$	31,66	31,40
	$\text{Na}_2\text{O}$	0,07	0,18
	$\text{K}_2\text{O}$	0,03	0,36
	$\text{P}_2\text{O}_5$	0,053	0,048
	$\text{SO}_3, \text{gen.}$	44,7	44,90
	$\text{SO}_3, \text{sulfate}$	44,52	41,52
	L.O.I.	21,86	20,06
	$\text{H}_2\text{O}, 320^\circ\text{C}$	20,1	16,89
	$\text{CO}_2$	1,76	3,14

As can be seen from its data, gypsum mineral - sample No. 1 is a mineral selenite, which is crystalline, transparent, practically free of impurities, the content of  $\text{CaO}$ ,  $\text{SO}_3$ ,  $\text{H}_2\text{O}$  in it is close to theoretical, 98% consists of calcium sulfate dihydrate. This gypsum mineral belongs to the highest grade gypsum rock; on its basis, it is possible to obtain a gypsum binder and products with increased physical and mechanical properties for the porcelain-faience, ceramic and medical industries.

Sample No. 2 contains a large amount of clay impurities, mainly in the form of silica material, is characterized by a low content of  $\text{CaO}$ ,  $\text{SO}_3$ . The total amount of dihydrate calcium sulfate salt ( $\text{CaSO}_4 \cdot \text{H}_2\text{O}$ ) in it is -87%. This mineral belongs to the second grade gypsum rock, on its basis it is possible to obtain gypsum and building materials with increased

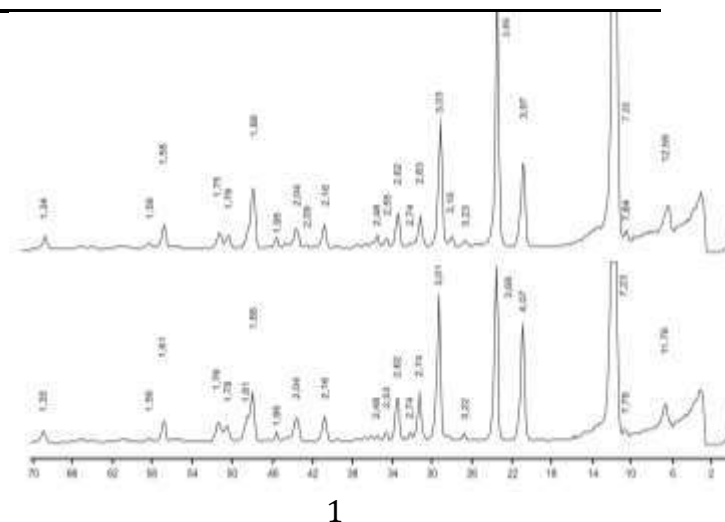
physical and mechanical properties for the construction industry [7].

Gypsum binders are air binders, which, according to the conditions of heat treatment, as well as the speed of setting and hardening, are divided into two groups: low-fired and high-fired. Low-calcined binders quickly set and harden, they consist mainly of semi-aqueous gypsum obtained by heat treatment of gypsum stone at a temperature of 383-453 K; these include construction (alabaster), molding, high-strength (technical) and medical gypsum, as well as gypsum binders made of gypsum-containing materials.

High-calcined binders slowly set and harden, they consist mainly of anhydrous calcium sulfate, obtained by roasting at a temperature of 873-1173 K; these include anhydrite binder (anhydrite cement), high-fired gypsum (estrich-gypsum) and finishing gypsum cement [5-6].

Ustyurt selenite is a mineral that has no analogue in Uzbekistan. In terms of composition, it is close to the theoretical one, which can be used to obtain binders with high physical and mechanical properties [8].

On the basis of the Ustyurt gypsum minerals, we obtained a low-calcined gypsum binder - stucco gypsum by dehydration of dihydrate gypsum to  $\beta$ -hemihydrate at temperatures of 150-160 °C. For this, a weighed portion of the dihydrate in an open dish was placed in a thermostated drying oven, stirred at each definite time and kept until a constant mass corresponding to the  $\beta$ -hemihydrate was obtained. In this case, the dehydration reaction of gypsum dihydrate  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O} \rightarrow \text{CaSO}_4 \cdot 0,5\text{H}_2\text{O} + 1,5\text{H}_2\text{O}$  proceeds by absorbing heat in 588 J/g of hemihydrate, 19,3 kJ/mol of water or 85,27 kJ/mol of steam.





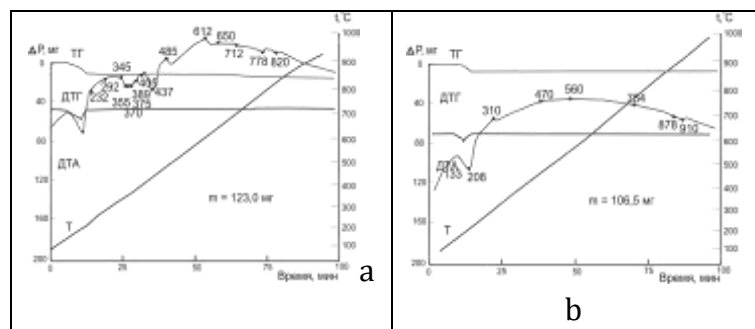


Fig. 3. Differential thermal analysis of gypsum stone of Ustryuta, deposits:  
a - Urye, b - Raushan.

At temperatures above 220 °C,  $\alpha$ -dehydrated hemihydrate transforms into  $\alpha$ -soluble anhydrite, and at 320° -360 °C,  $\beta$ -dehydrated hemihydrate transforms into  $\beta$ -soluble anhydrite. Soluble anhydrite III  $\text{CaSO}_4$  was investigated by X-ray, spectroscopic, thermal analysis, electron microscopic analysis; its porous structure was studied by mercury porosimetry, and the specific surface area of anhydrite was established.

The water demand of soluble anhydrites is 25-30 % higher than that of hemihydrates; their dispersions set faster and their strength is lower.  $\alpha$  - and  $\beta$  - soluble anhydrites have identical X-ray patterns and very close refractive indices. The increased activity of soluble anhydrites is due to their greater dispersion.

The physicochemical and physicomachanical properties of gypsum binders obtained on the basis of gypsum minerals from the Ustyurt deposit have been studied. The true density of the hemihydrate ranges from 2,62-2,66 g/cm<sup>3</sup>, its solubility is 8,07 g/l, in terms of  $\text{CaSO}_4$ . The specific heat of the  $\beta$ -hemihydrate corresponds to 0,84 kJd/(kg °C). The hemihydrate consists of the smallest aggregates of poorly expressed crystals. Indicators of its light refraction:  $n_g = 1,557$  and  $n_p = 1,551$ .

Calculation of the specific surface area Ssp. according to the data of sorption-desorption isotherms of water vapors showed that it changes extremely depending on the temperature of heat treatment - sharply increasing (60-80 times) during dehydration of gypsum dihydrate to hemihydrate and soluble anhydrite, and increasing only 4 times during dehydration to insoluble anhydrite.

$\text{CaSO}_4 \cdot 2\text{H}_2\text{O} \rightarrow \text{CaSO}_4 \cdot 0,5\text{H}_2\text{O} \rightarrow \text{CaSO}_4$ , sol. at 300 °C  $\rightarrow \text{CaSO}_4$ , at 700 °C

$S_{\text{spec.}}, \text{m}^2/\text{g}:$	3,5	250
	180	13,6

Gypsum binders - semi-aqueous calcium sulfate, soluble and insoluble anhydrites, in the presence of water under normal conditions are converted into dihydrate calcium sulfate. In practical terms, the hydration, setting and hardening of these binders is influenced by many factors, such as the water-gypsum ratio (W/G), microfillers, temperature and humidity conditions, etc. (Table 2).

Table 2. Influence of the water-gypsum ratio (W/G) on the plastic strength of gypsum binders based on gypsum minerals from Ustyurt, Pm, kgf/cm<sup>2</sup>

Field	W/G	Measurement time, min.					
		1	5	15	30	60	120
Urye (sample No. 1)	0,50	0,30	4,1	190	193	188	197
Raushan (sample No. 2)	0,50	1,18	14,4	118	128	140	142
Urye (sample No. 1)	0,60	0	0,90	91,7	137	122	125
Raushan (sample No. 2)	0,60	0,10	20,4	78,8	76,9	79,4	75,1

The properties of gypsum binders depend on the type of raw material, the method and mode of processing parameters. When natural gypsum is heated with steam under pressure up to 2-3 atm, followed by drying at a temperature of 160-180 °C, semi-aqueous gypsum of the  $\alpha$ -modification is obtained. In this case, larger crystals are formed, which determine a lower water demand for gypsum (40-45 % of water), which makes it possible to

obtain a gypsum stone with high density and strength. Such gypsum began to be called high-strength, its strength can reach 150-400 kg/cm<sup>2</sup>. However, this type of binder has not found wide application due to its insufficient plasticity and water resistance, which necessitates the introduction of plasticizing additives. The introduction of plasticizing additives and fillers into the binder can give it the missing properties and obtain high-quality materials based on it [8].

The study of the physicochemical and mechanical properties, as well as the grade of gypsum binders based on gypsum minerals of the Ustyurt plateau, was carried out in accordance with GOST 23789-04. The test results are shown in Table 3.

Table 3. Physicochemical and mechanical properties of gypsum binders based on gypsum minerals from the Ustyurt deposits

No	Indicator name	Gypsum binder based on sample No. 1 of the Urge deposit	Gypsum binder based on sample No. 2 from the Raushan deposit
1	Fineness of grinding, sieve residue 0.2, %	2	13
2	Normal density W/G, %	52	58
3	Setting time start, min. end, min.	5 14	6 17
4	Compressive strength after 2 hours, kgf/cm <sup>2</sup>	115	64
5	Tensile strength. bending, kgf/cm <sup>2</sup>	50	39
6	Binder grade	G-10	G-6
7	The content of metal - impurities, mg	2	2
8	Volumetric expansion, %	0,2	0,4
9	Impurities insoluble in hydrochloric acid, %	0,5	30

Analysis of the data in Table 3 shows that on the basis of sample No. 1 (Urge deposit), gypsum binder G-10 BSh was obtained, i.e. gypsum binder of thin floor, grade G-10, normally hardening, and on the basis of sample No. 2 (Raushan deposit) gypsum binder G - 6 BP, i.e. gypsum binder brand G - 6, normally hardening.

## CONCLUSIONS:

Laboratory studies confirm the possibility of using gypsum stone corresponding to the composition of sample No. 1 (Urge deposit) to obtain a gypsum binder with increased physical and mechanical properties by steaming, and gypsum stone corresponding to the composition of sample No. 2 (Raushan deposit) - a gypsum binder by boiling in gypsum boilers.

The study of the physicochemical and physicomechanical properties of gypsum binders obtained on the basis of gypsum minerals of minerals from the Ustyurt deposits shows the possibility of their use for the production of low-calcined gypsum binders - stucco, high-strength gypsum, estrich-gypsum and anhydrite cement.

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## GROWING A LARGE WAX MOTH BUTTERFLY TECHNOLOGY AND AGROTECHNICS

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### ABSTRACT:

**It will be possible to acquire new scientific knowledge in order to further develop biological resources for the development of our society in line with modern requirements. In recent years, there has been a growing interest in the use of pests to protect pets and plants. One of the biological resources is the large wax moth (*Galleria mellonella*). It is present in the hive in accordance with its rare properties, and can fully absorb beeswax.**

**KEYWORDS. Wax moth, propeller, poacher, biological resource.**

### INTRODUCTION:

It will be possible to acquire new scientific knowledge in order to further develop biological resources for the development of our society in line with modern requirements. In recent years, there has been a growing interest in the use of pests to protect pets and plants. One of the biological resources is the large wax moth (*Galleria mellonella*). It is present in the beehive in accordance with its rare properties and can fully absorb beeswax.

The large wax moth is widely used for scientific production. Wax moth has been used as a host of free entomophagous plants in biological control of agricultural pests.

The large wax moth is a member of the family Lepidoptera, a family of moths (Pyralidae). Although this insect is called a propeller, shashen, shashel, in practice it is

called a large wax propeller. The large wax moth is adapted to develop in the bee family. In that case, the nourishing environment for him will be in the hive of bees.

The large wax moth is in the beehive in the following order. Butterflies can be seen flying at night all summer long. He hides somewhere during the day. The developmental stage of this insect includes the following phases: eggs, larvae, pre-emergence of fungi, fungi (chrysanthemums), mature species (imago).

In many cases, a large wax moth is propagated in a laboratory under special heaters at a temperature of 28-30 °C and a relative humidity of 70-80% in artificial nutrient media. A variety of work tools, implements and utensils are used to store and reproduce the larvae.

Once the butterflies have appeared, a replacement paper is placed in the container to place the eggs. The temperature of the containers is 30 + 1 °C, relative humidity is 60 + 5% and constant light is generated.

The volume of the mesh prepared for mating consists of a 0.55 l plate cup, under which the fabric is placed. Sprinkle 10% sugar solution and powdered sugar into the plate. Females lay eggs in a solution of powdered sugar. Abiotic conditions, ie temperature 32+ 2 °C, relative humidity 70 + 10% and complete darkness.

The large wax moth is common in Central Asia, and although this insect is called a moth, in practice it is called a large wax moth.

Its two species, the large and the small wax moth (*Achroea grisella*), are common and cause some damage in beekeeping. Of these pests, the large wax moth is much more useful in the biological fight to propagate the poacher in its worms. The width of the large wax moth butterfly wings is 15-40mm. The color of the female is covered with light brown, grayish coins. Subsequent wings glow grayish-yellow. Lab lips are long, pointing forward and hanging forward. Male butterflies are slightly smaller and thinner, they do not have lip balms. The wingspan is 14-33mm and the body length is 11.3mm.

The size of a large wax moth egg is 0.5-0.6 mm, oval in color, whitish-yellow before the worms emerge. The worms of the first age are white, the head is pale yellow, the body is covered with sparse short yellow hairs. Adult worms are whitish-gray, the head and shoulders are browner, the anterior part of each joint has a dark chitinous shield, the worm reaches 3-4cm in its final age.

To get the eggs, 7-year-old worms are selected and each of them weighs 85 + 10mg and is placed in 150-200 pieces and 50-100 g of feed is put on the bottom of it. The worms turn into mushrooms here and butterflies start flying out of the mushrooms. Then imagos are used that have a 1-2 day physiological state and the same vitality and give a fast growing generation.

The following ingredients are provided in the preparation of feed for the reproduction of large wax moth worms. Jars made of 5 liter polypropylene housed an average of 20-25 female and male butterflies, and with the appearance of 4-5 butterflies, special plate sticks are used to lay butterflies eggs in each jar.

The sticks are kept in jars for 10-15 days for 2 days when the butterfly is 5-6 and 1-2 days when it is more, and the eggs are separated from the sticks, separated from the sticks and weighed on a scale weighing 0.5 g. Two-hour

eggs (200pcs) in jars with 50–100 g of feed in the obtained eggs. For the worms to grow, the feed is poured in increments, and its thickness should not exceed 2–3 cm. Total feed weight requires 200g.

The practical use of 5-6 year old worms bred in cages reduces the number of worms that need to be used for poaching. Therefore, in order to breed a large wax moth during the season, 100 of the 2-year-old worms that are mass-bred in jars are separated and propagated in jars.

Table 1. Feeding indicators of large wax moth

Nº	Experience options	Worm length	color	weight	The number of worms in the jar
1	control	1mm	White	Middle	100
2	Bean	1,2 mm	White	active	100
3	Lentils	1 mm	Brown	satisfactory	100
4	corn	1 mm	white	middle	100

Table 2

Nº	Experience options	Worm length	color	weight	The number of worms in the jar
1	control	1,4	white	0,7	-
2	Bean	1,7	white	1,5	+ 0,8
3	Lentils	1,5	Brown	1,2	+ 0,5
4	corn	1,4	white	0,9	+ 0,2

Table 3

Nº	Experience options	Worm length, mm	color	weight	state	Room temperature	humidity
1	control	6	White	0,7	Middle	30° C	75%
2	Bean	1,7	White	1,3	good	30° C	75%
3	Lentils	1,3	Brown	1,1	satisfactory	30° C	75%
4	corn	0,8	white	0,8	Middle	30° C	75%

Various researchers at one time conducted an experiment to study the nutrient medium of large wax worms, where the technology of mass reproduction studies the effect of the extract of large wax moth larvae on the body of animals, but it was not regularly

divided into two parts. In addition, the biological potential of the coarse wax moth is not yet fully understood and a comprehensive review of the use of the coarse wax moth is required to meet current requirements.

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## WAYS TO INCREASE THE PSYCHOLOGICAL TRAINING OF VOLLEYBALL PLAYERS

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### ABSTRACT:

**This article analyzes the issues of willpower training, cognitive ability, attention, and development of vestibular analyzers in young volleyball players. Current issues and aspects of psychological training in modern volleyball are covered. Appropriate conclusions have been developed on the organization of psychological preparation.**

**KEYWORDS: Volleyball piece of training, determination classes, vestibular analyzer, psychological preparing.**

### INTRODUCTION:

Psychological training plays an important role in sports. Psychological preparation is a complex and long-term process. A number of studies have been conducted by scientists of the Republic and foreign countries (Z. Gapparov, Y. Masharipov, David Lavalley, John Kremer) to improve the psychological training of athletes, however, volleyball, which is part of sports, work on psychological preparation has not been sufficiently done. In our current situation, the training of modern volleyball players is one of the most essential tasks. The main and necessary condition for the development of volitional qualities in volleyball players is the use of exercises that strengthen the will during training.

Contemporary volleyball players should have the following basic willpower qualities:

- Goal pursuit and perseverance;
- Endurance and self-management;
- Stability and tenacity;
- Maintaining initiative and discipline.

All volitional qualities are inextricably linked. Volleyball players do not have the same willpower. The process of developing these qualities must not have to be blind. Instead, it will have to be managed. That's why, the better the educational work in the educational process, the faster the development of willpower.

The players in volleyball need to be able to see all the players on the field, their location, movements, feel the direction, speed, height of the ball, besides set the right target in difficult game situations.

Useful perception is based on visual acuity, visual acuity, visual acuity, and visual acuity, respectively. Therefore there are concepts of visual differentiation, analysis as well as feeling. In volleyball, kicking, blocking, passing, and receiving the ball all depend on the width of the peripheral view. So, the correct use of a tactical situation is determined by these qualities.

The limited width sight of vision - leads to the inability to choose a favorable situation at the part of the attack, in other words, the player makes the wrong decision - which

creates a favorable opportunity for the opponent. [1,2]

According to the studies, regular training with volleyball players expands the field of view (corner). It is considered a natural phenomenon, given the peculiarities of the game of volleyball. However, the use of specialized exercises to develop the width and volume of vision is really productive.

The ability to clearly distinguish between moving players and the range of a flying ball plays an important role in the timely and accurate execution of a particular technique; Targeting the distance to the partner's position, to the net, to the opponent's position - feeling it allows you to implement the technical method with an effective tactical decision. [3,4]

Numerous studies have shown that regular volleyball increases the ability to measure distance with the naked eye (glazomer). It has been found that accurate measurement of eye distance depends on the athlete's level of training, as does peripheral vision. For example, when a volleyball player is in a good "sports uniform" (high level of training), the accuracy of eye measurements is more than 40-45%. If you do not participate in training for 2-3 weeks, the accuracy of eye measurements will be reduced by 20-30%. That's why some coaches can't accurately determine the cause of a tactical move they are failing in a match, even if the athletes who haven't been to training several times are physically and technically fit.

Pieces of training and games should always be held in halls with natural light (daylight) and artificial lighting (electric lighting). Exercising in dimly lit or abnormally lit halls can cause symptoms of strain on the eye muscles and receptors, which can severely impair vision and visual acuity. [5]

Variety colors have different effects on the human psyche. The psycho physiological function of color is related to the creation of favorable conditions for vision, sensation through vision (perception), delaying fatigue, and even improving light. However, not all colors have the same effect on vision. Among the colors, white, yellow, and green have a more positive effect on vision than other colors. Symptoms of fatigue appear faster when exposed to black, red, purple, or blue. Depending on the type of color, it can be hot or cold, change the length, the width or height of the room, changes the feel of the object. Colors change a person's emotional state and have a positive or negative effect on his nervous system. Coaches need to be aware of these factors and take them into account throughout their careers.

The main requirement for the formation of the accuracy of measuring the distance with the eye is to change the intervals of passing the ball, putting the ball into play, attacking shots in training. To do this, it is useful to perform these techniques at different speeds, directions, and heights. The ball must be played in different ways, in different distances and directions, and the blow must be performed in pairs, triples, and quadruples in different zones under the guidance of the coach. Emphasis on the use of visual functions in this process is even more useful.

Volleyball players should be able to control and visualize the elements, phases, coordination structures, technical structures, and content of their movements during training.

Execution of all technical techniques specific to volleyball is carried out under the control of the mind.

Examples of the most important psychological characteristics of volleyball players are: If I take an example, during a game,



a volleyball player concentrates and controls his or her movements. Controls the level of muscle tension and acceleration, targets, evaluates and decides the distance between the ball and the ball. It's all about training volleyball players to see and move. Interval-time, accuracy - the ability to distinguish between acceleration and voltage levels plays an important role.

As you know, the main technique used in volleyball is to pass the ball so that the muscles of the palms and fingers feel properly. This ability is determined by the athlete's excellent training. For example, when a volleyball player achieves a high level of sportsmanship, the accuracy of muscle tension increases by more than 2.5 times. It has been found that players who do not train well or are not in good shape will not have this result. The exact difference in muscle tension is 3 times higher in connecting players than in attackers. [6]

Volleyball requires each player to respond with maximum speed. Furthermore, Volleyball requires a willingness to respond in a tense situation and a lack of time.

Every movement of volleyball players is characterized by a very complex reflex, selective reaction, and its correct implementation. This action is not only fast, but also requires timely and accurate execution. Timely anticipation, discernment, and perception are crucial.

In modern volleyball, complex motor reactions play a crucial role. Choosing a place on the field, arriving on time, determining the speed, direction, and height of the ball, the movement of himself and his opponent, the necessary interval - to feel the time and give a useful response - a complex action is the main functional elements of the reaction.

It is advisable to develop simple and complex motor reactions, in other words, to

use fast exercises performed in very sharply changing directions. Such exercises, of course, are effective when used in combination with movements in a changing direction, such as jumping, jumping, jumping, twisting, and falling. Regular use of such exercises enhances the function of maintaining static and dynamic balance, the rapid formation of vestibular receptors, ability to feel the movements of himself and his opponent in different situations, as well as the direction of the ball.

The functional activity of the vestibular analyzer is closely related to the activity of other analyzers. This means that the above-mentioned acceleration-stopping, turning-turning also jumping exercises, combined with the regularity of the above exercises, combine the activities of all analyzers. When using exercises, it is advisable to combine functions such as a motor reaction and mental reaction (vision, differentiation, selection, targeting). This process, especially through the use of special exercises designed to develop the vestibular analyzer, increases the effectiveness of attacking and defensive play, including passing the second ball.

In order to increase the ability to maintain vestibular stability or balance during training, it is necessary to use rotational exercises that specialize in this analyzer function. Examples of such exercises include jumping on a trampoline, spinning, accelerating and stopping, and acrobatics. When used in conjunction with volleyball-specific techniques, the results are even more impressive. For example, when performing a "ten-legged ascent" or a circular motion exercise, accurately perform the ball transfer exercise, forward-backward, right-left, and fast running diagonally - the ball after a sharp stop Regular performance of signal, kick, and ball input exercises improves the coordination and accuracy of technical methods. The

organization of training in this order not only integrates the functional activity of all analyzers but also "sharpens" the ability to feel the ball, the pitch, time-space.

Developing the attention of volleyball players is one of the priorities in the long-term training to increase the effectiveness of learning, mastering, and improving technical and tactical methods and game combinations. Physical and functional training, which is the basis for mastering sports skills, is also based on attention. The analysis of volleyball training and competitions shows that the useful performance of technical and tactical actions is determined by the amount of attention in the players, their concentration, speed, stability, distribution, movement from one object to another detected. A volleyball player must be able to see, feel, memorize, and store many objects at the same time throughout the game. First and foremost, you need to have enough attention. In addition, during the process of seeing and feeling an object, each player is required to reflect in his imagination the small elements of the object, its structure, at what distance, at what speed, direction, and height it moves.

In volleyball, there are so many complex and emergency situations that all the components of attention are important in understanding and distinguishing them in a short time, making the right decision besides implementing it. Release attention when it is not necessary (for example, when leaving the ball), and, conversely, in sharp game situations, concentrate it in the required direction (gather), if necessary, distribute it to several points, re-concentrate or move to another point.

In current volleyball, the ball is flown at maximum speed, players move quickly in changing directions, and game situations change dramatically. It all depends on the

speed of concentration and its stability. For example, when a volleyball player receives a ball, he or she can focus on the distance to the ball, the distance between the zones where the ball is passed, and where the players are moving or located requires you to select a transmission method.

To conclude, it should be noted that the level of attention paid to volleyball players varies depending on their level of training or whether they are in good shape. In particular, it was found that players who did not train for a month lost 25-30% of their attention.

It is obvious that the psychological training of volleyball players, including the formation of tactical thinking (thinking, memory, perception, consciousness, attention, will, and analysts) in an integrated manner with the help of specialized exercises for volleyball players, serves as a fundamental basis for training highly qualified volleyball players.

Winning in various prestigious competitions, which are held under very intense competition, depends on the technical and tactical actions, physical and psycho-functional capabilities that will ensure this victory. To do this, every coach must have a thorough knowledge of teaching methods, tools, and principles in their professional and pedagogical activities, as well as master the technology of their application.

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## ERROR AND ERROR CORRECTION IN TEACHING SPEAKING

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### ABSTARCT:

**This article presents a number of useful techniques which will smoothen the correction slot pressure.**

**KEYWORDS: error, language learning mistakes, correction, communication, Self-correction**

### INTRODUCTION:

Everyone makes mistakes even while using their own L1. In the second language learning making mistakes is a natural part of the learning process. The correction of the mistakes is a very important element of the teaching/learning process, therefore, teachers need to make informed decisions about what, when and how to correct their students to improve their speaking for fluency skills and not discourage them from the speaking. Basically, error correction can be divided into two categories: Immediate correction (on-the-spot correction, when students get an immediate, individual correction in the context) and Delayed Correction (correction doesn't interrupt the flow of the fluency-based task).

- This technique is one of the most effective ones since the teacher doesn't interfere in the speaking flow and lets the students finish up their mind. The idea is that the teacher monitors the learning during a speaking activity and collects the errors (grammar, lexical, pronunciation) by noting them in a notebook. The teacher needs to be selective and jot down those mistakes which are closely connected with the lesson topic, impede communication or are repeated mistakes. Mistakes referring to the topics

which haven't been studied or minor mistakes which don't obscure the meaning shouldn't be given notice of.

After the activity is over the teacher boards the sentences which contained mistakes, divides the learners into pairs and asks to correct each sentence. They write their versions on pieces of papers, give them to the teacher who jumps through the answers of all pairs and decided the winning pair. Afterwards, the correct answers are discussed open class. In this way, the students will not feel very stressed about being corrected and actually, the error correction slot will turn into a competition. Moreover, students enjoy analyzing the errors and working out the right answers with their peers

Moreover, you can write down on the board not only sentences with mistakes but also ones with good grammar or vocabulary usage. In this case, a teacher asks students to find and correct incorrect sentences.

- An alternative to delayed correction is when the teacher boards sentences which contain mistakes and asks the students to divide them into two columns where in the first column they must include the mistakes which lead to misunderstanding and in the second column those mistakes which are slight and don't give rise to any misunderstanding in the communication. In this way, the teacher shows to the students that making mistakes is quite a natural part of the language learning process and not all mistakes must be corrected.
- You can use grammatical terminology to make students identify the mistake. Use this technique with more high-level students who know grammatical terms.

"You used the wrong tense",

"You need an adverb, not an adjective"

"Can change that into the passive?"

"Say the same sentence, but with the comparative form"

Facial Expression and Body Language

In many cases when the teacher wants to point to the mistake on the spot he/she may use facial expressions or body language.

- Tilt your head to one side or frown slightly to make the students understand that not everything is ok with their response/speech. In this way, you give them the chance to self-correct
- Point the thumb backwards showing that the sentence must be used in the past tense form or that there is a mistake in the usage of the past tense.
- Point to the posters or any other visual in the classroom which contains the right answer. I had a number of great posters with idioms, use of prepositions, functional language use and so on. In case, when I was spotting a mistake related to those language items I was pointing to one of those posters for students to self-correct and students were able to notice their mistake quite successfully.

Echoing – Repeat what they have said

This can mean repeating the whole sentence or one section of it including the wrong part with an increasing intonation.

Student: "The man GOED to the shop."

Teacher: "The man GOED to the shop?"

Student: "Went to the shop".

You can also repeat the sentence up to the wrong part or the sentence with the wrong part missed out (with maybe a humming noise to show the gap that should be filled). In this way, the teacher illustrates that there is an error and gives some hint as to which bit is wrong by using a questioning tone. However, this method mustn't be overused not to seem to patronizing.

### **Recast or Sadow correction:**

A recast is a corrected answer given by the teacher to a student who has made an error. The teacher effectively repeats what the student has said but in a corrected form. This technique is a quick and encouraging way to highlight mistakes.

Teacher: "What did you do yesterday?"

Student: "I GOED to the shop."

Teacher: "Oh, you WENT to the shop yesterday".

### **Self-correction**

Sometimes, students don't need much help at all but just a chance to do it again. In such cases, when you spot a mistake you can just ask them to repeat the sentence again. A lot of students enjoy self-correction and if they finally come up with the right version of the sentence/language item they have a feeling of accomplishment and get better at language awareness.

"One more time (but think about the grammar more this time"

"Give it another go".

Error correction is necessary to prevent fossilization, over-correction could be demotivating. This means that teachers need to be selective. For this reason, they can even agree with the students on what type of mistakes they need to be corrected for.

Point at the correct language if you have something on the correct form easily accessible on the whiteboard, in the textbook or on a poster, just pointing at it can be a subtle but clear way of prompting students to use the correct language. What you point at could be the name of the tense or word form they are supposed to be using, a verb forms table or the actual correct verb form, a grammatical explanation, or another grammatical hint such as "future", "prediction" or "polite".

### Useful language:

"Have a look at your books/ the board"

"The correct version is somewhere in this chart/ poster/ table"

"You copied this down earlier. Have a look in your notebooks"

Just say the right version

The students can then repeat the correct version or tell you what the difference between the two sentences was and why their version was wrong. Because the students don't do much of the work in this way of being corrected, it might not be as good a way of remembering the correction as methods where you give more subtle clues. Its advantages are that it is quick and suits cultures, classes and students that think of elicitation as shirking by the teacher. It can also be more face-saving than asking them for self-correction, as trying to correct themselves risks making even more mistakes. The "right version" could mean the whole sentence or just the correction of the part that was wrong. In the latter case, you can then ask them to put it into the sentence in the right place and repeat the whole thing.

### Useful language:

"I understand what you are saying, but you need to say..."

"We studied this last week. "Hardly" has a different meaning to "hard", so you need to say..."

"The past of say is pronounced /sed/. So your sentence should be..."

Use grammatical terminology to identify the mistake For example, "(You used) the wrong tense", "Not the Present Perfect", "You need an adverb, not an adjective" or "Can change that into the passive/ indirect speech?" This method is perhaps overused, and you need to be sure that the grammatical terminology isn't just going to confuse them more. Other useful language:

"Because that is the present simple, you need to

add the auxiliary (verb) 'do'"

"Say the same sentence, but with the comparative form"

Don't

Sometimes students won't benefit from any feedback on spoken errors. I could write another whole article on how to choose when to correct and when not to, and I may well do so...

### Useful language:

"We're concentrating on fluency today, so we'll leave the error correction until next week"

"There is practice of this in your homework, so we'll just try and use the language for communication today, and concentrate more on getting the grammar right next week.

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## **DEVELOPMENT OF A COMPREHENSIVE PROGRAMME FOR THE COMPREHENSIVE TREATMENT OF PATIENTS WITH MAXILLOFACIAL PHLEGMON WITH VIRAL HEPATITIS B**

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### **ABSTRACT:**

**The programme of complex treatment of patients with acute progressive inflammatory diseases of maxillofacial region in patients with hepatitis B consisted of one-stage, purposeful and pathogenetically grounded actions, directed to the correction of hemodynamic and metabolic disturbances, suppression of infectious agent, fight with intoxication, increase of nonspecific resistance and immunological reactivity of organism on a background of active surgical sanitation of primary purulent focus**

**KEYWORDS:** maxillofacial phlegmon, viral hepatitis "B", odontogenic and periodontal infection, immunity, liver, frequency, structure, hepatoprotectors.

### **RELEVANCE:**

The analysis of the domestic and foreign literature showed that there are separate reports on the application of morphological methods of investigation of patients with purulent-inflammatory processes of the face.

However, there are no studies devoted to the study of proliferative activity of soft tissues in the prolonged course of the pathology. Besides, there are no data concerning the possibilities of apoptosis intensity correction and regeneration stimulation against the background of cytogenetic and immunological changes in this contingent of patients. Today immune mechanisms of regulation of physiological functions during pathological process development are widely studied. Changes of immunocompetent cells and immunoglobulins at purulent-septic diseases of maxillofacial region are studied sufficiently. The problem of purulent infections of the maxillofacial region currently continues to be extremely relevant. Numerous studies by domestic and foreign authors are devoted to its development. Due to the increasing frequency and severity of the course of inflammatory diseases of the maxillofacial region, the problem of treating patients with this pathology is one of the leading ones in surgical dentistry and maxillofacial surgery. Most researchers agree that cases of phlegmon encompassing the fatty spaces of several anatomical areas of the head and neck at

once and difficult to be treated by conventional therapeutic measures have become more frequent in clinical practice. The incidence of severe complications such as contact mediastinitis, sepsis, cavernous sinus thrombosis, cerebral abscesses, erosive hemorrhages from large vessels, etc., has increased. Most authors explain the increasing frequency and severity of the clinical course of acute purulent-inflammatory diseases of the maxillofacial region by a change in the pathogenic properties of microorganisms, an increased etiological role of microbial mixtures with a predominance of non-spore-forming anaerobes, emergence of polyantibiotic-resistant forms of microorganisms, allergization, sensitization, intoxication of patients with products of microflora from infected root canals and periodontium, immunosuppression and inhibition of nonspecific protection mechanisms. The program of complex treatment of patients with acute progressive inflammatory diseases of the maxillofacial region in patients with hepatitis B consisted of a single-stage, purposeful and pathogenetically grounded measures aimed at the correction of hemodynamic and metabolic disorders, suppression of the infectious agent, fight against intoxication, increase of non-specific resistance and immunological reactivity of the body against the background of an active surgical sanitation of the primary purulent focus. The programme of complex treatment included preoperative preparation and the surgical period, and the postoperative period. The strategic direction of the complex treatment program was measures to restore and stabilize the disturbed blood circulation and metabolic processes, as the state of these important homeostasis systems predetermines the effectiveness of the treatment as a whole. Regardless of the severity of the disease, surgical intervention with revision of all the

cellular spaces of the maxillofacial region and neck involved in the inflammatory process was an obligatory and integral component of treatment. The different level of preservation of the organism's reserve potential, the ratio of protective-adaptive and pathological reactions predetermined the tactics, the choice of methods and means of treatment. In this regard, the implementation of the program of complex treatment in sepsis provided for the creation of the most favorable conditions for strengthening the mechanism of sanogenesis, a combination of therapeutic measures of stimulating and replacement action, in the severe form of sepsis with decompensation of protective-adaptive mechanisms of substitution and were aimed to restore and maintain the activity of critical organs and life-support systems. The treatment of purulent-inflammatory diseases and wound infection, especially in cases of maxillofacial surgery, remains a complicated and unresolved problem, especially in patients who have hepatitis B, who are immunodeficient, have concomitant pathologies (diabetes mellitus, vascular diseases, etc.) purulent-infectious diseases, which, according to different authors, amount from 12% to 15% in the structure of surgical diseases, have a longer period of time and are accompanied by complications. In a purulent wound there is not a single change in the species composition of pathogens (2-3 times) in a fairly short period of time - up to 10 days. The incision, sanitation, drainage of purulent bed, together with antibacterial therapy (broad spectrum antibiotics), symptomatic treatment, application of secondary sutures to the cleaned wound take a long time - on the average over 20 bed days, and with widespread purulent processes and in the presence of diabetes mellitus up to 40-60 days. The standard use of broad-spectrum antibiotics in combination with traditional surgery is not always effective due to the growing resistance of



microbial strains to the most common antibiotics and inability to adequately sanitize the focus of infection using traditional techniques, which in 3-10% of patients with phlegmon and abscesses leads to the progression of the pathological process with development of severe complications: purulent mediastinitis, cavernous sinus thrombosis, jaw osteomyelitis, sepsis. With the localization of purulent inflammatory process, the problems of cosmetic defect in the long-term period are of particular relevance, which are the basis for subsequent plastic surgery in 8 - 15% of operated patients and encourage surgeons to introduce into clinical practice minimally invasive technology and semi-closed surgical techniques that ensure the formation of minimal physical characteristics of the scar. Over the last decade there has been significant success in the development of methods of surgical treatment of purulent focus, which should be combined with additional effects on the wound surface: cryotherapy, treatment with a pulsating stream of fluid, laser therapy, vacuum treatment, ultrasound cavitation, etc.

Analysis of the literature indicates that, despite its relevance, many issues of the course of maxillofacial phlegmon suffered from viral hepatitis B have not been solved. Proceeding from the above stated, the aim of the study was to improve pathogenetic grounded complex therapy in patients with abscesses and phlegmon of maxillofacial area having hepatitis B.

#### **PURPOSE OF THE STUDY:**

To create a comprehensive treatment programme for patients with acute progressive inflammatory diseases of the maxillofacial region in patients with hepatitis B

#### **MATERIALS AND METHODS OF RESEARCH:**

Based on our objectives, the programme we developed was used in the complex treatment of patients with acute progressive inflammatory processes of the maxillofacial region suffering from viral hepatitis B. The studies were carried out between 2015 and 2020. Experiments were carried out on 47 patients with maxillofacial abscesses and phlegmons depending on the severity of the current, and the patients were divided into B-group. There were 31 patients with abscesses suffering from viral hepatitis B, the control group consisted of 12 healthy individuals. 47 patients (30 male and 17 female). All patients were treated at Samarkand City Unified Facial Surgery Unit and were brought to the clinic for urgent indications. All patients underwent microbiological, immunological and biochemical analyses as well as mathematical analysis. In addition to the clinical evaluation, all patients were examined by a general examination, which included an assessment of the patient's general condition, measurement of body temperature, blood pressure, pulse, the presence of dyspeptic phenomena, and general blood and urine tests. Of these, sepsis was detected in all patients (100.0%). Consequently, the program of complex treatment developed by us, was used in the most severe contingent of patients with acute progressive inflammatory diseases of the maxillofacial region, neck and their complications, most of whom (59 patients) were admitted with unstable compensation or decompensation of life support systems.

Patients with abscesses suffered from viral hepatitis B between the ages of 16 and 56. The cause was mainly chronic periodontitis. The process of inflammation occurred in half of the patients on the lower jaw. The cause of inflammation in 23 patients was the lower first teeth, in 19 patients the lower wisdom teeth, in 10 patients the lower canines, the lower second

canines -2 and the upper lateral canines-3. All patients were operated on the day of admission with removal of the causal teeth under local anaesthesia with potentiation. Patients were treated with antibiotics, desensitising agents, analgesics, hepatoprotectors and physiotherapy on day 2 after surgery.

## RESULTS:

Adequate antibiotic therapy plays a special role in the treatment of purulent inflammatory diseases and is an essential adjunct to surgical treatment, but does not usually replace it. The main focus of antibiotic therapy is a specific effect on pathogens in the patient's body.

Rational antibiotic therapy is only possible when the choice of drugs is based on:

1. Identification of the pathogen;
2. Determination of sensitivity to antibiotic of microflora;
3. Knowledge of drug pharmacokinetics (mechanism of action, stability in the body, ability to diffuse into different environments of the body, distribution to organs, excretion rate, etc.).

It is necessary to ensure that an effective concentration of the drug in the body is achieved with minimal risk of undesirable side effects. The causative agents of purulent inflammatory diseases of the maxillofacial region are pathogenic or conditionally pathogenic Gram-positive, Gram-negative microorganisms, as well as mixed flora - microbial associations. Staphylococcal monoinfections are largely replaced by microbial associations involving *Pseudomonas aeruginosa*, *Proteus*, *Klebsiella*, *Bacteroides* and others.

Bacteriological examination revealed microbial growth in 54.0% of patients of all subgroups, in 72.2% of cases they were found in associations consisting of 2 (71.5%) and 3

(26.7%) pathogens in 25.8% of monocultures. The analysis of the species composition showed that obligate anaerobes (86.3%) were most frequently isolated in the main group. Facultative anaerobes were isolated much less frequently (13.7%).

Bacteriological examination and identification of anaerobic microorganisms is known to be available when a special anaerobic microbiological laboratory is available, so the following signs of anaerobic infection were guided

- The presence of crepitation on palpation of the tissues in the area of the inflammatory infiltrate;
- A foul-smelling, dark-coloured wound discharge with gas bubbles;
- Necrotisation of tissues in the inflammatory focus: muscles, fascial sheets, cellulose tissue is dirty grey or dark brown, flabby, infiltrated, easily splitting and tearing, does not bleed;
- Negative bacteriological findings with a clinical picture of a severe suppurative process.

Cephalosporins, macrolides, lincomycin, rifampicin, fusidine and aminoglycosides in combination with oxacillin or lincomycin were used to treat Gram-positive flora, represented in most cases by *Staphylococcus aureus*.

The treatment of purulent infections caused by Gram-negative microorganisms, of which *Pseudomonas aeruginosa* (*Pseudomonas aeruginosa*) is the most frequent representative, was difficult to determine. Modern aminoglycosides in combination with carbenicillin, as well as dioxidine, a combination of rifampicin and biseptol, and in severe cases with aminoglycosides, were used to treat *Pseudomonas aeruginosa* infection.

For the treatment of protist infections, drugs active against all species of protists, claforan, as well as aminoglycosides in combination with ampicillin, cephalosporins were used. For purulent infection caused by *E. coli*, cephalosporins, aminoglycosides and their

combinations, as well as the semisynthetic levomycetin and biseptol were most effective. A particular challenge was the treatment of infections caused by non-sporulating anaerobes, most commonly bacteria of the Basteidae group. For these, metronidazole, metrogil, metrojil, metrid were the most effective, while levomycetin and dioxidine were less effective. In viral liver lesions, when antiviral therapy is not possible, URSOSAN at a dose of 10 mg/kg/day for  $\geq 6$  months is optimal due to its pronounced anti-inflammatory effect.

The treatment of purulent infection before the bacteriological diagnosis was based on the clinical picture of the disease. In most cases, combinations of antibiotics were used to cover the entire possible microbial spectrum of the infection. The most effective combinations of antibiotics, based on the peculiarities of the mechanism of action of various drugs, are presented in Table 1

Immediately after receiving the results of laboratory microbiological tests, the prescription of antibiotics was corrected according to the antibiogram.

The dosages of the drugs administered were determined on the basis of the instructions for use of the respective antibiotics. In some cases, especially in severe or extremely severe disease, Rocephin, ceftriaxime up to 4 g, aminoglycosides up to 2 g/day were administered.

The duration of aminoglycoside administration was increased to 9-11 days in some cases.

Table 1. Antibacterials most commonly used in purulent surgery

Name	Daily dose	Rational combination
Cefatrexil	8-12 g iv/v	Ampicillin, carbenicillin, aminoglycosides, dioxidine
Kefzol	6 g w/v	Ampicillin, carbenicillin, aminoglycosides, dioxidine
Cefamezine	4-6 g w/v	Ampicillin, carbenicillin, aminoglycosides, dioxidine

Streptomycin	not applicable	Penicillin
Gentamicin	3-5 mg/kg	Penicillin, lincomycin, cephalosporins, dioxidine, metronidazole, biseptol
Tobramycin	3-5 mg/kg	Same
Sisomycin	3-5 mg/kg	Same
Amikacin	20-25 mg/kg	Same
Vibramycin	200 mg	Tetracycline, dioxidine
Lincomycin	2,4 r	Oral aminoglycosides
Fusidine	3 r	Same intramuscular, intravenous
Rifampicin	0,9-1,2 r	Methicillin, cephalosporin, orally rifampicin
Biseptol	up to 3.8 g	Aminoglycosides, bactrim, oral fusidine, cephalosporins
Metronidazole	300 ml/day	Aminoglycosides,
Dioxidine	90 ml	Rimfamycin daily
Rocephin	2 g w/v	Penicillin, cephalosporins,
Ceftriaxone	2 g w/v	(metrogil, metrogil, aminoglycosides IV drip, levomycetine, metrid) dioxidine
Ursosan	10 mg/kg/day	Penicillins, cephalosporins,

Along with traditional intramuscular and intravenous methods of antibiotic administration, in 8 patients we used intra-arterial administration by retrograde catheterization of the common carotid artery or catheterization of its branches.

The indication for intraarterial injection of antibiotics was a severe course of the disease with the threat of generalization of infection, its spreading to mediastinum, the brain. In case of disseminated phlegmon of the face, mouth cavity floor and neck, the superficial temporal artery was catheterized, and the catheter was inserted to the depth of 8-10 cm. A 2-2.5 cm incision was made in front of the auricle to expose the artery. Before fixation of the catheter, its position and the area of infusion were controlled by injecting 5-15 ml of 0.25% novocaine solution or 5000 units of heparin with novocaine. When novocaine was injected, patients felt warmth or a slight tingling

sensation in the area of infusion, and when heparin with novocaine was injected, a rapid burning sensation was felt.

At the beginning of mastering this technique, the infusion zone was identified by injecting a 3% methylene blue solution in a 25% glucose solution into the catheter. The skin of the relevant anatomical area was stained blue. Fluoroplastic catheters 1.5-2 mm in diameter were used for catheterization. In addition to antibiotics, infusates used included 0.25% novocaine solution, heparin, hydrocortisone, protease inhibitors, dimedrol or suprastin (in the same dosages and combinations).

The drugs were administered fractionally. Initially, 10-15 ml of 0.25% novocaine solution, 25000-50000 IU of tracilol or contrical were administered. 12, 5-25 mg of hydrocortisone, 5000-10000 IU of heparin, 5-10 ml of 0.25% novocaine solution and the end of the catheter was sealed. Medicines were administered 1 or 2 times a day for 2-3 days. The catheter was removed 1-2 days after the last drug administration. The artery was not ligated after catheter removal, and there was no bleeding. Intra-arterial injection of antibiotics in all patients was carried out as a component of complex treatment and had a significant positive effect on the general condition of patients and on changes in the local inflammatory focus. Already after the first infusion the intensity of pain, hyperthermia of tissues in the area of inflammation decreased, local temperature decreased by 1-1.5 °C. After 2-4 infusions the pain usually disappeared, the general condition improved, sleep normalized and appetite appeared. Inflammatory infiltrates significantly decreased in size, the skin became normal in colour, wounds were cleared of pus and necrotic masses. On the background of the improvement of the general state, reduction of intoxication and positive dynamics in the inflammatory focus favorable shifts in the

indices of the morphological and biochemical composition of the blood were established. By the 3rd-4th day COE decreased, the level of albumin increased, the content of  $\alpha_1$  and  $\alpha_2$  - globulin decreased. During the period of mastering this technique, we observed complications in two patients due to errors in infusion technique. One patient had convulsions (like epileptiform convulsions) with short-term loss of consciousness during rapid infusion of concentrated monomycin solution. In another patient, a short-term loss of vision occurred during administration of a 3% methylene blue solution (to determine the infusion zone), which can probably be explained by retinal blocking by the dye. The complications were short-lived (1-2 min) and did not affect the course of the disease or the condition of the patients as a whole.

Considering that the method of regional administration of antibiotics is of great importance not only in terms of controlling intracranial complications of progressive inflammatory processes of the maxillofacial region and neck, but also in the prevention and treatment of septic pneumonia. We controlled their direct introduction into the pulmonary artery by catheterisation of the subclavian vein. For this purpose, as well as to implement multifaceted infusion therapy, subclavian vein catheterization was performed in 24 (14.8%) patients according to the Seldinger technique.

We used antibiotics in the treatment of all 59 patients in this group. Complications associated with antibiotic therapy were observed in five patients. Allergic reactions in the form of skin itching, skin rashes, general malaise were observed in 4 patients, and in 1 patient an abscess was formed at the site of antibiotic administration (in the gluteal area), which was opened.

## CONCLUSIONS:

Thus, the clinical and laboratory studies indicate the feasibility of differentiated use of antibiotics in the complex treatment of patients with acute progressive inflammatory processes of the maxillofacial region, neck and its complications. Microbiological studies to identify the causative agent and determine the sensitivity of the microflora to antibiotics are a prerequisite for the effectiveness of antibiotic therapy. A systematic retrospective analysis of the results of bacteriological investigations to select an antibiotic or combinations thereof before the nature of the pathogen and its sensitivity to antibiotics are known is justified in specialised surgical wards, and we obtained a marked clinical effect of using higher doses of antibiotics against the background of systematically administered infusion therapy and haemodilution, hyperdynamic circulatory system. For patients with acute progressive inflammatory diseases of the maxillofacial region in patients with hepatitis B, hepatoprotectors serve to enhance the detoxifying function of hepatocytes by increasing glutathione reserves, taurine, sulphate or increase activity of enzymes participating in oxidation of xenobiotics, as well as inhibition of excessive lipid peroxidation reactions (LPO), binding of LPO products (hydrogen peroxide, free ions  $O^{++}$  and  $H^{+}$  and others) and repair of cellular structures. ) and repair of cell membrane structures (this mechanism is also typical for all hepatoprotectors, but the leading role is played by essential phospholipids and UDCA (URSOSAN), besides they have anti-inflammatory and immunomodulatory effects, inherent first of all to UDCA (URSOSAN) preparations, block fibrogenesis due to necrosis of hepatocytes and prevent influx of antigens from gastrointestinal tract as a result of translocation of intestinal bacteria and their

toxins that are Kupffer cells activators; Stimulation of collagenase activity in the liver and blockade of enzymes involved in the synthesis of connective tissue components.

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## FUNCTIONAL DISORDERS IN PATIENTS WITH UNCONTROLLED BRONCHIAL ASTHMA

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### ABSTARCT:

**Bronchial asthma (BA) is characterized by chronic inflammation of the respiratory tract, the presence of respiratory symptoms such as wheezing, shortness of breath, chest congestion and cough, which vary in time and intensity, along with variable airway obstruction [1]. AD is one of the most common diseases of the respiratory tract.**

**KEYWORDS: bronchial asthma, respiratory function, obstructive type, restrictive component.**

### INTRODUCTION:

The aim of the study was to assess the severity of functional lung disorders in patients with AD. 80 patients with AD were examined, the age of the patients ranged from 28 to 60 years. Of the total number of patients, 37 had severe BA, 26 had moderate BA, and 17 had mild BA. The analysis of indicators of external respiration function (ERF) showed that patients with mild and moderate AD have obstructive pulmonary ventilation disorders, and patients with severe AD have mixed disorders with the addition of a restrictive component.

### RELEVANCE:

AD remains an urgent problem of modern medicine with a social aspect, since the incidence and prevalence of this disease continues to grow among all population groups, which, according to various data, varies in the range of 5-10 %, but there are data on the prevalence of up to 18 % [ 2]. All over the world, including in Uzbekistan, there is a tendency to increase the incidence of AD and its more severe course [3]. The World Health Organization estimates that 235 million people suffer from AD. AD is not only a public health problem for high-income countries; it affects all countries, regardless of their level of development. More than 80 % of asthma deaths occur in low-and middle-low-income countries [4, 5]. Diagnosis of bronchial asthma is to identify reversible bronchial obstruction and signs of hyper reactivity of the bronchi. In AD, a transient labile change in the speed parameters of spirometry is recorded, especially the volume of forced exhalation for 1 second, the peak expiratory speed, due to bronchial hyper reactivity. During the period of exacerbation, an increase in the residual volume of the lungs is also recorded [6,7,8].

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**OBJECTIVE:**

To study the features of changes in the functional parameters of the bronchopulmonary system in patients with AD.

**MATERIALS AND METHODS:**

80 patients with AD and 20 healthy individuals included in the control group were examined. The study was conducted in the conditions of the therapeutic department of the Samarkand branch of the Republican Scientific Center for Emergency Medical Care. The age of the patients ranged from 28 to 60 years and averaged 44 years. Among all the surveyed men were 49 (62%), women - 31 (38%). The duration of the disease in 43 patients was more than 15 years, in 27 patients-10-15 years, and in 10 patients-less than 10 years. Of the total number of patients, 41 had severe AD, 27 had moderate AD, and 12 had mild AD. The diagnosis of AD was verified according to the WHO international classification (X revision, ICD-10) and in accordance with the diagnostic criteria of GINA (The Global Initiative for Asthma-Global Initiative for AD). Along with general clinical and laboratory methods of research, the parameters of the external respiratory function (ERF) were studied using the SpirosiftSP-5000 device. Chirography was used to verify obstructive and restrictive changes in the bronchi. The study was conducted under conditions of relative rest in a sitting position. The following parameters were measured: vital capacity of the lungs (VEL, L), Tiff no index (FEV 1/FVC ratio, expressed as a percentage), peak volume expiratory velocity (PIC) and maximum volume velocities after exhalation of 25, 50 and 75 % FVC (MOS50, MOS75). The analysis of indicators for determining the vital capacity of the lungs, maximum lung ventilation (MVL), respiratory rate (BH), forced expiratory volume in 1 second (FEV1), revealed the presence and severity of

bronchial patency disorders, as well as restrictive disorders.

Clinical and instrumental examination revealed expiratory dyspnea, dry wheezing, amplified on exhalation, heard both during auscultation and at a distance, box percussion sound in all patients. Also, dry cough, acrocyanosis, and tachycardia were detected in the main number of patients. During the attack, all patients had participation in the act of breathing of the auxiliary respiratory muscles and a forced position-sitting, resting their hands on their knees. The analysis of indicators of respiratory function showed that in patients with asthma, severe treatment, compared with healthy persons and in patients with moderate form BA observed a significant decrease in vital capacity (VC, 1.8 and 1.9 times, respectively), forced expiratory volume in 1 second (FEV1, 1.7 and 1.8 times, respectively), the tiffeneau index (it, 1.2 and 1.3 times, respectively), peak expiratory flow (PSV, 2.1, and 2.2 times, respectively), the maximum amount of speed (MOC25 =1.3-1.8 times, respectively), the amount of speed in the secondary bronchi (MOC50-1,1-1.7 times, respectively), the volume of the velocity in the large bronchi (OS75=2.4-2.6 times). The duration of the disease has a weak correlation with a decrease in the Tiffno index, and a pronounced correlation with a decrease in the peak expiratory rate. The maximum amount of speed in patients depended on the duration of the disease. The course of the disease in patients with AD with changes in the cardiovascular system contributed to the deterioration of the indicators of external respiratory functions. Thus, in patients with AD, with an increase in the duration of the disease, there was a decrease in the indicators of VEL, FEV1, which indicated an increase in the degree of bronchial obstruction.



## CONCLUSIONS:

The analysis of FVD indicators showed that patients with mild and moderate AD have obstructive pulmonary ventilation disorders, and patients with severe AD have mixed disorders with the addition of a restrictive component. In patients with disease duration of more than 10 years, the BA clinic becomes more severe, which contributes to the development of complications: emphysema, pneumosclerosis, respiratory and pulmonary-heart failure.

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## NATURAL SCIENCE LITERACY AS A FACTOR OF CONTINUITY IN THE STUDY OF CHEMISTRY

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### ABSTARCT:

**This article reveals the essence of the concept of natural science literacy, as the ability to use the main methods of cognitive activity to achieve the elementary, immediate goals of their activities. Its components are characterized. The content of natural science literacy and its levels are considered.**

**KEYWORDS:** literacy, natural science literacy, creativity, functional literacy, competencies, scientific knowledge.

### INTRODUCTION:

In connection with the rapid development of information technologies and their introduction into the practice of teaching in the theory of school education, first, there is a clear distinction between basic (elementary) and functional ("liberating") literacy, referred to in the English-language literature as "liberating". Secondly, the content of the concept of "literacy" is widely discussed both in universal and in various contexts (professional, cultural, legal, etc.). Thirdly, the structure of the phenomenon of literacy is seriously revised, including its various modifications, new types and types. From this it can be seen that in its semantic content, the problem of literacy is a kind of prism through which the entire rich set of tasks facing the educational system as a whole and its individual links is most clearly traced. There is a shift in emphasis from the understanding of literacy as a complex of

knowledge and skills acquired by a person in the process of life and learning (broad awareness), to comprehensive competence (from the Latin competes - appropriate, capable), understood as "awareness, readiness in a certain field of activity". This is reflected in the Strategy for the Modernization of Education, which identifies four structural components of the content of education:

- \* The experience of cognitive activity, fixed in the form of its result-knowledge;
- \* Experience in the implementation of known methods of activity in the form of skills to act on the model;
- Experience of creative activity in the form of skills to make effective decisions in problem situations;
- \* Experience in the implementation of emotional value relationships in the form of personal orientations.

The use of the term "literacy" outside the semantic context of the problem of "education and activity" today is unlikely to justify itself.

Based on this, literacy in the theory of education is determined by:

6) In the narrow sense of the word-as the ability of a person to occupy a workplace with different quality of work and with a different set of necessary professional knowledge and skills; in the broad, socio-philosophical sense of the word - as a result of systematic educational activities, expressed in the active mastery of the sign system of natural or artificial languages, as well as in the ability to use this

system in order to learn about the surrounding reality and solve problems that arise in the course of practical activity .

Among the achievements of humanity, literacy is the most significant in the development of a person and society, since it is one of the factors of social well-being. The concept of "literacy" is associated with elementary literacy and functional literacy.

The most important task of school education is the social adaptation of students, which is carried out in the process of socialization. The effectiveness of socialization is influenced by the education of a person — the quality of a person, which consists in the ability to use in cognitive and practical activities the products of material and spiritual labor of people, guided by social norms and spiritual values. The level of education reflects the range of products of spiritual and material labor, social norms and values that a person is able to use in activities to achieve their goals. The initial condition for education is literacy. Elementary literacy is characterized by the ability to use the main methods of cognitive activity (reading, writing, counting, computer literacy as a language) to achieve the elementary, immediate goals of their activities. An important component of functional literacy, one of its main skills is natural science literacy.

Natural science competence, or literacy, is the ability of students to use their knowledge to identify problems in real-world situations that can be investigated and solved using scientific methods, in order to draw conclusions based on observations and experiments. These conclusions are necessary for understanding the world around us and the changes that human activity makes in it, and for making appropriate decisions.

Natural science literacy includes the following components: general subject (general academic) skills formed within the framework of natural science subjects, natural science

concepts and situations in which natural science knowledge is used. The objectives of the PISA study include a comprehensive test of these skills and concepts.

According to the OECD, every student needs to develop so-called skills - communication, creativity and critical thinking. Being generally recognized, this trend expands the conceptual field of expected learning outcomes. Now they include not only the usual knowledge, skills, and skills, but also the components of functional literacy.

Identifying the level of students ' is mastery of natural science literacy provides information about the attitude of the younger generation to the natural sciences, which are the engine of social progress. Natural science literacy can be characterized by the following four components, which are related to each other:

- Recognition of life situations that appeal to science and technology.

These situations create an evaluative context;

- Understanding of the material world (including technology) on the basis of scientific knowledge, which involves both knowledge of the surrounding world and its laws, and knowledge of the natural sciences themselves. This component is the knowledge component of research;

- Possess competencies that include the ability to raise scientific questions, refer to existing scientific knowledge and use it, draw conclusions based on proven facts.

This component represents the competence component of the study;

- Interest in natural science knowledge, the inclusion of natural science curiosity in their own value system, the established motivation to act responsibly in relation to, for example, natural resources and the environment.

This component is an affective dimension in the evaluation.

What is the content of natural science literacy (EN-literacy)? The appeal to the chemical side of the life of nature, man, many technological industries and processes, the sharply increased need for new artificial materials, the achievements of theoretical and nuclear chemistry, and others dictate the need to comprehend the chemical language already at school. Therefore, it is acceptable to talk about the following levels of EN-literacy:

- 1) Elementary EN-literacy, the content of which is related to the main characteristics of elementary literacy (in this case, knowledge of the chemical language, reading chemical texts, writing in the language of chemistry (chemical equations), and so on.
- 2) the level of functional literacy in the content of functional literacy, that is, the ability to use applied knowledge, special knowledge on a model and in a familiar situation with the inherent characteristics of functional literacy, empirical methods of scientific research; possession of general academic skills and abilities.
- 3) the level of general cultural EN-competence as the ability to use theoretical EN-knowledge to solve problems that require the participation of theoretical thinking in its types (conceptual and imaginative thinking); the use of some theoretical research methods, practical modeling; the ability to cooperate, be in a dialogue, use the functions of scientific knowledge within the known and new content.

A special selection of EN-literacy in the content of school education allows you to build the line consistency and continuity in the study of science throughout the school multistage vertical to provide a reasoned choice as a preparation for further education in the University, to study natural and related Sciences, the exploration and development of modern production, in which scientific knowledge, modern equipment and technology playing an increasing role.

New dictionary of methodological terms and concepts:

### **FUNCTIONAL LITERACY:**

The ability of a person enters into a relationship with the external environment and to adapt and function in it as quickly as possible. In contrast to elementary literacy as the ability of a person to read, understand, compose short texts and perform simple arithmetic operations, F. G. is the level of knowledge, skills and abilities that ensure the normal functioning of the individual in the system of social relations, which is considered the minimum necessary for the implementation of the life of the individual in a particular cultural environment"

**A. Leontiev:** "A functionally literate person is a person who is able to use all the knowledge, skills and abilities that are constantly acquired during life to solve the widest possible range of life tasks in various spheres of human activity, communication and social relations"

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## FORMATION OF CORRECT WRITING SKILLS

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### ABSTARCT:

**As soon as each person in the society can thoroughly study his native language, his level of mind, consciousness and general culture increases. Only a person who can make use of the wide possibilities of his language in oral and written speech will be able to take a bold step to deepen the foundations of other sciences. A reader who has the property of using both oral and written speech will be able in the future to work in production and social life as an expert. Independent marriage brings to hand the knowledge learned from his native language, the skills of writing and reading correctly, the art of correct and beautiful speech, the skills of expressing the product of creative thought in accordance with the conditions of speech, the skills of working with business papers.**

**KEYWORDS: mother tongue, spelling of words, morphemic.**

### INTRODUCTION:

One of the urgent tasks facing the teaching of the native language is the development of spelling literacy. Each mother tongue teacher should systematically work on the spelling literacy of students in all lessons. This is the first factor that contributes to the increase in the overall literacy of the student. The teacher determines the ways of working on the formation of spelling skills in students, proceeding from the psychological nature of the orthographic qualification. Orthographic qualification is a complex qualification, it is created in the process of long-standing exercises and is based on the ability to analyze

the word from the phonetic side, determine its morphemic composition, etc. For the formation of correct writing skills, thinking activities are also required from the reader. To master a correct writing phenomenon, it is necessary not only to have training and memory, but also to be able to analyze. An important role is played by the use of the comparison method to determine the similar and different sides of the word grammatical and orthographic phenomena, as well as the division of Word and word forms into certain grammatical or graphic groups, the use of exercises to formulate, explain and prove a particular pattern.

In teaching spelling, it is required to gradually improve the practical skills of students, such as teaching mathematics. The formation of correct writing skills in students is based on the assimilation of the grammatical theory and the rule of spelling. The rules of spelling regulate the writing of a whole group of words, in which there is a commonality, and not a single word. With this feature, it turns out that the rule saves the letter writer from memorizing, memorizing each word and, following the rule, makes it possible to write a whole group of words according to the established rule. The rule of spelling is the same spelling of words united on the basis of generality. And this explains the social significance of the rules of overcoming and spelling of written speech. It is impossible to master the rules of spelling, phonetic, morphemic and word-building materials without knowing to a certain extent. Grammatical theory is the foundation for the rules of spelling. The rules of spelling are studied in connection with the grammatical

theory, which is based on this rule. This is done primarily in relation to graphics and phonetics. In particular, the main topic and the purpose of the rules in the lessons of the native language of the 5 class is mainly aimed at writing correctly. In the same class, work is carried out on the pronunciation and spelling of vowels and consonants. In this, the teacher should focus the main attention on how sounds are pronounced and how they are written in writing. Only then the child will be able to correctly master the rules of spelling. For example, in the textbook "mother tongue" of the 5th class, the following exercises are given:

**53-exercise: Instead of the dots in the words, put the appropriate consonant sound and move the sentences.**

Noyo... jismlardan ishlangan antiqa soatlarni Triberg sha...archasida joylash...an soatlar uyida ko'rish mu..kin. Bu yer- dagi "Labbaychi soatlar" vaqt..i ani... ko'rsatadi va yoqimli ovoz bilan odamlarni xushnu... etadi. (From the book " The world we know and do not know)

**60-exercise.: Correct the mistakes made in the text and write in your notebook: In which members is the error in the sounds formed?**

Bir kuni Xadicha ko'chada ketayotip yetti yil avvalgi boxchadoshi Hilolani uchratip qoldi. Hilolaning bo'ylari ham ancha cho'zilgan. Ikki dugona o'tgan davrlarni eslaship, kelgusidagi orzu-rejalari haqida baxslaship qolishti. Xadicha kelajagda o'qituvchi bo'lishi haqida zavqlanip gapirdi. Hilola esa bu kaspning mashaqqatidan cho'chip fikr bildirdi. Xadicha ham o'zi orzu qilgan kasp - tarjimonlikni maqtadi. Xadicha boxchadoshini ranjitektisi kelmay, tarjimonning ham ustozini bo'lishi, bu kasbning ulug'ligi haqida gapirdi. Ikki dugonaning suhbatini anchagacha davom etdi.

(Iroda Sobitova)

Through the above exercise, students will be able to thoroughly understand how the vowels should be pronounced in oral speech and how they should be written in writing. On top of such exercises it is also possible to Shal I in the section of repetition of the "phonetics" section of the 6th class. For example:

**18-exercise: Write the words in alphabetical order in your notebook.**

Sabzavot, poytaxt, zangori, jonajon, bosmaxona, manzil, do'stlarcha, xavf-xatar, ilhom, g'uborsiz, inoq, albatta.

**19-exercise: Compose sentences with the participation of the following words, find differences in their pronunciation and writing.**

San'at, hujum, ma'rifat, shogird, mehmondo'st, botanika.

Namuna: O'zbek san'atining dovrug'i butun dunyoga yoyilmoqda.

This kind of exercise teaches that first you need to pay attention to the pronunciation and spelling of words, and secondly, if you teach the correct application of letters. In order for such exercises to serve the requirements of SES, it is desirable to study the language sections in interrelation, directing it to the development of communicative literacy. In this process, the result of the division of mother tongue education and the connection of science are clearly visible, the effect of the positive impact of systematic learning on practice is also evident. In teaching the morphemic, word-building, morphology and syntax sections of linguistics, work is also carried out directly on the rules of spelling. For example, the main topics in the 6-th class begin with morphemic and word-building topics. In the process of teaching these subjects, practical work is carried out on this, after giving information about the features of the basis and suffixes, the classification of suffixes. It will be very expedient if, along with these practical works,

work on their spelling is also carried out. For example:

**63-exercise: Transfer by adding the necessary suffixes to the words in the brackets. Draw on the bottom of the form-forming suffixes.**

Xalq (tabobat) qulupnay (meva) terlatuvchi, bezgak (xuruj) qarshi omil sifatida tavsiya etiladi. Shuningdek, buyrak (kasallik), o't (yo'l) yallig'lanishi bilan bog'liq (kasallik) iste'mol qilish lozim ko'riladi.

Olimlarning (fikir) qaraganda, qulupnay buyrakdagi (tosh) yemirish (xususiyat) ega bo'lishi bilan birga (unda) tosh hosil (bo'lish) yo'l qo'ymaydigan tabiiy omillardan hisoblanadi. (M. Nabiyeu)

It is possible to work on the spelling of several words in the exercise in the process of fulfilling the conditions of this very exercise, which are given in the textbook. In particular, if the spelling of consonant x in words such as Folk, sensitivity, feature, as well as the spelling of words such as strawberries, malaria, kidney, inflammation, consumption, natural, we will enrich the written speech of the child in a few more words. Also, work on the spelling and pronunciation of vowels can be strengthened by the following creative tasks:

**1-assignment: Comment on the meaning of the given words. By replacing the consonant sound in the word, new words are formed.**

Il, in, is, it, ip, ish ...; el, ep, em, esh, et, en, er, es, ez...;

choy, soy, toy, boy, moy, joy, loy, voy ...;

**2-assignment. Form a series of single-syllable words beginning with a vowel. Comment on the meanings.**

Adl, avj, azm, aql ark ...

**3-Assignment: Make pairs in which the U - o ' sound is involved: uz - o'z, uy - o'y, un - o'n, o'q - uq ... Comment on the meanings.**

Work on the rules of spelling is a complex process, opening the essence of the rule, the fact that students learn the expression of the rule, the introduction of the rule into the writing experience are its main components. Opening the essence of the rule rule the rule means to explain which part of the speech the word is, which part of the speech it is directed to write or the grammatical form, in which case the signs are the leaders. When choosing a material for introducing students to the rule, the teacher must necessarily take into account these leading signs. For example, in the 5th grade, the topics "Series consonant words", "double consonant words" are studied. In the course of the lesson, both theoretical information and practical work are given about such words. For example:

**218-exercise: Read the following words. Pay attention to how it is pronounced. One of the same consonant that comes from the side, separate words that are almost not heard and write in your notebook.**

Quvvat, izzat, karra, murabbiy, munaqqid, taassurot, taajjub, taalluqli, million, minnatdor, komissiya, milliard, qassob, hissa, grammatika, iffat.

After completing the above exercises in the textbook on double consonants, it is necessary to teach the rules, which are very important on this topic and perform practical exercises on these rules. Basically, all the following rules do not allow mistakes in the spelling of these words, if the child knows them perfectly:

In some words, the double consonant parts are pronounced and written: quvvat, chaqqon.

In words borrowed from some foreign language, double vowels are pronounced as one vowel, but are written with a double consonant: million, komissiya, artilleriya.



Gramm, metall, kongress although one of the double vowels, which comes at the end of words like, is dropped in pronunciation, it is always expressed in writing. When the suffixes that begin with such a sound are added to words that end with such a consonant, one of the double vowels is not written: metallar.

Students' written speech development, *avallo*, relates the acquired theoretical knowledge with the qualification of being able to apply it in practice. As the reader performs the exercises given on the basis of questions and assignments, he tries to apply the rules of mathematics in written speech. To do this, it is desirable if each learned rule is strengthened by exercises. The following exercises also come to hand in strengthening the rules of spelling:

**222-exercise: Move the words. Draw at the bottom of the words in the composition two different vowels side by side. Make sentences with their participation.**

Himmat, pand-nasihah, maslahat, baxt, do'stlik, g'isht, tabassum, farzand, foyda, qirq, to'xtamoq, o'rtoq, transport, ilhom, ko'rk, mashina, stul, ulkan, aql, daraxt.

**223-exercise: Mehr, sabr, sayr, ilm analyze the pronunciation and writing of words. So write a series of words.**

Words that come from two different vowels side by side in one syllable are vowels in the series.

In the pronunciation of some words that end in a series of vowels, the last vowel is written, although it is almost not pronounced: go'sht, do'st, xursand, barg, monand...

At the beginning of the word, the arrival of a series of vowels belongs only to the words of assimilation (entered from another language): stol, broker, blogger...

These rules serve to increase readers' spelling literacy. They are told about the writing of words, word forms. It should be borne in mind that the cases when it is said and written that

are compared among themselves, further increases the importance of the rules: children learn from them how they pronounce the word or the form of the word, so that it can not be written. A student who perfectly knows the rules of the above spelling will be able to master the skill of writing these words correctly. Working on written speech is considered a much more complicated process than oral speech. Because it requires the reader to build a correct sentence from the point of view of its meaning and content, to correctly apply each word in its place, to express the idea concisely, consistently, expressively, simply and fluently in terms of style, to draw conclusions on the basis of the described thoughts. The complex nature of this type of speech is also associated with spelling, punctuation marks and style. Proper writing of the word, the appropriate application of punctuation marks, the statement of the idea in accordance with the style requirement takes a great responsibility from the reader.

Written speech is checked, observed, improved, in this respect it has much more favorable opportunities than oral speech. The reader works on errors and omissions in written speech, eliminates them, seeks to avoid mistakes and omissions in further work. Complete mastering of all of the rules of spelling, which are mentioned above, is achieved by following all these rules. Therefore, we must constantly take into account the requirement for the rules of spelling in the lessons of the native language, adhere to it. It is impossible to forget about this task or leave this requirement in the lower class, the second in the next class. Spelling literacy is effective in students when these requirements are constantly, consistently and persistently adhered to. Proceeding from the above, we can say that the Prevention of mistakes that students can make is the main pledge of growing literacy in a timely manner.

The teacher can eliminate the mistakes made by the student through the following measures:

1. Spend spelling minutes in the lessons of the native language and put the dictionary work on a wide path.

2. Identify common mistakes made by students in each lesson.

3. Work on the individual mistakes of the students in the course of the lesson and go so as to eliminate them in a timely manner.

4. Organization of the contest "literate pupil" in repetition lessons or circle classes.

5. To organize a selection of different written works among the students.

6. Work on the text in each lesson. Organization of text books from the lower class

7. An important way to avoid mistakes made by students is to organize a notebook "spelling dictionary". After all, if the student's mistakes are recorded in the teacher's control book, it becomes clear that the student does not know which rules.

In short, the use of the above methods in the cultivation of written speech by students through native language classes has a great effect on the thorough possession and practical application of the planned subjects.

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## CONSTRUCTION OF UNDER-RAIL LAYING ON THE RAILWAY AT HIGH-SPEED TRAIN TRAFFIC

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### ABSTRACT:

**The article considers the work of the under-rail laying made of fluoropolymer, which will increase the service life and reduce the vibration load from the rolling stock on high-speed traffic sections.**

**KEYWORD: ballast prism, roadbed, upper structure of the track, sleeper, embankment, recess, high-speed train traffic.**

### INTRODUCTION:

One of the main tasks of railway operation is to create a strong and reliable track structure. On different Railways of the world, studies have been conducted on the impact of structural and conditions for the emergence and development of emissions, shifts, theft path and to determine the impact of various structural and operational factors on the maximum allowable temperature of lashes which, if exceeded, relative to the curing temperature leads to theft, shifts and emission paths. Laboratory seamless way all-Union scientific research Institute of railway transport Railways (VNIIZHT MEAs) under the leadership of candidate of technical Sciences, associate docent E. M. Bromberg was conducted multilateral set of experiments. The results of these experiments are published in the proceedings of VNIIZHT [1], [2], [3], [4], [5].

A significant role in ensuring the stable operation of the railway track and the safety of train traffic is played by rail fasteners, which should guarantee a reliable connection of the rails with the sleepers. The stability of the rail track depends largely on the quality and reliability of the rail fasteners and their elements, especially when moving trains with high speeds and axial loads [6].

### RESULTS AND DISCUSSION:

The sub-rail gasket made of an elastic material of composite thermoelastoplast contains grooves of different heights uniformly arranged alternately on the upper support surface of the sub-rail gasket. In cross-section, the grooves are trapezoidal in shape with a large base up. The grooves are located along the length of the strip and the axis of the rail. Due to the implementation of trapezoidal grooves, the volume of the groove increases at the same depth, which leads to an increase in the value of the margin factor due to the presence of two corners at the junction of the faces, since the load on each joint is halved, and each corner is greater than the right angle. This reduces the internal shear stress at the junction of the faces.

The technical task to be solved by the claimed solution is to create a strong compressive and tensile sleeper with a high coefficient of friction on concrete, a low

coefficient of friction on metal, resistance to longitudinal and transverse displacements during operation, a long service life in all weather conditions, and high transmission rates of vibration load and vibrations from rolling stock on high-speed traffic sections.

The solution to this problem is to ensure reliable operation of the rail fastener, increase the service life of the sub-rail laying in conditions of increased cyclic loads in the upper structure of the track and prevent rail theft under the action of temperature and longitudinal forces.

The proposed under-rail gasket made of F-4 fluoroplast with a thickness of  $\delta=5$  mm, which has a high compressive strength (12.9 MPa) and tensile strength (14.0-25.0 MPa), practically does not absorb water, which ensures the normal operation of the structure. The coefficient of friction on concrete sleepers and high fluoroplast ( $f=0.66$ ) that gives the reliability of both shear and friction coefficient of fluoroplast metal (rail) very low ( $f=0.05\div 0.1$ ), which will allow you to change the temperature to prevent the elongation of the rail. The melting point of the fluoroplast is  $t=327^{\circ}\text{C}$ , and the glass transition temperature is  $t=-120^{\circ}\text{C}$ , which makes it possible to reliably use the gasket in all weather conditions. The service life without replacement of the gasket is more than 20 times longer than the polymer composite gaskets. The F-4 reduces vibration vibrations better than from a polymer composite: low-frequency vibrations by 5 times, high-frequency vibrations by 10 times. All these positive aspects of the F-4 gasket will be more in demand in high-speed traffic areas and in conditions of high radiation, since the F-4 is not affected by temperature changes and solar radiation, to which the polymer composite gasket is highly susceptible.

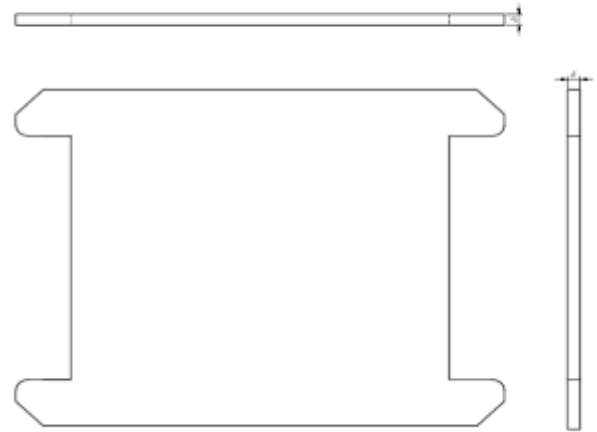


Fig. 1. Under-rail gasket

Reducing the friction between the rail and the F-4 gasket, which occurs when elongation from temperature and the reverse process from temperature reduction, reduces the stress that occurs in the rail-sleeper grid by an average of 10-15%, which will be aimed at improving its operation.

A sub-rail gasket containing a base with a flat support surface in contact with the base of the rail, a flat internal support surface in contact with the sleeper, characterized in that the gasket is made of F-4 fluoroplast in the form of a rectangular plate with protrusions, provides resistance to longitudinal and transverse movements of the rail during operation, a long service life in all weather conditions, and also has high transmission rates of vibration load and vibrations from rolling stock in high-speed traffic areas.

Increase the compressive and tensile strength, the coefficient of friction on the concrete sleeper, the resistance to longitudinal and transverse displacements during operation and the ability to dampen the amplitude-frequency characteristics of the rolling stock.

The proposed under-rail laying will increase the service life and reduce the vibration load from the rolling stock on high-speed traffic sections.

**CONCLUSION:**

A sub-rail gasket containing a base with a flat support surface in contact with the base of the rail, a flat internal support surface in contact with the sleeper, characterized in that the gasket is made of F-4 fluoroplast in the form of a rectangular plate with protrusions, provides resistance to longitudinal and transverse movements of the rail during operation, a long service life in all weather conditions and reduces vibration loads and vibrations from rolling stock in high-speed traffic areas.

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## COMORBIDITY IN CORONARY HEART DISEASE AND WAYS TO OVERCOME IT

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### ABSTRACT:

Currently comorbidity or polymorbidity is relevant in the outcome of many diseases.[1] In particular, we are talking about IHD, unstable angina and anemia of varying severity. In 28 patients with coronary artery disease in combination with anemia, 3-valence iron was changed, the drug Sufer (Yuria-Pharm Ukraine) at a dose of 5.0 ml iv for 5 days against the background of standard therapy. In examined patients, that an increase in hemoglobin levels contributes to the normalization of the vibros fraction reduce or disappear angina attacks, increased exercise tolerance.[2,3]

**KEY WORDS:** coronary heart disease, iron-deficiency anemia, the drug 3x valence iron Sufer.

### INTRODUCTION:

In recent decades, coronary heart disease has been consistently ranked as one of the leading causes of cardiovascular disease morbidity and mortality. Coronary heart disease currently is and remains one of the main causes of cardiovascular mortality in the world.

Numerous works both in our country and abroad are devoted to the study of various pathophysiological aspects of its development. If the disease develops against somatically aggravated background, it causes additional difficulties both in diagnostics and in the tactics of managing this contingent of patients, regardless of age. The most urgent problem is comorbidity - an independent combination of different diseases in one patient, among which anemia occupies a significant place. The modern patient is characterized by a multiplicity of comorbidities, which may have mutual influence on the course and clinical manifestations of pathologies, in particular anemia of various etiologies. The increase in frequency of chronic diseases and their combinations with age causes difficulties in timely diagnostics and selection of adequate complex treatment of CHD. When examining patients with various forms of CHD, attention is usually paid to changes in biochemical blood parameters, functional state of coronary bed, pumping activity of the heart, daily ECG monitoring, underlying clinical manifestations of this pathology. Attention is also paid to the state of red blood parameters - hemoglobin, hematocrit, but often there is no correction of

these parameters, if the patient is anemic. Often the level of iron in the body is not determined, the decrease of which contributes to the aggravation of the quality of life and worsens the prognosis of coronary heart disease. All the above determines the relevance of the problem of combination of CHD and anemia of various etiologies, indicates the need to join anti-anemic therapy to study the pathophysiological mechanisms of joint development of pathologies, improvement of diagnostic and preventive measures.

### PURPOSE:

To determine the features of the course of unstable angina pectoris in patients with anemia of different degrees at the hospital stage against the background of standard therapy and application of the 3-valent iron preparation – Sufer.

### MATERIALS AND METHODS:

During the period from November 2017 to December 2018, we observed 28 patients with CHD - stable angina pectoris III-IVFC (Classification of the Canadian Society of Cardiology), complicated with iron deficiency anemia (based on serum iron level - less than 12 mmol/l). There were 11 women in the study group of CHD patients, mean age was  $56.1 \pm 5.1$  years, and 17 men, mean age was  $58.2 \pm 4.1$  years. Cancer patients and patients with chronic renal failure were excluded from the study. Functional class of angina pectoris was determined with the help of stress test - the number of meters walked for 6 min without "heart discomfort".

The criteria for anemia were decreased hemoglobin level ( $Hb < 120$  g/l) and the following laboratory blood tests: IDA - hypochromia (color index  $< 0.85$ ), microcytosis ( $MSV < 75$  mm), serum iron -  $< 12.0$  mmol/l, transferrin iron saturation -  $< 15\%$ . Mean pre-treatment blood Hb levels were  $91.4 \pm 3.7$  g/l

(the difference was statistically unreliable,  $p < 0.05$ ). Serum iron concentration before treatment averaged  $7.5 \pm 2.4$  mmol/L:  $5.9 \pm 1.1$  mmol/L in women and  $8.4 \pm 1.1$  mmol/L in men. Depending on severity of Hb decrease, we distinguish three severities of anemia: mild - 90-109 g/l (without hypochromia and microcytosis); moderate severity - 70-89 g/l (microcytosis, hypochromia); severe -  $< 70$  g/l (symptoms of tissue hypoxemia). In our study, 6 CHD patients with IDA had Hb levels below 70 g/l and an average of  $65.8 \pm 3.1$  g/l; anemia of medium severity was revealed in 9 patients with an average Hb level of  $86.1 \pm 2.2$  g/l; mild anemia occurred in 13 CHD patients with an average Hb level of  $104.6 \pm 3.1$  g/l. Treatment of the underlying disease - CHD was performed with antianginal drugs (prolonged nitrates, selective  $\beta$ -blockers, dihydropyridine calcium antagonists) with exclusion of aspirin and ACE, which, according to different authors, inhibit erythropoietin synthesis in kidneys and block its erythropoietic effect at bone marrow level. Treatment of IDA was performed with the 3-valent iron-containing drug Sufer in a dose of 5.0 v/v in the morning and evening for 5 days. In patients with severe IDA (6 patients) the initial treatment of IDA was started with intravenous administration of Sufer in the morning and evening with the addition to therapy of the oral iron-containing preparation Maltofer (Takeda Pharmaceuticals) at an average of 1375.1-14.3 mg, which corresponded to  $68.8 \pm 2.3$  mg  $Fe^{3+}$  per day. The remaining 22 patients received only Sufer in the hospital at a dose of 5.0 v/v twice daily for 5 days.

### RESULT AND DISCUSSION:

After the conducted treatment in patients with IDA we revealed 24,9% increase of Hb concentration (from  $91.4 \pm 3.7$  g/l to  $114.2 \pm 3.4$  g/l,  $p < 0.01$ ), which occurred due to increase of Fe -serum concentration by 53, 3% (after treatment) - from  $7.5 \pm 2.4$  mmol/l to

11,5±1,4 (p<0,001), that first of all contributed to the increase of transferrin iron saturation by 93% - almost twice (from 12,8±1,9% to 24,7±1,6%, p<0,001). Simultaneously with a 24.9% increase in hemoglobin levels, there was a corresponding 13.4% increase in Ht, indicating normalization of erythropoiesis as a result of improved transferrin function. Against the background of normalization of serum iron and hemoglobin levels, there was an improvement of cardiac pumping activity: documented by a 22.4% increase in EF: from 42.4±3.2% (before treatment) to 52.2±3.8% (by the end of treatment) (p<0.01), a 31.7% increase in exercise tolerance (from 287.2±26.5 m/6 min to 358.4±23.4 m/6 min, p<0.001). Such positive dynamics of exercise tolerance allowed to change the correlation of angina FC: before treatment III and IV FC were in 75,3% of observations (25 patients), after treatment - I FC - in 9 (32,1%), II FC - in 15 (53,6%,1%) and III FC - only in 4 (14,3%) patients. When evaluating clinical manifestations, in general, the number of angina attacks (heart pain) before treatment averaged 12 attacks per day, after treatment - 3 attacks per day, 6 patients completely refused to take nitroglycerin. Before treatment, the average total dose of B-adrenoblockers was 5.5±1.5 mg; after treatment, it was 3.25±1 mg.

## CONCLUSION:

Thus, the normalization of Hb level helps to improve Myocardial oxygen consumption and coronary blood flow, which provides the necessary energy balance for the effective operation of the heart as a pump - an increase in ejection fraction and exercise tolerance. Complex treatment of comorbidity, in this case unstable angina and anemia of varying severity, is relevant in the general problem of prevention, treatment and improvement of prognosis in CHD, and its correction is a very important addition to the complex standard therapy of cardiovascular disease, especially in our region.

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## EPIC SCHEMES IN UZBEK FOLK FAIRE TALES

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### ABSTRACT:

**The article examines in detail the stable compounds used in the medial part of Uzbek folk tales. The study is significant in that it covers about 600 fairy tales presented as examples of Uzbek oral art, and identifies intermediate formulas in many fairy tales. It should be noted that the author quotes from the works of world-renowned scientists. The article provides interesting information that has never been found in Uzbek fairy tales studies. This information will undoubtedly be of interest to industry experts. Most importantly, this article can enrich Uzbek folklore with another new term. The author uses the term "medial formulas" along with the term "average formulas". This term corresponds to the essence of the terms used worldwide.**

**KEYWORDS:** fairy tale, cliché, formula, scheme, element, initial, medial, final, median.

### INTRODUCTION:

We found it necessary to summarize the fixed compounds, clichés, and questions and answers used in the medial-main part of folk tales under the name of "intermediate formulas." In our opinion, this term is fully consistent with the meaning expressed by scientific terms in other languages. In addition, we tried to make the terms as Uzbek as possible. Because we want our work to be popular not only among philologists, but also among other specialists in the field.

French folklorist P. Sebillot calls *formules intercalaires* [1] formulas that come

"within" the tales he has collected. Romanian L. Shaineanu uses the term *formula mediane* (*mediana formula*) [2], the Moldovan B. P. Hashdeu uses the term *formula mediale* (*medial formula*) [3]. The same term was coined by another Romanian folklorist O. Birlea [4]. I. Bolte and G. Polivka uses the term *Übergangsformel* (*transition formula*) [5] in his research in German, we can see the term *formulky přechodny* (*transition formulas*) [6] in Czech folklore.

Thus, several terms appear that reflect an event in folklore. It is self-evident that the words *intercalaires* and *mediane* (*mediale*) are not synonymous, moreover, it cannot even be used in place of the term *Übergangsformel* used by I. Bolte and G. Polivka.

For example, the word *intercalaire* in French also means 'later introduced', 'removable'. Indeed, while the composition of fairy tales is abandoned, there are formulas that do not harm the content of the work. But there are formulas without which the content of the fairy tale remains in the grip of abstraction. There are also transition formulas (*Übergangsformel*) that "penetrate" between different episodes and perform a strict function. But they cannot fully express the intermediate formulas. So we are talking about terms whose scope of application is different: all transition formulas are average, more precisely, they form a smaller group of intermediate formulas.

It should be noted that I. Bolte and G. Polivka only studied the formulas included between the episodes by the narrators. The same can be said about P. Sebillot's research. Who delved deeper into the matter O. Birlea argues that intermediate formulas have a

simpler form than the initial and final ones, and that they go into a type that reflects the functions of the formula. Later, the term “medial formulas” became more popular and was coined by another French scientist, J. Boutiere uses formulas in the form of medianes [7].

Nicolae Roshianu also uses the term medial formulas (medial formulas) based on the term median in mathematics. In his work he divides them into internal and external medial formulas [8]. We, on the other hand, chose a “middle” that fully corresponds to the word *medialis*, which means “middle”, “intermediate”, “central” in Latin. To express the idea more fully, we use the combination of “central formulas in the medial part of fairy tales”.

## **MATERIALS AND METHODS:**

These formulas, which create unprecedented opportunities for the narrator in the process of performance, and help the listener to understand the real truth behind the work, play a very important role in Uzbek folklore.

It should be noted that the intermediate formulas are extremely colorful, in contrast to the schemes in the initial and final part, the functions they also perform are also different. Therefore, the process of identifying, describing, and classifying the formulas in the medial part of fairy tales is quite complex, requiring the reading of each tale from beginning to end. In order to determine the amount of intermediate formulas used in Uzbek folk tales, we reviewed 550 tales in 23 editions of works of this genre. [9-32] In the calculation process, we witnessed that in 296 of them, in other words, 54 percent of the tales at our disposal, at least one wise middle formula was used.

If we researched a total of 223 magic tales, we saw that certain formulas were used in 212 of them. In the remaining 12 tales, the narrator did not feel the need for ready-made templates. In particular, "Starling", "Fish Girl",

"Platon", "Three Gardens", "Golden Watermelon", "The Fox with the Old Man", "Daughter of Herdsman", "The Farmer with devil", "Afandi and Azrael", The fairy tales "Horned Alexander", "Coward", "Snake and Dragon" have a unique plot and style of performance. Even the motives in them are not repeated. But works of this type make up only 5 percent of magical tales. Hence, stereotyping is one of the hallmarks of magical tales.

In the medial part of household tales based on life stories, on the contrary, formulas are rarely used. During our research, we conducted research on about 300 (more precisely, 271) household tales. As a result, it was found that in 43 of these types of tales, intermediate formulas were involved. In the remaining 228 tales, however, no stable connection is found. According to our calculations, works that differ in plot and style of performance make up 85% of household tales. This is a testament to the primacy of innovation and innovation in everyday fairy tales.

For example, "Rich and servant", "Guloyim", "Nasir bald", "Play, my dog, play", "Three Saints", "Wise Shepherd", "Wise Woman", "Oyjamol and bald", "Navruz robber", "King Doro and Iskandarbek", "Forty lies", "Masturakhon", "Iskandar and Doro", "Nomanzar", "Husnbonu", "Wise girls", "Mamat bald", "Frost", "Wise girl", "Shepherd Ali", "Plague of slander", "Parrukhbakkt", "Oppressive king", "Farmer" "Mischief bald", "Mehribibi", "Forty lies in three lies", "The king and the daughter of the herdsman", "The king and his daughter", "The ignorant king and Abu Ali", "Ozodachehra", "Certain formulas can be seen in the medial part of the folk tales published under the titles "Davlat and Ahmad", "Hasan and Zuhra", "The Trader and the Cowherd", "The Conscientious Young Man".

Probably because fairy tales about animals are based on simple plots and create a

compact composition, there are not many formulas in this type of work either. We have "Wolf and Fox", "Brave Goat", "Susambil", "Beetle and Mouse", "Calf-Bull, Goat-Goat, Lamb-Ram", "A Bowl of Poison", "Three foxes". Interestingly, the total amount of fairy tales about animals is also not that great. For example, of the nearly 600 fairy tales we observe, only 56 tell stories about animal life adventures.

## RESULTS AND DISCUSSION:

As for the form of the intermediate formulas, such phrases as "Let the two great ones walk, hear the word from the younger", "Let him go into his city and rule as a king, ask them now", "Let them stand here, let the word be heard from the rich" Uzbek people is the most commonly used element in the medial part of fairy tales. The international scientific community classifies them as external medium formulas and calls them transition formulas.

In addition, there are sentences included in the tales by the narrators that serve to increase the listener's interest in the work. In particular, in the fairy tale "Qorasoch peri" there is a sentence "Now we also call her a Black Fairy in our fairy tale", and in the fairy tale "Poor Girl" there are words "There is a poor man like me among the traders". These schemes can also be included in the list of external medium formulas.

The formula, which represents the long and arduous journey of heroes and characters, is also a common element in Uzbek folk tales. The rhyme and melody in this formula attract the attention of the audience. We have found that this element, which in many cases comes in the form of 'Walking, Walking Abundantly', is used 282 times in 146 tales, representing the remoteness and difficulty of the destination.

This formula has also been used in all types of fairy tales. That is, 242 times in 120 fairy tales, 36 times in 22 household tales, and 4

times in 4 fairy tales about animals, the heroes have come a long way.

Another noteworthy aspect is that the road records record 269 cases in which the protagonist leaves his home for a specific purpose, while only 13 cases indicate a return.

We also found it necessary to define the state of departure with "d<sub>1</sub>" and the process of return with the element "d<sub>4</sub>" in accordance with the principles adopted by the international scientific community.

Long-running uncompromising rivalries are usually reflected in the 'd<sub>3</sub>' element. According to our calculations, such formulas have been used 29 times in 20 fairy tales in Uzbek folklore. Most of these 29 cases, more precisely, 24 were identified in magical tales. In household tales, this element was used only 5 times (once in 5 tales). Such a formula does not occur in fairy tales about animals. Only in the fairy tale "Odamtoy" such a formula was used 5 times. More precisely, this tale depicts the hero's brutal battles with 5 giants. It says that Adam will fight with the first giant "three nights and three days" to defeat him, and his fight with the second giant will continue "five nights and five days." The third giant will be defeated after a "ten nights and ten days" competition. To defeat the fourth giant, Adam will need "fifteen days and nights." When he finally "took twenty days," he "knocked down the white giant, jumped on his chest, and conditionally cut off his head."

In the tale of the "Hero", this formula is expressed in the form of "The two fought for forty days and forty nights without rest, and finally the Hero dried Akvon's body, cut off his head with a sword, and put it in a large cannon."

The image of a battle in a domestic fairy tale has a simpler look. For example, in the fairy tale "Turabekahonim" it is said that "Three nights and three days he fought and Turabekahonim defeated the soldiers of Sultan

Sanjar", and in the fairy tale "Boltakay brave" possible.

The fact that kings and the rich give weddings to the people in some way is one of the important places in the medial part of fairy tales. Since the form of this formula is similar to the element "H" in the final part ("The king gave a wedding to the country for forty days and nights"), we denote it by "h<sub>1</sub>".

If the events end after the wedding image in the final part, the wedding in the medial part lays the groundwork for the beginning of new events. Such formulas have been used 111 times in 79 fairy tales.

As expected, magic tales are also leading the way in using this formula. That is, in 67 magic tales, an element was used 99 times to signify a "big wedding". In 11 household tales, we can see 16 wedding images. Interestingly, this element can be found in a fairy tale about animals. In particular, in the fairy tale "The Mouse and the Beetle" it is said that "the wedding of the Mouse and the Beetle lasted forty nights and forty days."

The ceremony of selecting the right candidates to be the groom or king is also one of the important episodes in the medial part. We identified such cases in 21 tales and marked them with the element 'h<sub>2</sub>'. It is noteworthy that this formula is used only in magic tales and is not repeated twice in any fairy tale.

Under the terms of the ceremony, if the new king is identified by launching a bird of happiness, the bridegroom is chosen from among the young men who pass in front of the princess arch. In particular, "Slandered bride", "Shepherd who found happiness", "Stone-egg", "Hazratqul", "Karasochkhan", "Rustamzod and Sherzod", "Murkumomo", "Ahmadjon and Lukmanjon", In the fairy tales "Sunbul and Gul", "Oppression and revenge", "Aygul and Bakhtiyor", one day the king of this country died. He has no one. That's why the people

gathered and flew the state bird. The state bird landed right on Amin's head. "

The clever measures used by the protagonists in complex situations also have certain commonalities, so we decided to combine them under a certain formula and chose the 'h<sub>5</sub>' element to record them. According to our calculations, this element has been used 25 times in 21 of the magic tales.

Another formula that can be used in both magic and household tales is the element "m<sub>1</sub>". This element, which reflects the threatening order of the ruler, has been used 75 times in 57 tales.

One of the most common clichés in Uzbek folk tales is when a hero says, "If you shed a spoonful of my blood, I'll tell you." We also defined this condition as a formula and selected the "m<sub>2</sub>" element to record them. This element has been used 25 times in 22 tales.

The element "b", which signifies the infertility of fairy-tale heroes, is also one of the universal central formulas. This formula has been used once in 51 fairy tales. If we look at the scale of the categories, we can see the presence of this element in the tale of 40 magic, 10 household, one animal.

In Uzbek folk tales, as well as in the folklore of the whole world, magic has a place. During our research, we came across formulas explaining the specific nature of magical objects 79 times in 57 tales. The total number of cases in which magic items are activated is 99. Such cases are reflected in 39 fairy tales.

"Erkajon", "Vospiroxun", "Guliqahqah", "Oypari", "The prince Salmon", "Hazratqul", "Erkenja", An object presented to the protagonist in the fairy tales "Forty Grooms", "Two Friends", "Father's will", "Kilichrora", "Five Girls", "Bulbuligoyo", "Minister", "Three Brothers" and "Swan". In all of these tales, the phrase "When you have a hard time, I'll come if you burn it" is used almost unchanged.

The scientific community records the instructions for the magic item as "o<sub>1</sub>" and the process of launching the object as "o<sub>2</sub>".

Another of the formulas found only in magical tales is the element 'g<sub>1</sub>', which is a symbol of dragons, giants and lizards. Such evil creatures have received 50 special attention in 37 tales. We have listed only those cases as a formula.

One of the most interesting episodes is the appearance on the fairy-tale scene of characters who help the heroes who are in a difficult situation. Witnesses of the noble deed, sharp wit, or some courage of the protagonist, the possessors or rulers of the supernatural, involuntarily send "Your Wish." Also, the saying, "If you didn't say hello, I would have swallowed two," was mostly said by well-wishers. Similar phrases have been used 53 times in 43 (42 magic and one household) tales. We have summarized these two cases under the element i<sub>1</sub>.

The "q" element, which represents the inevitable breaking ban, has been used 43 times in 33 tales. The "r" element, which records the prohibition, has been used 18 times in 16 tales. So, some arbitrariness has been ignored.

#### CONCLUSION:

Intermediate formulas are used to change the scene, to emphasize the hero's long

and arduous journey, to exaggerate the extreme power of the enemies, and to express how short the distance between the wrath and mercy of the rulers is. These formulas also serve to explain the importance of rituals, established prohibitions, magical objects, and magical words, and most importantly, to enrich the plot of a fairy tale.

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# INFLUENCE AND ADAPTATION OF WHEAT (SULTAN VARIETY) TO HERBICIDES

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## ABSTARCT:

We use herbicides in the cultivation of agricultural plants; chemical preparations are used in the fight against weeds. Herbicides are divided into inorganic and organic according to their chemical composition, herbicides that selectively affect and affect depending on their exposure to crops and weeds. Herbicides are used before planting, during planting, during the period of growth and after harvesting, depending on the specifics of the crops and foreign grass. They are sprinkled on top and by the way of a ribbon. Herbicides, which are sprinkled on the leaf before planting, are mixed in the soil with boron Wormwood. At the time of planting and during the growth period, they are sprinkled with a ribbon method or top. [1] Biotic factors (dew, wind, temperature) are also important in the use of herbicides. [2]

**KEYWORDS:** herbicide, adaptation, glaxifop-P-methyl, convergent, divergent, coefficient of variability, agro technical action.

## INTRODUCTION:

The type and concentration of herbicide is important when using herbicides. Proper application of herbicides leads to high concentrations, violation of processing times, incorrectly selected herbicide species, soil and soil environment, pollution of water bodies,

destruction of plants and animals. It is important to find the necessary concentration of herbicide.

The determination of herbicide activity was determined by comparing the morphological characteristics of seedlings. In laboratory conditions, several experimental schemes are used to test the effect of herbicide on growth stimulants.

## OBJECTS AND METHODS OF RESEARCH:

In the experiment, more than 30 seeds were sown for each experiment, and the effectiveness of the experiments was determined by measuring the length and mass of the plant seedlings. In the experiment, 8 morphological signs of seedlings (total length, number of side branches, number of shoots in the main branch, number of shoots in the side branch, number of overall shoots, number of fleas in the main branch, number of fleas in the side branch, total number of fleas) were analyzed.

To determine the effectiveness of the experiment, it was determined by measuring the length and mass of the sleeves on which seedlings should be studied. The effect of herbicide was determined by the average ratio of length and mass of seedlings in each dose in the following formula. (1,2)

$$x = \frac{l}{L} \cdot 100\% \quad (1)$$

x- impact indicator by length(%);

l- The average length of the experimental part (CM);

L- Average length of control experience (CM);

$$y = \frac{m}{M} \cdot 100\% \quad (2)$$

y – Indicator of the inhibitor effect on the mass (%);

m – The average mass of the experimental part (gr);

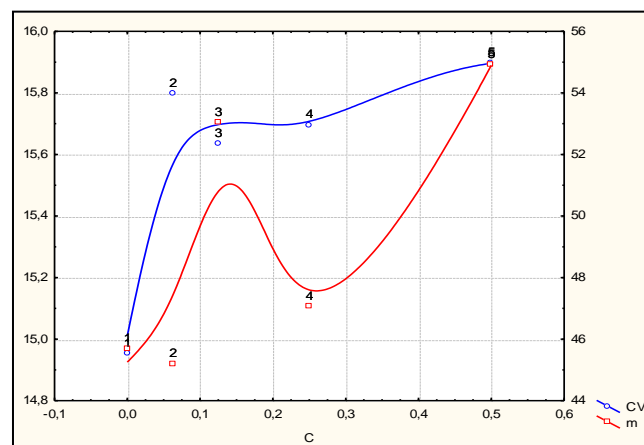
M- Average length of control experience (CM);

The processing of statistical data was carried out in accordance with the methods adopted by Plokinsky (1970), Zaitsev (1991), using the statistical and Excel software package.

## RESULTS AND DISCUSSION:

we can know the negative or positive effects of herbicides by comparing the herbicide-treated experiences to the initial (without herbicide) experience. Determination of the activity of Galaxifop-P-methyl was determined by comparing the morphological characteristics of the seedlings of the Sultan's variety. In field conditions, concentrated solutions of Galaxifop-P-methyl 500 mg / l, 250 mg / l, 125 mg / l, 62.5 mg / l were used.

In the seedlings treated with Galaxifop-P-methyl, there was a change in the morphological signs of the plant. The total height of the seedlings gave a lower indicator of variability than other morphological signs of the plant. This means that the total height of the seedlings is more resistant to herbicide than other morphological signs of the plant. The total height of the seedlings was observed in the experiment with a concentration of 500 mg/l, the highest figure (54, 9 CM) and the lowest (45.19) figure in the experiment with a concentration of 62, 5 mg/l. In the experiment, the coefficient of variability in the total height of the seedlings changed disproportionately. (Picture 1)



1-the total length of the plant.

C herbicide concentration

CV variable coefficient

m the average value of the plant length

1) Initial Experience 2) 120 mg / l, 3) 240 mg / l  
4) 480 mg / l 5) 720 mg / l

The number of side branches of seedlings was high in the herbicide-free experiment (7,7). The most favorable herbicide concentration for the good development of side branches is 125 mg/l. The average value of the number of side branches (m) in this concentration was 7,6, the coefficient of variability was 15,6%.

The negative effect of herbicide can also be observed in the number of fleas on the main branch. A low coefficient of variability was observed in the experiment without the use of herbicide (17.4 %). The use of herbicide causes a change in the coefficient of variability in the number of burrs in the main branch and an increase in the indicator in different concentrations. A high indicator of the average value of the number of burrs in the main Horn was observed in a concentrated experiment with 250 mg/l (10,5) (Picture 3). The average number of leaves in the main branches increased in the initial experiments with an increase in herbicide concentration, but a lower indicator was observed in the high-concentration experiment (500 mg/l). Adversely affected the formation of leaves on



the main branches, when the amount of herbicide 500 mg/l.

The number of buds on the main stem, the number of fleas on the main stem are genotype indicators. Their formation is determined mainly by the genotype. The total length, the number of side branches are biological indicators. Their high rigidity and relatively low variability are typical for species in general. The number of shoots on the side stem, the number of leaves on the side STEM are ecological-biological or structural indicators. They can be used to assess the condition of the system.

### CONCLUSION:

The study of the morphogenetic features of wheat varieties, their adaptability to the external environment and the ontogenetic characteristics of the plant allows you to choose the right varieties that can adapt to the external environment. And this, in turn, will help to get a reliable harvest.

The use of herbicides in connection with agrotechnical measures reduces the weeding of the soil, and the cost of weeding is reduced, and the cost of production is cheaper. More or less studied characteristics are characterized by a clear strategy for protecting against stress. With increased herbicidal stress, the development of individual characteristics first decreases, and then increases. This indicates a good adaptability of the species (or variety) to chemical stress.

In the experiment, we observed various ontogenetic tactics in which the total length of the plant converges, the number of side branches diverges-converges, the number of shoots (on the main branch) diverges-diverges, the number of shoots (on the side branch) diverges-diverges, the number of leaves (on the main branch) diverges-converges. Convergent and divergent-convergent characteristics are a

sign of the species ' adaptation to chemical (herbicidal) stress. This property stabilizes, and if it stabilizes with increasing averages, that's fine. For example, the number of side shoots is a sign by which it behaves. If there is a need to use a herbicide against weeds, the optimal concentration (in our experience) is 0.5 (it is stabilized at relatively high values of the average indicator).

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## **AMIR TEMUR - GREAT STATESMAN AND GOVERNOR, CREATOR, PATRON OF SCIENCE AND CULTURE**

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### **ABSTRACT:**

**This article shows the role of Amir Timur in the unification of Maverannahr and Khorasan into a single centralized state, the role of Temur's "Code" in the development of Uzbek statehood, as well as the study of Amir Temur's activity as a ruler, commander and patron of science and culture by historians.**

**KEYWORDS:** Maverannahr, Khorasan, centralized state, "Power in justice", "Code", "Zafar-name" ("Book of victories"), Great Silk Road, tuman, tavachi, devanbegi, kazi-kalan, suyurgal.

### **INTRODUCTION:**

Amir Temur was an outstanding statesman, talented commander, skillful diplomat, patron of culture and art, a person who made a great contribution to the development of human civilization. For an objective assessment of Temur's activities, first of all, it is necessary to take into account the specific historical situation in the middle of the XIV century in Central Asia, where the khans of the Chagatai ulus dominated, the population of which suffered for decades from Mongol oppression, the region was fragmented into regions and vilayats, between which there were constant strife and often with bloody consequences.

In these conditions, Amir Temur appears on the political arena. Possessing the gift of

organizer and leader, Temur always kept his finger on the pulse of life, without losing a sense of reality. Temur organized and led a movement to liberate the region from Mongol enslavement, for the unification of the vilayats into a centralized state, achieved recognition of its power by neighboring countries, restored and expanded trade, economic and political relations with many countries of the West and East. His contribution to the development of Central Asia in various spheres of public life was truly enormous and historical.

Thanks to the unification of vast geographical territories with different levels of culture into a single centralized state by Amir Temur, conditions were created for the rapid development of culture, which was later called by scientists the "Temurid Renaissance".

In 1370, at the kurultai of the local nobility and chiefs of the army, Amir Temur was proclaimed the ruler of Maverannahr. Having proclaimed Samarkand the capital, Temur began organizing internal affairs in his state. His main task was to overcome fragmentation and unite separate possessions into a strong centralized state. Amir Temur retained the Mongolian administrative system - division into tumans, appointing the heads of the tumans and mingbashi of people devoted to him.

Amir Temur's rule lasted 35 years. He created a centralized state stretching from the Indus and the Ganges to the Syr Darya and

Zeravshan, from the Tien Shan to the Bosphorus. In addition to Maverannahr and Khorezm, Amir Temur's state also included Fergana, Shash, areas around Transcaspien Sea, Afghanistan, Turkey, India, Iran, Iraq, the southern regions of Russia, Transcaucasia and several countries of Western Asia. In total he was able to unite 27 states and regions.

In order to strengthen and expand his empire, Amir Temur created a powerful, combat-ready army. Amir Temur himself was a brave and talented commander. He showed his leadership talent, for example, in the battle of Kunduzcha (near Chistopol, Russia), defeating the most powerful army of Tokhtamish, or in the battle of Ankara, defeating the army of the Ottoman Empire Sultan Bayazid Yildirim. Amir Temur and his emirs returned from other countries with rich booty. Together with the trophies, prominent scientists, skilled craftsmen, musicians and others were brought to Samarkand, Shakhrisabz, Bukhara. Amir Temur spent the acquired wealth on the improvement of cities and villages. He not only improved the cities of Maverannahr, Turkestan and Khorasan, but had many cities of the conquered countries rebuilt (for example, Baghdad, Derbent, Baylakan, etc.).

In general, it should be emphasized that the main results of Amir Temur's military and political activities were the formation and development of a strong centralized state, the liberation of the peoples of Central Asia from the Mongol oppression, the end of feudal strife and the establishment of stability and order, as well as the restoration of the Central Asian section of the Great Silk Road.

Temur's "Code" is a kind of instruction of Temur to descendants, and consists of two parts: a biography of Amir Temur from 1342 to 1381 and "Code", ie a kind of instruction on the structure of the state and the army. Written in the Old Uzbek language, it has survived to this day only in the Persian translation of the 17th

century. In the "Code", much attention is paid to the main pillars of the state: officials and military leaders, up to the rank and file soldier. The most important component of the state administration system was the army, the strengthening and improvement of which Amir Temur attached exceptional importance to. The "Code" defines the rights and obligations of everyone, from the sovereign to a simple soldier. Temur's army was the largest and most powerful army of the Middle Ages, both organizationally and tactically. The army was built, as indicated above, according to the decimal system: it was divided into tens, hundreds, thousands and tens of thousands.

The collection and deployment of troops was handled by special officials - tavachi, with great authority. It should be noted that each soldier called for a campaign was obliged to take a bow with 30 arrows, a quiver with a mace, a saber and a supply of food for one month. Every two soldiers had to have a horse in reserve, a tent, two spades, a hoe, a sickle, a saw, an awl, a hundred needles, half a weight of rope, a bottle for water and a cauldron for every 10 soldiers. These and other issues of military organization of Amir Temur's army are described in detail in the last chapters of "Code".

Under Temur, laws and their strict implementation, respect and observance of the rules of Islam, as well as a firm, consistent policy, became the basis of state management.

Temur in his "Code" stated that government is based on twelve rules. "... Now, edification to my eminent children and capable grandchildren, who are to rule the country; the twelve rules have made for themselves a watchword, and through them have attained this degree of government. With the help of these rules I occupied the country, ruled it and decorated the throne ..." Below are these social and political strata:

1. Sayyids (descendants of the prophet), scientists, sheikhs, noble people, that is, intellectuals
2. Wise men, who know the essence of the matter;
3. Dervishes, believers in God, qalandars (pilgrims);
4. Princes, emirs, military leaders, commanders of troops;
5. Warriors and commoners;
6. People who can be trusted for government affairs and with whom you can consult, trustees;
7. Ministers, chief scribes, Devonian scribes, engineers;
8. Doctors and tabibs (healers);
9. Scholars - commentators of texts and hadiths;
10. People of crafts (craftsmen, shoemakers);
11. Sofi
12. Traders and travelers.

The central executive branch was headed by a council of seven ministers (arkan-i davlat), headed by the premier minister (devonbegi). Each of the ministers performed specific functions. Thus, the first minister was in charge of harvest, taxes and duties and their distribution. The second, the minister for military affairs, presented to the sovereign the lists of troops and the register of salaries, informed about the state of military affairs in the country. The third, the minister for trade, monitored donations and taxes paid by merchants, was in charge of collecting taxes from pastoralists, and dealt with inheritance issues. The fourth minister monitored the financial condition of institutions and was in charge of the state treasury. The fifth is kazi-kalon, i.e. supreme judge. The sixth is Jalal al-Islam - a special royal overseer. The seventh minister is devoni - insha - was in charge of relations with other countries. The ministers were also involved in drawing up reports on the population, the development of trade and culture, the state of supervision in the state, informed the ruler about the activities of the

administration, the state of affairs in the provinces, the collection and distribution of taxes, duties, etc.

The state also had the posts of kazi (spiritual judge), arzbegi (considering complaints from the population and from soldiers), sadri azam (chief official for the waqf properties), sheikh ul-Islam (monitored the implementation of Sharia law), kazi al-kuzzat (chief judge for civil cases), munshi (secretary responsible for the receipt and distribution of funds and their accounting in the state ). Regions, cities and districts were ruled by khokims, who were supposed to take care of the welfare of the population of their territories, keep order in public places, ensure the normal operation of hospitals, baths, inns, caravanserais, bazaars. The "Code" has special sections that give the rules for the production of military leaders and rulers, as well as the rules for the appointment of chiefs (emirs) of ulus, kushun and tyumen (kushun - company of 100 men; tyumen or tuman - corps of 10000 men or an area capable of fielding that many warriors).

Administratively, the state was divided into uluses, viloyats and districts, which were ruled by hakim, noyib and tumbashi (i.e., ruler, governor and thousands). Cities, regions or districts had their own financial administration, judge, mufti, and clerk. The form of conditional ownership, suyurgal, became widespread, and the ruler's close associates were appointed as its owners.

Temur divided the state into four parts between his sons: Balkh - to the eldest son Jahongir; Fars to Umarshaykh; Iraq, Transcaucasia to Mironoshah; Khorasan to Shahrukh. But Temur held Movarounnahr in his hands. It turns out that the empire of Amir Temur was a set of united feudal possessions. The distribution of powers in the power system was characterized by a high level of political and legal culture.

"Code" begins with a statement of 12 rules of government. Temur bequeathed to his

descendants: "Let these rules serve as a guide to them both in their behavior and in the administration of the state, so that they can preserve the state that I will leave them." Among the rules: the regular holding of kurultays on all the most important issues of public life. They were held not only in Samarkand (the capital of the state), but also in other regions, depending on where Temur was located; reliance on 12 different strata of society (scientists, sheikhs, pious people, officers, soldiers and ordinary people, ministers and secretaries, doctors and astrologers, historians and authors of chronicles, elders, masters of all kinds, travelers); advice with the wise; compliance with laws and fairness; respectful attitude towards officers and soldiers.

The rights and obligations of the emirs were clearly defined in the Code. Emirs, like ministers, must be from noble families, possess such qualities as discernment, courage, enterprise, caution and thrift, experience and habits of living with a soldier, tolerance. As stated in the "Code" - the law for everyone - both for the ministers and for the emir, and for ordinary subjects - was the same.

The Code emphasized the importance of punishing all those who break laws, abuse power, and do not fulfill their duties. He was especially strict with law enforcement officers and civil servants. The rules of moral and material encouragement of loyal subjects - from an ordinary soldier, an ordinary citizen to senior government officials are also laid out.

The Code says that "... a government that is not based on religion and laws will not retain its position and power for a long time. That is why I founded the building of my greatness on Islam, with the addition of the rules and laws that I strictly observed in the continuation of my reign. "

Assessing the significance of the Code, the famous historian, translator and publisher of this book into French L. Lyangle wrote in 1787:

"Temur passed on to his descendants, together with the empire, a gift even more precious - the art of preserving it." Therefore, this book is an important document on both the history of the development of statehood and law.

The main merit of Amir Temur to the peoples of Central Asia was that he put an end to feudal fragmentation and malevolent wars, liberated Movarounnahr from the oppression of the Mongols and uniting its population, laid the foundation for a centralized state, established peace, and made every effort for the further development of the country.

The state created by Amir Temur relied on all social strata that existed at that time and was governed by law. Temur ensured the rule of law in the country.

The calmness and order established in the country created the basis for the development of agriculture, handicrafts, trade, science and culture. In a short time, Movarounnahr and Turkestan turned into a country with developed science and culture.

Today, when our republic successfully solves the problems of building a rule-of-law state, many of the provisions of Amir Temur seem topical. One of the main priorities at the present stage is stability in society, peace and harmony of people. The basis for such stability in Uzbekistan should be the further strengthening of statehood and the foundations of civil society.

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**EXPERIMENTAL RESEARCHES ON STRENGTHENING THE SLOPES OF THE  
ROADBED WITH GEOMATERIALS ON THE EXPERIMENTAL SECTION OF THE  
BUKHARA MISKEN RAILWAY LINE**

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**ABSTARCT:**

**The article describes the main areas of application of volumetric geogrids in the construction, reconstruction and repair of the roadbed of railways and highways. The process of conducting and the results of experimental researches on strengthening the slopes of the roadbed on the Bukhara – Misken railway line are presented.**

**KEYWORDS: methodology, experiment, technology, slope, geogrid, roadbed, soil.**

**INTRODUCTION:**

In order to increase the economic efficiency of the project "Construction of the railway line Bukhara–Misken" as well as the practical involvement of the tourism potential of Khorezm region through the development of tourist routes, uniting in a single transport direction of the cities of Tashkent, Samarkand, Bukhara and Khiva, as well as further development of the transport infrastructure of the Republic of Karakalpakstan, Bukhara and Khorezm regions in December 2017 launched a new railway line Bukhara – Misken length of 355 km. With the launch of the new line, the distance between Tashkent and Urgench was reduced by 75 km. The new railway line runs through the desert regions of Uzbekistan. 80-90% of the railway's roadbed is constructed from local soils, i.e. sandy soils.

When building on different soils, their physical properties change, which may require changes not only in technology, but also in the design of structures. The quality of the roadbed determines the level of comfort of using railways. Based on this increase in stability and increase in the service life of the railway trackbed, as well as for the further launch of high –speed and high-speed train traffic on the Bukhara-Misken railway section, the use of modern innovative technologies and materials is purposeful [2].

To achieve the required reliability of the roadbed, it is necessary to develop methods for choosing the type of anti-deflation and anti-deformation (ADAD), ensuring both general and local stability of the slope with ADAD reinforcement. The developed design and technology of its creation will be especially appropriate for the construction of new and widening of the existing railways, where there is no undeveloped soil. It should be noted that it is for such conditions that several types of new promising geosynthetic materials become competitive [3].

At the same time, the final decision, obviously, should be made on the basis of a technical and economic comparison of the new structures with each other, taking into account the available local materials. Recommendations on the choice of parameters of technological schemes are the results of the experimental stage. When developing the technology for

strengthening the slopes of the railway roadbed from sandy soils with the use of geosynthetic materials, the requirements of regulatory documents are taken into account [4, 5].

When strengthening the slopes of the roadbed, three-dimensional geogrids are used. The main areas of application of volumetric geogrids in the construction, reconstruction and repair of the roadbed of roads and railways:

- Strengthening of flooded and non-flooded slopes, slopes instead of traditional types of reinforcement or in combination with them;
- Formation of reinforced structural layers;
- Construction of the roadbed in difficult construction conditions and strengthening of the working layer of the roadbed [6].

At the meeting, the acting Chairman of the Board of JSC " O'zbekiston temir yo'llari " from March 12, 2019 "On additional measures to accelerate the design and construction investment projects of JSC "O'zbekiston temir yo'llari " [7] discussed the urgent tasks for the "the Removal of an existing railway station, Tunguluk-Bulutli-Miskin with the flood zone Shurbulak reservoir " [8].

Employees of the Tashkent State Transport University (TSTU) are conducting research on the topic "Resource-saving structures and organizational and technological solutions for strengthening the roadbed of high-speed and high-speed railways" on the basis of an economic agreement with the Strategic development Department of JSC "UTY".

It is known that theoretical and experimental researches are conducted in any field before applying new innovative technologies in practice. Experimental researches on the use of modern energy-saving and resource-saving materials for the railway trackbed were carried out on the Kiyikli – Khizirbobo stage of km

4199 PK 1 of the Bukhara – Miskin railway line.

To conduct the experimental research, the "Program and methodology of experimental research on strengthening the slopes of the earth bed of railways" was developed. The developed program and methodology were approved by the relevant services and approved by the Acting Chairman of the Management Board of "O'zbekiston temir yo'llari" JSC.

The main objectives of the program and methods of experimental research:

- Development of technology for strengthening the slopes of the roadbed with the use of advanced geosynthetic materials produced from local raw materials by representatives of the private sector;
- Determination of the effectiveness of the use of innovative materials and construction of roadbed objects;
- Selection of design and technological solutions for the implementation of the recommended methods;
- Development of practical recommendations for strengthening the slopes of the railway roadbed.

## **METHODS:**

For experimental research, was selected the Bukhara – Miskin railway line on the Kiyikli – Khizirbobo stage. The natural-climatic and soil characteristics of the selected site were studied and analyzed. Studies of the strength and filtration characteristics of geosynthetic materials were carried out to assess their suitability as geosynthetic slotted structures. According to the results of the competitive selection, geosynthetic materials produced by "GEOTEXTILE" LLC were accepted for the experiment.

Comprehensive multivariate research and experiments to improve existing and develop

new designs subgrade and innovative technologies to strengthen its slopes, for the implementation of priority projects for the construction and reconstruction of Railways using the most promising energy-efficient and resursoberezheniya materials made on the basis of the order of the acting Chairman of the Board of JSC "O'zbekiston temir yo'llari " from October 29, 2020 №.729-N "On conducting experimental researches on strengthening slopes of roadbed on the section railway line Bukhara–Misken" [9].

Experimental researches were conducted in the period of November 7-12, 2020 by TSTU employees in accordance with the "Program and methodology of experimental researches on strengthening the slopes of the earth bed of railways".

The most complex processes in the technology of strengthening geosote structures are the processes of laying and compacting the soil. Depending on the scope of work on anti-erosion protection, the complexity of the design and the properties of the backfill material-you can use either manual or mechanized production technology. In our case, the manual technology of work production is adopted.

The technological sequence (stages) of conducting experiments on the Kiyikli – Khizirbobo stage km 4199 PK 1 are shown in the figures:

- The process of laying getextile on the slopes of the roadbed (fig. 1);
- The process of installing geogrids on the slopes of the roadbed (fig. 2);
- The process of filling the geogrid cells with local soil with parallel sowing of seeds of sand-loving grasses (fig. 3);
- The final view of strengthening the slopes of the roadbed with geosynthetic materials (fig. 4)



Figure-1. The process of laying geotextile on the slopes of the subgrade (Kiyikli – Khizirbobo stage km 4199 PK 1)



Figure-2. The process of installation of geogrids on the slopes of the subgrade (Kiyikli – Khizirbobo stage km 4199 PK 1)



Figure-3. The process of filling the geogrid cells with local soil with parallel sowing of sand-loving grass seeds (Kiyikli – Khizirbobo stage km 4199 PK 1)





Figure-4. Final view of strengthening the slopes of the roadbed with geosynthetic materials (Kiyikli-Khizirbobo stage km 4199 PK 1)

Based on the results of the conducted experimental researches, an act on conducting experimental researches and a protocol of experimental researches under item No. 3 of the Program and Methodology of Experimental researches on strengthening the slopes of the earth bed of railways were drawn up.

### CONCLUSION:

The experimental researches conducted to strengthen the slopes of the roadbed on the Bukhara-Misken railway line allow us to draw the following conclusions:

- The "Program And Methodology Of Experimental Research On Strengthening The Slopes Of The Railway Roadbed" Has Been Developed To Ensure The Technical Condition Of The Railway Roadbed;
- Developed Technologies For Strengthening The Slopes Of The Roadbed With The Use Of Promising Geosynthetic Materials Produced From Local Raw Materials By Representatives Of The Private Sector;
- The Effectiveness Of The Use Of Innovative Materials And The Design Of Objects Of The Roadbed Is Determined;
- Proposed Design And Technological Solutions For The Implementation Of The Recommended Methods;

- Practical Recommendations For Strengthening The Slopes Of The Railway Roadbed Are Given.

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## **PECULIARITIES OF DETERMINING THE CONTENT OF FOREIGN FAMILY LAW IN THE REPUBLIC OF UZBEKISTAN**

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### **ABSTRACT:**

**The article considers the rules for determining the content of foreign family law, the analysis of the legislation of the Republic of Uzbekistan and the CIS countries. Unified national and international norms with the help of collision methods and collision binders were also covered. At the same time, the procedure for determining the content of foreign family law norms in the Republic of Uzbekistan and the impact of the subjects were assessed.**

**KEYWORDS:** family, Family Codes, foreign family law, Conventions.

### **INTRODUCTION:**

The family is a social, psychological, legal society consisting of the relationship between parents and children. In the family, the relationship between couples, parents and children are regulating not only morally and religiously but also legally. For this reason, the constitutions of the states have adopted separate norms and Family Codes.

The fact that the husband or wife is a citizen of different countries in the family leads to a stronger protection of this family on the basis of internal and external norms.

Basically, if there are parties in the family belonging to different nationalities, it is regulated by conflict-of-law methods of international private law as well as by collision binders. In particular, they are unified collision binders such as *lex patriae*, *lex nationalis*, *lex domicilii*, *lex fori*, *lex loci celebrations*.

Personal law regarding the material conditions of marriage has become a generally accepted approach in world practice. However, a new trend in the law of the Commonwealth of Independent States countries is the splitting of the conflict of laws depending on the status of a foreigner. For foreign citizens, the law of citizenship applies, and for stateless persons - the law of permanent residence of the Family Code of the Republic of Azerbaijan, Kyrgyz Republic, Republic of Moldova, Russian Federation, Republic of Tajikistan, Turkmenistan of the Law of Ukraine on private international law. This requires compliance with the rules of direct application of national law in relation to the circumstances that prevent marriage.

The law of the place of marriage (*lex loci celebrationis*) means the application of the law of the country in which the marriage is concluded.

In most Commonwealth of Independent States countries, "the *lex loci celebrationis*" applies only to the form of marriage of the Family Code of the Republic of Azerbaijan, the Republic of Moldova, the Kyrgyz Republic, the Russian Federation, the Republic of Tajikistan, the Law of Ukraine on private international law.

The law of the country of the court (*lex fori*) concerning the dissolution of marriage with foreigners in the legislation of the Commonwealth of Independent States countries has developed a stable rule for the application of the law of the country of the court of the Republic of Azerbaijan, the Republic of Armenia, the Republic of Kazakhstan, the Kyrgyz

Republic, the Republic of Moldova, the Russian Federation, the Republic of Tajikistan, Turkmenistan, the Republic of Uzbekistan. [1.] Marriage and family relations in private international law include issues of concluding and dissolving a marriage, recognizing a marriage as invalid, determining the regime of property between spouses, regulating alimony obligations, adopting, determining the place of residence of children and other relations of an international nature. The foreign element in marriage and family relations can manifest itself in all its variants. In the legislation of some states, "foreign" (between foreigners) and "mixed" (between foreigners and their own citizens) marriages are highlighted. Family relations are connected to the maximum extent with national traditions, religion, household and ethnic customs, and therefore the family law of different countries is fundamentally different and practically defies unification. All this causes serious conflicts of laws in the field of marriage and family law. Numerous conflict problems arise primarily because the corresponding material norms of different states differ significantly from each other. [2.]

Article 238 of the Family Code of the Republic of Uzbekistan is entitled "Determination of the content of foreign family law." [3.]

According to this norm, the Court or the civil registry office and other bodies in the application of the norms of foreign family law shall determine the content of these norms in accordance with their official interpretation and application in practice in the relevant foreign state.

According to this rule, the court or civil registry office and other bodies in order to determine the content of the norms of foreign family law, first of all, apply to the Ministry of Justice of the Republic of Uzbekistan. In addition, they can apply to other competent authorities of the Republic of Uzbekistan.

Interested parties must also provide documents confirming the content of foreign family law. A foreigner also has the right to render other assistance to the court and civil registry offices and other bodies in order to determine the content of the norms of family law.

For example, marriage is registered in the Republic of Uzbekistan. However, if a marriage with a citizen of the Republic of Uzbekistan takes place outside the territory of the Republic of Uzbekistan, it is primarily regulated by an intergovernmental agreement on the basis of a decision of a court of the CIS and foreign countries that has entered into force. Unless otherwise provided by the interstate agreement, the divorce shall be registered with the competent authority of the applicant's place of residence. As a result, the marriage is annulled outside the territory of the Republic of Uzbekistan and is registered with the relevant documents.

Persons divorced from a marriage registered in the Republic of Uzbekistan on the basis of a decision of the competent authority of a foreign state must submit documents confirming the divorce, including a legalized or apostille photocopy of the certificate, along with its translation, to the Civil Registry Office. In this case, the civil registry office shall make an entry in the marriage certificate, mark the applicant's identity document on the divorce and issue a certificate to that effect.

According to Article 1160 of the Civil Code of the Republic of Uzbekistan, in the application of foreign law, the court or other state body determines the content of its norms in accordance with the official interpretation, practice and doctrine of these norms in the relevant foreign state.

A court or other state body may apply to the Ministry of Justice and other national competent authorities and institutions, including foreign bodies and institutions, or

involve experts, for assistance and clarification in order to determine the content of foreign law.

Persons involved in the case have the right to submit documents confirming the norms of foreign law they are arguing to substantiate their claims or objections, and otherwise assist the court or other state bodies in determining the content of these norms.

If, in spite of the measures taken in accordance with this Article, the content of the norms of foreign law is not determined within a reasonable time, the law of the Republic of Uzbekistan shall apply.

Convention on Legal Assistance and Legal Relations in Civil, Family and Criminal Deaths (October 7, 2002, Chisinau) and Convention on Legal Assistance in Civil, Family and International Conventions (1993, 22) [4.] and unified collision norms were used in family law norms. It also uses bilateral and multilateral cooperation in determining their content.

Therefore, the legal fact required in determining the content of foreign family law in the Republic of Uzbekistan, ie registration of birth, marriage or divorce, registration of death, arises outside the territory of the Republic of Uzbekistan and must be duly formalized by the competent authorities .

правового регулирования брачно-семейных отношений, осложненных иностранным элементом" //Международные организации и международное частное право / International organizations and international private law с: 67-76. ([http://en.nbpublish.com/library\\_get\\_pdf.php?id=22324](http://en.nbpublish.com/library_get_pdf.php?id=22324) K.N. Averina "Peculiarities of legal regulation of marriage and family relations complicated by a foreign element" // International organizations and international private law с: 67-76.)

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## **PEDAGOGICAL SKILL IS THE PRODUCT OF THE INDIVIDUAL CHARACTERISTICS OF THE TEACHER**

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### **ABSTARCT:**

**The article explores ways to further improve the pedagogical skills of teachers through the application of innovative educational technologies in the teaching process on the basis of the unity of pedagogical activity, pedagogical communication and personal qualities.**

**KEY WORDS: Skills, professional skills, pedagogical skills, pedagogical activity, pedagogical communication, pedagogical techniques, pedagogical process, pedagogical system, creative teacher, skilled teacher.**

### **INTRODUCTION:**

Resolution of the President of the Republic of Uzbekistan dated April 20, 2017 No PP-2909 "On measures to further develop the system of higher education", January 25, 2018 "On measures to radically improve the system of general secondary, secondary special and vocational education" Serves in the implementation of the tasks set out in the

Decree PF-5313 and other relevant regulations in this area / 1, 2/.

Although the educational trinity – the middle syllable of the “aim - process-result” is now remarkable, one pedagogical scientists are studying the peoples of the beginning and end of this chain.

In order to successfully implement this trinity in the educational system, it is necessary to identify the established aim, to control the process and to apply it in educational practice to achieve the desired result, as well as to control educators with the theoretical basis of innovative educational technologies and further improve the professional skills of pedagogues is the actual problem.

The purpose of this scientific article, known as " pedagogical skill is the product of the individual characteristics of the teacher", consists in revealing the three terms of pedagogical skill, which are the individual product of the teacher, namely, the role of pedagogical activity, pedagogical temperament and personality character in the process of lessons.

It is known to us that in the process of giving lessons to students, when we say a skillful teacher, he has a number of positive qualities, such as vocabulary, creativity, initiative, entrepreneurship, in the process of teaching, he is able to grab the attention of the reader to the subject, prepare didactic materials and bruises weapons corresponding to the content of the subject, we understand the child's interesting teacher on the topic of each lesson. In a word, the lesson prepared by a skillful teacher syllabus should be prepared in a way that is worthy of five grades. For this purpose, the teacher enriches the latest science news related to the subject from textbooks, manuals, methodological recommendations and instructions, mass media and Internet materials and organizes the training with the help of this prepared lesson.

In the organization of the lesson process, the teacher should monitor the readiness of the classroom hone for training, be prepared to use didactic material and visual weapons, Information Communication Technology tools related to the subject, and be prepared to explain the lesson process using innovative educational technologies. Lecture classes are of particular importance in developing the thinking of students, improving their pedagogical skills.

Before starting the lecture, it is important to highlight the specific purpose for which this material was intended to be studied. Then it is necessary to master knowledge, prove the idea, show the printouts of the choice of rational methods of action. Only after that, the essence of the subject is revealed. Teachers who are creative in their work make productive use of dialogue, question-answer, return, problematic situations, analogies, etc.during the lecture.

In explaining new knowledge to students and explaining topics related to the discovery of laws, workshop lessons are important in the

development of mental activity. In the process of the workshop lesson, the most backward reader can also perform a level of mental work that he cannot cope with in another type of lesson.

The best teacher constantly improves the method of passing the lesson he puts the problem in, he will express his thoughts and put them into discussion by sounding out the contradictions that may arise in finding a solution to the problem in the student. Eliminates the prejudices that can occur, proves the truth in the experiment (demonstration or on the basis of experiments conducted by scientists).

The teacher demonstrates the ways of scientific thinking in front of the students. And this leads the students to the truth with the help of scientific research, ensuring that they become participants in this.

In the opinion of skillful creative teachers, problematic teaching is the development of students ' activity in the lesson, their free thinking. They use printouts wisely, based on the issuance of educational material on blocks, from general to special, from the laws to the direction of events. In the process of the best teacher's lesson, interest, curiosity, knowledge needs are manifested in the students, the students ask questions and themselves seek answers, employing their thinking and learning to cope with the difficulties in finding solutions to the questions. In increasing the students ' activity and traceability, in the application of problem teaching, skill teachers will consider the system of questions and assignments that will be given to the students. The questions they compose should be concise, concise and clear. In this order, they not only formulate students ' curiosity and independent thinking skills, but also develop their creative abilities.

The teacher should give students an example before the team of the educational institution with his / her actions, role in the

teachers' community, lifestyle, appearance and image, with his / her culture, honesty and moral qualities. Therefore, it is important that no matter what subject the teacher teaches, there is a high merit for the formation and imitation of the students in the form of a spiritually, competent coach before the eyes.

Pedagogical skill the following areas of activity:

- 1) Direction of educational pedagogical activity. In this direction, the teacher assumes the need to know the subjects at the level of scientific and technical progress and the requirements of the period.
- 2) The direction of personal activity.
- 3) Direction of social pedagogical activity.
- 4) Consists of the direction of information and communicative activity.

If we take into account that the pedagogical skill consists of a unit of pedagogical activity of the teacher, pedagogical communication and individual characteristics of the teacher, the pedagogical activity of the teacher is explained as follows.

Pedagogical activity is the professional activity of a teacher, which is carried out by means of pedagogical interaction in the process of teaching and education to students.

The pedagogical activity of a skilled teacher is aimed at directly or indirectly carrying out educational and educational tasks, educating, educating the student, showing the way, regularly supervising the acquisition of independent knowledge.

In his pedagogical activity, the teacher strictly adheres to the humanitarian relations with the student, acquires professional knowledge from the methodology of teaching specialty Sciences, pedagogy and psychology, has pedagogical abilities, possesses pedagogical techniques, being humane, reduces some features of the pedagogical foil and determines its thematic functions. It should be noted that for pedagogical skill, only the formed

pedagogical activity is not enough, it is important that the professional activity of the teacher is able to engage in pedagogical communication with the students.

Pedagogical communication is a manifestation of the professional activity of the teacher, which serves as a means of interaction of educational and educational functions in the process of teacher and student cooperation. The teacher's interaction with the student is the main component of pedagogical communication and is built on the basis of the means and methods of interaction of the teacher with the students and colleagues.

Pedagogical character is reflected in the form of democracy, authoritarianism and Libyism. What is the specific challenge in pedagogical communication?

In order for pedagogical communication to overcome difficulties, the teacher plays an important role in improving the methods of pedagogical encounter, identifying all the functions of communication, compiling a program based on the regular enrichment of the means of communication. For this, a skillful teacher should be able to identify the subjective views of another person and determine the most optimal set of tools for determining the tasks that need to be solved intelligently in communication with this person, having several options of communication, which in communication can predict the response of another person, and also be able to listen to other people. The nature of pedagogical activity and pedagogical communication is inextricably linked with the personality of the teacher, his ideological and political level, professional training and aspiration to know, manifested in his views, views, behavior. In addition to these basic qualities, the teacher's general and managerial abilities, his predisposition, character, interim psychological states, as well as accumulated experience are important.

From the above comments can be summarized as follows. The importance of pedagogical skill in the educational process it was found out that the unit of pedagogical activity, communication and personal characteristics of the teacher is the basis of innovative educational technologies, the activities of the teacher in organizing lessons with pedagogical skill are the result of innovative educational technologies and innovation is the main factor in improving the professional skills of The results of the identified scientific and methodological experiments (experiment) serve as the main factor for increasing the effectiveness of the educational process and increasing the knowledge of students in the further development of their knowledge. In the future, if the results of this study are studied in the methodological councils of the educational system, the results obtained are analyzed, summarized and popularization work is carried out, positive results can be achieved.

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## THE STRUCTURE OF THE CONSULTING SERVICES MARKET IN UZBEKISTAN AND THE FACTORS AFFECTING IT

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### ABSTRACT:

**This article examines the development of consulting services to achieve high growth rates, macroeconomic balance, modernization and diversification of the economy in the process of economic development and effective activity in market relations. The role of foreign consulting firms for improving the consulting services market in Uzbekistan is also considered.**

**KEYWORDS:** Activity, company, loyal customer, expert, loyalty, characteristics, factor, method.

### INTRODUCTION:

The term "consulting" in the scientific literature is interpreted differently in terms of content. In the general case, Consulting is seen as the provision of qualified professional advice over a certain period of time, that is, advice is understood by the specialist in order to show the ways of solving the problems of customers. The need for consulting is formed in cases where there is a lack of knowledge and skills for effective decision making in individuals. Currently, to segment the consulting services market is based mainly on the signs of consulting facilities and consulting content. Depending on the consulting facilities, we can pay attention to the following when segmenting the market:

- Material wealth and property related consulting;

- consulting related to intangible (intellectual) property;

- Personlararo relationship related consulting.

Depending on the content of consulting, it is desirable to distinguish the following segments of the consulting services market:

- Legal consulting, that is, consulting related to the law, decisions and rules that make up the legal space in society, legal and obligations, legal solutions to conflict situations;

- Medical Consulting, that is, consulting related to the restoration and protection of the health of individuals;

- Socio-psychological counseling that is, consulting related to the stabilization of the mental state of individuals, the social psychological balance between person and group, person and society.

At the same time, the content of consulting in the modern age of social economic development kuprok was aimed at providing services in the sphere of Business Leadership. That is why when the consulting market is said, many scientists understand the exteriors to tips and innovative ideas and their satisfaction in maximizing the improvement of business processes. The research carried out in our republic is also mainly devoted to the study of the segment of providing consulting services to economic entities. Proceeding from this nuktai point of view, it turns out that in the consulting market as a buyer, all the subjects of the document (both legal and natural persons) involved in business and entrepreneurship are

manifested. And the offer of consulting services is paid by organizations, institutions and individuals who have experience, reliable information and knowledge in a certain field. The process of privatization of the majority part of consulting services during the period of 2000 years was dominated by consultations on the establishment of Joint-Stock Companies, business plans. In recent years, there has been a sharp increase in the demand for consulting services in the sphere of business in Uzbekistan. The reasons for this can be further liberalization of economic activity, the deterioration of the subjects of the document in various forms of ownership, the intensification of the processes of national integration. It is also permissible to separately recognize the increase in the number of types of consulting services. The need arises when the ways of solving the problems of consulting services, first of all, in the management of enterprises, do not lead to the expected positive results for a certain period of time. The current trends in the development of business in the Republic of Uzbekistan and abroad indicate an increase in the demand for consulting, as well as the fact that the projects are being developed and implemented by specially trained qualified specialists. According to experts, the annual turnover of the consulting company on average in 2015-2019 years increased by 4-6 times. Such growth is associated with the broad development of entrepreneurship and the right scale of foreign investment, which can be explained by the favorable conjuncture of the main export markets of Uzbekistan in the world market and the improvement of the business environment in the country. Measures carried out to liberalize the foreign exchange market, simplify the organization and licensing of business, regulate and increase the openness of inspections of economic activities, reduce the tax burden, improve the provision of banking services to enterprises and the population have

become particularly favorable for our economy. The sale of several standardized services to consulting organizations studied by researchers has generated substantial revenue, namely:

- Automation of accounting and management processes;
- Development of business plans and feasibility studies;
- Creation and adaptation of software products, opening and administration of sites and other areas of it;
- Training and seminars;
- Organization of advertising events and market information;
- Current advice on legal and financial matters.

The trends (marketing research, investment, and strategic consulting) that preclude complex analytical work are now providing consultants with a significant portion of their cash receipts. Studies have shown that the main customers for services are local private companies, which account for almost 58% of the revenue of consulting organizations. Think about the problems of organizing more production processes for small entrepreneurs, managing finances and solving current legal issues. It is known that the leaders of iiric business have a strong desire to solve strategic and investment issues, as well as to manage production and introduce modern information technologies. The study, which was conducted, showed the duration and stability of demand for operational consulting. The frequent change in the normative and legal framework of economic activity increases the demand for legal and financial advice, which is relevant to the formalization of documents on the conduct of economic activity on the basis of legislative requirements. The demand for the development of business plans and feasibility studies, valuation of property value is also stable. This requirement is mainly due to the need for a loan in commercial banks and other financial institutions. The demand for services such as

business value assessment is also increasing. Entrepreneurs understand that a quality-enhanced assessment allows to increase the market value of the enterprise and, accordingly, its value in the eyes of potential investors and creditors. Many enterprises of Uzbekistan have now passed a period of growth, which is associated with the approximation of business scales. Owners and managers of such companies need modern methods of management. This means that, first of all, the demand for services in the field of accounting and management automation, control of business processes, engineering, financial consulting, audit and advertising consulting is also increasing. The need to reorganize enterprises, manage assets and investments requires the introduction of strategic planning, Quality Management, marketing Information Systems, etc. In connection with the growth of business scales and the complexity of its structure, the demand for training is also high. In recent years, it has also been in demand in the field of marketing and product promotion, which is evidenced by the sharpening of competition in the markets of Uzbekistan. Assuming the professional consultants working in the consulting market of Uzbekistan today, most of them are commercial organizations. These are large consulting companies, small consulting organizations, private entrepreneurs (individuals working individually or under an employment contract). In addition, in the market of consulting services, there are divisions of other organizations (for example, specialists of commercial banks who prepare business plans for obtaining loans on a commercial basis, employees of state tax offices, etc.). The G.) Operate. The main difference between small and large consulting organizations in relation to customer categories is that small organizations work mainly with small businesses, and large ones - with large enterprises, with international and state organizations. Large consulting companies also

specialize in mass standard services (automation, training, market taking of tokens), complex analytical work (marketing Research). The main field of activity of small consulting companies is the development of business plans and technical and economic foundations, which are often required in obtaining a loan, as well as the provision of current consultative services to enterprises. The researchers divided the impact of several factors on the development of the consulting market in Uzbekistan:

- Studies have shown that the market size is not large due to insufficient demand for consulting services by private entrepreneurship. Many have not yet realized the importance of consulting, the low level of solvency in most enterprises also reduces demand.

- The consulting market of Uzbekistan can be called more "buyer's market", that is, the demand in this market is put by the customer, and the price of services does not allow sellers to receive the expected profit. The demand for consulting services is limited, and the number of consulting firms and individual consultants is much greater. so the choice for customers is very wide. And sellers are often forced to lower the price of services in order to attract customers. And this will not be a support for leading companies that have earned a reputation and paid a significant capital, with stable demand for services.

- The presence of regional disparities. The market is well developed in the cities of yiuik, relatively saturated in some regional centers, there are almost no rural areas and small towns.

- We can see that in Uzbekistan there are a lot of factors, the growth of consultants with strong knowledge, in some cases they are surpassing the army from their colleagues in the country. Local consultants have significantly increased their activities in the international projects market. In this perspective, it can become a

separate article of foreign exchange earnings for Uzbekistan.

- Network specialization within consulting organizations has not yet developed well. This can be explained by the low demand for consulting services. That is, narrow network firms cannot get the necessary volume of orders:

- The most basic resource of the local consulting business is professional consultants. Most organizations employ approximately 10 consultants on an average permanent basis, in addition, an average of 5 consultants from outside are involved. In most companies, however, there are up to 3 leading consultants. In very rare cases, the standard procedures adopted in large foreign firms in companies are prescribed. The special significance of the leading experts is determined by the fact that the consulting business provides high output for "network access" (large initial capital investments, barriers to licensing, etc.).k) Any expert can independently set up his business if he does not need it. In addition, the consulting business feature puts experts without landing. That is, a good specialist can easily go to another firm or work independently. As a result, the work in an expert organization will be able to master the technologies and gain experience, taking away a part of the clients as well:

- Consulting companies lack exactly qualified specialists in consulting. The higher education system does not prepare specialists in business-related disciplines to the extent necessary for the consulting sector. But to bring specialists to the desired level is much more expensive and requires a lot of time. The problem of lack of universal experts who can engage in extensive business consultation in the labor market is very acute.

- Consulting companies are suffering from obtaining the necessary statistical data, while detailing them is at a low level. How much quality of Marketing Research is directly related

to the quality of Statistics? Independent conduct of sociological questionnaires is also much more expensive.

- The taxation of business consultants is also quite high, this is especially true of labor taxes. A significant part of the consulting firm is the costs to employees. Tax and other mandatory payments will increase the cost of consulting services by 2 times. Many small and medium-sized enterprises cannot use the services of professional consultants. At the same time, at the same time, there are no standards that determine the quality of the consulting project in Uzbekistan, as well as the rating of professional skills assessment of specialists. This is due to the fact that people are insecure about this profession. There is a sharp need for online standardization, which makes the consulting market as open as possible, both for consumers of services and for newly mature professionals. On the other hand, undoubtedly, consulting companies will have to feel the market as a business structure and, of course, look for new ways of running their own business.

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## DIGITAL TECHNOLOGIES IN FRUIT APPLICATION

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### ABSTRACT:

At present, the use of digital technologies in the development of agriculture, as well as in other sectors of the economy, including fruit growing, is one of the most pressing issues. In particular, with the penetration of digital technologies in horticulture, the optimization of the productivity of fruit and berry crops by gardeners will improve the management of agro-technical measures in orchards, which will benefit the economy. The introduction of digital technologies in agriculture is becoming relevant, as in other industries. Digital technologies are essential for gardeners to optimize productivity, improve

manageability of horticultural operations and increase profitability.

**KEYWORDS:** Digital Economy; Digital Agriculture; Digital technologies; Digital Uzbekistan — 2030; IT park; 1 million programmers; Electronic mapping.

### INTRODUCTION:

Nowadays, using of digital technologies in agricultural production is one of the most pressing issues, including fruit growing, such as other sectors of the economy. Especially with the deep penetration of digital technologies in horticulture, will give more opportunities to the optimization (productivity) of fruit and berry crops by gardeners, will improve the

management of agro-technical activities in the orchards and increase the economic income from the orchard.

According to experts from the Food and Agriculture Organization of The United Nations (UN), the digital technologies of precision farming will allow humanity to achieve yields that have not been achieved since the invention of tractors and pesticides against diseases and pests.

In this regard, the President and the Government of the Republic have begun to carry out large-scale work to create a legal framework for the implementation of digital technologies. In particular, in December 2018, when announcing the Address of the President of the Republic to the Oliy Majlis, "We need to develop a national concept of digital economy, which provides for the modernization of all sectors of the economy on the basis of digital technologies. On this basis, we need to implement the "Digital Uzbekistan-2030" program. " it was emphasized.

### **Progress of works in order to acceptance the state program "Digital Uzbekistan 2030"**

The digital economy will increase gross domestic product by at least 30 percent, dramatically reducing corruption. The analysis conducted by leading international organizations also confirms this. Therefore, it is necessary to carry out digital transformation in the economy, develop national information technologies and attract investment in this area.

Our country has been working hard to adopt the state program "Digital Uzbekistan 2030" in 2020, and within the framework of this state program, a large-scale work has been launched to create a digital government, as well as digital economy management and other areas. In the Address of the President of the Republic to the Oliy Majlis in December 2018 and January 2020, it was noted that "for all of us,

the acquisition of modern knowledge, true enlightenment and high culture should become a continuous vital need."

It is necessary for us to acquire digital knowledge and modern information technologies in order to achieve development. This allows us to take the shortest path to the ascent. After all, today in the world, information technology is penetrating deep into all areas.

Although our country has risen by 8 places in 2019 according to the International Information and Communication Technologies Development Index, we still have a lot of work to do. It is true that most ministries and departments, enterprises and educational institutions are far from digital technologies.

Of course, we know very well that shaping the digital economy requires the necessary infrastructure, a lot of money and manpower. But no matter how difficult it is, if we don't start this work today, it will be too late tomorrow. Therefore, the active transition to the digital economy will be one of our top priorities for the next 5 years.

Digital technologies not only improve the quality of products and services, they reduce unnecessary costs. At the same time, it is also an effective tool in overcoming the scourge of corruption, the most serious flaw that undermines development.

In order to further develop science in our country, to bring up our youth with deep knowledge, high spirituality and culture, to accelerate the work we have begun to form a competitive economy and raise it to a new, modern level, 2020 is was named " The Year of Science, Enlightenment and Digital Economy". Extensive work is underway to prioritize the development and reform of the areas identified in the name of 2020

A system of high salaries has been introduced for teachers who have pedagogical skills and qualifications and have achieved concrete results in their work.

To prepare for the international assessment process in 2021, 348 basic schools have been identified and more than 6,000 teachers have been trained.

Starting from the current academic year, a completely new system of vocational education will be established, 340 vocational schools, 147 colleges and 143 technical schools will be established.

A national qualification system is being developed in order to adapt the qualifications of personnel to the requirements of the international labor market. This system provides training for about 9,000 professions.

There are more possibilities and all conditions for our enthusiastic young people, who would get a higher education, work on himself and become a scientist. Therefore, practical work is being done to increase the coverage of school graduates with higher education to at least 25% in 2020 and 50-60% in the future.

This year, the "El-Yurt Umidi" Foundation is sending more than 700 scientists, professors and teachers abroad for research and training.

In the future, it is necessary to double the number of grants and expand the scope of research areas. This year, active work is being done to make a radical turn in the development of the digital economy.

First of all, it is necessary to fully digitize the fields of construction, energy, agriculture and water management, transport, geology, cadaster, health, education, archives. It is also necessary to critically review the system of "e-government", ongoing programs and projects, and comprehensively address all organizational and institutional issues.

An IT park with modern infrastructure is being built in Tashkent. It has already begun to yield its first results. A similar "IT-park" has been established and commissioned in Andijan.

In order to train highly qualified specialists for the industry, the project "1 million programmers" has been launched together with our foreign partners.

Also, information technologies that fully meet international standards are being introduced at all levels of education.

Given the fact that last year all city and district centers were connected to high-speed Internet, in the next 2 years we must provide all villages and districts with such high-speed Internet.

To date, more than 7,000 health care, preschools and schools have been connected to high-speed Internet, while in the next 2 years, another 12,000 institutions will be connected to high-speed Internet. Taking into account these tasks, the development of the program "Digital Uzbekistan - 2030" is being completed.

### **Field work is carried out remotely:**

In the developed countries of the world, in the agricultural production, including the Fruit industry, consistent work is being done on the introduction of digital technologies. For example, in Russia, a junior researcher at the North Caucasus Federal Research Center's Laboratory for Management of Arocenosis and Ecosystem Rehabilitation of Fruit Crops, A.S. Romanenko's research is primarily concerned with the condition of orchards, their monitoring, control operations using modern drones, and space sensing. According to him, in cooperation with the above-mentioned Scientific Center, the Dokuchaev Institute of Soil Science is working on space probing of orchards and their prospects, developed a map of thirteen indicators related to soil properties of these lands in 2005-2010 by the Institute of Soil Science. According to Romanenko A.S., this geographic data system, collected as a result of his research, imposes a manual cocktail on the creation of agroecological maps, intelligent machines. On the surface of the developed map



model, the data collected as a result of research are placed, and each of them, consisting of several layers, has its own attributes, consisting of a series of data related to geographical - ecological and soil characteristics.

### **The order of growth is determined by electronics:**

In the process of research, biological indicators of fruit crops, growth and development conditions are observed. First of all, data on weather and soil conditions, as well as topography, which directly affect the productivity of cultivated varieties, are brought to the state in the form of electronic maps. Electronic mapping allows you to make decisions about which part of the gardens, how, and how much productivity can be achieved. Digital technologies should be used in horticulture, as this will ensure the entry of advanced scientific and technical products into the market. Such technologies allow to increase production efficiency by 50-100% by minimizing the risks in the placement of fruit crops and varieties. The most important task facing fruit-growing is to create an edited digital geographic system in the Krasnodar Territory for 2019-2030, which will minimize various risks in the effective placement of crop species and varieties, including A.S. Romanenko. This carries the risk of losing the specified yield due to changes in the external environment and growing conditions, and allows to maintain the desired level of yield. According to the author, the research involves not only the creation of electronic maps for the creation of orchards, taking into account changes in the external environment, but also work on the creation of electronic maps offering suitable areas for crop biology, taking into account the growth phases of fruit crops being carried out.

What does the research conducted by scientists on the creation of innovative digital technologies give to agricultural production?

Of course, there is an answer to this question in the emerging, young science of "Application of Digital Technologies in Fruit Growing." First - to select a place with appropriate growing conditions based on the requirements of the biological characteristics of the type and variety of fruit, as well as to monitor changes in climate and growing conditions in the selected area, to make appropriate adjustments to prevent adverse changes;

Second - the selection of varieties that are suitable for a particular place on the genotype of ontogenetic phases and other biological characteristics, knowing the natural climate, soil properties and characteristics of the place; And finally, from the tip - to choose the most optimal of them, offering an appropriate system of agro technologies, which allows to achieve yields in a specific area or region, in a specified quality and quantity.

As can be seen from the above, "The use of digital technologies in fruit growing" is the future. Since the First President of the Republic of Uzbekistan I.A. As Karimov said, "Uzbekistan is the State with the great future" is building this great future in the hands of today's youth. Therefore, it is necessary to educate young people to have a thorough knowledge in all respects, to be able to keep pace with the times. To do this, we believe that it is necessary to accelerate the work on the formation and development of a young and modern new science "Application of Digital Technologies in Fruit Growing."

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# **STUDYING THE INFLUENCE OF EXTERNAL FACTORS ON THE INDICATORS OF THE BLOOD SYSTEM IN CHILDREN UNDER THE CONDITIONS OF THE SOUTHERN ARAL SEA AREA**

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## **ABSTRACT:**

**The article presents the results of a study of the impact of environmental factors on blood counts in children who live in the South Aral Sea region. It has been established that the quality of drinking water is considered as the highest priority problem of ecology and the environment in the region of the South Aral Sea region.**

**KEYWORDS:** South Aral Sea region, environmental factors, child population, blood system indicators, correlations.

## **INTRODUCTION:**

Currently, the problem of human ecology is the most urgent. This problem is of particular importance in physiology, since adverse environmental factors directly affect the growing organism, which is sensitive to the slightest changes. At the same time, the children's body experiences numerous effects: hereditary, social, biological. The health status of the children born and living in the Southern Aral Sea region has become clearly negative trends.

Regional climatogeographic factors have a significant impact on the physical development of the child. It is believed that a hot climate to a certain extent has an inhibitory effect on the growth processes of the body and, at the same time, accelerates the process of puberty in children [3; 4]. According to experts,

in the medical and environmental respect, the most significant environmental parameters are: chemical pollution of drinking water (tap water, from canals and wells), the residual amount of pesticides in food [7; 8]. These factors are directly related to the incidence of blood and circulatory organs.

## **MATERIAL AND METHODS:**

The habitat analysis of children born and living in the South Aral Sea region was carried out on the basis of collection and processing of ecological and hygienic information on the composition and severity of adverse environmental factors according to the ecology laboratory of the Republican Center for Sanitary Epidemiological Supervision of the Ministry of Health of the Republic of Karakalpakstan.

The examined contingent was a group of children aged 6 to 14 years. Geographically, all subjects were divided into 3 groups in accordance with the place of permanent residence. A total of 540 children were examined, of boys - 270 (50%), girls 270 (50%). All examined children were analyzed age-related dynamics of physical development (body weight and growth indicators). In the laboratory, the following blood parameters were determined: the number of red blood cells, hemoglobin content, erythrocyte sedimentation rate, color indicator.

All obtained data were processed by

statistical methods using computer technology and using a statistical software package.

## RESULTS AND DISCUSSION:

In this work, we conducted studies to identify correlations between the functional characteristics of the blood system and environmental parameters. The results of the correlation analysis between the environmental parameters (the quality of drinking water, the residual amount of pesticides in food products, bacterial contamination of food products) and blood system parameters in the examined children in the Aral Sea region are shown in Table 1. The analysis showed that there are correlations between the residual amount of pesticides in food products and all the considered indicators of blood composition in the examined children. So, with the hemoglobin level, the correlation coefficient was  $R = 0.36$ , with the number of red blood cells in the blood, the correlation coefficient was  $R = 0.37$ . Also, the most significant correlation was found between the level of hemoglobin in the blood of children and the availability of tap water in the population - the correlation coefficient was  $R = 0.34$ .

Table 1: Values of correlation coefficients between blood composition indicators in children and environmental parameters in the Aral Sea region (2010-2018)

Environmental parameters	Blood composition indicators	
	The average hemoglobin content	The average number of red blood cells
Residual Pesticides in Food 27 hazard rating (HCH, DDT, Butifos)	0,36 $p < 0,005$	0,37 $p < 0,005$
Hardness of drinking water 6.0 -18.0 mgequiv / l	-0,2 $p < 0,001$	0,17 $p < 0,001$
Mineralization of drinking water 750-1800 mg / l	-	-0,09 $p < 0,005$
The presence of nitrates in water 40-120 mg / l	-0,26 $p < 0,005$	-
Chlorides in drinking water 143 + 10.6 mg / dm <sup>3</sup>	-0,21 $p < 0,005$	-
Sulphates in drinking water 700.0 + 36.2 mg / dm <sup>3</sup>	-0,06 $p < 0,001$	0,14 $p < 0,001$
Water supply for the population 56 - 95%	0,34 $p < 0,001$	0,19 $p < 0,001$

Next, we conducted a study to identify the correlation between blood pressure parameters and age groups of examined children in the Aral Sea region.

According to the results of the study, a correlation between the group of children of the age group of 6-10 years and average blood pressure ( $R = 0,2$ ) was revealed. As for the general group of children aged 11-14 years living in the Aral Sea region, correlation dependencies between all blood pressure indicators were also found.

The data obtained confirm the existence of a relationship between negative factors and the incidence of the population living in the Aral Sea [2; eight]. The quality of drinking water is considered as the highest priority problem of ecological and environmental disruption in the South Aral region.

## CONCLUSIONS:

Our research confirms the well-known fact about the pronounced effect of such a factor as the availability of tap water for the general childhood morbidity, which confirms the vital need to provide the population with a centralized water supply [2, 5, 6, 7].

Thus, the health status of children and their physical development, i.e. biological and physiological processes that determine the growth and development of children, their functional state of the circulatory system, are more directly or indirectly associated not only with environmental factors, but also with the socio-hygienic living conditions. Information and facts indicating the impact of social risk, i.e. socio-hygienic and living conditions for the physical development and health status of children, serve as a scientific basis for planning and conducting recreational activities.

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# THE VALUE OF SHEAR WAVE ELASTOGRAPHY IN THE COMPLEX DIAGNOSIS OF CHRONIC VIRAL HEPATITIS C

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## ABSTRACT:

The diagnostic capabilities of ultrasound elastography in the two-dimensional shear wave (2D SWE) mode were studied in 120 patients with chronic viral hepatitis C. The control group consisted of 40 healthy volunteers with a body mass index of 24-27 without clinical, virological changes. It has been shown that 2D SWE ultrasound is an integral part of gray-scale, doppler studies in the system of standard examination of patients with CVHC and can provide valuable additional qualitative and quantitative information about the degree of development of the process in the liver. It was shown that in the stage of fibrosis F1 according to METAVIR, the liver stiffness indices are 6.2 kPa, and the shear wave velocity is  $1.3 \pm 0.2$  m/sec. With the further development of fibrosis F2-F4, these indicators increase, respectively, from 6.3 kPa to 30.3 kPa, and the shear wave velocity up to  $2.3 \pm 0.3$  m/sec. in the F4 stage according to METAVIR. The results of 2D SWE elastography make a significant contribution to the timely detection of the degree of fibrosis development in Chronic viral hepatitis C.

**KEY WORDS:** Chronic viral hepatitis C, diagnostics, indicators, shear wave elastography, stiffness / elasticity index.

## INTRODUCTION:

The timely diagnosis of diffuse liver disease of viral etiology C (CVD) has attracted the attention of specialists from various clinical disciplines. Carriers of the virus are known to have a latent disease with no particular clinical manifestations until a certain time. According to the Nobel Prize 2020 experts, this "gentle killer" will cause liver cirrhosis in the next 7-10 years. There is a high risk of developing primary cancer of the organ. In the system of multidisciplinary diagnosis of CHB, modern medical imaging technologies - abdominal radiography in combination with artificial contrast, angiography, computed tomography (CT), positron emission tomography (PET), magnetic resonance imaging (MRI) make a significant contribution to the recognition of diffuse and focal liver lesions. It is necessary to note, that complex ultrasound investigations - two-dimensional seroscan echography (2D), Doppler spectra of vascular studies currently occupy a worthy place in diagnostics of liver diseases. They, following clinical and laboratory examinations, have been brought to the forefront of basic diagnostic examination of patients.

At the same time, recent studies suggest that sensitivity of ultrasound in 2D-mode in diffuse liver disease does not exceed 70-75%. Scientific and technical progress in the field of ultrasonic diagnostics at the beginning of XXI century introduced a new direction of clarifying

diagnostics ultrasonic elastography. To date, researchers continue to study the role and value of various methods of ultrasound elastography: compression elastography, shear-wave elastography in various modifications - point elastography, shear-wave elastography with assessment of qualitative and quantitative parameters.

Researchers note that ultrasound elastography is particularly in demand in clinical hepatology because of the ability to determine the stiffness and elasticity of the parenchyma in diffuse and focal liver disease. With this technology, two-dimensional shear wave elastography (2D SWE) is considered to be the most promising trend in hepatology. It is regarded as an important part of ultrasound-guided multiparametric diagnosis of liver disease. At the same time, studies aimed at determining the role and significance of this method in the comprehensive diagnosis of chronic viral hepatitis C are few. Therefore, accumulation of clinical experience in this direction is relevant to accelerate the development of evidence-based clinical protocols for ultrasound examination of patients with CHCV.

#### **RESEARCH OBJECTIVE:**

Improvement of comprehensive diagnosis of liver fibrosis by using shear wave ultrasound elastography (2DSWE) to clarify the stage of the disease in patients with chronic viral hepatitis C.

#### **RESEARCH MATERIALS AND METHODS:**

Comprehensive diagnosis of CHCV was carried out in 120 inpatients and outpatients. Among them 76 (54.3%) were men and 64 (46.4%) were women, aged 24-58 years. The diagnosis of CHCV was based on clinical, physical, laboratory, virological and ultrasound findings. The control group included 40 nearly healthy subjects with a body mass index (BMI)

of 24-27 who had no history of chronic hepatitis and whose clinical and laboratory parameters (serological markers for HCV infection, bilirubin value, biochemical parameters), ultrasound quality and biometric parameters of the liver were unchanged. The technology of two-dimensional serscale ultrasonography (2D) of the liver and other abdominal organs was performed according to the standards recommended in the clinical guidelines of the World (WFUMB), European (EFUMB) federations of ultrasonographers in medicine and biology. In recent years, multicenter studies on optimization of the technology of liver elastography and interpretation of the obtained data have been carried out by ultrasound diagnostic specialists in Russia with the participation of specialists from Uzbekistan.

The 2D SWE examination is based on transverse acoustic pulse flow, which is used to create shear waves with an ultrasound transducer. Important conditions for improving the quality of ultrasound elastography in 2D SWE mode are the determination of the indication for the examination, its performance by a specially trained ultrasound diagnostician. Ultrasound elastography is indicated in all patients with CHCV for the timely detection of hepatic fibrosis, clarification of the stage of inflammatory-degenerative changes according to the international METAVIR classification, and determination of the dynamics of changes in organ density/elasticity during retroviral therapy. Relative limitations are overweight and the presence of ascitic fluid in the pleural and abdominal cavities. After performing 2D ultrasound and Doppler ultrasound, patients underwent shear wave elastography on a Logiq S8 (General Electric, USA). The patient was placed horizontally on the couch and the right arm was moved up behind the head. This widened the space between the ribs. The examination was carried out with a convex transducer through VII- VIII intercostal space,

along the anterior and middle axillary line providing access to V, VI, VII segments of the liver and through the right subcostal space (access to IV, V, VI, VII segments of the liver). According to 2D-mode examination, the area of interest was determined at a depth of not less than 2 cm and not more than 6 cm from the liver capsule. When elastography is performed on the area under study, a colour chart is automatically displayed on the monitor screen of the device. Blue shows the densest (toughest) tissue, red shows less dense tissue, and green shows healthy, softer tissue (4). The device can automatically quantify tissue stiffness in kPa. The ultrasound device can also measure shear wave velocity in m/sec. The ultrasound findings were evaluated according to the international classification of chronic diffuse liver disease - METAVIR.

## RESEARCH RESULTS:

In the group of 40 healthy patients, the echostructure of the liver parenchyma vascular architectonics of the organ corresponded to age-related echographic criteria. The mean 2D SWE was 4.9 (3.9 - 6.5) kPa, shear wave velocity did not exceed 1.1-1.2 m/s. (Fig.1)

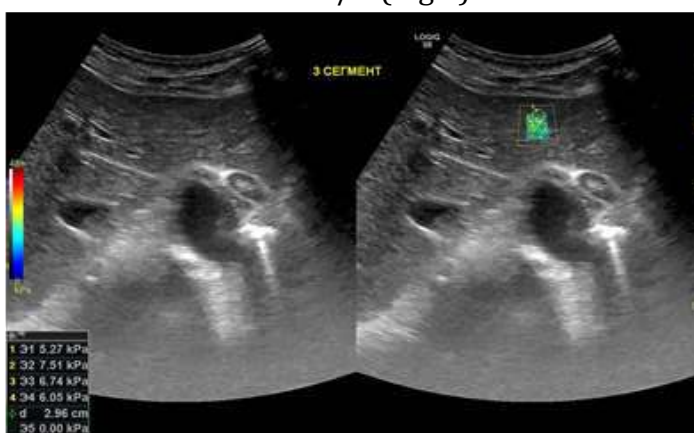


Fig. 1 Ultrasound images of the liver parenchyma in 2D (left) and 2D SWE (right).

Colour mapping of the area of interest. The bottom left shows the results of 6 quantitative 2D SWE measurements, with an average value of 4.7 kPa

Clinical and laboratory, virological studies of 120 patients with chronic viral hepatitis revealed fibrosis stage F1 according to METAVIR in 56 (48.4%), F2 - in 32 (28.4%), F3 - in 26 (21.8%), F4 - in 6 (5.0%) patients. In the F1 fibrosis stage, portal vein dilation was observed in 6 patients, and splenic vein dilation at the level of its gate - in 24 patients, enlargement of the spleen was observed in every third patient. The mean 2D SWE was 6.2 (4.8-8.0) kPa and shear wave velocity  $1.3 \pm 0.2$  m/s (Figure 2a).

In patients with F2 fibrosis stage, along with the above signs, there was a decrease of blood flow rate in portal vein and increased peripheral resistance in intrinsic hepatic artery in 12.5% of observations, dilation of splenic vein at its gate in 93.7% with a simultaneous increase of spleen size. The mean elastometry was 8.5 (6.3-10.7) kPa and shear wave velocity increased to  $1.7 \pm 0.2$  m/s (Fig.2b). In every seventh to eighth patient a dilated portal vein was detected in the F3 stage. The leading sign of fibrosis in this group of patients was significant dilation of the splenic vein and increased spleen size in 96.1% of observations. Doppler investigations (spectral, CDC, ED) showed decreased blood flow velocity in the portal vein in 84,6% of cases, increase of peripheral resistance in 38,4% of patients, recanalization of the umbilical vein in own hepatic artery was observed in 3,8%. The elastometric values averaged 10.8 (8.1-13.5) kPa, the shear wave velocity reached  $1.8 \pm 0.2$  m/s (Fig.2c). In the F4 fibrosis stage, splenorenal anastomosis formation was observed in 66.7% of patients, umbilical vein recanalization and ascites in 33.3% of patients. At the same time in all patients with CHCV a decreased velocity of blood flow in the portal vein, increased peripheral resistance in the common hepatic artery, dilated splenic vein and enlarged spleen were registered. 2D SWE data indicated an increase in organ parenchyma stiffness to 24.6



(18.5 - 30.7) kPa and shear wave velocity to  $2.3 \pm 0.3$  m/sec (Fig.2d).

The results of these studies indicate a direct correlation between the qualitative and quantitative indices of 2D SWE and the degree of development of hepatic fibrosis in CHCV.

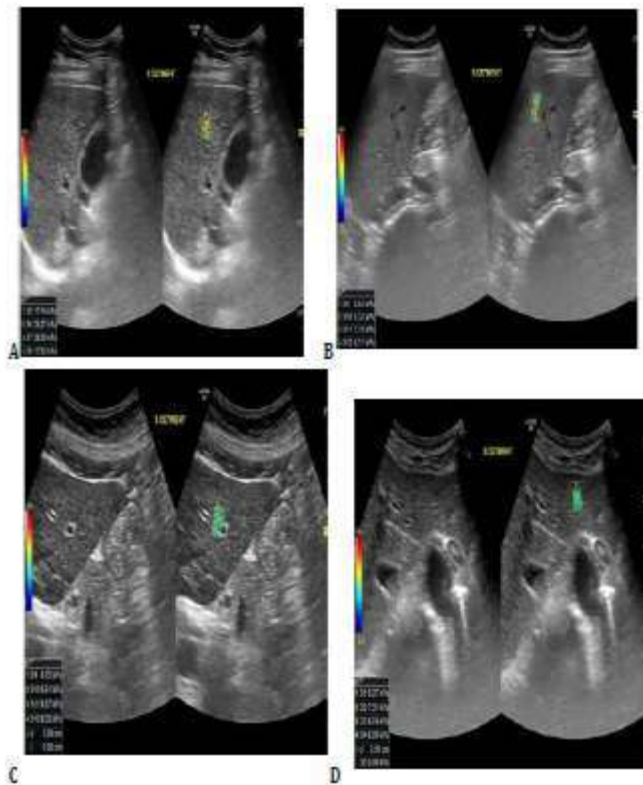


Fig. 2 Ultrasound images of the liver parenchyma at different stages of fibrosis in 2D (left) and 2D SWE (right). A - liver fibrosis at stage F1; B - liver fibrosis at stage F2; C - liver fibrosis at stage F3; D - liver fibrosis at stage F4 (explanation in text).

Modern technologies of ultrasound elastography are considered by many researchers to be one of the most important components in the clarifying diagnosis of diffuse and focal liver lesions. The accumulated experience to date shows that various methods of elastography - compression elastography, shear wave elastography, both in point and two-dimensional modes have undoubted advantages in determining the elasticity/stiffness of the liver parenchyma. This additional ability to qualitatively and quantitatively determine liver stiffness has

become a sought-after ultrasound-based multiparametric diagnosis of hepatic fibrosis in CHC.

Our investigations in this direction using 2D ultrasound elastography (2D SWE) in 120 patients with CVC showed the possibility of clarifying stiffness (elasticity) due to the dynamic development of local or diffuse inflammatory-destructive remodelling of the organ and assess the findings according to the standard METAVIR scale. According to this scale F0 means absence of fibrosis, F1-portal liver fibrosis, F2-portal and slightly expressed liver fibrosis, F3-portal and expressed septal liver fibrosis, F4-liver cirrhosis. Interpretation of elastography data in 2D SWE mode showed that hepatic elastic moduli were equally significant in both kPa and m/s and had a direct correlation (table1).

Table 1. Elasticity modulus values of the liver parenchyma at different stages of CVHS.

Fibrosis stages according to METAVIR	Number of people surveyed	Modulus of elasticity		
		in kPa		in kPa in m/s
		mean	median	
F0(normal)	40	4,9	3,9 - 6,5	1,1 - 1,2
F1	56	6,2	4,8 - 8,0	1,3 +- 0,2
F2	32	8,5	6,3 - 10,7	1,7 +- 0,2
F3	26	10,8	8,1 +- 13,5	1,8 +- 0,2
F4	6	24,6	18,5 +- 30,7	2,3 +- 0,3

Note: The results of the compared groups of liver fibrosis versus unchanged organ parenchyma are significant ( $p < 0.05$ ).

The results of these studies are consistent with those of other researchers. We agree with Ferralioli et al. who point out the importance of evaluating elastography and elastometry data with clinical and laboratory findings. It is noted that depending on the activity of chronic viral hepatitis, including CHCV, quantitative measures can vary considerably and multicentre studies in this direction are needed In our opinion, changes detected in the preportal area of the liver by

seroscale echography and Doppler should serve as a signal for elastography for early diagnosis of hepatic fibrosis. Further research towards improving the informative value of 2D SWE elastography appears to be the introduction of dual-frequency echography technique. The introduction of this technology in ultrasound instrumentation will allow to consider the objectivity of elastographic data in cases of combination of chronic hepatitis with fatty liver rearrangement.

### CONCLUSIONS:

1. 2DSWE ultrasound shear-wave elastometry is a simple, non-invasive and accessible method of obtaining information about the stiffness status of the liver parenchyma in patients with CHB.
2. 2D SWE elastometry combined with 2D mode and Doppler imaging in one ultrasound unit shortens the period of examination of patients and improves the quality of diagnosis in determining the stage of fibrosis in chronic diffuse liver disease.

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# MOBILE LEARNING TECHNOLOGY FOR ORGANIZING INDEPENDENT WORK IN THE EDUCATIONAL PROCESS OF HIGHER EDUCATION

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## ABSTRACT:

**The article deals with the application of mobile learning technology in the process of organizing independent work of students of higher educational institutions. The types of tasks, the advantages of this type of work, as well as the results of experimental training are described.**

**KEYWORDS: learning technology, mobile technologies, mobile learning, independent work of students, information technology.**

## INTRODUCTION:

The system of higher education in the XXI century is characterized by a rapid pace of development and intensive introduction of information and communication technologies. In the context of what is happening, the modern teacher of higher education is constantly searching for innovative teaching tools in order to replenish his own arsenal of modern pedagogical technologies that will allow for higher professional training of students. However, each subsequent wave of the technological revolution passes faster than the previous one, which makes it much more difficult to select technologies.

The introduction of new educational standards that emphasize the formation of a harmonious, versatile personality, ready to learn through life, brings the issues of organizing independent work of students to the fore. Independent work of the student is one of the most important components of the educational process, during which the formation of skills, abilities and knowledge

takes place. In addition, individual work has a great didactic potential, since it is not only learning, but also its extension, the formation of skills to work with different kinds of information, the development of analytical skills, skills tracking and planning your study time. Undoubtedly, traditional forms of independent work should be used to the full extent, but we cannot ignore the changing socio-cultural conditions, technological progress and the students themselves as representatives of a new generation of digital natives [16]. Today, the spread of computer technologies and the Internet provides a wide field for their application in educational activities. One of the relatively new directions is the technology of mobile learning, which is the subject of this article.

Currently, the rapid development of mobile technologies necessarily entails their further more active penetration into education. Modern and timely use of mobile technologies in education activates the cognitive interest of students, allows students and teachers to vary the learning process by intensity, method of obtaining information and other aspects of the learning process, reduces the restrictions for obtaining education, regardless of location, using mobile devices and technologies.

It is undeniable that the student is currently equipped with all sorts of mobile devices, thanks to which he is able to be in touch with the whole world, regardless of time and location, which means that young people have the opportunity to access information in any convenient place and time.

According to statistics of mobile market, the number of mobile phones and tablet PCs more than the number of the adult population, and the growth of mobile Internet growth [11]. This fact suggests that every student is equipped with a mobile device, whether it is a smartphone, tablet, electronic leader or other smart device, and Internet access will soon be ubiquitous and accessible to every user. The results of numerous studies show that the mobile market, which oversees services, equipment, and infrastructure and creates mobile applications, will be a full-fledged participant in all spheres of life of the next generation, including education.

In the Decree of the President of the Republic of Uzbekistan dated October 8, 2019, PP-5847 "On approval of the Concept for the development of the higher education system of the Republic of Uzbekistan until 2030", the main task is to increase the share of hours allocated for self-education, the introduction of methods and technologies aimed at developing students' skills of independent education, critical and creative thinking, system analysis, entrepreneurial skills, the introduction of methods and technologies aimed at strengthening competencies in the educational process, the orientation of the educational process to the formation of practical skills, the widespread introduction of advanced pedagogical technologies, curricula and teaching materials based on international educational standards in this area into the educational process [1].

### **THE MAIN FINDINGS AND RESULTS:**

The study of the concept of "mobile learning", which appeared for the first time in foreign pedagogical literature, showed that today there are many interpretations of this concept, but the general thing is that with such training, a connection to the cable network is not necessary.

J. Traxler argues that mobile learning completely changes the learning process, since mobile devices modify not only the forms of presentation of material and access to it, but also contribute to the creation of new forms of knowledge and mentality. Training becomes timely, sufficient, and personalized («just-in-time, just enough, and just-for-me»).

According to V. Kuklev, mobile learning provides for the availability of mobile tools, regardless of time and place, using special software on a pedagogical basis, interdisciplinary and modular approaches [8].

Pogulyaev D. V. mobile learning is defined as a form of organization of the educational process based on the use of mobile computer devices and wireless communication [12].

E. V. Vulfovich claims that mobile learning is the use of mobile phones, smartphones, communicators, and handheld portable computers in teaching and learning, regardless of the place and time [5].

A large number of foreign researchers are also engaged in the development of the concept of mobile learning and the most effective way to implement it.

Duchnice Yu. the analysis of the concept under consideration, the definitions of which are given on Internet portals respected in the scientific community, is carried out [7].

Below are some of these definitions.

Mobile learning is any learning activity that primarily or exclusively uses portable devices –phones, smartphones, tablets, etc., but not regular desktop computers [8].

Mobile learning is any activity that allows people to be more productive in processes such as the consumption and creation of information, as well as any interaction with it, using a compact digital device that a person uses regularly. Such a device should provide reliable communication and fit in your pocket [2, 9, 13, 14].

As we can see from the presented definitions, the attention of researchers of the problem of mobile learning is focused on the ways and methods of collecting and storing information, the possibility of easy access to it using mobile means, as well as its dissemination. This approach seems to be limited, and its implementation does not take into account the personal contribution to the training of participants in the educational process.

Bondarenko N. G. suggests considering mobile learning from two points of view. "In terms of the technological features of mobile devices, mobile learning is the application of portable technologies, together with wireless and mobile phone networks, to facilitate, support, improve and expand the reach of teaching and learning. At the same time, mobile learning can take place anywhere, at any time, including in traditional learning environments...". "From the point of view of the didactic features of mobile electronic devices, mobile learning is a process (personal and public) of acquiring knowledge through the interaction of people in various contexts and situations based on the use of mobile electronic devices, providing an interactive nature of interaction in order to facilitate, support, improve and expand the scope of teaching and learning [3].

The definition of mobile learning is constantly changing. Mobile learning can be called a form of learning where there are no requirements for the student to be in a given place. The advantages of various mobile technologies come to the fore here, as the teaching methodology focuses on the student's mobility and interaction with portable devices such as smartphones, tablets, PDAs, MP3 players, laptops and other smart devices. However, this range is constantly expanding: it includes game consoles, digital voice recorders, e-books and dictionaries, as well as assistive

technologies for students with disabilities. The devices are becoming more multifunctional, they support speaking, playing audio and video materials, reading, writing, searching for information, performing calculations, playing games, and much more. The choice of device depends on the age, location, tasks, and other factors. Young people and teenagers usually use mobile phones and personal media players. Advanced mobile devices are very popular among people, primarily because they are wireless and portable. These functional features allow users to communicate on the go. Also, the popularity of these devices is a consequence of their ability to function at multiple levels, i.e. to perform the functions of multiple devices. In addition, the intense commercial competition in the field of mobile devices forces manufacturers to be very innovative and constantly strive to introduce new features that can give them a competitive advantage. Against this background, educators, designers and developers with a rich imagination should think about the use of these devices in modern teaching and learning. In such an environment, content and services can be transferred to the student via personal wireless mobile devices. This will add another layer to the personal computer-based teaching and learning model. This also means that e-learning will take place in an environment that will be radically different from those with which teachers and students are familiar. Mobile learning as an educational activity makes sense only when the technology used is fully mobile and when the users of the technology are mobile at the time of learning. These clarifications emphasize the mobility of learning and the significance of the term "mobile learning».

Traxler and other proponents of this model define mobile learning as wireless and digital devices and technologies produced for an unlimited number of people and used by students, since they are participants in the

education system. Others define and present mobile learning with a focus on student mobility and learning mobility, as well as the student experience of learning through mobile devices. [15]

The main goals of mobile learning can be considered: communication at a convenient time and in any place, which expands the possibilities of teamwork; optimization of the use of mobile tools available to students; compact storage of material that is always at hand; intensification of the learning process; compliance of the development of the level of education with the modern social order and the interests of students who use mobile devices everywhere.

The conducted theoretical analysis makes it possible to conclude that mobile learning is an activity carried out by means of portable mobile devices, which allows us to simulate a non-linear situation of an open dialogue of direct and feedback, in which the student has the opportunity to participate in educational activities without restrictions in time and space.

An analytical review of domestic and foreign literature has shown that the increased attention to the problem of mobile learning is primarily due to the huge potential of mobile devices in the arsenal of pedagogical tools that entail fundamental changes in education.

Without going into details, we note that most of the policies for the use of information technologies in education were formulated even before the development of mobile devices, they did not fully take into account the capabilities of the latter. In her research, A.V. Loginova pays special attention to the didactic possibilities of using mobile learning technologies. The author focuses on the advantages of mobile learning in the higher education system, since the methodology of teaching students focuses on the mobility of the student and his interaction with portable devices [10].

At the same time, some nuances or disadvantages of this technology can be noted: it is difficult to control the process of independent work, it is impossible to track or estimate the time spent by the student; teachers are not familiar with this technology and often do not understand its benefits and potential; in most cases, it is not possible to assess the progress of learning and track the dynamics;

Despite these shortcomings, we conducted a study on the use of mobile learning technology as part of the independent work of students of the second and third year of the course in the areas of computer science teaching methods in the course "Web design"

The use of mobile devices in the framework of independent work of students provides ample opportunities to work with various types of information. Since the smartphone in most cases includes a geolocation module, a photo and video camera, a microphone and audio speakers, and also has built-in tools for working with various types of information, students have wide opportunities to use the mobile device as a tool when performing independent work (both classroom and extracurricular).

Two groups of students took part in the training. The first group was asked to use mobile applications instead of one of the elements of independent work, the second group was given an additional task to use applications, along with all other traditional forms of work. Students were introduced to a number of applications (the teacher prepared a presentation) and their task was to select applications to work with for a month, and then report on their achievements (prepare a presentation, present new material studied – the form of the report is at the discretion of the student).

It should be noted that the initial level of motivation in the first group (where reading was canceled) was much higher, which is

associated more with the reluctance of students to read than with the desire of students to use innovative technologies; but in the second group, students responded with interest to the task.

At the intermediate stage (after 2 weeks), students had to report which applications they had chosen, which ones they had already tried, and their impressions. More than 90% of the students completed the work, the rest either did not complete it fully, or did not start at all. The results of the experimental work showed similar patterns in both groups: the majority of students completed the work and evaluated it positively, both their results and the form of work in general. Some students (about 15%) admitted that they did not perform the work systematically, and about 5% of students did not complete the task. In both groups, students were asked to continue working with the applications during the academic semester, but in the first group, along with this, the individual reading task was returned. Since all applications are different and it is quite difficult to control what you have learned, two months later an anonymous survey was conducted on the use of mobile learning in the course "Web Design". In both groups, the students' opinion was approximately the same (the combined results of both groups are presented, since they differ only by a few percent individually): Students like to use apps: 25% of students use them daily, 55% use them several times a week, 12% use them in their free time when there is nothing to do, and 8% of students rarely use apps. When asked whether students will use mobile applications after completing the course "Web Design", more than 70% of students answered positively. Thus, it can be stated that within the framework of independent work of students, mobile learning technology has shown great potential and has found a positive response among students.

In accordance with the curricula of various areas of training, it is assigned from 50% to 60% of the labor intensity of the discipline.

The organization of independent work of students is the most important link in the quality management system of education in an educational institution. In this regard, the planning, organization and implementation of the student's independent work is the most important task of the student's education [4].

Independent work of students is a planned work performed according to the assignment and with the methodological guidance of the teacher, but without his direct participation. It contributes to the deepening and expansion of knowledge, the formation of interest in cognitive activity, mastering the techniques of the process of cognition, the development of cognitive abilities [6].

The expediency of using mobile learning technologies as an additional resource in the organization of independent work of students is dictated by the following factors:

1. Improving the efficiency of learning through group and independent activities of students.
2. Intensification of the educational process: automation of the process of knowledge control, presentation of educational information; improving the visibility of the studied material; increasing the amount of offered educational information; reducing the allocation of time for a lecture course in the classroom.

The main thing in the strategic line of organizing independent work of students at the university is not to optimize its individual types, but to create conditions for high activity, independence and responsibility of students in the classroom and outside it during all types of educational activities. To effectively support the organization of this type of work of students, a mobile course in the discipline being studied has a huge potential, which is a logical continuation of classroom classes. One way to



solve this problem is to create dynamic mobile courses in the Moodle system.

Quite often, students reduce independent activities, and in particular independent work (as a component of this activity), at best to homework, which is an extremely limited option. Independent activity of the student should include all types of work in the classroom and outside of classes. Thus, for the organization of effective independent work of students, it is necessary to observe a number of conditions, one of which is the active activity of the student in the classroom and outside it.

In addition, the use of M-learning allows you to apply new types of tasks for independent work: searching and posting a set of links to Internet resources on the topic under study; reviewing websites on the topic under study; writing and posting an abstract (using wiki technology); analyzing posted abstracts on this topic, evaluating them, creating a rating of student papers; compiling a glossary; discussing problems in a forum; student counseling (more prepared students answer questions from their classmates) , etc.

Some advantages of using mobile learning technologies in the process of independent work of students: individualization of the learning process – the ability of the student to choose the mode, time and place of work; constant feedback from the teacher and the learning community; increasing the motivation of students through the use of familiar technical means and virtual environment; creating a personalized professionally-oriented learning space for the student; developing skills and abilities for lifelong learning; the possibility of objective electronic control and self-control of students ' knowledge.

Mobile technologies and devices introduced by the teacher in the educational process also expand the possibilities of organizing independent work of students. In

addition, the pedagogical potential of the Moodle educational environment in creating training courses that meet the new standards of education is beyond doubt, since the technologization and individualization of the educational process in general and the independent work of students in particular allow creating a single working space for all participants in the educational process: teachers and students.

### **CONCLUSION:**

Thus, the use of mobile devices is extremely promising from the point of view of mobility and the possibility of self-learning in situations previously unsuited for this. In the future, teachers and students should no longer be limited to the ability to teach and learn in a specific place and time. Mobile devices and wireless technologies will become a daily part of learning in the near future, both inside and outside of classrooms. The use of mobile technologies in education allows not only to effectively organize the independent work of students, but also to increase the motivation of students through the use of new forms and methods of teaching.

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## MODERN TRENDS IN THE DEVELOPMENT OF PERSONAL SERVICE ENTERPRISES

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### ABSTRACT:

**This article examines the issue of trends in the development of personal services enterprises in modern conditions. The analysis shows changes in the principles of the placement of enterprises in the areas of new buildings, as well as the need to improve approaches to planning the retail and personal infrastructure of residential areas. The author studied the factors influencing the behavior of consumers of services.**

**KEYWORDS: personal services, business placement, planning of personal services businesses.**

### INTRODUCTION:

In the present stage Uzbekistan is undergoing a large-scale reform in the field of housing construction. This primarily affects the appearance of cities. In recent years, there has been a transition from low-rise construction to the construction of high-rise buildings and high-rise construction. The creation in each major city of the so-called "city" with houses of 12-16 floors and above leads to a change in the communal, transport and social infrastructure. In addition, the transition to the construction of multi-storey apartment buildings is also underway in rural areas.

The result of changes in urban planning policy are serious changes in the retail and personal services for the population. The high population density, increased living conditions have led to tougher requirements for the organization of personal services. New types of

consumer preferences are being formed regarding individual services. For example, home delivery of goods and services is becoming the norm. Digital technologies for the provision of individual services are increasingly developing.

In these conditions, the improvement of the methodology for placing retail trade and consumer services enterprises becomes an important problem. Modern trends in the development of the service sector in settlements indicate the need to abandon the traditional regulatory method of locating personal service enterprises. First, the previous classification of individual and consumer services has long become outdated due to fundamental changes in living conditions of the population. Secondly, the need for individual services differs sharply not only in the context of districts, but also within one small district.

Until now, the main indicator of the development of the service sector, in particular of personal services enterprises, is the provision of the population with the number of places or other indicators of capacity (the number of hairdressing salons, the number of visits to service enterprises, the number of workshops per 1000 inhabitants, etc.). The experience of countries' development shows that the high quality of the service sector does not directly depend on the normative density of the network of service enterprises.

### ANALYSIS OF THE USED LITERATURE:

The development of the personal service system and its effectiveness have been the subject of research by many scientists. A.A.

Goncharov in his research, he proposes the concept of a system for managing the development and support of personal services for the population. This system, through local self-government bodies, should ensure the effectiveness of the development of a network of personal services enterprises [1]. Shadskaya I.G., examining the development trends of the market of household services in rural areas, identifies such market segments as dynamically developing, with a potential for development, which are in the stage of decline. The author proposes to organize marketing research on the part of municipal authorities, as well as to develop a program for the development of the market of personal services at the regional level, including, in particular, the regulatory and information support of this market [2]. In the work of Mairova A.Yu. on the basis of a detailed analysis of the structure of the personal services market, it is proposed to improve the management system by creating municipal models of personal services [3]. Some authors focus on the development of the management of enterprises in the sphere of personal services within the framework of optimizing their number and density of placement [4,5]. There are also developments based on the development of the personal services market as a mechanism for regulating the supply of individual services [6,7]. The analysis of the conducted research allowed us to conclude that in the development of the market for personal services it is necessary to plan the placement of a network of enterprises in this area. Based on this concept, the formation of a network of personal services enterprises in the regions is carried out according to the principle of sufficiency, that is, there should be as many enterprises as needed for a certain number of the population. This approach has been adopted not only by local government bodies, but also by entrepreneurs themselves. Local governments use this approach when allocating land plots for

the creation of business structures. For example, if there is already a shoe repair shop in the area, a new one is considered impractical. At the same time, the entrepreneurs themselves, purely psychologically, do not want to enter into a competitive struggle with an operating enterprise. This approach leads to the fact that in the local market, personal services subjects have practically no competitors. Most importantly, with this approach, there is a churn of customers from this local market.

At the same time, the experience of developing beauty salons (bridal salons) in cities and villages of Uzbekistan shows that increased competition and the concentration of several enterprises in a small geographical area contributes to the flow of customers and the preservation of income for all entrepreneurs. We observe exactly the same effect in other types of consumer services enterprises, as well as in retail trade enterprises. The location of several identical outlets nearby does not lead to a decrease in the number of customers, but, on the contrary, to their increase. This trend is also observed in the development of a network of pharmacies, diagnostic centers, "chicken houses", real estate agencies, etc.

#### **RESEARCH METHODOLOGY:**

We believe that this situation is due to a change in consumer behavior of the population. Observations show that a high concentration of individual and small businesses is characteristic of the sphere of individual services for the population, that is, all of the above-mentioned business entities are in one way or another connected with direct contact with the client. As the main concept for the study of this problem, we used one effective marketing research method - the method of questionnaire survey. This method attracts attention with its simplicity, low investment of time and coverage of different categories of consumers.

## ANALYSIS AND RESULTS:

Our research in several districts of the city of Samarkand and rural settlements showed the following features of consumer preferences in the provision of individual services. The research concerned the study of factors affecting the choice of a particular retail trade and consumer services. Residents of the area were selected as respondents, who agreed to answer several questions of the questionnaire. The questionnaire consisted of the following questions:

1. Rate the convenience of the location of retail and personal services in the area.
2. What is the itinerary for visiting retail and personal services?
3. What has the greatest influence on the choice of specific retailers and personal services?
4. What location of consumer services enterprises do you think is the most attractive?

As an initial premise, we took this survey as exploratory, so the respondents' answers were also considered preliminary. In addition, the conditions of the survey and anonymity do not allow the results of this survey to be used as the basis for serious scientific conclusions.

At the same time, we consider the answers of the respondents worthy of attention. The overwhelming majority of respondents answered the first question positively, that is, they are satisfied with the state of the retail and household infrastructure of their place of residence.

On the second question, about 50% of the respondents indicated visiting several enterprises at once, over 35% indicated the traditional visit to selected retail outlets on the way home, and only 12% had a specific object of visit.

The third question of the questionnaire allowed the respondents to express their own opinion, so it was not possible to choose one priority factor. The most common answers are:

loyalty to one seller, attractive prices, offered assortment, choice, honest seller, good service.

The respondents were interested in the question of the structure of personal services enterprises, that is, the unevenness of their density. The answers to the fourth question were arranged in the following sequence: near the place of residence - 44%, the possibility of parking a car - 38%, on the way to work - 12%, there is no definite choice - 6%. It should be noted the positive attitude of the respondents to the presence of several service enterprises of the same type.

On the basis of the conducted research, we systematized the main motives for assessing household infrastructure enterprises by consumers. These include: the freedom to choose the subject of the provision of personal services, that is, there should be as many of these enterprises as possible; ensuring the availability of personal services, that is, their location and mode of operation should be unlimited; a variety of services offered, that is, taking into account individual needs in the proposal and provision of individual services; the quality of the provision of services, that is, the completeness and speed of service.

The conducted research allowed us to form a concept for the development of the personal services market, the main position of which is to create conditions for the free formation of supply on the personal services market. In the implementation of the proposed concept, special attention is paid to the lack of regulation of the number of personal services enterprises, as well as to stimulate their growth through self-employment programs.

## CONCLUSION:

On the basis of the theoretical and practical research carried out, we propose the development of new approaches to the development of the personal services market based on stimulating competition in this area. It

is necessary to form an environment of consumer services, which includes an unlimited number of subjects of the provision of personal services. In addition, it is proposed to move from the distributed nature of the location of enterprises to the nodal principle, that is, the concentration of several similar enterprises of personal services in a limited area, which will stimulate the consumption of these services.

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## MODERN ISSUES OF MASS MEDIA DEVELOPMENT IN UZBEKISTAN

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### ABSTRACT:

The article deals with legislation on the media, the system of hiring the journalist's skills cadres and their motivation such as national awards in our modern society. The dynamic increase in the number and quality of publications and broadcasting channels in Uzbekistan today, shows collateral works and the achievement of our country in this sphere.

**KEYWORDS:** journalism, mass media, publication, broadcasting, legislation, Uzbekistan's image, neutrality, journalism ethics, national interests, norms of professional ethics, globalized world, international media, journalists and news consumers, technical barriers, topic, national awards.

### INTRODUCTION:

Uzbekistan is the most populous and economically significant of the five Central Asian republics of the former USSR. Although authoritarian, its government appears to recognize the need to train journalists in Western journalistic theory and practice. The observations and experiences of the authors, as recent Fulbright-sponsored journalism scholars in Central Asia, are combined with limited sources on mass media in the region, to discuss the most effective journalism education under current conditions in Central Asia.

The article begins by identifying the current state of Uzbekistan journalism in the modern global public sphere. It then surveys the contemporary landscape for Uzbek journalists and the three different ethical tasks that need to be addressed:

- Issues of objectivity as part of the process of shaping the country's international image;
- The lack of a journalism code of ethics and its impact on nation building and national interests and nation building;
- Norms of professional ethics that are simultaneous triaded but difficult to balance.

Journalism in Uzbekistan is changing. In comparison to several years ago when some journalists are being detained for criticism of the Uzbek government there is an increasing sense of journalistic liberty. Journalists have a 'open-media' climate under President Shavkat Mirziyoyev. Furthermore, the Uzbek government recently registered Turon24, an independent regional news organization. However, there are always problems. Although it helps all state media to be freer, reticence and reluctance remain to criticize the government openly. For instance, in September 2018, for "social and religious questions, four Facebook bloggers were arrested, often advocating a larger role for Islam in the society." "In Uzbekistan, independent journalists and rights activist are often subjected to systematic harassment and intimidation, monitoring, arrests, attacks and deliberate discredit" as Director Oksana Pokhalchuk, Director of Amnesty International Ukraine said.

Independent local reporters are still in treacherous waters. For instance, Podrobno.uz journalists have compiled a list of grievances that significantly restricts their ability to report news. These allegations included the exclusion from selected activities, broader news outlets, the presumption that they will be the

mouthpieces for press releases from state and business agencies, the lack of accreditation in expressing personal views and the retroactive request for editing or removing the entire article written by a journalist. In addition, the government of Uzbekistan grants Internet licenses and allows Internet providers to block content that doesn't comply with 'official guidelines' for keeping the license while in the country of Central Asia the situation is improving. In the 2018 World Press Freedom Index, the Uzbek press recently ranked 165 out of 180 – one place higher from 166 in 2016. Reporters without Borders also noted that the only country in Central Asia to raise its ranking was Uzbekistan.

It remains a challenge to find competent journalists. There was no significant preparation for journalists in previous years. The most talented journalists left the country, and there was no place to gain experience. Further developments are much hindered by the absence of creative and professional journalists. Real, several universities in the academic year 2020 announced that new journalism departments would be launched - which could help to fill the void. I would like to teach directly, but none of the local universities have invited me so far to join the Journalism School.

Contrary to many of our global peers, the majority of practicing journalists lack an official ethical journalism code or even an informal code. It is necessary for Uzbekistan to establish such a code.

Every journalist shall be held responsible for the accuracy, objectivity and fairness of the information. This norm, set out in the Constitution of the Republic of Uzbekistan, is in line with one of the standard documents which govern journalism globally: the declaration of the UNESCO on fundamental principles relating to the participation, promotion and promotion of human rights and

the ethnic, apartheid and incitement mass media. The second of all 11 principles notes that it is the journalist's duty to report critically on the events: "The diversity of the sources and media available to him should ensure public access to information, allowing every individual to verify facts accuracy and to evaluate events objectively." This concept applies to all media companies which publish articles that build the image of individual subjects and work in the world of the media. This concept must be remembered by journalists who are actively engaged in shaping the image of the country.

Also characteristic of modern Uzbekistan is bloggers and the growth of their popularity. It has strong readership reputation, since it is also the first to raise sensitive topics such as corruption, crime and power abuse. They also cover news before online media resources. After all, even online media outlets must "sync watches" toward themselves. There are never any hot topics, but just bloggers in the media. However, bloggers often exploit their readers by propensity to reveal unverified and conflicting information or by publishing paid materials and political attacks.

To conclude, modernisation is required in the state of journalism in Uzbekistan. We have to comply with rules, with guidelines and with ethics. The three ethical tasks listed in this article must be carried out by Uzbek journalists of all levels to enhance the global image of the country. These tasks include the objective process of being approved and followed nationally, the creation and implementation of a professional code of ethics, and the further development of professional ethics practices to make them uniform for all Uzbek journalists.

The modern world has a diverse repertoire of social and mass media, which provide a wide range of media. As such, these mediated forms analyze themselves promptly. Different comparative analyzes will help global



media educators, scholars and practitioners to draw broader conclusions and identify next steps to be taken at this point of the media evolution.

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## INNOVATIVE COMPETENCE OF A HIGHER EDUCATION TEACHER

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### ABSTARCT:

**Improving the quality of higher education is directly educating the harmoniously developed generation that future educators will become mature professionals in all respects. Because the pedagogical profession is both a reformer and a reformer is a management profession. In order to manage the maturity of the person must be competent. Hence the concept of teacher competence theoretical and practical preparation for the implementation of his pedagogical activity and represents a high level of skill. This article provides detailed information on the competence of higher education teachers.**

**KEYWORDS: Education, society, competence, teacher, technologies, educational and mentoring process.**

### INTRODUCTION:

The role of educators and teachers in the development of the younger generation is enormous. As the saying goes, "A person who teaches and educates someone must first and foremost be perfect in all respects." Therefore, the main task is to further improve the work of teachers, to improve their professional skills. Today, ensuring the effective implementation of the professional competence of educators has become an urgent goal. Education in all educational institutions the professional competence of the providers plays an important role.

"Competence" - theoretical in practice effective use of knowledge, ability to

demonstrate a high level of professionalism, skill and talent.

The concept of "competence" has entered the field of education as a result of psychological research. Professional competence is the acquisition by a specialist of the knowledge, skills and competencies necessary for the performance of professional activities and the ability to apply them at a high level in practice.

Introduction of new pedagogical technologies at all stages of education, especially from information and communication technologies, is effective and rational special attention should be paid to the use and achievement of high efficiency. To train competitive, qualified personnel in accordance with world standards, the next generation to high spirituality, social life to have the right attitude to change, to our national values.

"I am convinced that the XXI century will be the century of spirituality, enlightenment, science, culture and information," said the first President Islam Karimov. Indeed, humanity has entered the 21st century, and the new century, in turn, will address important issues facing our society loading function. The role of highly qualified specialists at the heart of the ongoing reforms in our country is enormous. Our President as he said: "Tomorrow has modern knowledge that can think in a new way. It requires highly qualified specialists." That is why our people rich intellectual heritage and universal values, modern culture, training of leading specialists in economics, science, engineering and

technology system has been developed and is being implemented at a rapid pace.

Formation of socio-economic policy in accordance with the development of the republic and the market economy - the need to improve the content of vocational education that meets modern requirements, ensuring the effectiveness of training, retraining and advanced training of highly qualified teachers is doing. This, in turn, updates the content of continuing education, innovative forms and methods of teaching, modern information and communication, which serve to form the professional competence of specialists, formed the need for widespread introduction of technologies into practice. On this basis to improve the quality of education in higher education institutions today, education a series of measures to ensure the coherence and continuity of the stages measures are being taken. It is known that the system of modernization of the educational process in higher education, the training of teachers technological competence of teachers in improving the quality level to develop them, modern professional knowledge, skills and abilities in the field. Arming with, independently of scientific and technical innovations, creative use and problem-solving skills development is an important requirement.

Determining the competence and skills of future educators it is necessary to develop criteria for the purpose. Exploring sources on the topic, observing student activities, and experimenting at different stages. Given the changes that have taken place, the following criteria are used to determine the technological competence of future teachers. The degree of formation can be assessed on the basis of the following criteria:

1. Competence, such as technological competence, skill, and pedagogical skill be able to understand the essence of basic concepts.

2. Understand that an important condition of technological competence is the demand of the time.

3. The need to form technological competence.

4. Organizes practical actions for the formation of competence know.

5. Ability to fully demonstrate professional competence.

The pedagogical literature notes that a particular quality manifests itself differently in different individuals or that different individuals attribute themselves to a particular quality demonstrate their possessions differently. That's the decent thing to do, and it should end there. The formation of technological competence in educators is manifested at different levels the manifestation of certain qualities, leading to the conclusion that in most cases, it is recorded in three forms, at the upper, middle and lower levels. That the possession of technological competence can be assessed at the following levels concluded:

High level - increase of technological competence, competence, skill have a deep understanding of the essence of the basic concepts such as be able to organize and follow practical actions along the way.

Intermediate level - technological competence, competence and skill sufficiently understand the essence of basic concepts such as, technological although they understand that increasing competence is a requirement of the times, they do not always show the need to form these qualities in themselves. In addition, they take practical steps to develop their professional skills face difficulties in organizing.

The lower level is the increase of technological competence, competence and skill almost do not understand the essence of basic concepts such as, professional skills although they understand that it is a requirement of the time, but they do not need

to form these qualities in themselves, as well as in their technological competence.

Modern education analyzes the problem of the key competencies development – informational, communicative and problem-solving competencies. Informational competence provides a student's abilities to manage information, which is contained in educational subjects, fields and also in the surrounding world. Real objects of information (television, recorder, telephone, fax, computer, printer, modem, copy machine) and information technologies (audio- and video-recording, e-mail, mass media, Internet) help developing the abilities to independently search, analyze and select the necessary information, organize, transform, save and share it.

Communicative competence includes knowledge of the necessary languages, ways of interacting with the surrounding people and events, teamwork skills and ability to master various social roles in a group. A student has to be able to present himself, to conduct a discussion, to grasp the audience attention, etc.

Informational competence development is characterized by the need for solving problems, which require creative understanding and activation of student's cognitive capabilities. Communicative competence requires the creation of such educational environment, in which the students during communication would learn to develop communicative skills and raise the qualities of relationships culture. The problem-solving competence components are aimed at developing student's knowledge and skills for mobile solving of various tasks, which often demand cooperative actions, active thinking and creative approach.

Five of the development of the Republic of Uzbekistan in 2017-2021 The "Strategy of Action" was adopted as a priority, which provides for the improvement of the education system of the country in accordance with the requirements of the time. Therefore,

on April 27, 2017, President of Uzbekistan issued a decree No. PP 29/09 "Reform of the higher education system and on further development measures". That's the decision radical reform of all higher education systems in the country and improving their livelihoods covered. It is also necessary to monitor the results of this work step by step, to the staff of specialists of higher educational institutions of the Republic the educational process in the same institution as a guide and a guide. They pay special attention to the organization of a coherent political process that will help to make an effective contribution to its activation. It should be noted that the purpose of this decision is to implement in our country increasing socio-economic reforms, best practices of developed countries, organizing lessons based on modern information and communication technologies, and on this basis to increase the effectiveness of education to cultivate a spiritually mature and versatile intellectual personality.

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## RESEARCH SPECIAL INJECTION MOLDING PROCESSES OF POLYMERS

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### ABSTRACT:

This article examines the mold produced various methods of producing rotating molding process by melting polymers under pressure are described. The change in thermal conductivity curves according to the type and amount of fillers added to thermoplastic polymers is explained by diagrams.

**KEYWORDS:** Polymer, core, thermoplastic, mold, temperature, melt spinning.

### INTRODUCTION:

In today's fast-paced time, synthetic raw materials are replacing natural materials. In particular, polymerized polymer materials have become the main raw material for the manufacturing industry. Polyethylene, polypropylene, phenol-formaldehyde and other types of polymers are widely used in industry. The advantage of thermoplastic polymers is that they can be recycled. We can also see this process in the production of film and fiber.

### METHODS AND OBJECTS OF RESEARCH:

There are several variations of injection molding processes, many of which are still under development. Furthermore, due to the diversified nature of these special injection molding processes, there is no unique method to categorize them. Fig.1. attempts to schematically categorize special injection molding processes for thermoplastics. The most common special injection molding processes are multi-component injection molding, co-injection molding, gas assisted injection

molding, injection-compression molding, reaction injection molding, and injection molding of liquid silicone rubber.

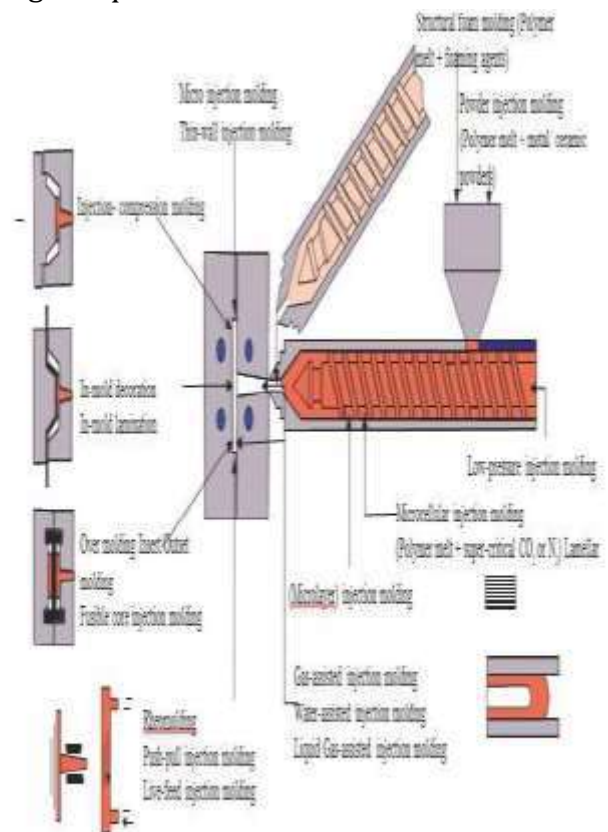


Figure 1. Schematic classification of special injection molding processes for thermoplastics.

Multi-component (or multi-color) injection molding is used to inject two or more components through different runner and gate systems at different stages during the molding process. Each component is injected using its own plasticating unit. The molds are often located on a turntable. Multi-color automotive stop lights are molded this way. In multi-component processes, often two incompatible materials are molded or one component is cooled sufficiently so that the two components do not adhere to each other. For example, to mold a ball and socket system, either the ball or

the socket of the linkage is molded first. The component that is injected first is allowed to cool somewhat before the second component is molded in. This results in a perfectly movable system; if the socket is injected first, the assembly will be loose and if the ball is molded first, the assembly will be tight, as the socket shrinks over the ball. This type of injection molding process is used to replace tedious assembling tasks and is becoming popular in countries where labor costs are high. Hence, this type of process is referred to as assembly injection molding. A commonly used method of multi-component injection molding employs a rotating mold and multiple injection units, as shown in Fig.2. Once the insert is molded, a hydraulic or electric servo drive rotates the core and the part by 180 degrees (or 120 degrees for a three-shot part), allowing alternating polymers to be injected. This is the fastest and most common method because two or more parts can be molded in every cycle. Another variation of multi-component injection molding cores or slides while the insert is still in the mold. This process is called core-pull or core-back, as shown in Fig. 3. To be specific, the core retracts after the insert has solidified to create open volume to be filled by the second material within the same mold.[1].

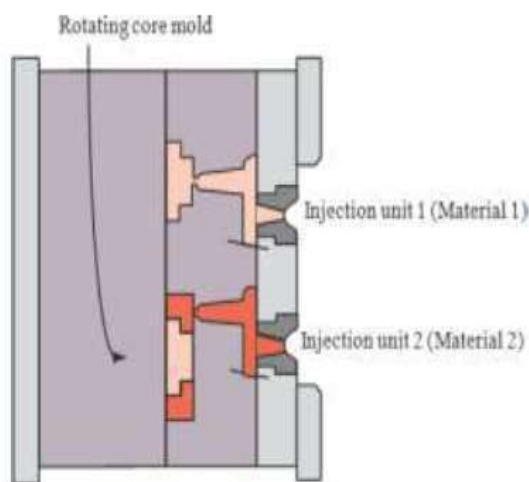


Figure 2. Schematic diagram of a rotating mold used to produce multi-component injection molded parts

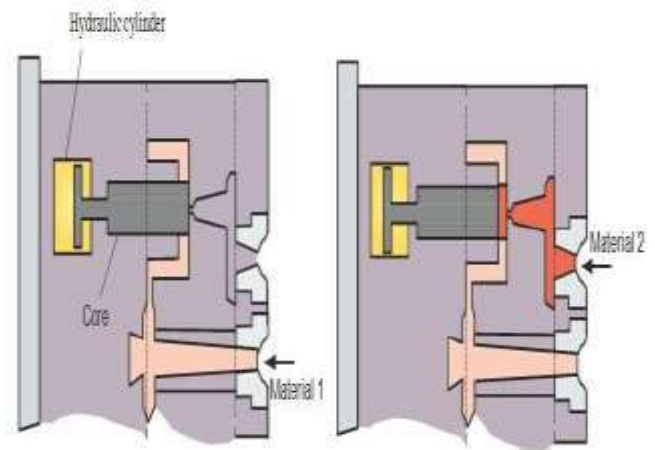


Figure 3. Schematic diagram of multi-component injection molding using a core pull or a core back technique.

### CO-INJECTIONMOLDING:

In contrast to multi-color or multi-component injection molding, co-injection molding uses the same gate and runner system. Here, the component that will form the outer skin of the part is injected first, followed by the core component. Fig.4. illustrates the typical sequences of the co-injection molding process using the one channel technique and the resulting flow of skin and core materials inside the cavity. This is accomplished with the use of a machine that has two separate, individually controllable injection units and a common injection nozzle block with a switching head. Due to the flow behavior of the polymer melts and the solidification of skin material, a frozen layer of polymer starts to grow from the colder mold walls. The polymer flowing in the center of the cavity remains molten. As the core material is injected, it flows within the frozen skin layers, pushing the molten skin material at the hot core to the extremities of the cavity. Because of the fountain flow effect at the advancing melt front, the skin material at the melt front will show up at the region adjacent to the mold walls. This process continues until the cavity is nearly filled, with skin material appearing



on the surface and the end of the part. Finally, a small additional amount of skin material is injected again to purge the core material away from the sprue so that it will not appear on the part surface in the next shot. When not enough skin material is injected prior to the injection of core material, the skin material may sometimes be depleted during the filling process and the core material will show up on portions of the surface and the end of the part that is last filled. This is referred to as core surfacing or core breakthrough. There are other variations to the sequential (namely, skin-core-skin, or A-B-

A) co-injection molding process. In particular, one can start to inject the core material while the skin material is being injected (i.e., A-AB-B-A). That is a majority of skin material is injected into a cavity, followed by a combination of both skin and core materials flowing into the same cavity, and then followed by the balance of the core material to fill the cavity. Again, an additional small amount of skin injection will cap the end of the sequence, as described previously. In addition to the one channel technique configuration, two and three- channel techniques have been developed that use nozzles with concentric flow channels to allow simultaneous injection of skin and core materials.[2].

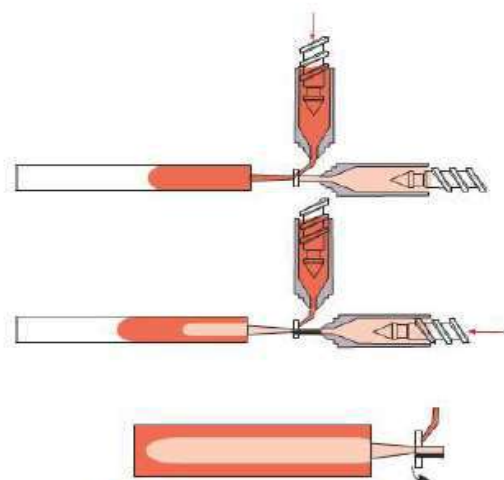


Figure 4. Sequential co-injection molding process.

## **GAS-ASSISTED INJECTION MOLDING (GAIM):**

The gas-assisted injection molding (GAIM) process begins with a partial or nearly full injection of polymer melt into the mold cavity, followed by injection of an inert gas (typically nitrogen) into the core of the polymer melt through the nozzle, sprue, runner, or directly into the cavity. The compressed gas takes the path of least resistance, flowing toward the melt front, where the pressure is lowest. As a result, the gas penetrates and hollows out a network of predesigned, thick-sectioned gas channels, displacing molten polymer at the hot core to fill and pack out the entire cavity. As depicted in Fig.5. gas assisted injection, as well as other fluid assisted injection molding technologies, work based on several variations of two principles. The first principle is based on partially filling a mold cavity and completing the mold filling by displacing the melt with a pressurized fluid. Fig.6. presents the gas-assisted injection molding process cycle based on this principle. With the second principle, the cavity is nearly or completely filled and the molten core is evacuated into a secondary cavity. This secondary cavity can be either a side cavity that will be scrapped after de-molding, a side cavity that will result in an actual part, or the melt shot cavity in front of the screw in the plasticating unit of the injection molding machine. In the latter, the melt is reused in the next molding cycle. In the so-called gas-pressure control process, the compressed gas is injected with a regulated gas pressure profile, either constant, ramped, or stepped. In the gas-volume control process, gas is initially metered into a compression cylinder at preset volume and pressure; then, it is injected under pressure generated from reducing the gas volume by movement of the plunger. Conventional injection molding

machines with precise shot volume control can be adapted for gas- assisted injection molding with add-on conversion equipment, a gas source, and a control device for gas injection, as schematically depicted in Fig.7. Gas assisted injection molding, however, requires a different approach to product, tool, and process design due to the need for control of additional gas injection and the layout and sizing of gas channels to guide the gas penetration in a desirable fashion.

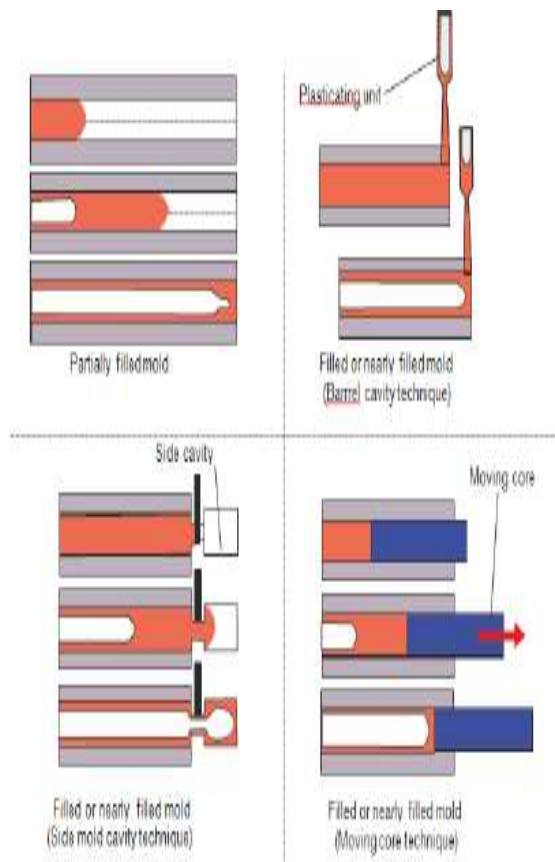


Figure 5. Schematic classification of fluid-assisted injection molding processes

The gas-assisted injection molding process is a special form of a more general category of fluid- assisted injection molding. Another process that falls under this category is water-assisted injection molding. The main difference of this latter process is that water is incompressible and has a much higher thermal conductivity and heat capacity than air. Consequently, this leads to significant reductions in cycle time. [3].

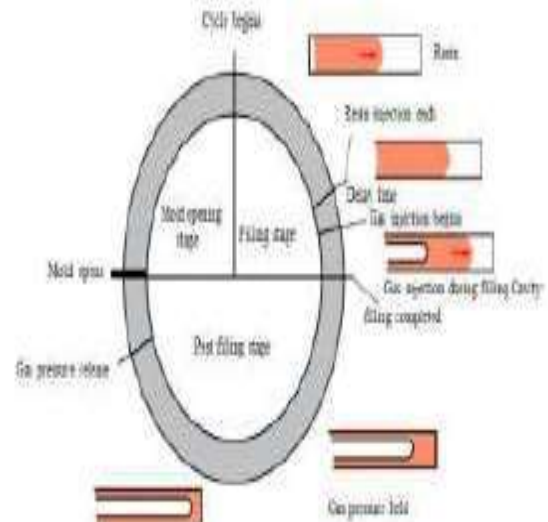


Figure 6. Gas-assisted injection molding cycle.

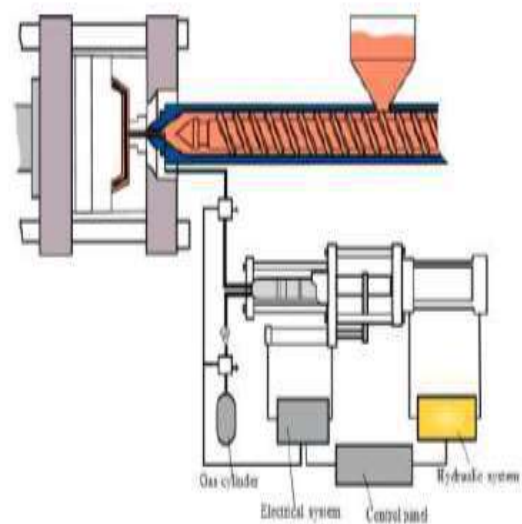


Figure 7. Schematic diagram of a typical injection molding machine adapted for gas-assisted injection molding with an add-on gas-compression cylinder and accessory equipment.

## CONCLUSION:

In conclusion this project was useful in exploring and understanding how different control factors have different effects on a desired characteristic for a part. Through the use of design expert it was shown how some control variables have a strong effect on a specified characteristic, while others have little



to no effect. Through design expert it was found that the variables affecting the final weight of the plastic mold injected part the most, were pressure and flow weight. Each of these factors had a larger impact than the nozzle temperature and dwell time combined.

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## **DESCRIPTIVE RESULTS OF VEGETATIVE GROWTH OF RAWIT CHILI MALITA FM AFTER GIVING LIQUID ORGANIC FERTILIZER RICE WATER**

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### **ABSTRACT:**

Malita FM cayenne pepper has been developed as a superior product in Gorontalo since 2008, its cultivation is considered to provide more opportunities for farmers than other types of chillies, for that it requires fertilizer that can be used as an alternative to growth of Malita FM chili. In this study using rice washing wastewater which is used as liquid fertilizer for the growth of Malita FM cayenne pepper because it contains nutrients nitrogen, phosphorus and potassium which are still needed by plants. The purpose of this study was to describe the results of the growth of FM malita chilli plants after being given liquid organic fertilizer of rice washing wastewater with observational parameters: plant height, number of leaves, leaf length and leaf width. The method in this study used an experimental method using RAL (Completely Randomized Design) with 2 treatments that were repeated 5 times so

that a total of 10 experiments were obtained. The treatments are: P0 (concentration 0% POC water rice water) and P1 (concentration 100% POC rice water). The results of the research data have been analyzed descriptively showing that the provision of rice water for plant height, number of leaves, leaf length and leaf width in P1 (100% concentration of rice water POC) provides the fastest growth compared to P0 (concentration of 0% water POC for rice water) control treatment.

**KEYWORDS:** Growth of Malita FM cayenne pepper, Liquid organic fertilizer rice washing water

### **INTRODUCTION:**

Malita FM cayenne pepper is being developed as a superior product in Gorontalo since 2008. The potential for developing cayenne pepper agribusiness is wide open outside Java, especially in Gorontalo Province.

Cultivation of Malita FM cayenne pepper is considered to provide greater opportunities for farmers than other types of chili (BPS Kabupaten Gorontalo Utara, 2000). One alternative that can be given to increase chili production is by applying fertilizers to fulfill plant nutrient content. This research will use liquid fertilizer from washing rice water.

Rice water is liquid waste produced before the cooking or cooking process of rice. Rice water is milky white, contains protein and vitamin B1. The role of vitamin B1 plays a role in metabolism in terms of converting carbohydrates into energy to drive activity in plants, so that plants that experience stress due to open root conditions or from moving plants to new media, immediately carry out metabolic activities to adapt to the environment or media. the new one. In addition, the role of vitamin B1 also functions so that plants do not wither easily, namely maximizing the absorption of nutrients in the soil with the content of vitamin B1 in the rice water. In addition to this, the use of rice water as liquid organic fertilizer contains nutrients needed by plants, around 80% vitamin B1, 70% vitamin B3, 90% vitamin B6, 50% manganese (Mn), 50% phosphorus (P), 60%. iron (Fe), 100% fiber, and essential fatty acids are lost in this process. The latest fact is the result of research conducted by Yuyu Siti Nurhasanah, an IPB student. Revealed that rice washing water is an alternative medium for carrying the *Pseudomonas bacteria fluorescens*. These bacteria are microbes that play a role in controlling petogens that cause rust disease and trigger plant growth (okezone, 19/10/11). Another study by Buchari (2013) found that giving rice washing water with a content of 300L / ha had a significant effect on the height of eggplant plants. The research conducted by Nasution et al (2000) showed that giving rice washing water at a dose of 1.25 L / plant was the best treatment for growth rate, root shoot ratio,

plant dry weight, and generative growth of maize plants.

Based on the previous description, then in this study, we will describe the growth results of Malita FM's cayenne pepper after being given liquid organic fertilizer to wash rice water.

## **METHODOLOGY:**

The research was conducted at the Green House, Department of Biology, Faculty of Mathematics and Natural Sciences, Gorontalo State University, and was conducted from October 2020 to November 2020.

The tools used in this study were a shovel, tape measure, book, label paper, pens, pencils, sprays, buckets, small plastic hoses, sprouts trays, polybags and cameras. The materials used in this study were water, manure, household waste organic fertilizer (rice washing water), and Malita FM chili seeds.

This research method used the RAK method (Randomized Block Design) with 2 treatments that were repeated 5 times in order to obtain a total of 10 experiments. The treatments were: P0 (concentration 0% POC water rice water) and P1 (POC concentration 100% rice water). The research sample was 10 malita FM cayenne pepper plant seedlings taken by purposive sampling, by selecting the FM malita cayenne pepper with healthy criteria, relatively the same height, and relatively the same number of leaves. Data collection was taken from the first planting in polybags (plant height, number of leaves, leaf length and leaf width) as much as 1 week 2 times. The research data analysis technique, namely descriptive analysis, was used to analyze data on the average plant height, number of leaves, leaf length and leaf width.

## RESULTS AND DISCUSSION:

### A. Results:

#### 1. Plant Height:

The results of observations of the mean height of untreated and treated plants at various volumes are presented in Figure 1 below.

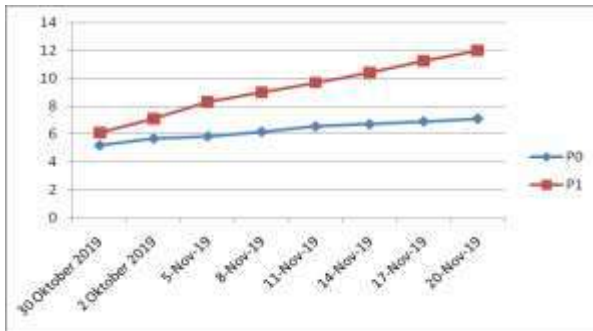


Figure 1. Average Plant Height Based on Treatment of Rice Water

Based on graph 1, it is known that the plant height given the POC rice water concentration is 100% gives the fastest increase in plant height compared to those not given rice water POC. It can be seen in the graph from the observation date of 30 October to 20 November that the height increase has increased to reach 12 cm in contrast to without POC rice water produces an average plant height of only around -6 cm.

#### 2. Number of leaves:

The results of observing the mean number of untreated and treated leaves at various volumes are presented in Figure 2 below. Last name 1 et al. / Jambura Edu Biosfer Journal (xxxx) x (x): pp-pp

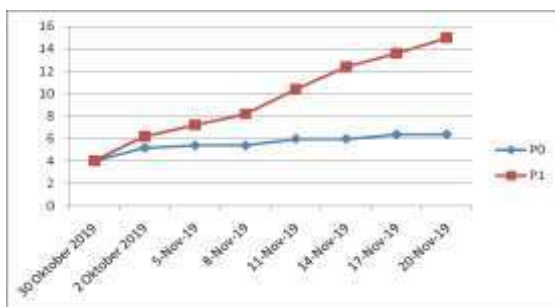


Figure 2. Average Number of Leaves Based on Treatment of Rice Water

Based on Figure 2 shows that the number of leaves of the FM malita cayenne pepper plant given rice water, at a concentration of 100%, the average number of leaves was 16 (Seen in the graph, each observation gave increased results up to the last observation) while the lowest was giving without POC, rice water averaged only 4 pieces (Seen in the graph shows no major changes in the number of leaves at each observation).

#### 3. Leaf Length:

The results of observing the mean number of untreated and treated leaves at various volumes are presented in Figure 3 below.

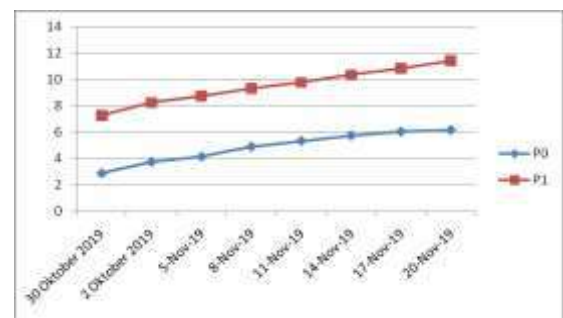


Figure 3. Average Leaf Length Based on Treatment of Rice Water

Based on graph 3 it is known that the length of the leaves given the POC rice water concentration 100% gives the fastest increase in leaf length compared to those not given rice water POC. It can be seen in the graph from the observation date of 30 October to 20 November that the length of the leaves has increased to reach 12 cm in contrast to without POC rice water produces an average plant height of only around 2 -6 cm.

#### 4. Leaf Width:

The results of observations on the average number of untreated and treated leaves at various volumes are presented in Figure 4 below.

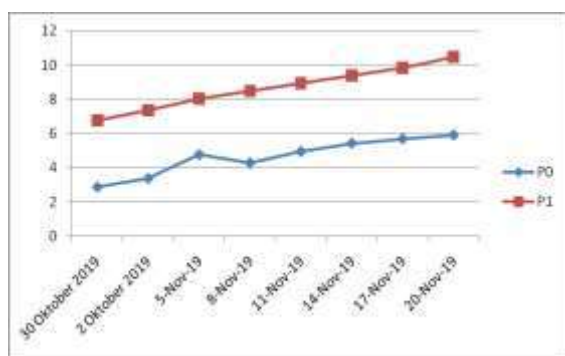


Figure 4. Average Leaf Width Based on Treatment of Rice Water

Based on Figure 4 it is known that the width of the leaves given POC rice water 100% concentration gives the fastest increase in leaf width (Seen in the graph of each observation date there was an increase in leaf width) compared to those not given rice water POC which did not have a major effect on the yield of leaf width increase.

## B. Discussion:

Based on the observations, it shows that the provision of POC rice water can increase the growth and yield of malita FM cayenne pepper. Purnami (2014: 23) states, "Plants require optimal amounts of nutrients in order to support plant growth. Provision of sufficient amounts of nutrients will increase the genetic potential of plants such as the shape, size and weight of the resulting organs. According to Buckman and Brady (1982: 15) that the adequacy and availability of nutrients for plants depends on the kinds and amounts of these nutrients in the soil which is in balance according to plant growth. Plants can fulfill their life cycle using nutrients. The function of plant nutrients cannot be replaced by other elements and if there is no plant nutrient, metabolic activities will be disturbed or stop altogether. Observations were made during the growth of the vegetative phase. In this phase the observations were plant height, number of leaves, leaf length and leaf width. Rice water is liquid waste produced before the cooking or

cooking process of rice. Rice water still contains a lot of nitrogen (0.015), phosphorus (16.306), potassium (0.02), calcium (2.944), magnesium (14.252), sulfur (0.027), iron (0.0427), vitamin B1 (0.043). Physiological processes of rice water in plant growth, namely sulfur in plant metabolism, have a role in protein synthesis and part of the amino acids cysteine, biotin and thiamin. Sulfur helps stabilize protein structures, helps oil synthesis and chlorophyll formation, and reduces the occurrence of disease attacks in the plant body. Phosphorus is a constituent of amino acids, coenzymes NAD, NADP and ATP, is active in cell division and stimulates seed growth and flowering. Magnesium is an essential constituent of chlorophyll and acts as a cofactor in most enzymes that activate the phosphorylation process, as a bridge between the pyrophosphate structure of ATP and ADP and the enzyme molecule and stabilizes the particles in the configuration for protein synthesis. Calcium is a constituent of cell walls, which plays a role in maintaining cell integrity and membrane permeability (Wulandari, et al., 2011).

Plant height is the easiest indicator of plant growth to determine the size of a plant as well as a parameter to see the effect of the treatment used on plant growth (Lutfianis, et al., 2012). Based on the average height value of chili plants treated at a concentration of 100%, there was a known increase from the control (watering without rice water) where the two treatments showed significant differences. This plant height increase is due to rice water having a high carbohydrate content, where carbohydrates can be an intermediary for the formation of the hormones auxin and gibberellin. The auxin hormone is then used to stimulate shoot growth and the emergence of new shoots such as an increase in the number of leaves, while gibberellin is useful for stimulating root growth. This is in line with the histogen theory put forward by Hanstein and the tunica

corpus theory put forward by Schamid.

Leaves are the most diverse plant organ. Based on the observation parameters on the number of leaves with the provision of POC rice water with a concentration of 100% also had a significant effect, which was seen in the treatment with an average of 16 strands. Rice water contains nitrogen which functions as shoot formation, stem development, and protein formation.

From the research results, the response of giving POC washing water to rice resulted in the best leaf width of malita FM chili pepper with an average of 12 cm, while the treatment without POC resulted in the lowest plant leaf width. Likewise, the length of the leaves giving POC rice water had a significant effect on the increase in the length of the leaves of the FM malita chili. This shows that the provision of rice washing water has a significant effect on leaf width and leaf length of the FM malita cayenne pepper plant. The supply of nutrient content from rice washing water waste is sufficient for the need to increase plant leaf width. The results of this study are the same as those found by Karlina et al., (2013) which states that rice washing water waste fertilizer can increase plant leaf width. This is thought to be caused by the presence of growth hormones in the rice washing water which can increase the size of the orchid leaves. According to the results of research by Heddy et al., (1989) stated that in the waste water washing rice contains the auxin hormone which plays a role in growth to stimulate the process of cell elongation and the hormone Cytokinin hormones that play a role in cell division (cytokinesis) which play a role in stimulating the formation of roots and stems and the formation of root and stem branches by inhibiting apical dominance and formation of young leaves.

The nutrient content in rice washing water can stimulate the growth of roots, stems and leaves (Wulandari, 2012: 07). In addition,

rice washing water is given regularly every 2 (two) days and watered gradually to the planting medium evenly, it is thought that it is absorbed slowly by plant roots, so that the plant's nutritional needs during the vegetative growth period are fulfilled. Another thing that causes plant growth to show very good symptoms is that the washing rice water that is given is thought to be maximally absorbed by the plants, because the research took place in the summer so that the risk of losing nutrients found in rice washing water mixed with rain water does not occur.

This research is in line with Leonardo's research (2009: 12) which shows that the concentration of water washing rice has an effect on the number of leaves and height of eggplant and tomato plants where the concentration of water washing rice 100% gives the largest average and is significantly different from the concentration of water washing rice 0%, 25 %, 50% and 75%. Likewise with the results of Istiqomah's research (2010: 105), showing that the concentration of washing water for brown rice showed a very significant effect on plant height and number of leaves of celery plants, Adrianto (2007) added that fertilization was very influential for plant growth, especially if the planting medium was classified as nutrient poor. Incorrect fertilization, both in terms of type, quantity, method of administration, and timing of application can affect the process of plant growth and development.

## **CONCLUSION:**

Provision of POC rice water with a concentration of 100% on the FM malita cayenne pepper plant for plant height, number of leaves, leaf length and leaf width gave increased results in different observations without POC rice water, there was no major change in plant height growth, leaf number leaf length and leaf width. So it can be concluded that

there is an effect of giving POC rice water on the growth of Malita FM's cayenne pepper as seen from the average plant height, number of leaves, leaf length and leaf width.

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## COLOR BLIND DETECTION AT STUDENTS GORONTALO STATE UNIVERSITY

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### ABSTRACT:

One of the disorders that occur in the eye is color blindness. Color blindness is a condition where one can not distinguish a certain color that can be distinguished by a person with a normal eye. The purpose of this study was to find out whether the probandus tested suffered from color blindness. This research uses observation method that is collecting data by performing observation and direct documentation on matters relating to color blind test, so that obtained a clear picture about the object under study. Data analysis is done by using descriptive method. The results show that from 97.5% test probandus can read numbers and colors and 2.5% have color blindness and are included in partial color blindness. Conclusion in this research that some probandus have been tested by ishihara method have normal eye and partial partial blindness probandus.

**KEYWORDS:** Color blind, Ishihara Test, Partial.

### INTRODUCTION:

One of the disorders that occur in the eye is color blindness. Color blindness is a condition

in which a person cannot distinguish certain colors that can be distinguished by people with normal eyes. A person suffering from color blindness can be caused by abnormalities from birth or due to excessive use of drugs. Color blindness generally affects men, while women are only a carrier / recessive gene. Currently in europe about 8-12% of men and 0.5-1% of women suffer from color blindness. Another study states that one in 12 men suffer from color blindness, while only 1 in 200 women suffer from color blindness (kurnia, 2009).

The ability of the cones in the retina makes it impossible for the family tree to have color blindness. Given that one of the causes of color blindness is a gene inherited from offspring where the gene that regulates color blindness is linked to sex on the x chromosome. It could be normal women or color blind carriers. The cones and rod cells in the retina have different functions. Stem cells cannot distinguish colors and are more sensitive to light. Cones require more light to stimulate these cells. Color vision results from the presence of three subclasses of cone cells, each of which has its own type of opsin and associated retinal to form the visual pigment photopsin. Photoreceptors as red, green and blue cones. The absorption spectra for these



pigments overlap and the brain's perception of intermediate features depends on the difference in stimulation of two or more cones. For example, when red and green cones are stimulated we may see a yellow or orange color, depending on which cone cells are stimulated the most. Color blindness is more common in men than women because it is generally inherited as a sex-related trait (campbell, 2002).

### RESEARCH METHODS:

This research was conducted in Gorontalo City, especially in the UNG campus area. When the research was conducted on April 14-May 1 2018. The research subjects used were 200 probandus. The tools used in this study were the paper color blindness test (Ishihara's test), stationery and Probandus. The research was carried out by writing down the name of the probandus who will be tested for color blindness then guessing the number on the plate with a maximum answer time of 30 seconds and writing what is seen in the color blind test book in the columns that have been provided then matching the results obtained with the numbers / pictures that should be, then calculates what percentage of errors were made in that test. There are several data collection methods to achieve the objectives and benefits of this research, which include: Interviews, Observations, Literature Studies.

### DISCUSSION:

Color blindness is a hereditary disease caused by the c recessive gene because the gene is contained in the x chromosome while women have 2 x chromosomes.

Color blindness is divided into two, namely total color blindness and partial color blindness. People who suffer from partial color blindness cannot see some colors, namely red, green, blue and yellow, while people who suffer from total color blindness cannot see all colors except black and white.

In the observation of the color blindness test of 200 probandus that has been done, the Ishihara method is used. According to Guyton in Giarratano et al (2005), the ishahara method is a method that can be used to quickly determine a color blindness disorder in the form of a pseudoisochromatic sheet (plate) composed of dots with different color densities that can be seen with normal eyes, but not. can be seen by the partially color deficient eye.

According to Widianingsih (2010), the Ishihara color blind test application uses 38 image plates, but in our observations we only display 12 plates which are the main images of the Ishihara color blindness test. With these 12 plates, it can be concluded that the condition of the person being tested is whether they have total, partial or normal color blindness. color blindness is done in sequence.

Based on the tests that have been carried out from 200 probandus 195 or 97.5% of the probandus can read numbers and colors, 5 or 2.5% have color blindness and are part of the partial color blindness. Probandus who are included in partial color blindness cannot read the numbers and colors that appear on the test sheet in the Ishihara color blind test book number 3,4,5,6,7,8,9,10,11 and 12. The majority of errors are found in reading numbers 7,8,9,10.

The following are some plates from the Ishihara test book, where most of the probandus experienced errors in reading and the color test of writing was tested on each probandus.

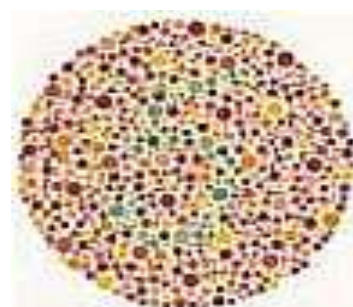


Figure 1. Plate number 7

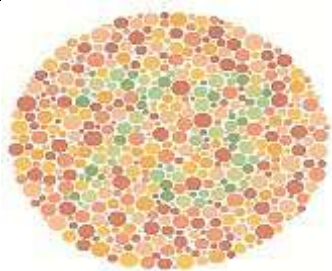


Figure 2. Plate number 8

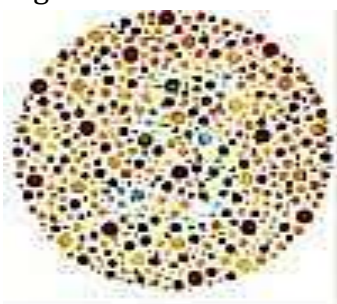


Figure 3. Plate number 9

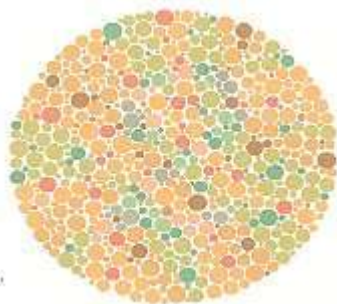


Figure 4. Plate number 10

Based on the observations made, the error in number 7 is because the actual number should be 5 but read 7. Then for error number 8, 73 should read 72. error number 9 should be number 2 but read 3. Error number 10 should be number 2 probandus cannot read and when one reads almost everything wrong. Errors made by Probandus in reading Ishihara test plates can also be caused by several things, namely heredity, lack of observations, haste and doubts in reading the plates, especially on plates number 9 and 10 and can also be caused by the printed results of the Ishihara plates. . In the writing color test, some of the probandus found it difficult to distinguish between brown and orange and some only mentioned writing not color. The number and color error values were not too large so that the result showed that 97.5% of the probandus did not suffer from color blindness. If the percent error is still below

50%, it is still normal. And if the percent error is more than 50%, it is stated to have color blindness.

From the results of the color blindness test carried out, it can be stated that 97.5% of the probandus who have been tested have normal eyes, this shows that they are able to distinguish various kinds of colors, plates and letters used as the test material, while 2.5% of the probandus have normal eyes. color blindness, but is only included in people with partial color blindness due to incorrectly mentioning some colors on the Ishihara test. Many things can cause partial color blindness, the most important factor being genetic factors passed down by parents. In the testing process it can also be a factor in determining color blindness, because many of the assistants who are tested are hasty in answering the tests carried out because they are only given 30 seconds to think about or see the plate and the color shown. Some of the probandus mispronounced the numbers on the plate and mispronounced the colors shown, many probandus only read the letters shown. Of the 2.5% probandus who stated as partial color blindness could not know the color red, and green where they called red as brown and green as blue.

In general, color blindness is caused by genes or heredity which is passed on by crossing. Where the nature of the father will be passed on to all daughters (both carriers or sufferers), and the nature of the mother will be passed on to all boys. Men are usually prone to color blindness because genes that function or are recessive color blindness are carried by the X chromosome, where men only have one X chromosome. Men also cannot be carriers because men only have one X chromosome. , whereas women are rarely color blind because women have two X chromosomes. If one X chromosome carries the c recessive gene, then the woman is only a carrier or normal carrier

(XCXc). If two X chromosomes in a woman are linked to the recessive c gene, it is called color blindness (XcXc) (Suryo, 2008).

According to Kurniadi, (2016) Color blindness is divided into 2 parts, namely total color blindness and partial color blindness, where in total color blindness a person only sees all colors as black and white, while in partial color blindness, someone has difficulty distinguishing colors. red, green and blue. Plate Ishihara which is used has a dominant color between red and green so that it can only be used to determine partial color blindness to red-green. Partial color blindness to blue-yellow color will be difficult to detect from this test because Ishihara plates use very little blue and yellow.

Color blindness can occur due to hereditary factors, or because there is an abnormality in the retina, optics, and there may be disorders of the brain. The inheritance is X linked recessive. This means, it is passed down through the X chromosome. In males there is one X chromosome, so if there is an abnormality on one X chromosome it can result in color blindness. In contrast to women, who only get a recessive color blind gene from either their father or mother alone do not experience symptoms of color blindness. Color blindness in women occurs when the recessive gene is homozygous, meaning that it inherits from both the father and the mother. This explains that color blindness is almost always found in men, while women function as carriers (character carriers, but not affected). In other words, the Y chromosome does not carry a color blind factor.

Color blindness occurs when the light receptor nerves in the retina of the eye undergo changes, especially the cone cells. Retinal nerve cells consist of rod cells and cones (Hilman, 2015).

## CONCLUSION:

Based on the results of the discussion above, it can be concluded that most of the probandus who had been tested by the Ishihara method had normal eyes and a small proportion of probandus had partial color blindness.

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## **MIGRATION PROCESS IN AZERBAIJAN: DISADVANTAGED MIGRATION PROBLEMS OF SOCIO-ECONOMIC PROBLEMS**

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### **ABSTARCT:**

Migration (resettlement) of the population in Azerbaijan began as early as the 19th century as a result of the occupation of national lands. The aggressive policy pursued by tsarist Russia towards Azerbaijan, and as a result of the ongoing wars, which ultimately ended with the conclusion of the Gulustan (1813) and Turkmenchay (1828) treaties, led to the fact that the Azerbaijan nation, together with its lands, was divided into two parts. The forced mass migration of Azerbaijanis over the past century has occurred several times. It dates from 1905-1906, 1918 - 1920, 1948-1953 and 1987-1989. Mass migration of the population took place not only in the Nagorno-Karabakh of Azerbaijan, but also in all its original lands. It is well known from the historical past that Azerbaijani Turks settled and lived in the ancient territories of Iravan, Zangezur, Geychi and other places (the territory now called Armenia). Starting from the 80s of the XX century, Turkic ethnic groups, along with Akhaltsikhe Turks Azerbaijanis living in world geography, underwent mass migration. In 1989, 100,000 living in Central Asia became internally displaced persons. Most of the migrants from Central Asia settled in Azerbaijan.

By 1990, there were about one million refugees and internally displaced persons in Azerbaijan. As a result of the occupation of the national lands of Azerbaijan by the Armenians of Nagorno-Karabakh and its

surrounding areas, our republic lost 20% of its lands. This aggressive policy of Armenia negatively affected the economic development of Azerbaijan and its foreign economic relations as a whole. The richness of the natural geographical conditions of the occupied lands was widely known to the world community. However, despite the difficulties experienced at that time, Azerbaijan, since 1993, has become a member of many world organizations and associations. He tried to expand international cooperation with developed world states. At the present stage, the Republic of Azerbaijan is making every effort to resolve the issue of the territorial integrity of our state, the liberation of 20% of the occupied territories, as well as the return of refugees and internally displaced persons to their former lands.

**KEYWORDS:** Karabakh problem, migration (resettlement), deportation, international cooperation, refugees.

### **Введение**

Региональная и межрегиональная миграция свойственна всем мировым государствам. Вынужденная и свободная миграция связана с социально-политическими событиями, происходящими в отдельных регионах. Долгие годы миграционный процесс не рассматривался, как исследовательский вопрос. В Азербайджане миграционный процесс начался в результате войн,

начавшихся в XX столетии. Еще в 1813 году в результате заключения Гююстанского и в 1828 году Туркменчайского договоров Азербайджанские земли вместе с населением были разделены на две части. В период первой и второй мировых войн, как в Азербайджане, так и во всем мировом сообществе миграционный процесс значительно усилился и расширился. В Азербайджане принужденная миграция проводилась поэтапно, согласно армянскому сценарию. Этот процесс оказал существенно- отрицательное влияние, не только на экономические связи Нагорного Карабаха, но на международные отношения Азербайджана и Армении в целом. Большинство республик, отделившихся от Пост-Советского пространства, переживали тяжелый экономический кризис. Вдобавок значительно ухудшились национальные взаимоотношения. Оккупированные армянскими захватчиками 20% наших земель привело к тому, что в Азербайджане стало насчитываться более, чем один миллион беженцев и вынужденных переселенцев. Вынужденное переселение турков из Средней Азии, азербайджанцев из Армении, национальные распри свели динамику экономического и политического сотрудничества Кавказских государств на нет.

Национальная рознь армян против Азербайджана, начавшаяся с 1987 года, была спланирована и нацелена Арменией на захват земель Азербайджана. Через определенный этап, наконец, Армения при поддержке России, стала осуществлять свои захватнические планы. С 1988 года азербайджанцы стали массово покидать свои изначально исторические земли. Начиная с 1989 года армяне выслали из своей республики более, чем 250 тысяч азербайджанцев, 18 тысяч мусульманских курдов, около 3,5 тысяч русских и

представителей других немусульманских наций. Национальные земли турков в разные периоды оккупироваться врагами. Согласно захватническому плану, армяне начали резню за Нагорный Карабах и прилегающие к нему районы. 20% Азербайджанских земель были захвачены. Число вынужденных переселенцев в Азербайджане достигло одного миллиона. Царская Россия постоянно проявляла огромный интерес к Закавказью. В осуществлении своих захватнических планов она искусно использовала ненасытную Армению, как средство манипуляции. Переселение армян в Нагорный Карабах началось еще со времен владения Петра 1. В целях создания наиболее приемлемого аппарата для управления Закавказьем и в особенности Нагорным Карабахом армяне были для России выгодным средством. Сразу же после присоединения Азербайджана, Грузии и Армении к России армяне стали предъявлять к Азербайджану свои территориальные притязания. Численность армян в тот период превышала более, чем 490 тысяч. С обострением в тот период межнациональных отношений из Турции и Ирана на азербайджанские земли и в особенности в Нагорный Карабах было переселено еще 500 тысяч армян. Согласно армянскому плану основная цель переселившихся армян заключалась в том, чтобы сразу после обоснования на землях Азербайджанских турков, изгнать их с родных земель. Да, армяне, достигнув своей чудовищной цели, с равнодушием относились к историческому прошлому Азербайджанских турков. Именно поэтому, начиная с 1988 года, они преднамеренно стали расширять свои территории с целью создать «Великую Армению без турков».

**Отрицательное влияние миграционного процесса (переселения) на экономическое развитие Азербайджана.**

Карабахский вопрос по сей день продолжает оказывать свое негативное влияние на беженцев и вынужденных переселенцев, трудовые резервы, природное развитие, внутреннее и внешнее взаимно сотрудничество. В настоящее время вопрос о статусе Нагорного Карабаха, который испокон веков входит в состав Азербайджана, приобрел в регионе недопустимую для международного политико-экономического сотрудничества важность в своем решении. Несмотря на это Азербайджан с 1993 года развивает свои внешнеэкономические и политические международные связи. Азербайджан стал участником многих международных соглашений и стремительно интегрирует в мировое сообщество. Азербайджан прикладывает все свои усилия для мирного урегулирования Карабахской проблемы. Решение данной проблемы входит в интересы многих развитых государств. Это связано с тем, что существующая на Кавказе по сей день проблема Нагорного Карабаха, продолжает отрицательно влиять на экономическое сотрудничество в данном регионе.

Нагорный Карабах расположен в таком географическом пространстве Азербайджана, где имеются наиболее благоприятные условия для развития туризма, а также богатые природные ресурсы для развития промышленности и аграрного хозяйства. Со дня возникновения Карабахской проблемы в регионе были утрачены не только внешнеэкономические, политические и культурные связи, но и внутренние отношения с прилегающими районами. Свыше 500 тысяч местного населения вынужденно покинули свои поселения. Промышленные объекты,

сельскохозяйственные угодья, образование, медицинские учреждения и другие сферы были развалены полностью.

Были также разрушены культурные очаги, сожжены музеи и библиотеки. Карабахская проблема нанесла огромный материальный и духовный ущерб не только экономическому развитию в этом регионе, но и внешнеэкономическим связям всего Азербайджана в целом.

Известно, что Азербайджан прославился во всем мире своей нефтью. В 1990-1992-х годах в Азербайджане с целью вывоза Азербайджанской нефти на мировой рынок и заключения нефтяных контрактов, был подготовлен проект предложений. Однако в 1992 году данный проект не был осуществлен ввиду Карабахской проблемы и военной обстановки в стране. В результате дальновидной и мудрой политики общенационального лидера Гейдара Алиева между Азербайджаном и Арменией было достигнуто соглашение о долговременном прекращении огня. В Азербайджане, ставшим участником Нефтяного контракта, вопрос о безопасности нефтепровода, продолжал оставаться актуальным и злободневным. Это не могло не беспокоить руководство нашего государства. Сразу же после прекращения огня Азербайджан приступил к разработке новых проектов и предложений с целью вступления в международный нефтяной договор. В данном проекте задачу об обеспечении безопасности нефтяного трубопровода, проходящего через территорию Азербайджана, государство взяло на себя. Азербайджан, преодолевая тяжесть войны и угроз, наконец, 20 сентября 1994 года подписал «Контракт века». Наше государство, принявшее активное участие в осуществлении данного контракта, с целью урегулирования социально-экономических проблем, существующих в стране, за счет

капиталовложений и инвестиций выдвинул на первый план задачу о постройке новых жилых поселков для улучшения жизненных условий беженцев и вынужденных переселенцев, и передало в их пользование. В 1994 году количество беженцев и вынужденных переселенцев в Азербайджане превысило более, чем один миллион.

За последние 20 лет из дохода, поступившего от нефти, 4,6 миллиардов (долларов США) было потрачено на решение социальных нужд беженцев и вынужденных переселенцев. В 2011 году на решение социальных проблем беженцев и переселенцев было потрачено около 500 миллионов долларов США. Из них 295 миллионов долларов США пришлось на государственный бюджет Азербайджана, 175 миллионов на долю Нефтяного Фонда Азербайджана, остальные 30 миллионов на долю Международной Организации по правам человека. Следует особо отметить, что если бы Азербайджан вложил бы этот капитал в отрасли, приносящие стране доход, то естественно значительно повысился бы уровень экономического развития государства.

Если заглянуть в историческое прошлое, можно было ясно проследить, что в XVIII – XIX веках на Азербайджанские земли было переселено большое количество представителей разных национальностей. Началось целенаправленное заселение армян в Азербайджан, и в особенности на территории Нагорного Карабаха, Иравана и других регионов нашего государства.

Армян заселяли компактно на запланированных участках. Исследования показывают, что армяне, переселившиеся из Азии, говорили на разных языковых диалектах. Количество этих языковых диалектов превысило более, чем двенадцать. Карабах же своим природным

разнообразием и благоприятными климатическими условиями являлся наиболее пригодным местом для ведения сельского хозяйства и развития промышленности, в особенности для развития туризма, рекреации.

Армяне были заселены в самые райские уголки Азербайджана. Интерес к Карабахским коням проявляли не только во многих государствах, но и даже сам русский царь Петр I. Следует отметить, что он оказывал большую поддержку в переселении армян на Азербайджанские земли тюрков на Кавказе и обещал армянам, что приложит все усилия для создания на Кавказе великого армянского государства.

После переселения армян в Азербайджан их заселяли не только на территории Карабаха, но во многих районах. Время от времени они совершали геноцид против Азербайджанских тюрков. В свое время Степан Шаумян, руководивший всем этим, согласно плану при поддержке русских 31 марта 1918 года организовал погромы в Баку, Гяндже, Губе, Шемахе и других районах. В столкновениях было убито более, чем 500 тысяч Азербайджанских тюрков. Азербайджанское население было вынуждено эмигрировать со своих территорий. Топонимы тюркского происхождения, используемые на территории заселения армян и в Ираване стремительно армянизировались. На это указывают сведения Белорусских источников. В действительности же, Армении нужны были не армяне, проживающие на территории Нагорного Карабаха, а его земли. Это подтверждают и сами армянские лидеры.

Исторические планы армян по захвату государственных территорий Азербайджана осуществлялись частично и поэтапно. В 1988-1992 годах началась принудительная миграция азербайджанцев с их изначальных



земель. Затем последовала оккупация Нагорного Карабаха и его прилегающих районов. При таких обстоятельствах естественно, что ни одно развитое государство не желало сотрудничать с нашей страной. Чтобы выйти из столь затруднительного положения Азербайджан предпринял значимый дипломатический шаг. Этот шаг явился одним из крупных достижений нашего государства. В сущности же для страны, у которой 20% территорий были потеряны, в деле развития внутреннего и внешнеэкономического развития это явилось еще и ответственным шагом.

На сегодня социально- экономическая, культурно – туристическая сферы, как и все остальные отрасли Нагорного Карабаха, являющегося одним из райских уголков Азербайджана, претерпевают значительные трудности и застой. Со дня начала захватнической войны по сегодняшний день Азербайджан подвергся огромным материальным и духовным ущербам. Специалисты считают, что восстановление внутренних и внешних международных связей подвергло государственный бюджет огромному финансовому ущербу.

Данные Министерства Экономического развития Азербайджана (МЭР) свидетельствуют о том, что в результате оккупации Арменией Азербайджана стране нанесен материальный ущерб в размере 43,5 миллиардов долларов США. Однако эта цифра неточная. Она не указывает конкретно на общий итог нанесенного убытка. В случае точного подсчета эта цифра значительно возрастает.

Следует отметить, что во все исторические периоды Азербайджанские тюрки подвергались вынужденной миграции, претерпевая материально- культурные и хозяйственные ущербы. Они систематически сталкивались с

преднамеренными спланированными трудностями. Исходя из данных обстоятельств социально- экономическое развитие Нагорного Карабаха на сей день полностью приостановлено. Были прерваны официальные внешнеэкономические и международные связи. Сфера туризма утратило свое развитие. Эта чудовищная захватническая политика Армении продолжает оказывать существенно негативное влияние не только на экономические связи, но и на трудовые резервы населения, образование, социальную психологию, международное политическое и экономическое сотрудничество всего Азербайджана.

### **Заключение**

На сегодняшний день Нагорный Карабах с его прилегающими районами находятся в армянской оккупации. В Азербайджане более, чем один миллион беженцев и вынужденных переселенцев, которые были вынуждены покинуть свои изначальные земли. Оккупированные Арменией географические территории Азербайджана, богаты природными запасами. Имеющиеся на оккупированных территориях ресурсы, рекреация, туризм и культура могут приносить нашему государству значительный капитал. С территории Нагорного Карабаха по указанным сферам Азербайджан смог бы получить огромный доходный капитал. К великому сожалению, сегодня наша республика лишена этой возможности, вдобавок в результате оккупации наше государство понесло убыток в размере более, чем в 4 миллиарда. И это - неточная цифра.

Мы уверены, что Нагорный Карабах с его прилегающими районами, являясь неотъемлемой составной частью Азербайджана, будут освобождены мирным путем, после чего Азербайджан приступит к



расширению своих международных связей на высоком уровне. Вернутся на свои прежние земли более, чем один миллион беженцев и вынужденных переселенцев. 250 тысяч представителей Азербайджанских турков, подвергшихся неоднократной депортации и вынужденной миграции, которые с 1988 года являются живыми свидетелями переселенческой жизни, живут с надеждой вернуться на свои исторически изначальные земли.

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## ARE BINOMIALS IMPORTANT IN LEARNING ENGLISH LANGUAGE?

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### ABSTRACT:

**In this article we have analyzed the degree of translability of binomial pairs and compared the lingua peculiarities of the original and their correspondence with their translations into the English language. We have also overviewed different types of binomial pairs falling into five categories i.e rhyming binomials, with alliteration and binomial pairs joining by different linking words.**

**KEY WORDS:** literary translation, binomial pairs, reversible binomials, irreversible binomials, binomial expressions.

### INTRODUCTION:

There is an amazing variety of interesting and amusing expressions in the English language. Most are known by native speakers, but these English expressions are not commonly used in English course books. So what is the role of binomials in learning English?

In linguistics, a binomial pair or binomial is a sequence of two or more words or phrases belonging to the same syntactic category, having some semantic relationship and joined by some syntactic devices such as «and» or «or». Examples in English include: «life and death», «cease and desist», «directly or indirectly», etc.

One of the best way to develop your English fluency is to learn well-known binomials. Binomial expressions are common English phrases that include a pair of words usually joined by “and” or “or” (e.g. black and white, more and less, plain and simple). The order of the words is usually fixed and they are

a single chunk of English vocabulary. Binomial expressions known as “binomials” or “binomial pairs”. They are regularly used by native English speakers because they are often catchy and easy to remember. Develop your English vocabulary with these catchy expressions to sound like native speaker.

Synonymous Binomials. Synonyms are two or more forms with very closely related meanings, which are often, but not always, intersubstitutable in sentences. Synonyms of such a type are very rare in language and are referred to as «absolute» or «total» synonyms. Gustafsson says that the difference in meaning may be so slight as to require expertise of the reader. She adds that synonymous binomials seem to emphasize the mutual semantic ground of the paired words, as: «true and correct» and «full and perfect». A large number of this semantic category includes examples of «near synonyms», where the two forms share sameness in meaning, but are not interchangeable in all contexts. These are like: «cab-taxi», «answer-reply», «broad-wide».

English is particularly rich of synonymous expressions which are mainly borrowings from a variety of languages. Powerful, mighty, and strong look interchangeable but they will not all occur with «tea, ocean, and language», and where they do occur the meaning is likely to be different in each case: «powerful language», for example, has a different meaning from «strong language».

Antonym pairs all express opposite or incompatible meanings. An example is the pair «rich-poor», where a person whose categories cannot be both «rich» and «poor» in the same way at the same time. Theoretical research has

focused upon semantic logically based classifications of antonyms. Among analyzed antonym classes, there is, for example, a subset termed: «opposites», which includes pairs like «dead-alive», «married-unmarried». These are semantic opposites that exhaust the scale they refer to in that it is impossible to be married and unmarried at the same time. True «antonyms» like «happy-sad», on the other hand, are not mutually exclusive (it is possible to be neither happy nor sad) and unlike opposites, they are gradable. The most disputed category is called «multiple incompatibles». It includes, for example, the closed set of the season of the year, in which winter is incompatible with summer, fall and spring.

In the light of the results obtained from this study, the following conclusions are drawn:

1. Binomial expressions are common and widely used in English and Arabic legal documentary texts. But, whereas English binomials are used as frozen pairs, like: “aid and abet” or “ways and means”, Arabic binomials are the result of a still-productive semantic category. In other words, Arabic as opposite to English is an inflectional language; the latter is derivational.
2. The phenomenon under investigation, i.e., «binomial» has not been studied in Arabic; hence, such expressions are realized through the use of combinations of two (or more) lexical items joined with «and» or «or». Consequently, categorizations on both levels: syntactic and semantic are based on English categories as to point out the similarities and differences between the two languages.
3. Generally speaking, the similarity between the two languages is clearly discovered and shown in the data analysis. Moreover, there is a wide range of resemblances (syntactically and semantically) between the forms of binomial that are employed in legal English and their Arabic counterparts.
4. The syntactic analysis of binomials reveals that both, English and Arabic pairs, can mainly occur as nouns. This is due to nominalization which is expected to be a universal feature if applied to other languages. The other classes i.e., verbs, adjectives, prepositions, etc., appear (less frequently) in both legal documents, though the selected data show no pronouns in Arabic; whereas an example (his or her) is found in English. This is because possessives in Arabic are mainly annexed to nouns. In addition, only in English, adverb binomials appear, like: jointly and severely. In Arabic, there is a tendency to use prepositional phrases as adverbials.
5. Semantically, binomials, in both legal languages, are found synonymous, antonymous and complementary. Each of these relations that hold between the two parts of a binomial is further subcategorized. The analysis of the English and Arabic samples shows that binomials belonging to complementary category have occurred more frequent than the other two categories. It also proves that absolute synonymous binomials are very rare in both languages.
6. Antonymous binomials appear in both languages, though some types like «sex» and «animate» are not seen in the Arabic documents. The highest occurrence in both languages, is achieved by the reciprocity binomials.
7. In classifying complementary binomials, the scores registered for all types are approximately equal for both languages. In Arabic, the «attitude» category is not found and as the results show, complement binomials in legal English and Arabic have scored the highest.

In conclusion, it is necessary to state that the analysis was carried out on a limited sample

of legal texts; thus, it was difficult to find examples of all subcategories of the semantic relations intended to be studied in this paper.

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## TYPES AND BASIC FUNCTIONS OF EMOTIONS

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### ABSTRACT:

**This article is devoted to the study of types and basic functions of emotions. In this article 6 types of emotions: anger, fear, disgust, surprise, joy, (happiness, fun), sadness and 5 types of emotions: regulation/control function of emotion, social interaction function of emotion, motivation-function of emotion, information-function of emotion and emotional expression function of emotions have learnt and analyzed.**

**KEY WORDS: emotion, human life, facial expressions, gesture, exclamations and sounds.**

### INTRODUCTION:

Under the emotional expressions, 6 types of emotions are mainly distinguished:

1. Anger. 2. Fear. 3. Disgust. 4. Surprise. 5. Joy (happiness, fun) 6. Sadness.

Anger type of emotion is a feeling that occurs when a person tries to get other people to do what he wants to do through intimidation.

But anger is destructive to relationships and our own psychological health. However, thanks to anger, we unconsciously feel our power. Managing feelings of anger is very difficult. Anger in a person is expressed in the fact that the face turns red or burns, veins on the forehead and neck are inflated. When a person is angry, their muscles are tense and they may feel irritated. The mouth and teeth are tightly clenched. The person feels his strength and wants to strike. He is ready for instant action.

The stronger the anger, the more powerful and energetic the person feels.

Anger is a source of psychological strength that is needed in a number of life situations.

Fear is an emotion of great strength that has a noticeable impact on a person's thinking and behavior. It indicates the danger to be avoided. All people are afraid. Both the child and the adult have fear. The causes of fear are events or situations that signal danger. Fear is expressed in a person in different ways: horror, intimidation, panic or anxiety.

With fear, a person feels threatened, insecure, and completely insecure. A sense of danger appears. Thus, fear is the most dangerous of all emotions. Intense fear even leads to death. But fear is not only evil. It can serve as a warning signal and can change human behavior.

Disgust is a negative emotional state. In some ways, disgust is closely related to anger. But it is not as dangerous as anger. Feelings of disgust are similar to those of nausea and bad taste. The expression "disgust" means something disgusting in taste. A person strives to move away from the object of disgust or to change this object in such a way that it ceases to cause disgust.

Disgust causes the desire to physically get rid of someone or something. Thus, when disgusted, a person experiences deep displeasure.

Joy is all so one of the positive emotions, the most pleasant state. Joy is of great importance in human life. It is an inner sense of contentment, pleasure, and happiness. If a

person experiences joy, then he will cope with difficulties, achieve his goals, and feel confident. Joy makes everyday life easier.

With joy, a person's eyes shine, with strong laughter, tears appear. A cheerful mood is expressed in laughter, aimless movements.

We laugh, jump back and forth, sing, dance - all these actions are for joy.

Sadness is also a negative emotional state. The concept of sadness is considered the opposite of joy "justify".

Functions of emotions in human life. In order to understand what role emotions play in our life, it is necessary to consider the basic functions of emotions.

Emotions play a crucial role in our lives because they have important functions. This module describes those functions, dividing the discussion into three areas: the intrapersonal, the interpersonal, and the social and cultural functions of emotions. The section on the intrapersonal functions of emotion describes the roles that emotions play within each of us individually; the section on the interpersonal functions of emotion describes the meanings of emotions to our relationships with others; and the section on the social and cultural functions of emotion describes the roles and meanings that emotions have to the maintenance and effective functioning of our societies and cultures at large. All in all we will see that emotions are a crucially important aspect of our psychological composition, having meaning and function to each of us individually, to our relationships with others in groups, and to our societies as a whole.

Communicative functions of emotion. There are five functions of oral communication.

1. Regulation/Control- functions to control one's behavior

Doctors' Prescription

"Take your medicine 3 times a day."

Parents' Instruction to their child

"Wash the dishes now, or else I won't allow you to go to the party later."

Friends giving advice on what to do

"Move on. He doesn't love you anymore"

2. Social Interaction - used to produce social relationships; used to develop bonds, intimacy, relations;; used to express preferences, desires, needs, wants, decisions, goals, and strengths; used for giving and getting information Encouragement.

"You can do it."

Marriage Proposal:

"Will you marry me?"

Invitation:

"Would you like some coffee, tea, or water?"

3. Motivation- functions to motivate or to encourage people to live better.

4. Information- functions to convey information. Giving information...

"Did you know that there's a secret apartment at the top of the Eiffel tower?"

5. Emotional Expression- facilitates people's expression of their feelings and emotions.

#### **APPRECIATION:**

"I'm so glad that you came into my life."

"I like you so much!

"Are you false teeth? It's because I can't smile without you."

Expressing one's ambition:

"I want to finish up my studies with good grades to be accepted in a good university."

Expressing a need:

"I need you in my life."

Expressing prayers:

"We pray for those who suffered a broken heart from their crush."

2.Signal function of emotion. We receive emotional signals from different sources, including the face, the whole body, and the natural scene. Previous research has shown the

importance of context provided by the whole body and the scene on the recognition of facial expressions. This study measured physiological responses to face-body-scene combinations. Participants freely viewed emotionally congruent and incongruent face-body and body-scene pairs whilst eye fixations, pupil-size, and electromyography (EMG) responses were recorded. Participants attended more to angry and fearful vs. happy or neutral cues, independent of the source and relatively independent from whether the face body and body scene combinations were emotionally congruent or not.

Moreover, angry faces combined with angry bodies and angry bodies viewed in aggressive social scenes elicited greatest pupil dilation. Participants' face expressions matched the valence of the stimuli but when face-body compounds were shown, the observed facial expression influenced EMG responses more than the posture. Together, our results show that the perception of emotional signals from faces, bodies and scenes depends on the natural context, but when threatening cues are presented, these threats attract attention, induce arousal, and evoke congruent facial reactions.

3. Motivational-regulating function of emotion. Because emotions prepare our bodies for immediate action, influence thoughts, and can be felt, they are important motivators of future behavior. Many of us strive to experience the feelings of satisfaction, joy, pride, or triumph in our accomplishments and achievements. At the same time, we also work very hard to avoid strong negative feelings; for example, once we have felt the emotion of disgust when drinking the spoiled milk, we generally work very hard to avoid having those feelings again (e.g., checking the expiration date on the label before buying the milk, smelling the milk before drinking it, watching if the milk curdles in one's coffee

before drinking it). Emotions, therefore, not only influence immediate actions but also serve as an important motivational basis for future behaviors.

4. Protective function of emotion. As youth grow and reach their developmental competencies, there are contextual variables that promote or hinder the process. These are frequently referred to as protective and risk factors.

The presence or absence and various combinations of protective and risk factors contribute to the mental health of youth. Identifying protective and risk factors in youth may guide the prevention and intervention strategies to pursue with them. Protective and risk factors may also influence the course mental health disorders might take if present.

A protective factor can be defined as "a characteristic at the biological, psychological, family, or community (including peers and culture) level that is associated with a lower likelihood of problem outcomes or that reduces the negative impact of a risk factor on problem outcomes."<sup>1</sup> Conversely, a risk factor can be defined as "a characteristic at the biological, psychological, family, community, or cultural level that precedes and is associated with a higher likelihood of problem outcomes."

5. Communicative function of emotion. Communication is the cornerstone of successful relationships, either professional or private, as the way to share information and agree on future actions. More than just communicating on facts, it is important to indicate emotional states to our relatives to ensure long-lasting connections, using verbal and non-verbal cues and signals. This is achieved primarily by the exchange of a set of social signals, such as facial expressions and body postures.

In modern life, the communicative signaling function is that experiences arise when changes occur in the environment or in the human body. Emotional movements of a

person - facial expressions, gestures, pantomime - perform the function of signals about the state of the system of human needs. When everything is in order in our body, we experience pleasant emotions. If any problems arise in the body, then we experience negative emotions.

The motivational - regulatory function is manifested in the fact that emotions participate in the motivation of human behavior, can direct and regulate it. With a person's inability, emotions suggest how to act, how to find a quick and reasonable way out of the current situation, and, obeying them, that is, his intuition, a person often finds the right way out of a certain situation.

Psychologists, answering the question of what role emotions play in human life, identified:

1. Communicative function
2. Signal function
3. Motivational-regulating function

This function can activate or inhibit human activity. Emotions that activate are called asthenic, and those emotions that inhibit human activity are called asthenic. The protective function lies in the fact that emotion, arising as a quick reaction of the body, can prevent and protect a person from the dangers that threaten him. This function is associated with the emergence of fear.

## CONCLUSION:

Thus, we can conclude that emotions are mental phenomena that reflect, in the form of direct experience, pleasant or unpleasant sensations, a person's attitude to people and to himself. These are our worries, joys, despair and delight. They provide us with the ability to experience and maintain an interest in life and the environment.

Emotions and feelings play a very important role in human activity. Emotions influence his life in various ways. They are

essential for survival and well-being. Nothing expresses the essence of a person and his relationship to the environment as his feelings.

Without emotions, the world would be boring, monotonous. Emotions are part of human life. To be happy, to have fun, to love - what happiness for a person. Even negative emotions like sadness, sadness and grief are important to us. Because they form in him feelings of compassion, perseverance, as well as the ability to achieve goals and the ability to experience. Without all these emotions, we would not be fully human. The brightness and variety of emotional relationships make a person more interesting. Through experiences we learn our capabilities, abilities, strengths and weaknesses. I concluded that emotions are the root of our entire life state, communication, development and existence in this world, since we react to the world through our emotions.

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## LITERARY PSYCHOLOGY AND THE PRINCIPLE OF THE EPIC IMAGE

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### ABSTRACT:

This article analyzes literary psychology and the principle of epic image in the novel "Mirage" by the Uzbek writer Abdulla Kahhar.

### INTRODUCTION:

In the literature, an in-depth literary study of the human inner world is called "literary psychology". Psychology in fiction expresses the human heart and spirituality. The concept of "psychologism" is broader than "psychological analysis", which also reflects the reflection of the author's psychology in the work. There are principles, forms, and means of literary psychology, each of which serves to illuminate aspects of the protagonist's character.

In the novel "Mirage" by Abdulla Kahhar, both the main characters - Saidiy and Muniskhan - die. In a sense, the title of the work also foreshadows the death of the main characters. Because the title of each work is associated with the life and struggle of the main characters, the ideas and ideals of the writer manifested in it.

The fact that the death of the main characters was associated with social motives in "Mirage" has been repeatedly mentioned in the literature. That is, the struggle of the estates to which Saidiy and Muniskhan belonged was rejected by the time itself. The era, the time, moved along a different path - regardless of whether this path is correct or not. Saidiy's struggle was directed against the forces of the ruler, who won the great throne in a revolutionary way. It was natural that the supporters of the government of the estate, which had concentrated in their hands, crushed the representatives of the minority of the resistance movement, who fought separately and secretly. This is reflected in the death of the two

main characters in "Mirage". The deaths of Saidiy and Muniskhan also reflected the attitude of Abdulla Kahhar towards the events of the period he portrayed and his heroes. On which side, the author believed, is the truth of those who entered the battlefield with a sharp and fierce struggle of forces - this is another question; but he understood the dialectics of the development of social events at the proper level of his epoch, and in a work he was able to literarily embody this with great art; and was able to correctly and objectively capture the events of a particular era in history in a work of the genre - a novel. It was investigated and evaluated by a number of scientists such as M. Kushzhanov, O. Sharafiddinov, M. Olimov, R. Kuchkarov.

But the question of interest to us is the psychological features of the death of Muniskhan and Saidiy.

Narzulla Shodiev, a literary critic who analyzed the works of Abdulla Kakhhar from the point of view of psychologism, points out that there are three principles of psychological analysis, defined by academician M. Khrapchenko. They are: dynamic principle, typological principle and analytical principles. Based on his observations, N. Shodiev came to the conclusion that Abdulla Kakhkhar used all these principles.

In our opinion, the novel *Mirage* is superior to the dynamic and typological principles of the author's psychological analysis. In other words, Abdulla Kahhar shows the spiritual and psychological states of his heroes most often through their actions, deeds (dynamic principle), and on the other hand, in the style of the writer, a principle (typological principle) is manifested, showing the inner world of a person

as connected with the social and everyday aspects of the inner life of characters. The manifestation of ideas, a continuous stream of feelings, dialectics (analytical principle) are not often found in "Mirage".

From the events of the work, we know that Muniskhan dies first - she commits suicide by shooting herself - this story is presented in short details and even one page does not come out. The reader can follow the events that lead to the suicide of the Muniskhan outside. These include: marriage with Mukhtarkhan without love, marriage of the beloved Saidiy with Sorakhan, and Saidiy's refusal from a woman in a secluded meeting organized by the initiative of Muniskhan. The writer shows an internal spiritual rebellion in Muniskhan, not through constant streams of thoughts, but through her actions, in events, images. The same image fully illustrates the principle consisting of an objective, arbitrary image of an epic type of reality defined by Aristotle outside of it.

The proud Muniskhan, who never recognized her open love for Saidiy, because of her social position and personal nature, without unnecessary resistance, in spite of the indecisive Saidiy, marries Mukhtarkhan. But for Muniskhan, who thought that after the wedding she would get used to marriage without love, when she kissed, the emanating from Mukhtarhanan reminiscent of the chirping of a lizard, and from him he smelled the smell of a wooden ladle left under the sun. Muniskhan, who goes to the editorial office to search for Saidiy after she heard the news of his wedding with Sorakhan, limply begins to wrinkle her nose when asked: "Has Mukhtarkhan come?", But when Saidiy asked the reason why she wrinkled her nose, she was hysterical replies: "No! Not! Not! My husband is good! The writer does not speak about her condition, the tone when she says the words "No! Not! Not! My husband is good! ", Not to mention the presentation of thoughts, feelings experienced Muniskhan at that moment, but he

simply assigns the responsibility of demonstrating the complex spiritual processes taking place in the girl's soul to the repetition of words and the exclamation mark. Then the situation is described as follows: "Muniskhan blushed very much, and a thin layer of a tear appeared in her pupil, sparkled, when she turned to leave, Saidiy did not allow her." Muniskhan at that moment, but he simply assigns the responsibility of demonstrating the complex spiritual processes taking place in the girl's soul to the repetition of words and the exclamation mark. Then the situation is described as follows: "Muniskhan blushed very much, and a thin layer of a tear appeared in her pupil, sparkled, when she turned to leave, Saidiy did not allow her."

As in other works of Abdullah Kahhar in "Mirage", when discovering the spirituality of the heroes, dialogue is in the first place, the character's speech rather than presentation. In the aforementioned episode, Saidiy tells Muniskhan that they no longer have the opportunity to be together, and that the happiness of reunification is forever lost. The marriage of Saidiy to Sorakhan causes Muniskhan to suffer so much that she even thinks it would be better if he left these places completely than to see him with Sorakhan. "Aren't you going to Moscow?" -in this only question of Muniskhan, which remains unanswered, all spirituality is displayed, the fiery love of a woman who could not overcome herself, control herself, who was in strong emotional agitation and confusion due to the occurrence of such a dramatic situation, is displayed in hopelessness.

Feeling that she had completely lost Saidiy, Muniskhan was now looking for solace in only one thing - not continuing events in a similar direction. At the next meeting in a strange house, the complete refusal of Saidiy from her leads Muniskhan, first to depression, and then ultimately to suicide. In his last letter, words such as "the world is full of happiness, but

only I was unhappy" express the spiritual foundations of Muniskhan's death. At a meeting in the editorial office before the wedding, the words of Saidiy as: "Only there is no way from death" - as if portending the death of Muniskhan, these words firmly stuck in the brain of Muniskhan and poisoned him like a slow-acting poison.

The writer does not directly indicate the reason for this tragedy in the novel. "Days passed in a similar way until Muniskhan shot herself for unknown reasons," says the work about Saidiy's later life after his departure from teacher Murodhoja.

Nevertheless, the development of events, the psychological circumstances described by the author, indicate that the bullet that unceremoniously took Muniskhan with itself is the torment of hopeless love. Even the words "Like all the others, Saidiy also did not know why Muniskhan shot herself" are conditional. Because Saidiy knew perfectly well the cause of his beloved's death - on the one hand, because of a conversation in the editorial office and a secluded meeting in someone else's house; but, on the other hand, by the way he himself experienced the same torment in the soul of Muniskhan.

The premature death of Muniskhan led to the culmination of spiritual decline, which deepened with the complete collapse of dreams of social status and writing, ultimately leading to self-destruction. Because, according to the events of the novel, the organization created by the counter-revolutionaries, to which Saidiy was striving so much, was destroyed, and Saidiy also regresses in planetary creation - without even creating anything suitable it fades away. But even after that, he finds in himself the hope of living. This hope, at least a little warmed him, despite "tomorrow's life filled with fears", gave him an opportunity to catch his breath and forced Muniskhan to pronounce his name "Rakhimzhan" again. In such a psychological

state, Rakhimzhan Saidiy could not but know the cause of Muniskhan's death. When Abdullah Kahhar wrote that "like many, Saidiy did not know why Muniskhan shot herself," he characterized the hero from the outside, obeying the principles of epic description. From the outside, the author of the novel may seem like a writer showing everything that happens superficially. He, as it were, studies the hero from the outside, without intruding into his inner world, into his thoughts. The position of the writer, his view as a psychologist, is revealed in such a choice, to study and describe everything that happens from the outside is the main principle of epic description. But this does not mean that the author is indifferent to everything he narrates, that he does not know the spiritual state of the hero or cannot reveal his inner world. In the novel, the author's observations as a psychologist directly reveal the situations and details described by him.

To put it simply, the writer does not attach much importance to all the details and circumstances in the process of a certain event, but describes the details and situations, words that can reveal the state of mind of the hero. If you look from this point of view, in the novel and the death of Muniskhan, and the fact that Saidiy knew the reason for this, in the end, and the fact that this particular event entails another tragedy - the death of Saidiy were completely psychologically justified.

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## DIGITALIZATION OF THE INSURANCE MARKET

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### ABSTARCT:

**This article analyzes the digitization of the insurance market. The impact of digital technologies on the insurance sector and the trends of transformations in the insurance market are considered. In addition, the article discusses the insurance industry in the era of COVID-19. Based on the results of scientific research, a scientific conclusion was made.**

**KEYWORDS: Technological change, insurance industry, digital reality, Internet of Things (IoT), digital transformation, digital trends.**

### INTRODUCTION:

The insurance industry is one of the foremost competitive businesses and faces different challenges. These challenges are not fair caused by changing client desires and behavior or by the coming of 'disruptive' organizations from outside the industry, in spite of the fact that that's a developing concern for very a few time presently as well. While moderate to begin, the insurance sector has grasped computerized transformation—in huge portion due to modern competitors such as insurtech new companies and stage companies entering the field. About all the protections administrators in our study imagine a carefully changed industry five a long time from presently. The challenge for officeholders will be adjusting computerized administrations

whereas too keeping up the individual touch that's foundational to the industry.

Nevertheless, technological change is the finest utilize of mechanical powers to "re-examine" trade models, draw in clients to modern channels, and make users' basic involvement. Computerized change ought to begin from redesign of current innovation, numerous protections companies have actualized programs of center transformation. Technological change makes a difference guarantees set foot within the advanced time by utilizing essential computerized contact, digitalizing reports, in putting information online, applying versatile administrations and alike.

COVID-19 ought to have fundamental suggestions for the money related circumstance of protections arrange companies. The cost of insurers' contributed resources has been affected with the help of instability (and bland decays) in value markets and alterations in bond yields related to changing corporate and specialists default peril and lower action rates.

### WHAT IS DIGITAL REALITY?

Computerized reality permits clients the chance to exchange and extricate esteem from information, possibly in already obscure ways. It is rowdy capacity in adjusting, be that as it may, individuals relate to information—and any other—may have as it were started to journey for discourse. Generally, since the 70's, a genuine move shows up to have taken put inside

the innovation industry. Digital reality permits the consistent utilize of computerized information to create choices in real-time as it carry out errands. The three essential components that reinforce digital reality are as follows:

**Source of information:**

The method begins at the point where data is delivered, bringing us past the region of immaculate advanced reality and into another associated innovation, the IoT.

**Method of introduction:**

Data over-burden can befuddle clients, which may lead to destitute comes about. The points of interest given ought to be satisfactory, but not intemperate, depending on the complexity of the application.

**Interaction with and use of data to guide action:**

Even the right data delivered in the right manner would be of no use if it did not generate meaning. Digital reality not only makes it possible to view digital content, but also to manipulate it in increasingly natural ways (Deloitte insights, 2018).

Digital reality highlights bodily experiences in relation to digital technologies in everyday life. It explores our interplay with digital technologies to heighten our awareness, sensitivity and responsiveness to the bodily aspects of screen-based experiences. In digital reality, the body and digital technologies are regarded as phenomena that appear to the senses. Importantly, social and cultural conventions filter and shape our perception of phenomena such as smartphones, handsets, tablet computers and so forth. However, digital reality also considers how our active bodily interplay with digital technologies goes beyond staring at screens with our “urban eyes” (Chan, 2020). Digitalization is designed to

fundamentally change the financial and insurance environment, impacting all activities that make up the entire insurance value chain, from product development to pricing/underwrite. Every player in the insurance industry is called upon to face and act in a macroeconomic context in which InsurTech start-ups, young companies that pursue technology-driven business models, are expanding rapidly. The focus of these new entrants has shifted from pure software solutions to activities that clearly compete with those of insurance companies and brokers ting, sales and delivery, policy and claims management, and asset and risk management. The faster the insurance business adapts to and integrates with the new digital innovation, the more likely it is that traditional insurers will survive as the market context changes rapidly and is driven by technology (Cappiello, 2020).

**The effect of digital technology on the insurance sector:**

Technology is the key to the insurance sector for its evolution and overall growth. It not only adds value to the industry, but also directs its future to some extent with the changing time and its requirements. Inventions and technology have their effects from influencing underwriting decisions to helping streamline business processes. The use of mobile devices, the Internet, GPS and other technical applications has played an important role in a number of ways. It has helped companies not only to conduct market research, market penetration and business promotion and market development, but also to provide after-sales service, understanding customer satisfaction. Data collection and data analysis of insurance companies has been made possible only 40 to 4 using various software and hardware.

Innovation, introduction and implementation of new technologies are

important drivers for change in the financial sector. This implementation of new technologies will lead to efficiency gains, although these changes may initially give rise to some uncertainties and doubts. This innovation was initiated to develop new technologies and this phenomenon has been described as FinTech. Financial services, which deals with intangible products so that technological innovations lower transaction costs and accelerate the delivery of services. The proliferation of technologies such as the recent proliferation of Internet connections, home computers and mobile devices and the development of applications have enriched the impact of the technology on insurance sector. New technology will lead to a new method of service delivery, as well as a greater ability to collect data (Ostagar, 2018).

The insurance industry has many opportunities to use technologies in typical areas such as telematics, IoT, predictive analytics and new business models such as pay-as-you-go (on-demand services).

Successful insurance companies use the data sources to be competitive in their industry. These companies manage their business-critical data centrally with a platform that they created themselves, or by using or working with the third-party providers. As insurance companies use these platforms, they leverage these platforms to take analytical insights from complex, unstructured and unused data sources into account for claims, including; Notes and diary records, transcriptions, photos, medical bills, sensors, geolocation events, weather events, and social media. Through the platforms, these insurance companies can generate the actionable insights needed to identify fraud, prevent damage leaks, and identify opportunities for passing on or cross-selling additional products. Combined with the real-time streaming data collection capabilities of these platforms, the most advanced insurance

companies want to come first through dynamic customer profiles and predictive analytics. The insurance sector is based on risk and reward estimation, and today many insurance companies do this with predictive analytics. Predictive analytics receives large amounts of data that are collected by insurers and used to accurately calculate the risk. However, good data is one thing. Knowing how to maximize availability is something entirely different. The right degree of standardization and the ready-to-use product capability to reduce the total cost of ownership are very important for insurers. As a result, many companies have bought modern "rules and tools" systems over the past five years. Most insurance companies try to expand these tools company-wide to leverage their investments (Deniz Guney Akkor, 2020).

Many insurance corporations have created the error in targeting digital services in a very point "point solution" approach as and once new technologies or new client demands/expectations are placed between on the existing infrastructure-overlaying rather than adopting a future proof approach. Making the choice to maneuver to a digitized infrastructure isn't any simple task and careful consideration of all the challenges across the end-to-end scheme must be undertaken (Wavestone, 2016).

### **Digital trends transforming the insurance market:**

Digital world, is new for consumerists, opens a new generation where every commercial employer need to learn how to cope in order not to disappear. It includes the insurance<sup>ii19</sup>. Yet, to embark into the digital experience an organization that is closely regulated and historically formatted – like the insurance - is now no longer an accessible task. Stringent compliance, problematic crook requirement and systematic governance do now not assist innovation. Digital requires redefining



the traditional methods and open doors to reinvent itself.

Digital transformation is a time duration used so usually and variously that it is commonly misunderstood. The time length is brilliant described as capitalizing on the power of technology to revisit corporation models, collect customers to new channels and create crucial consumer experiences. Digital transformation in insurance industry requires an innovative commercial enterprise model that is focused on customer needs, greater related merchandise and services, emerging technologies and real-time data. Also customers increasingly more assume a near real-time relationship with the insurer for the submissions and claims and particularly for customer care. The importance of the digital transformation of the insurance plan industry can be:

- Insurance company's reliance on digital transactions is completed except the need to use paper in the income of files or the number of claims. Contracts can also be stamped with digital signatures. This known as on international corporations to set up a prison framework for e-commerce and to sign and pay electronically.
- As techniques pace up in order to furnish higher and faster provider to customers, it is logical to expect that the number of fraudsters or fraudulent claims that are not discovered by means of claims coping with will also increase. But science additionally helps in this area, generally except aggravating the patron trip.
- The extend in increase prices in the quantity of premiums or investments in the insurance sector, as nicely as the enhancement of the legislative surroundings of this sector leads to an increase in countrywide output (Radwan, 2019).

Although the present wave of latest technology investment focused first on improving customer experience and reducing

costs, it's now shifting to new business models. The increasing use of sensors, AI and machine learning in combination has affected the practices of loss anticipation and compensation, moving them towards more proactive risk detection, intervention and prevention. The chances already are often seen in health monitoring and alerts from wearable devices, which are now being built into health coverage. Further examples include the utilization of Internet of Things (IoT) technology to scale back property claims and control crop damage risk, deploying integrated real-time data from ground sensors, aerial surveillance and satellite imagery. The win-win is best outcomes for policyholders and lower risks and claims for insurers. In addition, in spite of the fact that insurers continuously have built their success on DT(digital transformation), advanced change and related changes in customer desires have increased data's esteem (PWC, 2019).

As with every other industry, insurance is becoming more technologically advanced (and some may say, disrupted) by the day. Though the transformation is far too slow. There are several reasons for this, but one which will or might not surprise you is that insurers are struggling to draw in and retain top-talent despite insurance being a multi-trillion dollar, high-growth industry.

In the last three years, insurtech funding has increased by 60% within the US (from US\$1.46 billion to \$2.44 billion consistent with CB Insights), while it's quite tripled in Asia (from \$140 million to \$506 million). This might seem impressive, but it's also necessary.

Insurance infrastructures are established in developed economies, which may be a double-edged sword. Companies are struggling to modernize complicated legacy systems and develop new ways of working (with a robust specialize in the customer) without sacrificing the old approaches that got them where they are today. In this area, new

players and corporations in developing economies are at a plus – they're ready to develop digital-first infrastructures that incorporate the newest technologies from the outset, without concerning themselves with making old, analog ways of working function during a new world. It's up to established insurance heavy-hitters to make sure they don't get left behind. It's no wonder that an important area for improvement has emerged - advancing human intellectual capital (Alexandra Sutton, 2020).

### **The insurance industry during COVID-19:**

Coronavirus disease, scientifically reclassified as COVID-19, has assumed international pandemic proportions. It attained a pandemic recognition declared with the resource of the World Health Organization (WHO) on 11 March 2019. The state-of-the-art spread of the virus at a speedy cost compared to preceding pandemics has resulted in a total lockdown of nations, ban on travels, public gatherings and closure of offices. There has been global closure of corporations as well as the loss of jobs and lives. The everyday monetary nation of affairs is a global recession. In most instances, the insurance layout industry and governments all over the world have given up the beacons of hope to which human beings appear for rescue from entire annihilation. However, due to the fast increase in infection instances extended than the healing of infected people, the pandemic has overwhelmed many governments and financially weakened some insurance plan companies. The influence of the pandemic on the insurance plan enterprise is yet to be estimated and projected to provide an information for authorities and insurers for the simulation of future activities (Pius Babuna, 2020).

COVID-19 should have necessary implications for the monetary situation of insurance plan companies. The price of insurers'

invested assets has been impacted with the aid of volatility (and generic declines) in equity markets and adjustments in bond yields related to changing corporate and authorities default danger and lower activity rates. Insurers have been (or will additionally be) affected by way of modifications to their liabilities in the structure of altering claims experience. Claims extent may additionally decline in a quantity of strains of business as a result of commercial enterprise closures and stay at-home measures. However, in other traces of business, claims experience should deteriorate (e.g. health, death, cyber). For some lines of business, there is full-size uncertainty on the degree of eventual losses (such as property (with commercial enterprise interruption coverage), liability). Financial market stress, multiplied claims, decreased premium revenue as properly as policyholder surrenders ought to additionally lead to liquidity stress. Insurance supervisors are carefully monitoring the financial impacts of COVID-19 in three essential areas: changes in the cost of assets due to market movements; changes to the cost of liabilities due to the have an effect on of COVID19 on claims experience; and conceivable liquidity stress (OECD, 2020).

The effect on widely wide-spread insurers will differ depending on the merchandise and sorts of coverage offered by means of the insurers. The pandemic has taken a toll on new premiums on sure lines of business, such as travel, events, and alternate savings insurance, and losses from these strains of may additionally turn out to be significant. Other lines of commercial enterprise such as motor and domestic have remained tremendously stable.

Claims volumes for personal traces have radically lowered due to the lockdown. This is now not proper from a commercial enterprise continuity coverage standpoint as there has been a large volume of claims initiated; here, insurers need to pay close interest to viable

exclusions in the policies and government expectations for a non-legalistic, pro-consumer approach in assessing claims. In some incredible cases, GI insurers have offered credit and rebates to coverage holders due to restrictions. Operationally, GI insurers have replied pretty nicely in the initial phase of the crisis with most workforces working remotely. There have been some challenges with contact center operations and with third-party issuer services, even though these troubles have not been across-the-board. Those insurers that had developed digital capability have been in a better function to reply to consumer and middleman self-service and engagement needs. From an investment perspective, the volatility in financial markets has not but had a pronounced have an effect on GI insurers, in specific with authorities bonds having been relatively unaffected by means of the crisis (Deloitte, 2020).

### CONCLUSIONS:

The computerized transformation has changed the way companies connected with customers, creating an environment where showcasing, data and innovation must work together. The transformation isn't as it were to meet the quick deals target but too to make a modern innovation stage for the arrange to create a long-term advanced conveyance channel towards multi-touch, multi-channel.

The access to client information through computerized innovation moreover postures a lawful issue for insurers that requires a lawful environment that has to be completed beforehand. But to begin with, the legitimate system to oversee and guarantee electronic exchanges must be total and strict to ensure the true blue interface of both protections companies and customers.

The new technologies can cause the risk of gadget failure, information loss, community attacks, which can lead to economic losses,

business interruptions and legit losses. Security breaches can lead to loss of personal facts - a fundamental situation for insurance shoppers.

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## ANALYSES OF ADR IN INVESTMENT DISPUTE RESOLUTION

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### ABSTRACT:

Given the perceived benefits of alternative dispute resolution (ADR) processes such as negotiation and mediation and their importance, it seems that it is an adequate option for investment dispute to opt for. This paper will point out to the fact that opting for ADR that provides speedy, cheap, effective, and flexible resolution. However, it still does not mean to ignore the point that there is a room for risks associated with using these alternatives.

One of the main areas in which it is necessary to introduce legal reforms in Uzbekistan is to achieve greater success in the use of alternative methods of prompt and effective settlement of disputes that have arisen. In accordance with the Decree of the President of the Republic of Uzbekistan in order to improve the system of protecting the rights and legitimate interests of individuals and legal entities, expanding alternative options for resolving disputes, as well as dramatically increasing the role of the institution of mediation, arbitration courts and international arbitration in optimizing the volume of work in courts it is necessary to take drastic measures to apply alternative legal methods for resolving investment disputes.

In this article, the author examines the term and general classification of alternative methods of settling investment disputes, its formation and development in Uzbekistan, and also gives the expected results that can be achieved with more active use of alternative methods of settling disputes in the Republic of Uzbekistan.

**KEY WORDS:** Alternative dispute resolution  
- ADR, mediation, dispute settlement.

### INTRODUCTION:

Participants in the Investment-state contracts when arising the conflicting situation should seek to consolidate their relationship with each other in order to ensure the continuity of their project. To achieve this end, players always fortify their agreement with a number of clauses dealing with dispute matters (Clark, 2004). Furthermore, they will generally strive to put into place processes which are speedy, efficient, private, and are designed to cause minimum disturbance to working processes and maintaining relationship between the contracting parties (Ross, 2007). Hence, parties in these industries are disposed in favour of agreed dispute resolution processes-whether personal to their contract (such as negotiation and meditation or as laid down by international instrument (such as arbitration)-rather than placing reliance upon the procedures of the national courts (Saleh Al-Barashdi, 2016).

One of the priority directions for the implementation of legal reforms in Uzbekistan is the introduction of a system of alternative methods for resolving investment disputes, which will ensure transparency, efficiency and effectiveness in resolving cases between the parties to an investment agreement.

The term "Alternative Dispute Resolution" or "ADR" refers to a wide range of dispute resolution mechanisms that are alternatives to litigation. The term can be used to refer to a variety of dispute resolution mechanisms, ranging from facilitated settlement negotiations, in

which the parties to a dispute are encouraged to negotiate directly before resorting to other legal dispute resolution mechanisms, to arbitration, which can be very similar to a trial.

The main advantages of ARS are:

Saving time and money;

Return to the parties of control over the conflict situation;

To avoid litigation that could adversely affect the partnership relations between the parties;

Flexibility.

The Alternative Dispute Resolution System (ADS) is a set of tools and mechanisms that form the procedures for resolving and out-of-court settlement of disputes arising between the subjects of legal relations. Moreover, the ultimate goal of using ARS is to resolve the conflict at the lowest cost for all its participants.

In its most general form, alternative dispute resolution can be divided into:

Negotiation, as one of the most typical forms of alternative dispute resolution, aims to create an environment in which the parties to a dispute encourage direct negotiations without the involvement of a third party. This is a process during which the parties voluntarily work out a mutually beneficial agreement to resolve a general dispute. Unlike ADR with the involvement of a third party, negotiations allow the disputing parties to independently control the process and the decision.

Reconciliation and mediation are very close to each other in that they involve a third party to mediate a particular dispute or to reconcile a relationship. Mediators or mediators can facilitate communication or can help structure the settlement, but they are not empowered to issue a verdict. At the same time, in mediation, meetings with the parties are held separately in order to make efforts to establish mutual understanding and identify the reasons for the dispute, and thus to create

the basis for a solution in a friendly, consistent manner. Reconciliation, on the other hand, is a voluntary and informal process in which the disputing parties choose a neutral third party (one or more persons) who will assist them in reaching a mutually acceptable solution. Unlike judges or arbitrators, a mediator does not have the authority to issue a binding decision to the parties. In return, the mediator contributes to the formation of a solution that will satisfy the interests of all parties. The role and process of reconciliation can be very specific and depend on the nature of the dispute and the approach of the mediator. The mediator can use a wide range of techniques, for example, to facilitate effective communication between the parties and the development of cooperation between them; determination of the real interests of the parties; defining and narrowing the number of questions; transmission of messages between the parties; suggest possible solutions and represent the consequences of not finding solutions.

Arbitration provides for a third party to reach a verdict on a dispute between the parties. It is important to distinguish between mandatory and optional forms of ADR. Negotiation, conciliation and mediation are optional forms of ADR and depend on the willingness of the parties to reach an amicable settlement. The arbitration proceedings can be either mandatory or optional. Compulsory arbitration ends with a third party issuing an award, which is binding on the parties even if they disagree with the award. The non-binding arbitration proceedings also result in a third party making an award, which, however, the parties may reject.

In Uzbekistan, the ADR system began to develop relatively later. One of the first stages of the ADR's enforcement was the adoption of the Law of the Republic of Uzbekistan "On Arbitration Courts", which entered into force on January 1, 2007[1]. In accordance with the

law, the applicable law of arbitration can only be the legislation of Uzbekistan, state authorities and management cannot be parties to the arbitration, only a citizen of Uzbekistan can be an arbitrator. The law was adopted taking into account the fact that arbitration courts will primarily consider internal disputes and does not take into account the specifics of arbitration, in which the parties may belong to states with different legal, economic and social systems.

These rules effectively limit the ability of foreign investors to use the arbitration system as international commercial arbitration. [2]

In addition, a legal framework has been created in Uzbekistan, consisting of a number of interrelated laws and bylaws, where the central place is occupied by the laws "On foreign investments", "On guarantees and measures to protect the rights of foreign investors", "On investment activities", Provisions "On the procedure for concluding and implementing investment agreements" and other by-laws (more than 50).

Foreign investors and the enterprises they create in Uzbekistan can turn to institutional mechanisms to resolve investment disputes and protect their rights and interests. Intergovernmental agreements on mutual protection and promotion of investments ensure the relative stability of the legal framework for foreign investment and provide an additional tool for investors to protect their rights and interests.

However, remain problems s investment activities in the Republic of Uzbekistan in ensuring their rights in a number of which include insufficient efficiency of traditional institutions and the system of relationships and the absence of an alternative dispute resolution system, capable of providing the complementation rights protection mechanisms.[3]

A legal analysis of the current legislation and law enforcement practice shows the absence of a wide practice of resolving disputes by alternative methods on the territory of Uzbekistan - arbitration, stabilization clauses in investment contracts or mediation.

In foreign countries, foreigners justifiably avoid resolving disputes in state courts, which tend to make decisions in favor of the local side.

In such a situation, very often the Uzbek side, not having sufficient information about all the mechanisms for resolving a dispute and the consequences of choosing one or another mechanism, agrees with the terms of dispute resolution offered by the foreign partner, which, as a rule, are not beneficial for it, or, when concluding an agreement, tries to include a clause on the resolution of disputes in the economic court of Uzbekistan, not foreseeing that in the future, even if a decision is made in favor of the Uzbek side, this decision, due to the absence of relevant international agreements, will not be recognized and enforced on the territory of any foreign state. [4]

In this regard, in accordance with the analysis and proposals of international organizations, more active use in Uzbekistan of alternative forms of dispute resolution with the participation of foreign investors, such as international arbitration, conciliation, mediation, will allow solving the following tasks and problems:

- Provide the parties to the dispute with greater freedom to choose a forum to resolve a future or arisen dispute;
- Will provide a more efficient dispute resolution for the parties (in terms of time and material costs, the quality of consideration, preservation of reputation and business relations);
- Will create in the future an institutional basis for the development of international arbitration in the country for the consideration

of international disputes (including as a neutral forum) and the development of the system of arbitration law, including the doctrine;

- Solve possible problems of the Uzbek side with the subsequent implementation of the decision abroad;
- Will increase the number of disputes resolved at the pre-trial stage;
- will unload the state judicial system with all the ensuing consequences and compensate for the difficulties in creating additional links of economic courts.[5]

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- 9) According to research UNDP 2008 the year and a analysis and the authors on the basis of statistics of economic justice in Uzbekistan.
- 10) Box. The Force of Foreign Arbitral Awards and Judgments in Uzbekistan Since February 1996, the Convention on the Recognition and Enforcement of Foreign Arbitral Awards of June 10, 1958 (New York Convention) entered into force for Uzbekistan, establishing the rule of compulsory recognition and enforcement on its territory (using the mechanism of enforcement of decisions of national courts) decisions of international arbitration courts without reconsideration of the dispute on the merits. The recognition of arbitral awards within the framework of the said Convention is carried out by submitting a relevant petition to the economic courts of Uzbekistan. "Each Contracting State recognizes arbitral awards as binding and enforces them in accordance with the procedural rules of the territory where recognition and enforcement of these awards is sought" (Article 3 of the Convention on the Recognition and Enforcement of Foreign Arbitral Awards) Enforcement in Uzbekistan decisions of foreign state courts are carried out in accordance with agreements on legal assistance concluded with the CIS countries and some other countries.
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## MODERN APPROACHES TO THE TREATMENT OF PROLACTINOMAS IN WOMEN

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### ABSTRACT:

**Hyperprolactinemia syndrome is one of the most common neuroendocrine disorders. In 60% of cases, hyperprolactinemia outside lactation is caused by lactotrophic adenomas of the pituitary gland (prolactinomas), which account for about 40% of all pituitary adenomas. The incidence of prolactinomas, on average, ranges from 6 to 10 new cases per 1 million adult population per year. The article is dedicated to topical issues of the treatment of prolactinomas.**

**KEYWORDS:** Prolactin, hyperprolactinemia, hypophysis, macroprolactinoma, micro prolactinoma, cabergolin, clomiphene citrate.

### INTRODUCTION:

Prolactinoma is the most common pituitary tumor (about 40%). The annual morbidity rate ranges from 6-10 to 50 cases per 1 million population, and its average prevalence in women is 30 cases per 100,000 population [1, 5]. Most often, the disease is registered in women aged 20-50

years (the peak prevalence is 25-34 years). More than 90% of prolactinomas are microprolactinomas (<1.0 cm in diameter), while the rest are macroprolactinomas (≥1.0 cm) [2, 15].

The goals of treatment of patients with prolactinoma are as follows: normalization of prolactin levels; reduction of tumor size; elimination of symptoms of hyperprolactinemic hypogonadism and restoration of fertility; prevention of recurrence and resumption of tumor growth.

In the treatment of hyperprolactinemic conditions, 3 generations of drugs can be distinguished. Preparations of the first generation – Bromocriptine, Lizurid, Pergolide, Terguride, Abergin [4, 7, 11].

In 1982, a third – generation dopamine agonist, cabergoline, was introduced. This is ergoline selective agonist of D2-dopamine receptors, with a long half-life and pronounced prolactin-inhibiting activity. The drug has a prolonged effect – a decrease in the level of PRL in blood plasma

is noted 3 hours after administration and persists for 7-28 days in patients with hyperprolactinemia. The initial dose is 0.5 mg (1 tablet) in two doses (1/2 tablet 2 times a week) with a meal for 4 weeks, followed by monitoring the blood PRL level and, if necessary, "titrating" the dose [7, 8, 9]. Control of the PRL level is carried out after 4 weeks, followed by titration of the dose if necessary: if the PRL level has not normalized, the weekly dose is increased by 0.5 mg at intervals of 4 weeks until the prolactin level normalizes. Usually, the average therapeutic dose is 0.5-1.5 mg per week. Side effects include nausea, headache, low blood pressure, dizziness, abdominal pain, dyspeptic symptoms, weakness, constipation. Usually, these symptoms are mild or moderate, appear during the first two weeks of treatment and then go away on their own, without being a reason to stop treatment. Many authors have shown that cabergoline normalizes the blood prolactin content in women and men in 86-92%, causes regression микроаденом of pituitary microadenomas in 16-74%, macroadenomas in 44-91%, and promotes ovulation restoration in 67-89% of cases [10, 12]. Described cases the effectiveness of cabergoline in the giant prolactinomas and adenomas of the mixed genesis. Cabergoline therapy normalizes metabolism, improves blood lipid profile, and reduces weight [14, 15]. The average frequency of adverse events associated with cabergoline administration varies from 13 to 70% in different studies [6, 16].

Among patients with prolactinomas, there are a certain number of patients with tumor resistance to dopamine agonists. Clinically, this is manifested by the preservation of an increased level of bioactive BPD against the background of maximum tolerated doses of dopamine

agonists and the absence of a 50% reduction in the tumor size from the initial one. In patients with resistant prolactinomas, it is recommended to increase the dose of the drug to the maximum tolerable one. If bromocriptine is intolerant, it should be replaced with cabergoline or another dopamine agonist [15, 16].

Surgical treatment is required for a small number of patients and is not the method of choice for prolactin treatment. Indications for surgical intervention are: increase in the size of the tumor, despite optimal treatment; pituitary apoplexy; intolerance to a medical therapy; macro prolactinoma, which resistant to treatment with dopamine agonists; macroadenoma patients planning pregnancy; compression of the optic chiasm, remaining on the background of drug therapy; a prolactinoma cystic component, are resistant to treatment; liquorrhea on the background of the reception of dopamine agonists; macroadenoma patients with mental diseases in the presence of contraindications to the appointment of dopamine agonists [16, 17]. Tumor removal can be performed by transcranial or transsphenoidal access [16].

In the case of partial removal of the adenoma combined treatment is indicated: use of dopamine agonists or radiation therapy [3,14]. Since the positive effect after irradiation of pituitary adenoma develops gradually and it takes up to 12-18 months to develop the full effect 12-18, as well as due to complications (brain tissue necrosis, damage to the optic nerves, in the long term-hypopituitarism as a result of radiation damage to the hypothalamus), лучевая prolactin radiation therapy is used in exceptional cases: as an additional effect after surgery in patients when a

large volume of tumor tissue remains; ineffectiveness and intolerance of drug therapy; in patients who are contraindicated for surgery or who refuse surgical treatment [15, 17].

With normalization of the content of PRL in the blood, but the absence of ovulation, ovulation induction is performed-clomiphene 50-100 mg from the 5th to the 9th day of the menstrual cycle. In the absence of ovulation, an additional ovulatory dose of human chorionic gonadotropin is prescribed-7500-10000 units. in the presence of a dominant follicle of 18-20 mm. Given the decrease in progesterone levels in hyperprolactinemia, it is advisable to prescribe Progestogens in the second phase of the cycle (Duphaston 20 mg /day or utrogestan 200 mg /day from the 16th to the 25th day of the menstrual cycle). In the absence of pregnancy, surgical laparoscopy (PCOS, endometriosis) is indicated. The effectiveness of infertility treatment in hyperprolactinemia is determined by the level of gonadotropins. The maximum effect of infertility treatment was obtained with a low level of gonadotropins-80.6%, in patients with a high level of gonadotropins, the reproductive function is not restored [18, 19]. During pre-gravidas preparation for pregnancy, all women planning pregnancy should undergo pituitary imaging (MRI or CT), as well as visual field assessment [20]. During treatment with dopamine agonists, barrier contraception is recommended, since fertility is restored fairly quickly when the level of PRL normalizes. In patients with micro - and macroprolactinomas that are resistant to dopamine agonists or who are intolerant to this treatment, it is advisable to consider surgical treatment before pregnancy [18, 20]. The growth of macroprolactinomas during pregnancy

occurs in 31% of cases, and after pre-gestational surgical treatment it decreases to 2.8 — 4.3%. Optimal for conception is a stable normalization of the level of PRL in the blood and a reduction in the size of the tumor (less than 10 mm). In this situation, contraception is canceled, and pregnancy planning is carried out [17, 19].

#### **PURPOSE OF THE STUDY:**

To estimate the results of the treatment in patients with prolactinomas.

#### **MATERIALS AND METHODS:**

Examination of patients was done on the basis of RSNPC name Ya.K.Turakulov in 2018-2020. 90 women with hyperprolactinemia were examined, All examined patients were divided into 3 groups: 30 patients with prolactinomas, 30 patients with polycystic ovary syndrome and 30 patients with hypothyroidism. All patients underwent standard research methods (General clinical and biochemical blood tests, radioimmunological hormonal methods of blood testing, pituitary MRI, pelvic ultrasound).

#### **RESULTS AND THEIR DISCUSSION:**

The age of patients in our study at the time of treatment was  $33.5 \pm 11.5$  years, minimum-17.0 years, maximum-49.0 years. The duration of the disease ranged from 6 months to 16 years.

Of all patients with prolactinoma, including those who underwent surgery, 27 women received cabergoline. 3 women with prolactinoma received cabergoline and bromocriptine. Among women with prolactinoma, 25 had a microadenoma (microprolactinoma) and 5 had a macroadenoma (macroprolactinoma).

Cabergoline dose selection was individual. The scheme of selection of an

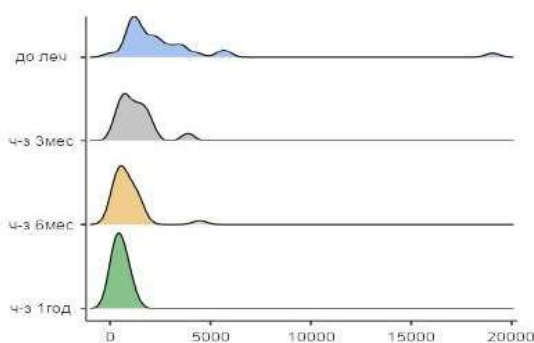
optimal dose of the following: initial dose 0.25-0.5 mg 2 times a week at 20.00, after meals for 4 weeks followed by control-level PRL and by titration of doses if necessary, increase weekly dose by 0.25, 0.5 mg a week with an interval of 4 weeks and selection of the optimal dose (the minimum, against which the normal level of PRL with good endurance). Control was carried out according to the level of total PRL and then the optimal therapeutic dose was maintained.

The total prolactin level in women with prolactinoma is shown in table 4.

Table No. 4. Prolactin levels before and after cabergoline therapy in women with prolactinoma

PRL MIU/l	Before treatment	In 3 months	After 6 months.	After a year
The median	1812	656	495	368
Lower quartile	1224	515	231	230
Upper quartile	2973	1095	856	610

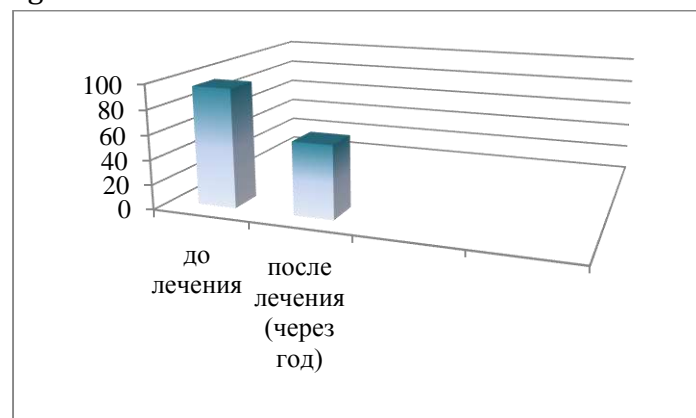
Normalization of total prolactin levels to reference values during treatment with cabergoline (dostinex) in the General group occurred in 66.7 % of patients with prolactinoma. The level of total prolactin in the examined group in dynamics is shown in figure 16.



16. Dynamics of prolactin levels in women with prolactinoma treated with cabergoline

Restoration of the menstrual cycle in women was observed in 70.0% (21) of cases, 22.7 % (5) of women with infertility became pregnant, galactorrhea decreased or disappeared in 56.7% (17) of women with prolactinoma.

During treatment with cabergoline, a decrease in the pituitary tumor volume was noted. In women with prolactinoma, the median tumor volume was 95.58 mm<sup>3</sup> (lower quartile 18.32 mm<sup>3</sup>, upper quartile 783.15 mm<sup>3</sup>), after treatment 58.64 mm<sup>3</sup> (lower quartile 6.11 mm<sup>3</sup>, upper quartile 224.43 mm<sup>3</sup>), differences in tumor volume were statistically significant,  $p = 0.00002$ , figure 17.



17. Change in tumor volume (mm<sup>3</sup>) during cabergoline treatment

In our study, the duration of cabergoline administration in women ranged from 6 months to 4 years, with a median and interquartile range of 2 years (1 year, 3 years).

Cabergoline doses required to normalize total prolactin levels in women ranged from 0.125 mg / week to 3 mg / week. Median and interquartile range are 2 mg (0.5 mg; 1 mg).

Resistance to cabergoline treatment was 3.33 % (in the 1st patient). Complete remission was obtained in 73.3% (21), incomplete remission in 10.0% (3).

In our study, the duration of cabergoline administration in women

ranged from 6 months to 4 years, with a median and interquartile range of 2 years (1 year, 3 years).

In 17 women with prolactinoma who complained of infertility, after treatment with cabergoline for at least 1 year, pregnancy did not occur, we prescribed Clomiphene citrate for ovulation induction and fertility restoration. Treatment regimen Clomiphene citrate is the following: Clomiphene citrate (Klofat) 50 mg 1 tablet 1 time per day at 20: 00 from 2 till day 6 of the menstrual cycle for 2 cycles, then 2 tablets 1 time a day at 20.00 with a 2 to 6 day cycle for 2 cycles. Taking into account the decrease in progesterone levels in hyperprolactinemia, we prescribed progestins in the second phase of the cycle (Duphaston 20 mg /day or utrogestan 200 mg /day from the 16th to the 25th day of the menstrual cycle). In case of pregnancy, we canceled clomiphene citrate, and prescribed Duphaston 20 mg / day or Utrogestan 200 mg / day during the first 12 weeks of pregnancy to prevent spontaneous abortions and miscarriages. And we also gradually eliminated cabergoline, reducing the dose of the drug by 0.5 mg per week. In 12 patients during treatment Pregnancy occurred with clomiphene citrate (40.0% of the total number of women with prolactinoma). 5 patients with prolactinoma who, after treatment, Clomiphene citrate for 4 months, pregnancy did not occur, about which we sent to the gynecologist for ovulation induction using human chorionic gonadotropin.

During the treatment, there was a significant increase in progesterone levels ( $p=0.0002$ ) in the middle of the luteal phase of the cycle, apparently due to the postponement of ovulation in women with prolactinoma.

## CONCLUSIOS:

From the results obtained, we concluded that cabergoline effectively reduces the level of total prolactin in patients with prolactinoma, while reducing the size of the tumor. And also against the background of treatment with cabergoline, women with prolactinoma have a restoration of the two-phase menstrual cycle and the onset of pregnancy at a fairly high frequency. In women with prolactinoma and infertility, if pregnancy does not occur spontaneously after cabergoline treatment for at least 1 year, Clomiphene citrate is the drug of choice for restoring ovulation and fertility.

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# PHONETIC STYLISTIC METHODS AND METHODOLOGICAL APPLICATION OF PHRASEOLOGY IN ENGLISH AND UZBEK

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## ABSTARCT:

**To understand the specific nature of stylistic devices in speech construction and to explain the application of phonetic, morphological, syntactic, stylistic rules in speech in different historical periods of the development of a particular language in its language norms.**

**KEYWORDS:** Language system, linguistic phenomena, syntactic stylistic devices, world linguists, stylistic syntactic constructions, phonographic methodical means, language of fiction.

## INTRODUCTION:

Linguistic views, one of the most important branches of modern linguistics, aim to determine the laws and principles of the use of linguistic units as a means of speech activity, as well as to determine the features of linguistic phenomena in real communication situations. The relevance of this study, on the one hand, focuses on the analysis of the semantic-structural features of the word, which is the language system and its basic unit.

Specific expressions in speech construction, tools for expressing emotions that create specific forms of speech, syntactic stylistic devices, and special expressions of syntactic units are created using these tools, which are observed in different activations in speech.

The theory of stylistics in linguistics L.V.Shcherba, A.V.Bondarko, A.M. Kuznetsov, A.I .Yefimov, A.N. Gvozdev, Shomaksudov A, Rasulov I, Kungurov P, Rustamov X. associated

with the names of world linguists such as Specific expressions in speech construction, the means of expressing the emotion that give rise to particular forms of speech, the syntactic stylistic devices, and the means by which special expressions are created determine the mechanism by which they differ radically from neutral syntactic units. To understand the nature of syntactic stylistic devices, it is necessary to understand what is the norm of syntactic language.

Identify the means of expression, the syntactic stylistic means that serve to express emotions that create specific forms of speech, specific applications in communication, speech construction.

- To understand the nature of syntactic language norm to understand the nature of syntactic stylistic means.
- Identify the laws of creation of syntactic stylistic methods on the basis of existing morphological, syntactic and stylistic rules.
- Study of stylistic syntactic constructions as a general syntactic type of language.
- The norm is the application of phonetic, morphological, syntactic, stylistic rules in speech in different historical periods of a particular language development.
- One of the syntactic stylistic methods is the frequent use of rhetorical interrogative sentences, contradictory words, etc. in oral speech, and the emergence of additional meaning as a result of changes in the structure of such sentences. , the emergence of emphasis, emotionality, and sensitivity in oral speech.

The seriousness of the study of the language of fiction in linguistics allows us to better understand the forms of expression of language units in the language of fiction, their artistic and aesthetic features, as well as their possibilities of forming the language of fiction and their aesthetic impact. helps us understand. Although all units in our native language serve as illustrations in fiction, a detailed analysis of the linguistic and artistic-aesthetic function of a large group of them, known as phonographic stylistic devices, in literary work still requires much research.

It should be noted that stylistic features are present to some extent in all language units. Phonetic, morphological, syntactic and lexical units are also the subject of stylistics.

Specific applications in speech construction, the means of expressing emotions that create specific forms of speech, are called syntactic stylistic devices. Using these tools, special expressions are created that are radically different from neutral syntactic units. We will discuss the attitude of this "special" to the simple "neutral" below.

To understand the nature of syntactic stylistic devices, it is necessary to understand what is the norm of syntactic language.

A syntactic stylistic method is a departure from existing morphological, syntactic, and stylistic rules, but this retreat is seen as a mistake, rather than the emergence of one's own judgment. Stylistic syntactic constructions can be studied as a general syntactic type of language. The norm is the application of phonetic, morphological, syntactic, stylistic rules of speech in different historical periods of a particular language development.

Phonetic stylistics has been interested in ways to use the stylistic features of speech sounds as a means of increasing the effectiveness of speech. There are many types of sound and tone of voice in speech. The various forms of alliteration, assonance, and

sound repetition play an important role in the emotional and expressiveness of speech, and the phenomenon of imitating the sounds of objects and animals is also widely used in stylistics to exaggerate and express an idea. Such methods of making speech effective can be found in prose and poetry, proverbs and parables, and even in the prose parts of folk tales and epics. The phonetic harmony and repetition of vowels and consonants make speech sound and effective, making it easier to remember the fact of language. The various forms and methods of melodic discourse, by their very nature and essence, are peculiar to poetic speech. Poetic speech is an exciting rhythmic speech that is organized in terms of tone and emerges as an expression of emotion. Poetry is characterized by the widespread use of means to regulate speech in terms of tone (for example, rhythm, rhyme, radif, verses). Therefore, the structure of the poem stands out as a special branch of phonetic stylistics.

Intonation is a change in tone, a change in tone. This includes the concept of rhythm and stress and pauses. The concept of intonation also includes the tempo of speech. The intonational devices that make up speech, such as melodies, accents, and pauses, are largely syntactic. That is, it expresses syntactic situations: expressing the completeness of a sentence, showing logical-grammatical divisions within a sentence, showing the relationship of parts, and so on. Accordingly, the part of phonetics devoted to intonation is called syntactic phonetics.

In the process of analyzing the literary text, special attention should be paid to the aesthetic features of phonetic units. In a poetic text, the aesthetic potential of speech sounds is quickly and easily understood. Because the poem has a special charm. This melody is achieved through the methodical use of sounds. Poetry uses phonetic techniques such as alliteration, consonance, and gemination. In prose,



expressiveness is achieved through phonetic techniques such as stretching vowels, folding consonants, repeating sounds, mispronouncing words, adding or subtracting sounds. The ability to express "exactly" the laws governing the methodological use of sounds in writing is limited. However, pronunciation and narrative compatibility are achieved using phonetic means.

**Conclusion** It helps us to better understand the forms of expression of linguistic units in the language of fiction, their artistic and aesthetic features, as well as their opportunities to form the language of fiction and their artistic aesthetic impact. Although language units serve as imagery in fiction, a large group of them, known as phonetic methodological tools, have undergone linguistic and artistic-aesthetic analysis in a literary work.

It should be noted that stylistic features are present to some extent in all language units. Phonetic, morphological, syntactic and lexical units are also the subject of stylistics.

The means of expression of the language, which serve to perform a methodological function in the language of fiction, also identified the most important features that determine the position of the literary style among other functional styles.

Focusing on the concepts of phonetics and stylistics, first of all, the definition of these terms, the movement and state of phonetic speech organs during sound formation - articulation, the laws of sound change, its intonation. Stylistics is a sign of expressiveness of language units, their degree of adaptation to speech patterns.

The linguistic aspect, the writer's attitude to the vernacular, the use of linguistic

resources, the writer's skills, the ideas about the style are described. Phonetic stylistics is one of the sounds. -expressed the stylistic possibilities of interconnection, in short, the methods and laws of speech sounds that can serve as an effective means of language.

In short, phonetic devices are linguistic and aesthetic factors that can clearly show that the artistic style has a special place among other functional styles as an integral part of the language units that form a literary work and their application.

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# THEORETICAL AND PRACTICAL PROBLEMS OF PRIMARY MEDICAL CARE IN EMERGENCY SITUATIONS

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## ABSTARCT:

**It is known that in the current era of rapid development of science and technology and the rapid penetration of various areas of production, the volume of scientific knowledge, medicine, especially in emergencies, is growing rapidly.**

## INTRODUCTION:

Today, the level of emergency medical care in emergencies, emergencies and sudden illnesses in our country is growing. But even a very well-organized medical treatment can be ineffective and delayed if the first aid needed by the injured person is not provided in a timely manner. The peculiarity of accidents is that the injuries occur suddenly and are life-threatening to a greater or lesser extent. The consequences of an injury are manifested in the first minutes, especially in severe and dangerous injuries. It is very important to provide first aid in emergencies. Victims should be provided with such assistance at the scene of the accident, immediately, until a doctor arrives or the victim is taken to a hospital. In most cases, first aid is provided by the victim's relatives, colleagues, or casual passengers when an accident occurs at home, on the street, in production, while playing sports, and in other unforeseen situations, or when there is a sudden illness that requires emergency care.

Accidents can occur in conditions where it is very difficult to provide assistance, where the necessary equipment, medications, lighting, water, a warm room, and helpers are not available. Nevertheless, the victim should be given as complete first aid as possible, as the victim's future life and the subsequent course of

the disease will depend on timely, accurate and prompt first aid. The first day of casualties, the first 24 hours, are considered "golden hours" and are a great opportunity to save the lives of the victims.

One of the most important tasks in first aid is to relieve the nervous tension caused by fear of the victim, calm him down and instill in the victim a sense of protection.

That is why the ability of a person at the scene of an accident to provide quick and effective first aid is of vital importance. In some extreme cases, including clinical death, airway obstruction, electric shock, drowning, various injuries, and heavy bleeding, transport the victim to the scene of an accident without prompt medical attention (transportation) do is prohibited.

Today, in our country, great attention is paid to the issues of human life, its safety, and protection and strengthening of health, which is reflected in a number of normative and legal acts adopted by the state in this area.

Resolution of the President of the Republic of Uzbekistan dated June 2, 2017 No PQ-3030 "On measures to further improve the system of training specialists in the field of protection of the population and the territory from emergencies" and the task of preparing masters.

Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated August 21, 2017 No 650 "On additional measures to increase the preparedness of the population to respond to emergencies" to ensure the readiness of the population to act in emergencies. "Improvement of the system of prevention and response to emergencies" is also

identified as one of the priorities in paragraph 6 of Section 5.1 of the Strategy V for further development of Uzbekistan for 2017-2021.

On September 9, 2019, the Cabinet of Ministers of the Republic of Uzbekistan adopted Resolution No. 754 "On improving the procedure for training the population in the field of emergency response and civil protection." In accordance with this decision, the Regulation "On the procedure for training all segments of the population in the field of emergency response and civil protection" was approved. The Law of the Republic of Uzbekistan "On Public Health" dated August 29, 1996, No. 265-I is a clear proof of our opinion. Article 30 of this law stipulates that it is the duty of all professionals to provide emergency first aid at the scene of an accident.

Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated August 24, 2011 No 242 "On further improving the state system of prevention and response to emergencies" of the Republic of Uzbekistan outlines measures to protect the population and territories in peacetime and wartime.

The Coronavirus pandemic, which threatens the whole world, its negative impact on human life and health, the growing number of cases and deaths, despite the large-scale measures taken around the world and in our country, many people do not know how to behave in such situations. Non-compliance with style rules, lack of medical culture, and especially the growing demand for medical personnel have further exacerbated the need to learn how to provide first aid in emergencies.

Of course, there are medical personnel with special knowledge to provide assistance and treatment in such situations, FVV has special organizational teams and professional rescue squads, and they are equipped with all modern technical equipment to help the injured in any emergency, but the population and it is difficult to fully protect areas without the help

of local people when large-scale FVs occur. Therefore, the readiness of all segments of the population, especially our young people, who are the owners of tomorrow, to such situations must be at the level of today's demand. Therefore, raising the quality of training of highly qualified personnel to the level of modern requirements, the formation of medical culture of specialists in various fields through the creation and implementation of new educational technologies, the formation of skills to provide first aid in emergencies remains one of the pressing problems of higher education. The solution of these problems is studied by the subject "Safety of life". The purpose of teaching this subject to future professionals, regardless of their field, is to identify the causes, characteristics, consequences of life threats and measures to eliminate them, to create safe working conditions, to protect the population from natural, man-made, environmental and other emergencies. , to protect them theoretically and practically, to teach them the rules of prompt and correct primary care to the victims. In order to achieve these goals, first of all, the subject "Safety of Life" should be included in the list of compulsory subjects in all higher education institutions.

If the number of hours allocated for the "Fundamentals of Primary Health Care" section of the theoretical and practical classes on "Life Safety" is increased, we will be able to improve the medical culture of the population and people with disabilities through emergencies and would contribute to the prevention and reduction of deaths. We know from physiology that the greater the number of organs involved in the reception of information, the stronger the memory of a person in relation to that information. Therefore, using this law in education, increasing the number of practical and laboratory classes, not limited to theoretical classes, would have a positive impact on the quality of education. At present, in order to

improve the quality of the educational process on the subject "Safety of Life" in higher education institutions to provide practical and laboratory equipment, tools on the basis of modern requirements and to create a material and technical base necessary. It is necessary to create excellent textbooks, manuals, electronic literature on the subject of "Safety of life" that can meet the requirements of the time. Also, if professors enrich the quality and content of lessons using thematic, interactive methods, presentations, handouts and videos using today's news in the information field, students' interest and aspiration to study the subject will increase. The result is clear, the goal is to find a solution to "theoretical and practical problems of primary care in emergencies."

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## **EFFECTIVENESS OF TREATMENT OF CHRONIC HEART DISEASE INSUFFICIENCY DEPENDING ON THE FUNCTIONAL STATE OF THE KIDNEYS**

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### **ABSTRACT:**

The work is devoted to the study of the effectiveness of the treatment of CHF in patients of the older age group taking into account the functional state of the kidneys.

We examined 52 patients aged 62 to 86 years after a myocardial infarction complicated by the development of CHF. All patients received basic therapy of CHF.

All patients included in the study at baseline, after 3 and 12 months, were clinically examined, the functional class of CHF was determined, echocardiography was performed, and the functional state of the kidneys and heart rate variability (HRV) were examined. Depending on the effect of treatment on the state of the kidney two groups of patients: group 1 (n=33) had no adverse effects on the kidneys (nephroprotective effect) according to the study glomerular filtration rate (GFR) and microalbuminuria (MA); group 2 (n=19) consisted of patients in whom the therapy of CHF led to the decline of GFR and initiated the emergence of or a buildup of MA (nephroprotective effect).

**KEYWORDS:** chronic heart failure, the effectiveness of treatment, the functional state of the kidneys, micro albuminuria, old age.

### **INTRODUCTION:**

In recent years, much attention has been paid to the violation of kidney function in cardiovascular diseases. The kidneys have a leading role in the formation and development of chronic heart failure (CHF), through the kidneys, the action of most pathogenetic agents for the treatment of CHF is realized. In addition, the risk of nephrotoxic effects of a number of drugs in patients with CHF is significantly higher than in the general population [4]. The functional state of the kidneys, their response to treatment in many respects define the adequacy and effectiveness of the therapy, as well as the destiny of the patient [9,10,11]. The results of four large studies (SOLVD, TRACE, SAVE, VALIANT) showed that a decrease in glomerular filtration rate (GFR) to less than 60 ml/min was associated with high mortality due to cardiovascular complications [8]. In recent years, the attention of doctors has been drawn to the identification of microalbuminuria (MA) as a very reliable, achievable and previous marker of the pathological process in the kidney [12]. Microalbuminuria is also considered as a criterion of cardiovascular distress [1]. Early diagnosis of microalbuminuria allows you to quickly intervene in the fate of the patient, prevent or significantly slow down the progression of renal failure and the development of cardiovascular complications. In clinical

practice, various objective methods are used to assess the effectiveness of treatment of CHF – such as the dynamics of the ejection fraction, the total diastolic volume of the left ventricle (LV), oxygen consumption at the maximum of physical activity, etc. The aim of the work is to establish the possibility of predicting the effectiveness of long-term therapy of CHF in elderly and senile patients, taking into account the functional state of the kidneys.

### **MATERIALS AND METHODS:**

Were examined 52 patients (33 men and 19 women) aged from 62 to 86 years (average age  $68.7 \pm 0.87$  years) after a myocardial infarction (MI), complicated by the development of CHF. 23 patients had MI with a Q wave; 29 – without a Q wave; 42 patients had a history of hypertension. To verify the functional class (FC) of CHF, the New York Classification of CHF and the 6-minute walk test (TSH) were used. 27 patients (33.8%) were assigned to FC II, 51 (63.7%) were diagnosed with FC III, and 2 (2.5%) had FC IV. All included in the study patients had no contraindications to the appointment of beta-blockers and in 100% of cases received ACE inhibitors (ramipril, captopril, perindopril, enalapril) and antiplatelet agents (aspirin, clopidogrel, kurantil, warfarin), 43 (82.7%) took statins, 44 patients (84.6%) – diuretics, 48 (92.3%) – long-acting nitrates or molsidomine, 6 (11.5%) – cardiac glycosides.

Systolic left ventricular function was assessed by ejection fraction (LVEF), diastolic ratio of the maximum speed early peak E and systole the Atria, as well as time isovolumic relaxation and deceleration time of mitral flow. Changes in the following parameters were considered a violation of diastolic function:  $IVRT > 105$  ms,  $E/A < 0.5$ , and  $DT > 280$  ms [6]. To study the state of the kidneys was investigated in sodium and blood creatinine, GFR was determined by clearance of endogenous creatinine, calculated

daily excretion of sodium tubular reabsorption of water, was determined relative density morning urine. The excretion of 30 to 300 mg / day was considered microalbuminuria (MA). The ECG was recorded for 5 minutes in the morning at rest in one of the standard leads in the "lying down" position and during an active orthostatic test. The results of the study were processed using parametric and nonparametric statistics. We used the statistical data processing program "BNDP" and the built-in statistical analysis package Microsoft Excel.  $P < 0.05$  was taken as the statistical significance of the differences.

### **RESULTS:**

Depending on the effect of treatment on the state of the kidney two groups of patients: group 1 ( $n=33$ ) had no adverse effects on the kidneys (nephroprotection effect) according to the study of GFR and MA. This group included patients with CHF, which GFR normalizability, and MA was not detected either before or at the end of treatment, either decreased or disappeared during therapy; group 2 ( $n=19$ ) consisted of patients in whom the therapy of CHF led to the decline of GFR and initiated the emergence or the increase in MA (nephronegativity effect). Both groups were comparable in age, gender, severity of the disease, the main clinical and hemodynamic parameters, and the doses of standard therapy used. The characteristics of both groups are presented in Table 1.

During 12 months of follow-up, 1 patient (3.4%) died in group 2, and there were no deaths in group 1. At the end of the study, there was a statistically significant increase in exercise tolerance in the two groups according to the TSH data (by 29.4% and 20.4% in the 1st and 2nd groups, respectively). The difference in the final result is significant. In the 1st group, FC decreased statistically significantly CHF – by 30.6%, in the 2nd – by 18.8%. The difference

between the groups according to the final result did not reach the reliability criteria. The quality of life of patients with a favorable effect on the therapy of CHF the buds on the results of the MLHFQ questionnaire by the end of the

observation period increased by 17.4% to 31.7 points, and adverse effects – 5% to 37.9 points. In patients with a nephroprotective effect, after 12 weeks.

Tab 1. Clinical characteristics of patients taking into account the nephrotropic effect of basic CHF therapy

Parameter	1-gr nephroprotective effect	2-gr nephronegativity effect
Number of patients	33	19
Age, years	68,25±2,34	69,2±2,29
Man / women	21/12	12/7
QIM / Non-QIM	18(54,5%) / 15(45,5%)	5(26,3%) / 14(73,7%)
Post-infarction cardiosclerosis (%)	8(26,4%)	7(36,8%)
Patients with AH / without AH, (%)	27(81,8%) / 6(18,2%)	15(78,9%) / 4(21,1%)
The duration of AH, age	13,6±2,89	15,9±3,18
% of patients with FC II	37,3%	27,6%
% of patients with FC III	62,7%	65,5%
% of patients with FC IV	-	6,9%
Distance of a 6-minute walk, meters	287,6±9,05	272,6±8,36
SBP, mmHg	126,5±3,74	132,3±3,96
DBP, mmHg	76,7±2,86	78,3±2,81
Heart rate, min	67,7±2,88	64,8±2,76
Ejection fraction %	38,8±2,64	38,4±2,09
Blood creatinine, mmol/l	123,9±5,12	119,8±4,49
Average dose of berlipril, mg / day	10,3±2,78	12,6±3,36
Average dose of concor, mg / day	5,83±1,54	5,86±1,80
Average dose of carvedilol, mg / day	32,9±3,74	29,9±2,16
Average dose of berlipril, mg/day	10,3±2,78	12,6±3,36
Average concor dose, mg/day	5,83±1,54	5,86±1,80
The average dose of carvedilol (acridilole), mg/day	32,9±3,74	29,9±2,16
Patients on bisoprolol (%)	76,5%	79,3%
Patients in the carvedilol (%)	23,5%	20,7%

Note:\* the difference is  $p < 0.05$  compared to the initial indicators.

Of follow-up, an increase was noted FV from 38.7% to 41.0% (+5.94%;  $p < 0.05$ ). This trend was observed in the future, and by the end of the study, the EF was 44.3% ( $p < 0.05$ ). In the group with a nephronegative effect, systolic function deteriorated slightly during the first 12 weeks (a decrease in EF from 39.3% to 37.9%). Subsequently, there was an unreliable increase in this indicator, and at the end of the

study, the FV increased by 4.3%. The difference in the final result between the 1st and 2nd groups after 1 year of observation did not reach the confidence criterion. Similar dynamics were observed in relation to the diastolic function of the heart. Thus, in group 1, the IVRT value during the first 12 weeks decreased from

129.3 ms to 121.9 ms (J5. 72%;  $p<0.05$ ) and continued to decrease to 117.0 ms by the end of the follow-up period ( $p<0.05$  compared to the result before treatment). In group 2, the IVRT score increased significantly from 121.2 ms to 126.3 ms after 12 weeks and to 129.3ms at the end of the study. The difference in the final result between the groups is at the trend level ( $p<0.1$ ). Improvement of the functional state of the kidneys in group 1 was accompanied by a significant decrease in the total number of patients with concentric hypertrophy (KG) and eccentric hypertrophy (EG) of the left ventricle (LV) from 96.1% to 80.4% (J16.3%;  $p=0.008$ ) after 12 weeks. By the end of the study, the number of patients with concentric hypertrophy and eccentric hypertrophy decreased to 72.5% ( $p<0.001$  compared to the baseline value). The number of patients with normal LV geometry significantly increased from 3.9% to 17.7% at the end of the study. In the group with the nephronegative effect of therapy, the frequency of detection of LV CG and EG decreased slightly from 93.2% to 86.2% by the end of follow-up. Also, in group 2, after 48 weeks of treatment, the percentage of patients with concentric remodeling and normal LV geometry increased significantly from 6.8% to 13.8%. The difference between the groups in the frequency of detection of concentric LV hypertrophy after 1 year of follow-up is statistically significant.

The study of the autonomic regulation of the heart rate depending on the state of the kidneys indicates multidirectional shifts in the main indicators in patients of the 1st and 2nd groups. Thus, in the group with the nephroprotective effect, there was an increase in the mean square deviation (SDNN) both in the "lying" position - by 50% (from 25.8 ms to 38.7 ms;  $p<0.05$ ), and during the orthostatic test - by 36.3% (from 30.6 ms to 41.7 ms;  $p<0.05$ ), which is a prognostically favorable sign; and a decrease in the stress index (SI) of

regulatory systems by 59.6% ( $p<0.01$ ) in the "lying" position and by 59.3% ( $p<0.01$ ) - when performing an active orthostatic test compared to the initial values. In patients with the nephronegative effect of basic CHF therapy, SDN decreased by 19.2% and 18.1%, while SI significantly increased by 49.7% and 16.7% in the "lying" position and during the ortho-test, respectively, compared to the initial values, which indicates an increase in the activity of the sympathetic link of the autonomic nervous system. An active orthostatic test was used to assess the functional reserves of the body.

The total power of the spectrum significantly decreased in the two groups during the first three months of observation and continued to decrease in the second group. At the same time, patients with the nephroprotective effect of basic CHF therapy showed a significant increase in this indicator due to an increase in the HF and LF components of the spectrum and a decrease in the specific weight of slow waves of the 2nd order (VLF). In the group with a negative effect of basic CHF therapy on the functional state of the kidneys, the opposite dynamics was revealed: a decrease in HF, LF-and an increase in the VLF component. In patients of group 1, when performing the ortho-roba, there was an increase in the total power of the spectrum (by 17.6% compared to the initial values by the end of the study) and the power of the low-frequency wave range (LF), reflecting the baroreflexive activity of the sympathetic division. At the same time, in patients of group 2, instead of LF increased VLF power. The dynamics of the functional state of the kidneys in patients with CHF with nephronegative and nephroprotective effects of therapy is shown in Table 2.

In both groups, by the end of the study, there was an unreliable increase in the average values of blood creatinine. At the same time, the percentage of patients with a clinically



significant increase in serum creatinine (more than 124 mmol/l for women and more than 133mmol / l for men) in the group with the nephroprotective effect of therapy significantly increased compared to the initial data from 27.5% to 51.7%, and in the 1st group slightly from 21.5% to 31.4%. The difference in the final result between the 1st and 2nd groups is statistically significant. In patients with a positive effect of basic therapy of CHF on the state of the kidneys, GFR significantly increased from 64.9 ml / min/1.73 m<sup>2</sup> up to 81.3 ml / min/1.73 m<sup>2</sup> after 12 weeks and continued to increase in dynamics, amounting to 93.0 ml / min/1.73 m<sup>2</sup> after 48 weeks (p<0.05). At the same time, after 3 months, the percentage of patients with GFR<60 ml/min/1.73 m<sup>2</sup> significantly decreased from 52.9% to 29.4% (p=0.007) and continued to decrease further to 5.88% by the end of the year (p<0.001 compared to the baseline). Urinary albumin excretion significantly decreased from 154.7 mg/day to 85.7 mg/day, and the number of patients with detectable MA decreased from 82.4% to 37.3% by the end of the study. In patients with CHF of the 2nd group, an unreliable decrease in GFR was found-from 68.7 ml/min/1, 73m<sup>2</sup> to 65.4 ml/min/1.73 m<sup>2</sup> and 56.5 ml/min /1.73 m<sup>2</sup> after 12 and 48 weeks, respectively. At the same time, the percentage of patients with GFR<60

ml/min/1.73 m<sup>2</sup> increased from 27.6% to 31.0% after 3 months of follow-up, reaching 55.2% by the end of the year (p=0.016 compared to baseline). Urinary albumin excretion increased from 140.5 mg/day to 148.5mg/day, and the number of patients with detectable MA increased from 89.7% to 96.6% by the end of the study. The difference in the final result in the two groups between the GFR values, the average values of MA and the frequency of detection of albuminuria is highly reliable. A statistically significant difference in the detection rate of patients with GFR<60 ml/min/1.73m<sup>2</sup> between the two groups at the beginning of the study is noteworthy. In group 1, after 1 year of follow-up, the daily sodium excretion increased significantly – from 224.1±9.12 to 262.3±10.6 mmol/day, while in group 2, this indicator decreased from 186.9±8.83 to 180.9±8.34 mmol/day. The difference in the final result between the groups is highly significant. Similar dynamics were observed in relation to the relative density of the morning portion of urine. In patients with a positive effect of basic therapy CHF on renal function after 1 year of follow – up, there was a statistically significant increase in CR-from 97.6±1.23% to 98.8±0.82%.At the same time, in patients with a nephroactive effect of treatment, this indicator tended to decrease from 98.3±1.07% to 97.6±1.36%.

Table 2. Dynamics of the functional state of the kidneys in patients with CHF with nephroprotective and nephroprotective effects of therapy

Gro up	Indicator	Source code	12 weeks	Δ%	48 weeks	Δ% compared to the original indicator
1-gr nephroprotective effect	MA, mg/day	154,7±10,2	110,3±8,55	-27,7*	85,7±5,75#	-44,6*
	MA, % of patients	82,4	72,5	-12,0*	37,3#	-54,7*
	GFR, ml / min/1.73 m <sup>2</sup>	64,9±6,38	81,3±4,88	25,3*	93,0±4,93#	43,3*
	GFR less than 60 ml / min/1.73 m <sup>2</sup> , % of patients	52,9	29,4	-44,4*	5.88	-88,9*
	The excretion of Na, mmol/day	224,1±9,12	232,4±8,90	3,70	262,3±10,6#	17,1*
	Relative density of	1009,6±2,18	1010,8±2,20	0,12	1012,8±2,21	0,32*

	urine					
	Tubular reabsorption,%	97,6±1,23	97,9±1,19	0,31	98,8±0,82	1,23*
	Blood creatinine, mmol/l	120,6±5,05	126,8±4,62	5,14	124,3±4,84	3,07
	% of patients with elevated blood creatinine	20,5	-	-	31,7#	47,0
2-gr nephronegative effect	MA, mg/day	141,5±7,86	137,7±8,49	-0,57	147,5±9,57#	5,79
	MA, % of patients	89,1	92,1	3,79	96,6#	7,39
	GFR, ml / min/1.73 m <sup>2</sup>	68,7±4,76	65,4±4,65	-4,90	57,5±6,86#	-16,8
	GFR less than 60 ml / min/1.73 m <sup>2</sup> , % of patients	27,9	32,0	12,9	54,2	98*
	The excretion of Na,mmol/day	185,9±8,38	193,4±7,79	4,09	181,9±8,40#	-3,27
	Relative density of urine	1010,5±2,29	1011,7±1,99	0,097	1010,1±2,19	-0,03
	Tubular reabsorption,%	97,9±1,01	97,9±0,91	-0,12	97,2±1,29	-0,69
	Blood create-nine, mmol/l	118,3±4,91	130,9±4,81	10,9	130,1±4,51	9,97
	% of patients with elevated blood creatinine	27,5	-	-	51,3#	88,0*

## DISCUSSION:

The data obtained by us indicate that there is a close relationship between the state of the kidneys and the cardiovascular system. The results of the study of the effect of long-term therapy of CHF on the kidneys showed that the improvement of the functional state of the latter is accompanied by a more pronounced positive dynamics of the clinical status, quality of life, as well as structural and functional parameters of the heart in elderly and senile patients. LV hypertrophy (LVH) is an important risk factor for cardiovascular disease and mortality that is independent of blood pressure. According to the Framingham study, 35% of men and 20% of women aged 35-64 years die when signs of LVH appear on an ECG within 5 years. Over 64 years of age – 50% of men and 35% of women, respectively [2]. Therefore, reducing the severity of LVH is an important task, especially in the group of

elderly patients, where the presence of myocardial hypertrophy is the main factor in the development of decompensation of CHF. The analysis of changes in the geometric model of the HLV, taking into account the nephrotropic effect of the basic therapy of CHF, suggests that the processes of heart remodeling are less pronounced in the group with a nephroprotective effect. The results of our study show that the positive effect of the basic therapy of CHF on the functional state of the kidneys is accompanied by an improvement in systolic (increased EF) and diastolic (decreased IVRT) heart function.

In the development of CHF, a leading place is occupied by a violation of the balance of neurohumoral systems. A non-invasive method for assessing these changes is to take into account the dynamics of heart rate variability indicators. In patients with CHF, the indicators of heart rate variability are reduced

compared to the norm, which, according to large studies, correlates with the risk of sudden death and arrhythmic complications [3]. At the same time, in the group with a negative effect of basic CHF therapy on kidney function, there is an increase in the activity of the sympathetic link of the autonomic nervous system, which indicates a pronounced strain on the regulatory systems of the body and predicts a significantly higher percentage of cardiovascular complications. The increased activity of the slow waves of the 2nd order (VLF) instead of the slow waves of the 1st order (LF) in patients of the 2nd group when performing the active orthostatic test indicates the transition to the regulation of heart rate reflex level of leadership more low – humoral-metabolic, which is also a poor prognostic sign [3]. In healthy individuals, a decrease in TP is observed during the ortho-test. The increase in the total spectral power, as well as SDNN in patients of group 1 during the ortho-test can be regarded as a hypercompensatory reaction of the body to physical activity. The increase in the total spectral power, as well as SDNN in patients of group 1 during the ortho-test can be regarded as a hyper-compensatory reaction of the body to physical activity. A comprehensive study of the dynamics of the functional state of the kidneys (glomeruli and tubules) in patients with CHF with nephroprotective and nephronegative effects of therapy indicates differently directed shifts. So, in the 1st group, the increase in cardiac output, a decrease in the activity of the sympathetic division of the autonomic nervous system accompanied by improved renal filtration function (an increase in GFR, a reduction in the percentage of patients with reduced GFR), the normalization condition tubular system (increase in daily sodium excretion and the relative density of morning urine). In group 2, on the contrary, there was a decrease in GFR and an increase in the percentage of patients with  $GFR < 60 \text{ ml /}$

$\text{min/1.73 m}^2$ , which indicates the depletion of compensatory mechanisms aimed at maintaining glomerular filtration at the proper level. In the dynamics of observation, the deterioration of the concentration function of the kidneys progresses, which is reflected in a decrease in the relative density of the morning portion of urine. The ability of the kidneys to remove sodium in patients of group 2 steadily decreases with the progression of CHF, which indicates a deterioration in the volumetric function of the kidneys. In the group with the nephroprotective effect of treatment, there is a decrease or disappearance of MA, which is a criterion for improving the prognosis of patients with CHF. At the same time, among patients with a negative effect of basic CHF therapy on the kidneys, the opposite dynamics of MA is noted, which indicates a violation of glomerular microcirculation. With an increase in the duration of CHF, the nitrogen-releasing function of the kidneys progressively worsens, most clearly expressed in patients with the nephronegative effect of basic CHF therapy. This is accompanied by a statistically significant increase in the number of patients with elevated serum creatinine levels in group 2 and is associated with an unfavorable prognosis.

## CONCLUSIONS:

1. In patients with MI, complicated by CHF, impaired renal function should be considered as a predictor of cardiovascular problems.
2. The effectiveness of treatment of CHF in the elderly and senile depends on the nephrotropic effect of basic therapy. A decrease or disappearance of MA, normalization of GFR at the end of the 12th week of treatment predicts a subsequent (12 months) good or satisfactory clinical effect: an increase in exercise tolerance, an increase in LVEF, a favorable effect on the

processes of heart remodeling and autonomic homeostasis, and an improvement in the quality of life of patients with CHF.

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## GUIDELINE UNDERSTUDIES WITHIN THE ENGLISH DIALECT

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### ABSTRACT:

**Instructor's guideline understudies i**  
**n learning English as**  
**another dialect frequently confront with**  
**a assortment of common and pupils-**  
**specific issues. Guideline understudies with**  
**inthe English dialect includes building a**  
**pupil's perusing and talking lexicon and**  
**understanding**  
**of composed and talked English dialect.**

**To encourage a positive**  
**learning environment for understudies and**  
**empower them to practice and proceed to**  
**memorize the dialect, instructors ought**  
**to discover ways to adjust these common**  
**problems**  
**and fortify the center data understudies hav**  
**e to be viably communicate in English.**  
**In taking after we are reaching**  
**to portray around the challenges and the**  
**way to overcome related to English dialect.**

**Key words: rules, problem, solution, pupils,**  
**class, encourage, communicate, English,**  
**progress, speaking, listening, reading.**

Instructors of remote dialects may to  
begin with take note that their lesson  
plans alter over the course of the lesson.  
Classes may advance gradually in spite  
of your endeavors. Understudies learning  
a moment dialect regularly learn  
at distinctive paces and for the most  
part learn fabric in an unexpected  
way. Empowering students to hone the abilities  
learned in course and joining tuning in works  
out, such as learning lyrics or parts of a favorite  
story within the unused dialect out  
of course, students may be able to stay on  
track along with your arrange of instruction at  
a slightly slower rate. Coaching or other  
supplemental exercises can permit you to  
help those students who  
need additional instruction on a  
few fabric and keep up a near pace to  
the plan you've got set.

Learning/teaching English  
in essential and auxiliary schools has  
its possess characteristics and requires  
the utilize of extraordinary educating strategies  
. Instructing strategies are  
an coordinates framework and comprise of  
components such as learning  
conditions, objectives, substance, strategies an  
d apparatuses. Of course, any objective is born  
out of need. A objective could be  
a common heading in instruction and  
a arrange to unravel a particular errand (s). Via  
ble, common, instructive and formative objecti  
ves in remote dialect educating are recognized.  
There  
are moreover proficient objectives in outside di  
alect schools. The reason of educating English  
in essential school is  
to create the abilities of utilizing the language



Figure 1. Problem teaching English Going off  
Schedule

as a implies of communication, to extend students' cognitive action, to develop language abilities in them. All objectives are interrelated and forbid within the learning handle. The meaning of the practical objective can be caught on from its title: the utilize of

the examined dialect within the student's action (hone). In spite of the fact that the term learni

1. to read and understand socio-political and popular science literature.

2. Ability to communicate orally and in writing in English as required by the program.

The extreme commonsense objective of instructing English to tall school understudies is to create talking aptitudes such as perusing, talking (talking and tuning in), and composing. In brief, learning English for commonsense purposes implies getting the data you would like and passing it on to others. Absorbed data serves to raise the level of information, instruction and improvement of understudies. Commonsense objective instruction serves as a premise and condition for instruction, childhood and advancement of the student's identity through communication in English. There

are different educating helps for educating English. An English educator employments them to instruct, clarify, create aptitudes, and competencies to students. If they are not sufficient, it'll be troublesome and moderate for us to supply understudies with full viable information of English. The utilize of a assortment of shows makes a difference to rapidly get it, deliberately ace, and superior keep in mind. Utilizing the attractive board, the educator can appear the understudies distinctive pi

Seeing the current circumstance and the center on the English dialect, my intrigued within the English dialect is

additionally developing. Our utilize of voice articulation, a assortment of slides, and visual helps in our lessons increment the adequacy of our lessons. These strategies offer

assistance to enhance children's lexicon, to recognize the fundamental words from the teacher's discourse, as well as to utilize the words they have procured in their discourse. The child learns any words he listens and sees from others, and as a result, these words gotten to be the item of the child's lexicon. Perusing is related to the reason, substance and activities, through

which understudies secure certain information, abilities and capacities, perusing creates as a result of the teacher's action, obtains character, it can take numerous shapes (labor, community benefit, perusing, play, etc.), it depends on information and makes a alter in a person's behavior in person experience.

Utilizing Other Dialects Another recognizable issue for English dialect instructors is having understudies drop back on their local dialect for discussion. It is frequently less demanding for students to communicate in their local dialect rather than English. It

is ordinarily baffling for students to reexamine and rephrase their contemplations into the unused dialect clearly. Broadening your pupils' bunches so that not all of the understudies in one bunch talk the same local dialect will dishearten understudies from returning to their local dialect to communicate and empower them to utilize the one they have in common.

Real-World Application and Dry, Obsolete Content Lessons Separating between in-class discourse and real-world discourse application can be dubious. Course readings and in-class fabric guideline understudies on the

elemental angles of the English dialect and appropriate language structure can be stilted and exceptionally improbable in terms of discourse cases.

When students are instructed English as a moment dialect, they may accept in-class discourse designs will be the same exterior the classroom. Frequently, course reading dialect employments more unprecedented or obsolete terms and expressions, which can befuddle and negate what a course reading appear.

Composed Versus Talked English Disarray Understudies may be able listen and get it talked English but befuddle sentence structure and linguistic use when composing the same thing. Linguistic issues in composing is another issue instructors confront in educating English dialect. It can be troublesome for students to compose clearly in a moment dialect, as their local dialect may have distinctive prerequisites for tenses and arrangement for sentence structure. Instructors regularly confront issues with

sentence designing and syntactic prerequisites required for composing to be coherent.

Building Lexicon Base Building up a pupil's English lexicon is one of the primary issues instructors guideline understudies in

a moment dialect confront. Considering almost one protest and recollecting two recognizing names for it can be confounding for more youthful and more

seasoned understudies. Consolidating intuitively lessons to distinguish common objects and pictures may be

a incredible beginning put for building lexicon for ordinary things. Activities and hone fabric centering on recognizing

and utilizing words with the right spelling are key components of direction students in English as a moment dialect.

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a incredible beginning put for building lexicon for ordinary things. Activities and hone fabric centering on recognizing and utilizing words with the right spelling are key components of direction students in English as a moment dialect.

Listening motivation We know, pupils' difficulties toward listening comprehension showed that listening is very difficult skill for pupils who study foreign language. It was based on three factors influencing their listening; they were listening material, listener factor, and physical setting. Therefore, accents, pronunciation, speed of speech, insufficient vocabulary, different accent of the speakers, lack of concentration, and bad quality of recording were the major problems encountered by pupils' English Education Department. Understanding pupils difficulties enable the lecturer to help the pupils developing the effective learning strategies and ultimately improve their listening. Solutions to overcome the problems were: the teacher should adapt and improve listening material, activate pupils vocabulary, give the pupils variety of accent while practice listening in language laboratory, improve their pronunciation by training from native speakers, building pupils knowledge about the topic, give some strategy in listening, and

always motivate pupils. The solutions were made as a suggestion for the lecturers. In conclusion, If this method is done in groups, the children are more interested in the material learn quickly.

A high school student will be able to comprehend (listen to, or speak) the English language they learned at the end of their studies will be able to read) understand and express (speak and write) ideas in this language. The developmental goal is determined by the expansion of students 'worldviews in the process of learning English. Learning English develops students' logical thinking (thinking, comprehension, analysis, generalization), develops the ability to work independently. The developmental goal is to develop the skills of analyzing, summarizing, drawing conclusions, and independently understanding the meaning of words. This means that the first task in the teaching of English is to raise the level of students from the bottom up, to develop them mentally, to raise their content, to ensure their further intellectual development.

The second task is to develop students 'emotions in English learning, and to develop a perceptual understanding of external influences using sensors and analyzers.

Third, the developmental goal requires action to increase the internal motivation to learn. The developmental goal is achieved through verbal action. It differs from the general educational goal in that the application of the information or content obtained and the skills to obtain it are included in the developmental goal.

And education is the foundation of mental development. The purpose of teaching English has its own characteristics in the primary grades of secondary school. Teaching aids are important in teaching and learning English in primary schools. There are various teaching aids for teaching English. An English teacher

uses them to teach, explain, develop skills, and competencies to students. If they are not enough, it will be difficult and slow for us to provide students with full practical knowledge of English.

The use of a variety of exhibitions helps to quickly understand, consciously master, and better remember. Using the magnetic board, the teacher can show the students different pictures, words, and cards to organize the lesson. At a time when the future of our independent Uzbekistan is in the hands of us young people, I will always strive to make my contribution, while effectively using all the conditions in Uzbekistan. I am very proud to live in the age of modern technology, in the paradise of Uzbekistan. Seeing the current situation and the focus on the English language, my interest in the English language is also growing. Our use of voice pronunciation, a variety of slides, and visual aids in our lessons increase the effectiveness of our lessons.

These methods help to enrich children's vocabulary, to distinguish the necessary words from the teacher's speech, as well as to use the words they have acquired in their speech. The child learns any words he hears and as a result, these words become the product of the child's vocabulary. Reading is related to the purpose, content and actions, through which students acquire certain knowledge, skills and abilities, reading develops as a result of the teacher's activity, acquires character, it can take many forms (labor, community service, reading, play, etc.), it relies on knowledge and creates a change in a person's behavior in individual experience. Teaching aids are important in teaching and learning English in primary schools.

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## FORECASTING ELECTRICITY CONSUMPTION OF INDUSTRIAL ENTERPRISES USING EXCEL PROGRAM

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### ABSTRACT:

Predicting the electricity consumption of industrial enterprises is a complex and very important task. Approximate forecasting of electricity consumption by enterprises allows taking appropriate measures for its generation for several seasons ahead. Usually predictability in practice is implemented by expert opinion without any in-depth calculation of all kinds of indicators. Automated calculation allows for more accurate forecasting. The paper proposes a forecasting method using the Excel program.

**KEYWORDS:** forecast, electricity consumption, function, seasonality coefficient

### INTRODUCTION:

There are many different models for forecasting today. But if we need to get a result with a little bit of data for a limited amount of time, is it real? Of course it's real! When you need to quickly and easily evaluate the value you want, we can use our favorite Excel functionality, which automatically generates values on the database of existing data. In Excel, we will mainly use tools to evaluate the

expected data of "TRENDATER," "ROST," "WARNING," "LINEIN" and the setting of "PACKAGE ANALYSIS /REGRESSION. It should be noted that this kind of forecast does not take into account the influence of internal and external factors, but this method is perfectly suitable for that would get an approximate result in an inertial scenario, so let's say haste. Consider this for examples of the annual electricity generation of the Eurosnar plant in the Bukhara region of kwh (Figure 1).

months	2015	2016	2017	2018	2019	2020
fact	fact	fact	fact	fact	fact	fact
January	178056	218800	298000	294919	412925	428000
February	263456	240000	280000	410011	417465	426000
March	223456	230000	294000	360130	379547	455260
April	160056	260000	284000	380600	329600	426420
May	4041	14800	84000	281771	276040	331660
June	4041	15200	10000	238000	319900	346080
July	2441	4800	6000	16000	398000	4120
August	5241	6000	6000	14000	52000	16480
September	66841	46527	148634	8000	230000	8240
October	145841	260000	326397	160000	325280	105407
November	144200	324000	265928	362856	346000	360500
December	216000	292000	311958	348202	464000	360500
press	1413670	1912127	2314917	2874489	3950157	3268667

Figure1. The company's electricity consumption (kWh) Eurosnar for the period 2015-2020.

The first will use the functions of ROST and TREND. These features are designed to extrapolate future values. Since the ROST function is based on exponential dependencies, values grow more rapidly than with the TREND function used, which returns values with linear exposure by the method of the smallest squares. Although the formulas look the same they use different algorithms. In this regard, it allows you to use different versions of the forecast. A more realistic and accurate forecast in this case gives the function of TREND.

It would therefore be useful to use it in further work. And in general, the ROST function is rather an exception for those who perform the forecast, as exponential growth is quite rare. But in addition to these two functions, there is another one - WARNING. It is similar to the TREND function except that it returns one point on the regression line, rather than the array that defines its line (Figure 2).

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
ELECTRICITY CONSUMPTION kwh	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 274 123								
TREND	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 274 123	4 241 773	4 874 785	5 130 788	5 588 810	6 042 822	6 488 354	6 954 046	7 441 856
GROWTH	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 274 123	4 781 550	5 783 874	6 991 708	8 437 807	11 472 952	12 279 756	14 822 877	17 181 673
FORECAST	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 274 123	4 241 773	4 874 785	5 130 788	5 588 810	6 042 822	6 488 354	6 954 046	7 441 856

Figure:2. Forecast using ROST, FORECAST and FORECAST functions

As you can see from Figure 2. Results will be the same as when used, the function of TREND. For a small set of data, probably a better way to do the RIGHT function. At the same time, the TREND feature array works faster when you're going to have to work with large datasets.

Another useful feature is LINEIN. It returns linear promotion parameters to the smallest squares method.

M-tilt and b-segment, these two numbers need to put the equation formula for a straight line

$$y = mx +$$

b (1)

For reference, I would like to note that the LINEIN function has separate functions. It's a tilt and a segment function. Thus, LINEIN speeds up the calculation process significantly (Figure 3).

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
ПОТРЕБЛЕНИЕ ЭЛЕКТРОЭНЕРГИИ МВт·ч	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023							
ТЕНДЕНЦИЯ	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023	4 218 773	4 674 785	5 130 798	5 586 810	6 042 822	6 498 834	6 954 846
РОСТ	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023	4 218 773	4 674 785	5 130 798	5 586 810	6 042 822	6 498 834	6 954 846
ПРЕДСКАЗ	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023	4 218 773	4 674 785	5 130 798	5 586 810	6 042 822	6 498 834	6 954 846
ЛИНЕЙН	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023	4 218 773	4 674 785	5 130 798	5 586 810	6 042 822	6 498 834	6 954 846

Figure:3. Forecast using THE functions of ROST, TREND AND FORECAST and LINEIN

We see that we have got the same result as with the use of functions, TREND and WARNING. If we know how to change the values m and b then it is convenient to do it through the LINKANE function, if not, it is easier to use the functions of TREND or PRODSO.

If necessary, you can make a complex calculation with the help of the add-on PACKAGE ANALYSIS/ REGRESSION. For convenience, we will calculate on another sheet (Figure 4).

ЛИНЕЙН	ПОТРЕБЛЕНИЕ ЭЭ	m - наклон	b - отрезок
2015	1 413 670	456 012	-917 381 883
2016	1 912 127	456 012	-917 381 883
2017	2 314 917		
2018	2 874 489		
2019	3 950 157		
2020	3 271 023		
2021	4 218 773		
2022	4 674 785		
2023	5 130 798		
2024	5 586 810		
2025	6 042 822		
2026	6 498 834		
2027	6 954 846		
2028	7 410 859		

ЛИНЕЙН	ПОТРЕБЛЕНИЕ ЭЭ	коэффициент	стандартная ошибка	т-критерий	ф-критерий	коэффициент	стандартная ошибка	т-критерий	ф-критерий
2015	1 413 670								
2016	1 912 127								
2017	2 314 917								
2018	2 874 489								
2019	3 950 157								
2020	3 271 023								
2021	4 218 773								
2022	4 674 785								
2023	5 130 798								
2024	5 586 810								
2025	6 042 822								
2026	6 498 834								
2027	6 954 846								
2028	7 410 859								

Figure forecast using LINEIN features

We are looking for a data analysis button on the panel-regression-input interval - consumed energy, x-year. We will get more information on the regressive analysis. Similarly, the function of LINEINE (1) multiply the last year by the value of the variable x, and add the intersection u. What are we looking for in the end? The functions of TREND, WARNING and PACKAGE ANALYSIS/REGRESSION in the conditions of such a task gives the same result. The ROST function as seen shows the biggest change in value. To work, we can choose any of these methods, and you can take the average between the data. If you do not want to delve much into the mathematical essence of this issue, then we would advise to use the function of TREND OR WARNING. This is just an inertial forecast does not take into account the result of the factors affecting except the last volume of electricity consumption. Let's show you a small example of how you can complicate the task and get a more accurate result. To do this, we will use data by month, not annual.

The problem: use us known data by month, and calculate seasonal unevenness, take it into account in the calculation. As well as modeling a somewhat scenario of the forecast of

electricity consumption of the Company "Eurosar."

First of all, we need to calculate the seasonal unevenness. To do this, we need to add up the ranges in cells according to the periods known to us and divide us by the amount and multiply by 12 months. Now with the help of the PRES formula we do what we have previously but now we have to multiply the prediction result on the seasonality ratio that we calculated previously. To do this, we need to use the INDEX feature.

Now we have forecasts for future periods, and we have to add to the forecast itself to calculate the allowable upper and lower limits, which will allow us to assess the optimistic and pessimistic forecast. We need to calculate the acceptable deviations of forecast values. To do this, you can do the function of DOVERT, that is, the confidence interval. Now the principle is simple: that we count the urinal forecast that it is necessary from our first result of the forecast to calculate the deviation factor, if optimistic, then add to our result this deviation (Figure 5).

	КОЭФФИЦИЕНТ СЕЗОННОСТИ	Отклонение	ИТОГО	ПРЕДСКАЗ	ПРЕДСКАЗ (оптимистический)	ПРЕДСКАЗ (пессимистический)
ЯНВАРЬ	1,40	49 627	2015	1 413 670	1 413 670	1 413 670
ФЕВРАЛЬ	1,55		2016	1 912 127	1 912 127	1 912 127
МАРТ	1,48		2017	2 314 917	2 314 917	2 314 917
АПРЕЛЬ	1,40		2018	2 874 489	2 874 489	2 874 489
МАЙ	0,76		2019	3 950 157	3 950 157	3 950 157
ИЮНЬ	0,71		2020	3 271 023	3 271 023	3 271 023
ИЮЛЬ	0,33		2021	4 042 592	4 638 114	3 447 071
АВГУСТ	0,08		2022	4 452 379	5 047 900	3 856 857
СЕНТЯБРЬ	0,39		2023	4 862 165	5 457 687	4 266 644
ОКТАБРЬ	1,01		2024	5 272 798	5 868 320	4 677 277
НОЯБРЬ	1,38		2025	5 682 861	6 278 382	5 087 340
ДЕКАБРЬ	1,52		2026	6 092 647	6 688 169	5 497 126
			2027	6 502 434	7 097 955	5 906 913
			2028	6 913 067	7 508 589	6 317 546

Figure 5. Forecast using seasonality factor

Thus, we calculated the forecasts for the months to 2028, taking into account the seasonal unevenness and three scenarios. It remains to add up the numbers and get the annual data and make to the table.

Here are 8 prediction options (Figure 6).

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
ПОТРЕБЛЕНИЕ ЭЛЕКТРОЭНЕРГИИ кВт·ч	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023								
ТЕПЛОТРА	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023	4 268 772	4 674 785	5 138 790	5 586 890	6 042 822	6 489 304	6 954 845	7 440 859
РОСТ	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023	4 794 559	5 703 074	6 801 796	8 427 687	10 172 952	12 297 756	14 822 871	17 852 473
ТРЕДСКАЗ	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023	4 268 772	4 674 785	5 138 790	5 586 890	6 042 822	6 489 304	6 954 845	7 440 859
ПОВЕРЬ	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023	4 268 772	4 674 785	5 138 790	5 586 890	6 042 822	6 489 304	6 954 845	7 440 859
ТАБЕЛ АНАЛИТИКА	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023	4 268 772	4 674 785	5 138 790	5 586 890	6 042 822	6 489 304	6 954 845	7 440 859
ПРЕДСКАЗ (по вероятию)	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023	4 042 592	4 452 379	4 862 165	5 272 798	5 682 861	6 092 647	6 502 434	6 913 067
ПРЕДСКАЗ (по вероятию - оптим)	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023	4 528 914	5 047 900	5 457 687	5 868 320	6 278 382	6 688 169	7 097 955	7 508 589
ПРЕДСКАЗ (по вероятию - пессим)	1 413 670	1 912 127	2 314 917	2 874 489	3 950 157	3 271 023	3 447 071	3 856 857	4 266 644	4 677 277	5 087 340	5 497 126	5 906 913	6 317 546

Figure 6. Forecast using 8 features

Now you can see it all on the same graph.

The maximum result on consumption will show the function of ROST, then the optimistic scenario of the forecast by month, then the function of TRENDANESS, FORECAST, LINEIN, PACKAGE ANALYSIS/REGRESSION, then the function of predictive by month and the last line on the chart is a urinsiistic scenario of forecast by month (Figure7).

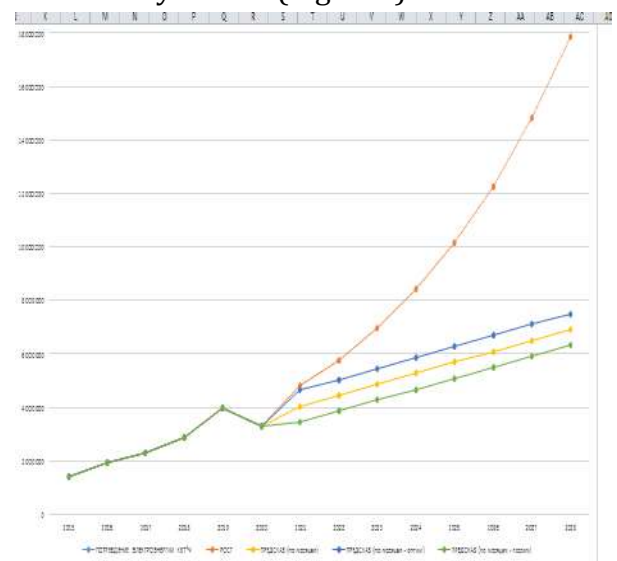


Figure 7. Graph/chart for 8-functions.

#### CONCLUSIONS:

A simple prediction with Excel functionality is possible.

1. If you need to connect any factors, you can always come up with ways to include them in the calculation, as we, for example, made a monthly calculation of seasonality in three scenarios.

2. What scenario of the forecast can be considered true decides a particular specialist when solving a particular problem.

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## ANALYSIS OF PHYSICAL-MECHANICAL PERFORMANCE OF HIGH- KNITTED PATTERN FABRICS FOR SHAPE STORAGE

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### ABSTRACT:

In the article results of analyses of physical-mechanical parameters of the - types knitted fabrics, worked out with purpose effective using of locals raw materials and produced from

**KEYWORDS:** knitwear, polyacrylonitrile knitted yarn. physical-mechanical parameters.

### INTRODUCTION:

The shape retention feature allows the production of new structures of high-quality knitted fabrics to solve a number of pressing issues facing the knitting industry of the Republic.

In order to solve a number of the above-mentioned problems, 3 samples of knitted knitted fabric structures were produced on a flat needle 12-class LONG-XING SM 252 knitting machine.

The shape retention feature consists of high-knit knitted fabric rapporti glad and press rows. Knitted knitted fabrics differ from each other by changing the type of raw material and the sequence of fabric reports. Patterns of knitted knitwear were obtained using a polyacryl nitrile yarn with a linear density of 35 tex x 2.

Among the indicators characterizing the physical and mechanical properties of knitted fabrics are the following: strength and elongation at break, elongation under stress less

than tensile strength, resistance to single and repeated elongation, resistance to shrinkage and abrasion, resistance to heat and wet processing [1].

In order to study the effect of polyacrylonitrile and polyester yarns on the physical and mechanical properties of woven knitted fabrics, the physical and mechanical properties of 3 variants of samples of knitted knitted fabrics were determined experimentally on modern equipment installed in the test laboratory NIET and the results are given in Table 1. [2].

Air permeability is the permeability of the materials themselves. Air permeability is characterized by a coefficient indicating the amount of air passing through 1 sm<sup>2</sup> of fabric in 1 second at a given pressure difference on both sides of the material.

Table 1 Physical and mechanical characteristics of high viscosity knitted fabric with shape retention function

Indicators		Options		
Yarn type, linear densities and % of fabric	Back layer	I PAN 35 tex x2	II PAN 35 tex x2	III PAN 35 tex x2
	Front layer	PAN 35tex x2	PAN 35tex x2	PAN 35tex x2
Knitted surface density Ms (g / m <sup>2</sup> )		436	425	402
Knitting thickness T (mm)		2.6	2.4	2.8
Dimensional density δ (mg/sm <sup>3</sup> )		168	161	144
Air permeability B (sm <sup>3</sup> /sm <sup>2</sup> ·sek)		31.2	35.1	41.01
Breaking force P (H)	In height	308	219	377
	In width	178	160	172
Stretching to break L (%)	In height	12.6	24.35	24.8
	In width	43.5	41.2	38.8
Irreversible deformation ε <sub>ir</sub> (%)	In height	7	5.8	15
	In width	10	7.1	16
Back deformation ε <sub>b</sub> (%)	In height	9.3	94.2	85
	In width	90	92.8	84
Fabric shrinkage K (%)	In height	4	2	1
	In width	6	4	3
Friction resistance H		59.4	57.3	60.1

Air permeability coefficient B ( $\text{sm}^3/\text{sm}^2\cdot\text{sek}$ ) determined by the following formula.

$$B = V / (S \cdot T), \text{ sm}^3 / \text{sm}^2 \cdot \text{sek} \quad (1)$$

Here : V - the amount of air passing through the fabric at a given pressure difference  $\Delta P$ ,  $\text{sm}^3$ ;

S - fabric area,  $\text{sm}^2$ ;

T - the time of passage of air through the fabric, sek.

Air permeability properties of woven knitted fabrics will be changing from 31.2 up to 41.02  $\text{sm}^3/\text{sm}^2\cdot\text{sek}$

The lowest air permeability was observed in variant I of the knitted fabric, and its volume was 31.2  $\text{sm}^3/\text{sm}^2\cdot\text{sek}$ . The highest air permeability was observed in variant III of the knitted fabric samples and its volume was 41.01  $\text{sm}^3/\text{sm}^2\cdot\text{sek}$ , which is 31% more than in the fabric (version I) (Table 1, Fig. 1). The highest air permeability was observed in verosions III of the knitted fabric samples and its volume was 41.01  $\text{sm}^3/\text{sm}^2\cdot\text{sek}$ , which is 31% more than in the fabric (version I) (Table 1, Fig. 1).

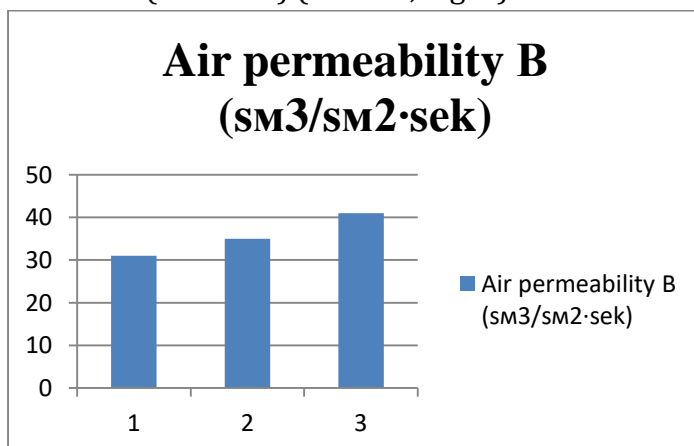


Figure 1. The shape retention feature is an air permeability histogram of high-knit knitted fabric

The description of the cut is an acceptable key indicator for assessing the quality of knitted fabrics. All GOST and TSH applicable to knitted fabrics include normative indicators on elongation n and tensile strength. Tensile strength is the force required to break a specimen at a given size and speed. The

breaking force is expressed in Newtonian units. The breaking strength of the submitted samples was determined using the standard method using a dynamometer YG-026T.

The strength of the fabric, that is, the analysis of tensile strength, shows that the most mature tissue in variant III in height with an index of 377 N, as it was found, had a viscosity 22% higher than in variant I (table 1, fig. 2). Fabric width maturity was also observed in variant I, which had a tensile strength of 178 N, which is 3% higher than variant III.

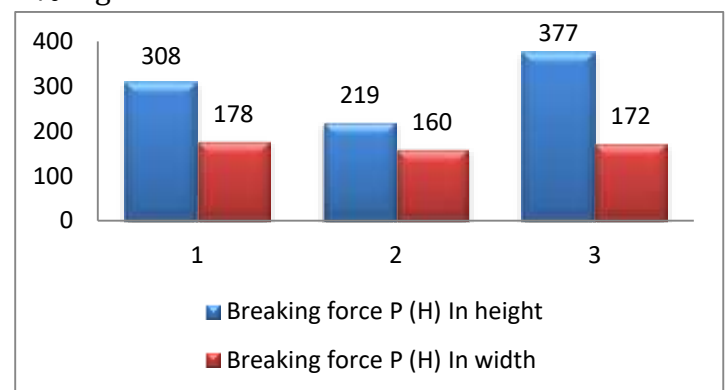


Figure 2. Bar graph of the change in tensile strength of high-form knitted fabric

Elongation of a knitted fabric is understood to mean its elongation under the action of an applied force. Elongation is characterized by the elongation of the test specimen. Elongation is expressed in absolute or relative units. When knitted fabrics with a length of 100 mm clamped to the tool are tested, their absolute and relative sizes are the same. The elongation of the length of knitted fabrics is from 12.6% to 24.8%. The greatest elongation was observed in variant III of knitted fabric and amounted to 24.8% (Table 1). The knitted fabric was 97% longer than option III (option I).

The elongation of the knitted fabric in variant I was the lowest - 12.6%. The width of the knitted fabric varied from 43.5% to 38.8%. Option I of knitwear had the greatest width, accounting for 43.5%. The most stable width was observed in the third version of knitwear, which accounted for 38.8%. Elongation of the width of option III of the knitted fabric is 12%



less than that of the main fabric (option I), option II of the knitted fabric is closer to the width of option III - 41.2%. In conclusion, the length and width of the knitted fabric depends on the structure of the knitted fabric and the type of yarn in it. When developing products, it is important to know the elastic properties of knitted fabrics. [3]. The total deformation  $\varepsilon$  consists of the following parts: the elastic part  $\varepsilon_e$  returns at a high speed after removing the loads from the test specimens; elastic deformation  $\varepsilon_e$  develops at a low rate associated with the relaxation process; plastic deformation does not return after removing loads from the samples.

$$\varepsilon = \varepsilon_K + \varepsilon_J + \varepsilon_n, \%$$

(2)

The deformation of the knitted fabric varies with the elasticity of the yarn, the stiffness and the number of loops. Not only the description of the deformation, but also the state of the knitwear is determined by two main internal forces: the elastic force of the thread bending towards the loop tends to straighten and change the shape of the thread.

As a result, a frictional force arises between the threads, which prevents the threads from spreading in the loop and prevents the formation of knitted fabric. [4,5]. In samples of knitted fabric with a high pattern, the rate of reverse deformation varies from 85% to 94.2%, and the rate of reverse deformation - from 84% to 92.8% (Table 1, Figure 3).

Such indicators of the degree of repeated deformation indicate that the patterned knitted fabric, after stretching, quickly returns to its original state.

In the process of wet processing of knitted fabric (washing, ironing), a decrease in size is called shrinkage, and an increase is called shrinkage. Knitted fabrics have a significantly higher elasticity than textile ones, and even when exposed to light loads, they have high elasticity. The principle of operation of machines for knitting knitted fabrics is

practically no different from machines for finishing textile fabrics.

It was noted that one of the main reasons for the high level of penetration is excessive deformation of the knitted fabric during finishing operations. [6,7,8]

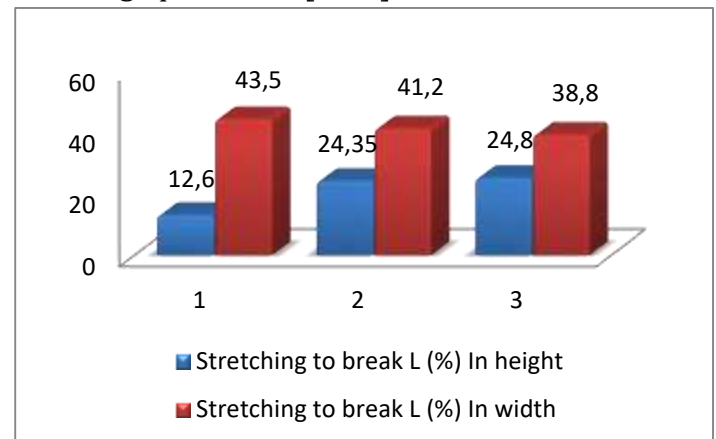


Figure 3. Deformation histogram of high-patterned knitted fabrics with shape-retaining properties

The less knitwear is involved in the processing of knitted fabrics, the higher its shape-retaining properties. Studies have been conducted to study the content of polyacrylonitril and polyester yarns in knitted fabrics and their effect on the properties of the fabric. The results of the study of the process of introduction of knitted fabric samples showed that the penetration of the length changed from 4% to 1%, and the width from 6% to 3% (Table 1, Figure 4).

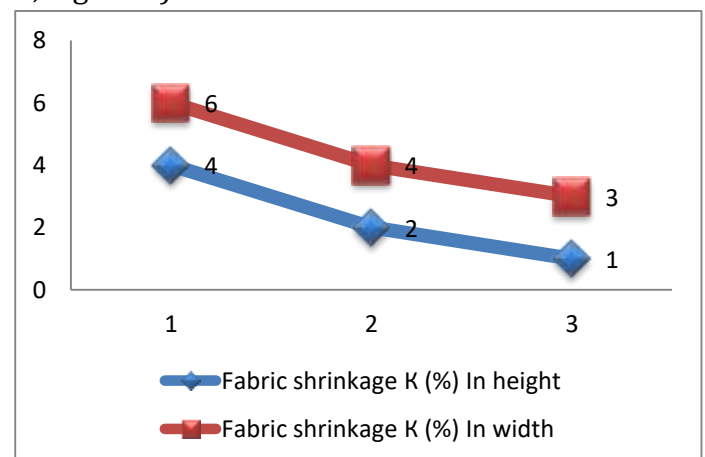


Figure 4. Introduction to knitted fabrics histogram

In the process of using knitted products, the fabrics break down when they come in contact with the surrounding objects, and as a result, some parts of the product become unusable.

These are the I and III options that have the highest resilience to the fabric of the knitted fabrics. The friction resistance of Option I is 59.4 thousand months. The friction resistance of Option III is 60.1 thousand months. The resistance to friction of Option III was found to be 1.1% higher than that of Option II (Table 1).

The analysis of the physical and mechanical properties of the above-mentioned knitted fabrics shows that changes in the structure of the fabric, the properties of the knitted fabric's air permeability, toughness, elongation and abrasion resistance to abrasion.

Knitted fabrics are made of polyacrylonitrile, which allows you to get knitted products with high hygienic and shape-retaining properties, maturity and good appearance.

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## IMPROVED GRAIN FERTILIZER

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### ABSTRACT:

**Grain crops are considered to be very important for today's economy. Our main goal is to cultivate crops and get a good harvest. For this reason, the processing of grain crops using improved pal feeders is modern and productive for today. This article provides information about them.**

**KEYWORDS:** grain, agriculture, chemical, aggregate, palliative, crop area, improvement.

### INTRODUCTION:

The economic potential of each country depends on the living standards of the population, the level of supply of grain and grain products. Grain crops are grown mainly for bread. It's hard to imagine our daily lives without bread. Wheat bread is one of the greatest inventions of mankind. Therefore, scientists have been interested in any measures aimed at stabilizing grain yield, quality, and gross grain yield. Bread is a staple food, a delicacy on our table.

President Islam Karimov said that "it is superfluous to talk about full economic independence without achieving grain independence." Most importantly, the achievement of grain independence is also related to the economic independence of

Uzbekistan. From the first years of independence, great attention was paid to the development of grain growing in the country.

After the independence of the Republic of Uzbekistan, there have been significant changes in the composition of arable land. The area under cotton and fodder crops has been reduced, and the area under cereals has been sharply increased. There are 4.3 million hectares of irrigated and 730,000 hectares of arable land in the republic.

Grain production is one of the most important sectors of agricultural production. The share of grain in the share of field crops is very large. The most common cereals in the world are wheat, rice, corn, barley, oats, millet, oats, rye. Heart crops are very important in the national economy. It plays a key role in the food industry and in the preparation of feed for livestock. Cereals such as wheat and rice are widely consumed. Cereals contain a lot of protein and carbohydrates that the human body needs. For example, if we say that the chemical composition of wheat is 100, then 13.6% is water, 16.8% is protein, 63.8% is carbohydrate, 2% is fat and so on. Cereals also contain enzymes and complex B vitamins (B1, B2, B6), PP and provitamin A.

Cereals provide the main food products for humans - grains and cereals. Bread and bakery products made from grain flour are the main

food products. Grain is a high-calorie feed and light industrial raw material. Grain is processed into oil, starch, alcohol. Cereals also play an important role in providing fodder for livestock. Grain and its by-products serve as raw materials for the food, feed, paper, and other industries. Grain production is the basis of agricultural production.

In terms of area, cereals are the largest crop in the world. The total area under agricultural crops in the world is one billion hectares, of which more than 70% is planted with grain.

In Uzbekistan, grain is grown on spring and irrigated lands. In 2015, 1 million tons of grain crops were grown in wetlands in the country. 285,000 hectares, 250,000 hectares in Ialmi lands.10 Cereals are divided into three groups according to morphological and biological characteristics:

1. The first group is real cereals. This group includes typical autumn (wheat, barley, rye, and triticale) and spring (wheat, aphas, rye, oats) crops of the Poaseae family. The main features of these crops are that the grain has an elongated stalk, several primary roots develop, and a spike or stalk. These little evergreens are super-easy to grow and will look good with almost no care.

2. The second group is millet crops. This group includes crops belonging to the Poaseae family: maize, oats (white corn), millet, and polygonaseae. The characteristics of these

crops are that the grain does not have an elongated branch, a single primary root develops, and the inflorescence is a rhizome or a stalk. Cultivated varieties are spring, heat-loving, short-day plant and drought-resistant (except rice).

3. The third group is legumes. Representatives of this group belong to the family Fabaseae: peas, green peas, beans, lentils, peppers, moss, and soybeans. All of these crops have bullet roots, complex leaves, and pods. The seeds are high in protein. Biologically, legumes are diverse.

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# USE OF PEDAGOGICAL TECHNOLOGIES IN TEACHING AND LEARNING IN HIGHER EDUCATION

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## ABSTARCT:

"Technology" is a Greek word, "technos" means skill, art, "logos" means science, doctrine. The concept of 'technology' is defined as a set of methods and techniques used in production processes to obtain a finished product and as a science that produces and improves such methods and techniques.

**KEYWORDS:** technology, skill, technique, process.

## INTRODUCTION:

Extraction of materials that are an integral part of production processes. Transportation, storage, etc. is also called technology. The technology also includes a description of the production process, instructions for their implementation, technical rules and requirements, schedules. Hundreds of technological projects have been created in the field of industrial production. If the requirements of the technical documentation are followed, the quality of the product is guaranteed, regardless of the dirt and where the work is done. As Podlasie points out, "Until technology is created, individual skill dominates. Later, personal skill becomes 'team skill' and technology serves as its embodiment." The following table provides a comparative description of individual skills and overall technology (Table 1). There are the following

types of technology: technical technology. Production technology, humanitarian and educational technologies. Technical technology means: a set of ways and means of obtaining, processing or processing of raw materials, semi-finished products or products (process-descriptive aspect of technology). Typical approaches to the definition of pedagogical technologies show that, in fact, teaching technologies take place between the recognition, production and teaching-pedagogical process. It is an independent field of knowledge in the system of professional didactic training, which is closely related to the didactic theory and practice of teaching and includes the function of designing the process of managing educational activities. Teaching technology includes both theoretical and practical knowledge of specific methods of managing the learning process, the same promising management and teaching activities. Their sequence is determined in accordance with the conditions of the educational process (N. Azizkhodjaev). Modern teaching technologies, including computer information technology, distance learning technology, modular learning, the use of didactic games, problem-based learning, brainstorming technologies can be applied to the teaching process. Improving teaching with the full use of multimedia capabilities is aimed at training qualified personnel with the following characteristics: adaptability to changing living

conditions by independently acquiring the necessary knowledge and being able to use them in solving problems; The first research on the technological approach to teaching, that is, to ensure that the learning process is as repetitive as the production process, was conducted by American educators in the 50s of the twentieth century. In particular, the term "educational technology" was also first used by the American scientist B. Skinner. He described "educational technology is the application of the achievements of the science of psychology in pedagogical practice". Based on this definition, it should be noted that today the concept of "pedagogical technology" is "new". "Advanced". Adding words like "progressive" is also relative. An analysis of the relevant literature has shown that the concept of 'pedagogical technology' has its own history of development. Foreign experts believe that the development of this concept should be studied in three stages. In the first stage, the teaching process was conducted only by your teacher. As N.F. Talizina points out. "Human experience has served the function of teaching technology." In the second stage, after the publication of textbooks and manuals, radical changes took place in the content of teaching technology. A variety of didactic materials to help the teacher began to emerge. There are many definitions of the concept of pedagogical technology, including the following definition given by UNESCO, which reveals the essence of pedagogical technology and all its aspects: "Creating a process of teaching and learning, taking into account the interaction. It is a systematic method of application and identification." As you know. Pedagogical teaching, in contrast to pedagogical technology, often consists of a set of recommendations for the organization and conduct of the learning process. Firstly, it guarantees the end result, and secondly. Also designs the future learning process. Clear definition of educational goals of pedagogical technology. Guarantee of final

results. Characterized by the reproducibility of the learning process and the presence of a fast feedback loop. These properties of pedagogical technology are a key factor in accelerating the learning process. In pedagogical technology, the outcome of teaching depends more on the student, his independent learning, than on the personality of the teacher. The direct and smooth communication between teacher and student in the learning process brings the learning process closer to individual teaching. That is, it individualizes the learning process. Informing the public is an objective process associated with the proliferation and enhancement of the role of intellectual activities in all areas of human development. Improvement of living standards, satisfaction of social needs, economic growth. Serves to accelerate the development of science and technology. Therefore, each country must adapt its economic structures and industries to the requirements of information systems in order to take a worthy place among the states in the XXI century and to be equal in economic relations with other countries. One of the most important areas of public information is the education system. Informatization of the education system In order to introduce developmental education, the use of new information technologies, the use of its methods and tools, the acceleration of all stages of the educational process, improving the quality and efficiency. Issues of educating young people to be ready to live in an informed society. In practice, all technologies that use special technical media - computers, audio, film, video - are called information educational technologies. As a result of the widespread use of computers in the education system, the terms "new information education technology" and "computer education technology" have emerged. Computer technology develops software learning ideas. Modern computer-based learning technologies are the process of preparing and transmitting information to the

learner, and the means of its implementation is the computer. The rich possibilities of presenting information on the computer have made it possible to change and enrich its content by adding integrated courses to the content of education, acquaintance with the history and methodology of science, creative work of great people, world level of science, technology, and culture. 41 Process Features of Computer-Aided Learning Technology Computer-assisted learning tools can be called interfacial. They have the ability to "respond" to the movement of learners and educators, to engage in dialogue with them, which is a key feature of this computer-based teaching method. The computer can be used at all stages of the learning process: explaining new material (in the introduction). Strengthen repetition while controlling biiim-skills, and so on. In this case, it performs various functions for the learner: the teacher, the working tool, the object of training, the collaborative team. The learning environment. The educational functions of the computer include: the source of educational information (teacher); visual aids (with a qualitatively new level of multimedia and telecommunications); individual information space; trainer: diagnostic and control tool. . Graphic editor; computer: modeling tool. Bin educational tools of information technology is the use of audio and video tools. Therefore, along with computer technology, audio-video technologies of teaching also operate. In them, most of the management of learners' cognitive activities is specially produced n is done using audiovisual training materials.

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## **CONCENTRATED PHOSPHORUS-CONTAINING FERTILIZERS BASED ON LOCAL RAW MATERIALS**

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### **ABSTRACT:**

The article presents the results of research on the development of new types of phosphorus-containing fertilizers based on local raw materials. The resource-saving technology of obtaining concentrated superphosphate from high-carbonate raw materials of the Central Kyzyl Kum is shown. The main advantages of this technology are: the absence of units for diluting concentrated sulfuric acid, storage maturation of acidic superphosphate, ammonization, drying and granulation. The analysis of the obtained phosphorus fertilizers, obtained by the developed technology, showed that they are low hygroscopic, have a high moisture capacity, and their physical properties begin to deteriorate sharply only at a moisture content of about 20 %.

**KEYWORDS:** phosphorites, chamber and flow methods, sulfuric acid, highly carbonated phosphorites, recycle, hopper, batcher, model installation.

### **INTRODUCTION:**

Together with the harvest, there is an intensive removal from the soil of all the nutrients of mineral fertilizers. The deficiency of these elements in soils must be replenished by the application of fertilizers, taking into account the utilization rate of various forms of active substances. But the utilization rate of the fertilizers applied to the soil by plants is still low. Therefore, increasing the efficiency of using mineral fertilizers through the production of better quality species is an important task. From the above, it follows that there is a need to create new types of phosphorus-containing fertilizers and increase their production. The President of Uzbekistan and the Government of the Republic pay great attention to the issues of building up these industries.

The phosphorites of the Central Kyzylkum deposits are of great importance for the Republic of Uzbekistan. The total reserves of granular phosphorites are estimated at 10 billion tons of ore. The most promising and studied areas are the Dzheroyskaya and Sardarinskaya areas, the probable reserves for which to a depth of 100 m are more than 100 million tons.  $P_2O_5$ . In recent years, the scale of



implementation of the processing of natural phosphates into complex fertilizers in Uzbekistan has increased significantly. A wide variety of chemical technological schemes have been created, an in-depth study of individual stages of the processes is being carried out, the sources of phosphate raw materials are being expanded to obtain highly concentrated phosphorus fertilizers. In the future, in order to provide the national economy with phosphate raw materials, it will be necessary to bring into operation almost all of the currently known deposits on the territory of the Republic of Uzbekistan.

By varying the technological parameters of the process, it is possible to obtain phosphorus-containing fertilizers with an adjustable ratio of nutrient components, which predetermines their high agrochemical efficiency and the possibility of using them on any soils and for any agricultural crops.

On the basis of these data, for the first time in the world practice, the employees of the Institute of General and Inorganic Chemistry of the Academy of Sciences of the Republic of Uzbekistan have developed a high-intensity and resource-saving technology for obtaining granular superphosphate from highly carbonized Kyzylkum phosphorites. The main essence of the technology is the treatment of phosphorites with a high carbonate content with highly concentrated sulfuric acid. The process of decomposition, drying and granulation takes place in one apparatus - auger-mixer-granulator for 15-20 minutes. The main advantages of the developed technology in comparison with the current chamber technology are: the absence of units for diluting concentrated sulfuric acid, storage maturation of acid superphosphate, ammonization, drying and granulation. The main advantage of the developed technology in comparison with the chamber technology currently used at the Kokand superphosphate plant is the elimination

of energy-intensive and lengthy stages: dilution of concentrated acid, chamber decomposition (1.5-2 hours), warehouse ripening (4-6 days), ammonization and drying, carried out in rotating drums, as well as the classification of the finished product and others. Due to a significant simplification of technology, intensification of the process and savings in heat and power costs, the prime cost of simple superphosphate is reduced by 25-30 %. The chemical composition of the product does not differ from the chamber superphosphate, however, in terms of its commercial properties, it significantly surpasses it.

The results of agrochemical and microbiological tests of simple superphosphate carried out at the Uzbek Research Institute of Cotton Growing of the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan, the State Research Institute of Soil Science and Agrochemistry of the State Committee for Agriculture of the Republic of Uzbekistan, the trophology laboratory of the Institute of General and Inorganic Chemistry of the Academy of Sciences of the Republic of Uzbekistan indicate that that it has a beneficial effect on the growth, development and yield of cotton. Its performance is equivalent to the Kokand superphosphate.

In order to test the technology for obtaining a single phosphate fertilizer, we have created a model installation based on the results of the research carried out in the scientific research technological laboratory of the Institute of General Education and Science. The main units of the installation for obtaining concentrated phosphorus fertilizer are mixing of the initial components (phosphorite, EPA and recycle) and additional decomposition of phosphorite. The supply of phosphate raw materials and recycle is carried out through the hopper of the auger batcher (1), made of St. 3. A screw mixer (3), which was made of stainless steel X18H10T, is provided for mixing EPA,

phosphorite and retur. The resulting acidic product from the screw mixer enters the additional decomposer (drum-type apparatus). The additional breaker (4) is made of plain steel. It is a drum 1 m long, inside the drum blades were welded to mix the product. The required temperature for additional decomposition in the additional decomposer is created by supplying hot air coming from the heater. The decomposition machine rotates at a speed of 2-3 rpm. Using an electric motor.

Experiments on obtaining concentrated phosphorus fertilizer on a model setup were carried out for a month. The work used ordinary phosphorite flour produced by the Kyzylkum phosphorite plant, composition (wt.%): 17.20 P<sub>2</sub>O<sub>5</sub>; 46.22 CaO; 16.00 CO<sub>2</sub>; 1.24 Al<sub>2</sub>O<sub>3</sub>; 1.05 Fe<sub>2</sub>O<sub>3</sub>; 1.75 MgO; 2.0 F and one stripped off extraction phosphoric acid to a P<sub>2</sub>O<sub>5</sub> concentration of 29.86%. The mass ratio of P<sub>2</sub>O<sub>5</sub> EPA: P<sub>2</sub>O<sub>5</sub> FS varied from 1: 0.3 to 1: 0.8. The experiments were carried out periodically. Phosphorite and phosphoric acid were fed into the screw mixer simultaneously. The amount of

supplied phosphorite and EPA was adjusted, respectively, by changing the rotational speed of the metering screw (1) and a Mariotte flask (5). For each period of time, phosphorite and phosphoric acid were supplied to the screw mixer strictly according to the given ratio P<sub>2</sub>O<sub>5</sub> EPA: P<sub>2</sub>O<sub>5</sub> F / C. And the amount of the supplied retur did not exceed 30-40% of the volume of the finished product. After 12-15 minutes, a decarbonated phosphate mass came out of the screw. The process of complete decarbonization and additional decomposition of phosphate flour was carried out in an additional decomposer at a temperature of 100-105 ° C. In this apparatus, the process was completed in 20-25 minutes. In the case of obtaining a wet product, it was dried in an additional decomposer. The dried products were sieved by hand. For each ratio P<sub>2</sub>O<sub>5</sub> ЭФК: P<sub>2</sub>O<sub>5</sub> Ф / C a separate batch of fertilizer was obtained. Dried samples of phosphorus fertilizers were analyzed for the content of various forms of phosphorus, calcium and CO<sub>2</sub>. The results of the analysis are summarized in Table 1.

Table 1. Chemical composition of concentrated phosphorus fertilizers obtained on a model plant.

Mass ratio P <sub>2</sub> O <sub>5</sub> EPA: P <sub>2</sub> O <sub>5</sub> PRM	Humidity pulp after decompos ition, %	The chemical composition of the dried product, %							P <sub>2</sub> O <sub>5</sub>	P <sub>2</sub> O <sub>5</sub>	P <sub>2</sub> O <sub>5</sub>	CaO	CaO
		P <sub>2</sub> O <sub>5</sub> general	P <sub>2</sub> O <sub>5</sub> digestibility in 2 % lim. acid	P <sub>2</sub> O <sub>5</sub> digestibili ty 0.2 M tril. B	P <sub>2</sub> O <sub>5</sub> <u>water</u>	CaO general	CaO digestibility in 2 % lim. acid	CaO <u>water</u>	digestibilit y P <sub>2</sub> O <sub>5</sub> general in 2% lim. acid %	digestibilit y P <sub>2</sub> O <sub>5</sub> general 0.2 M tril. B %	<u>water</u> P <sub>2</sub> O <sub>5</sub> general %	digestibilit ty CaO general %	<u>water</u> CaO general %
1:0,3	26,09	2,76	41,34	37,6 1	30,4 7	25,8 5	24,86	18,60	10,15	90,98	73,7 1	62,53	74,82
1:0,4	23,95	3,02	37,91	31,6 6	25,3 5	20,3 2	28,12	18,26	9,04	83,52	66,8 7	53,60	64,94
1:0,5	21,63	3,39	36,47	28,8 1	22,8 3	14,3 1	32,67	19,97	6,02	79,0	62,6 0	39,24	61,13
1:0,6	20,84	3,82	34,99	26,3 1	21,2 1	6,60	35,26	20,15	2,81	75,20	60,6 2	18,87	57,15
1:0,7	19,00	4,25	33,14	23,9 0	18,7 8	3,39	36,67	20,53	1,57	72,12	56,6 7	10,23	55,99
1:0,8	18,19	5,02	32,0	22,3 0	17,3 7	2,21	37,96	19,44	1,11	69,69	54,2 9	6,91	51,52

The data in the table confirm the closeness of the content of nutrient components of the samples of phosphorus fertilizers

obtained in laboratory conditions and on a model installation.

To carry out agrochemical tests, we obtained pilot batches of phosphorus fertilizers at a ratio of  $P_2O_5$  EFK:  $P_2O_5$  F / C 1: 0.5.

Based on the data of laboratory experiments and experiments on a model installation, the main indicators of the technological process for obtaining a concentrated one-sided phosphorus fertilizer have been developed.

The physicochemical properties of single phosphoric fertilizers obtained under optimal conditions of activation of ordinary phosphorite flour with phosphoric acid and its mixture with sulfuric acid have been determined.

The results of the experiments showed that single phosphoric fertilizers obtained under optimal conditions by activating ordinary phosphorite flour of the Central Kyzyl Kum with phosphoric acid and its mixture with sulfuric acid are low hygroscopic, have a high moisture capacity, and their physical properties begin to deteriorate sharply only at a moisture content of about 20 % ...

According to the developed technology, pilot plants for the production of superphosphate were built at Samarkandkimyo and Elektrokhimzavod factory.

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## COMMON NOUN LEXEMES SIGNIFYING A PLACE IN THE UZBEK LANGUAGE

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### ABSTARCT:

**The study of the Uzbek language as a system can be conditionally divided into a few steps. And this consists of the internal systems of the language, system interactions at internal levels, additionally the study of the language as a whole system and the steps forming linguistically and extralinguistically the speech which is the occurrence of the language.**

**KEYWORDS:** Systemology, substantial, ideographic, hypo- hyperonymic, seme, lexeme, lexicographic, semantic.

### INTRODUCTION:

Conditionality of dividing study steps as a system is that some vital problems are solved besides peculiar tasks are done in every step. Especially, if we try to identify internal levels of the language, its units, microsystems and categories specific to each level it is impossible to do anything not relying on the concepts of aggregation and differentiation which are the main principles of the theory of systemology. Also, in the process of exploring system interactions substantial features of the units structuring categories and microsystems are studied.

Modern Uzbek Linguistics, generally finishing the task of exploring linguistic systematic interactions, linguistic substantial properties of the language units, has begun to investigate problems concerning to practical occurrence of the language and to research the speech as a whole system.

But attempts to study some lexical microsystems as a theoretical source for

practical ideographic lexicography are increasing. Especially, works on the problems of researching vocabulary as the system of systems are proof of our idea. Although a lot of theoretical works have been done on the systematic study of the lexical level of the Uzbek language, many of its lexical-notional groups in ideographic purposes have not been studied so far. Especially, place name lexemes are the proof of our opinion.

In the Uzbek language proper noun lexemes signifying a place structure a separate lexical-notional system. There are also many problems in the study of the system and they are the followings:

- To identify the concept of "maskan (place)";
- To investigate its relationship with the noun "ism-ul makon (place name)" borrowed from the Arabian language;
- To comment on some shifting in meaning;
- To find out the role of the place names in the vocabulary system;
- To analyze the importance of lexical-semantic interactions in the lexicographic definition of place names, in additionally, speech occurrence of place names, substantial points occurring in literary texts.

A man recognizes and understands the reality with the help of the Mind and classifies it with the help of the Tongue. The classification of the reality is done only through the language. And the classification of the Reality is the Beginning of the lexicography.

Thoroughly classifying every lexeme of the lexical system, identifying a real role of every lexeme in the system, finding out system interactions of the lexemes constitutes the stem of creating ideographic dictionary. "Indeed,

language is a system of elements that constitutes a wholeness. The meaning of every element that constitutes it comes out from the existence of other elements constituting the system at the same time" Ideographic dictionary is a systematic one. And it is very important to identify semantic structure of lexical units for an ideographic dictionary. Because it is impossible to imagine a perfect ideographic dictionary without a semantic structure thoroughly worked out. "...a boundless language that nobody has realized its essence and nobody can take advantage of using a part of its milliard and milliard opportunities in their lifetime so far constitutes unbelievable diversity with a number of notional bricks (semes), form units (30-40 phonemes) and types of relations colorfully combined with each other. It can be compared only with number 10 and simplicity of the four operations in mathematics and with the fact that mathematics is the result of their different combinations or D.I. Mendeleyev's periodic table of chemical elements containing all the uncountable and unimaginable quantity and number of substances on the planets of the solar system. And the task of Linguistics is to explore such kind of system". And the exploration of this system serves as a foundation for creating perfect ideographic dictionaries.

Place names lexemes of the Uzbek language have stable properties like the lexical level itself:

- 1) The system of place names has a stable place in the lexical system;
- 2) The system of place names is an open one;
- 3) The system of the lexemes of place names is divisible, i.e. it consists of internal microsystems;
- 4) Lexemes of place names and smaller parts within the system interact step by step with each other.

Dictionaries differ with each other in their principles of description of words. In many

cases the value of an annotated dictionary is determined by semantic definition of words, significance of words in the vocabulary system and the research degree of their semantic structure. Especially, it provides perfectness of the notes if research results of synonymy, type-gender and level interactions are "absorbed" in the lexicographic definition. These semantic and hypo-hyponymic relations have a great importance in the system of place names lexemes. Unlike other dictionaries, an annotated dictionary has a peculiar role and importance in defining linguistic value of the word and in giving lexicographic tone to it. One of the main characteristics of this dictionary mentioned as "Ummul lug'at" (Mother of dictionaries) is that inter-word lexical-semantic relationship is considered one of the basic factors. From what has been said, it can be concluded that it gives significant evidences for the Uzbek lexicographic practice to identify the role of place names in the lexical system and its microsystems, to research lexical-semantic relations of inter-lexemes, to investigate speech capability of units.

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## EFFECT OF SOIL SALINITY ON COTTON LEAF DEVELOPMENT AND DEFOLIATION EFFICIENCY

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### ABSTRACT:

**It was found that the leaf plate of the Sultan cotton variety, which is grown in the conditions of weakly saline, moderately saline and non-saline soils of Andijan region, decreases as the level of soil salinity increases. UzDEF and FanDEF defoliants are applied to cotton at a rate of 5.0-6.0-7.0 l / ha compared to Liquid XMD 8.0 l / ha, in a weakly saline area - 6.0-7.0 l / ha, in moderately saline - 5.0- Defoliants were found to be more effective at 6.0 l / ha and 7.0 l / ha in the unsalted area.**

**KEYWORDS:** Different saline soils, leaf level, UzDEF, FanDEF defoliants.

### INTRODUCTION:

The green leaf is one of the main organs of plants. A green leaf is a "laboratory" through which photosynthesis produces organic matter.

Therefore, the size of the leaf surface directly affects the growth, development and yield of crops. The larger the leaf surface, the lower the yield. However, it should be noted that the cotton leaves must be formed in time, otherwise they will not be able to absorb the FAR coming from the sun, resulting in the cotton leaves being smaller or the leaf plate larger, scientifically called cotton buds. According to our work program, changes in leaf levels were studied when cotton leaf levels were uniformly fed to plants in "differently saline" soils and when agro-technical measures were taken.

There are data that clearly show the anatomical-morphological changes of cotton leaves in saline pressing. In particular, as noted by V.A. Burgi (1947), the size of cotton leaves growing in saline soils is greatly reduced, their number and number of petals are reduced, and the thickness of the leaf plate is significantly increased.

Many authors Sh.Teshaev, A.Uljabaev, Z.Jumabaev consider the thickening of the leaf plate as a clear sign of succulence (thick and wet water of cotton leaves growing in saline soils) caused by salinization of the soil. The leaf plate was found to thicken mainly due to the proliferation of aqueous tissue cloudy parenchyma.

### MAIN PART:

In our experiments, the total level of cotton leaf was measured four times - on the 1st day of each month, i.e. from June to the first day of September. What we do know is that the cotton leaf plate grows larger due to plant development. The size of the leaf blade also depends on the characteristics of the cotton variety, the same variety has been studied in our experiment, but the soil conditions are three different. Correspondingly, it was found that the leaf plate of the cotton plant in the low salinity area was relatively large, and the leaf plate of the cotton plant in the low salinity area was higher than the leaf plate of the cotton plant in the saline area.

In our experiment, a total of 250 leaf plates were weighed on a weight scale of 50 out



of 5 variants in unsalted, weakly saline, moderately saline areas of the soil.



Figure 1: The process of drawing a leaf plate.

The results from the unsalted area showed that 250 leaf plates weighed 960 grams, with an average of 192 grams. The results from the weakly saline area were 1131 grams per 250 leaf plates, an average of 226.2 grams, and the results from the average saline area were 1174.0 grams per 250 leaf plates, an average of 234.8 grams.

Based on the above data, it was observed that as the salinity of the soil increased, the leaf plate thickened, and during our work, the concentration of leaf sap was also studied in our experiment.

At the same time, in areas where the concentration of leaf aphids in non-saline areas was irrigated before cotton flowering, the refractometer reading showed an average brix of 14%. In the weakly saline area, the brix showed 14.2%, while in the moderately saline

area, the brix showed 16.1%. Syrup concentrations were continued after irrigation, with an average brix of 12.2% in the unsalted area, 12.7% in the weakly saline area, and 13.4% in the moderately saline area.

The rate of defoliants is reduced by 10-20% as soil salinity increases from weak to strong. The rate of defoliants in cotton in water-scarce areas should be increased by 10-15% compared to cotton grown under optimal irrigation regimes (Sh. Teshaev 2011).

According to F. Teshaev (2015), the abundance of leaves in the cotton stalks during the opening of the cocoons prevents the cotton field from blowing, causing an increase in moisture in the layer of air close to the ground. As a result, the cocoons become suffocated and delayed in opening, and in some cases, bacteria and fungi that rot the cocoons multiply, and the cases of rot of the cocoons are more frequent.

In our experiments in 2017-2019, the effect of defoliants on the opening of cotton leaf shedding in different saline areas After 14 days of defoliation in non-saline area LiquidXMD applied 8 l / ha of dried leaves 9.8%, semi-dried leaves 6.3%, shed gardens while the UzDEF defoliant reached 79.0-81.2-87.4% of the shed leaves in the variants used in the norms of 5.0-6.0-7.0 l / ha, and accordingly. in the bush the dried leaves reached 11.9-10.8-7.1%, and the semi-dried leaves 9.2-8.0-5.5%. Similar data were obtained in the variants using FanDEF defoliant 5.0-6.0-7.0 l / ha. The best results in leaf shedding were obtained from the variants applied to 7 l / ha, and the same results were obtained in the opening of the pods.

## CONCLUSION:

In conclusion, it can be said that growing under favorable conditions was repeated. However, due to the increase in soil salinity, the leaf blade becomes thicker and rougher, and the leaves become smaller than a cotton leaf that grows under optimal conditions. In order to

quickly and quickly collect raw cotton in different saline areas of Andijan region, especially in weakly saline areas, UzDEF defoliant is 6.0-7.0 l / ha per hectare, 6.0 l / ha in moderately saline areas, and 7 in non-saline areas. , 0 l / ha, FanDEF defoliant 6.0 l / ha per hectare, 5.0-6.0 l / ha in moderately saline areas, and 7.0 l / ha in non-saline areas, give good results.

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# **THE MAIN DIFFERENCES BETWEEN TEACHING APPROACHES, METHODS, PROCEDURES, TECHNIQUES, STYLES AND STRATEGIES**

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## **ABSTRACT:**

Language teaching terminology can be sometimes confusing. This article tries to describe the differences between teaching approaches, method, procedure, technique, style and strategy. Not quite often language teachers make much use of the terms, like teaching methods, teaching strategies, teaching techniques and teaching approaches. Some make reference to them when talking about pedagogical issues and seem to use them interchangeably as though meaning the same thing while others use it to explain specific concept in education. It is important, for us, i.e. language teachers, to be informed about what exactly each term means.

This paper tries to distinguish the distinct meaning of each term to enable one to clearly differentiate between their use as well as establish the relationship that exist between these educational terms.

**KEYWORDS:** Language teaching, teaching approaches, teaching methods, procedures, teaching styles, strategies and techniques.

## **INTRODUCTION:**

Before we tackle the major terms, let's begin by defining their various components: teaching, methods, techniques, approach and strategies. Teaching approach is a set of principles, beliefs or ideas about the nature of learning, which is translated into the classroom.

An approach is an enlightened viewpoint toward teaching. It provides philosophy to the whole process of instruction. As presented by the diagram, the method and technique are just parts and parcels of approach. Approach gives the overall wisdom, it provides direction, and sets expectations to the entire spectrum of the teaching process. Furthermore, approach sets the general rule or general principle to make learning possible.

A method, on the other hand, is an organized, orderly, systematic, and well-planned procedure aimed at facilitating and enhancing students' learning. It is undertaken according to some rule, which is usually psychological in nature. That is, it considers primarily the abilities, needs, and interests of the learners. Method is employed to achieve certain specific aims of instruction. To make it as an effective instrument, it should be presented with certain amount of efficiency and ease. More so, the teaching method aims to

achieve greater teaching and learning output, thus saving time, efforts and even money on the part of both the teacher and the learner. It directs and guides the teacher and the students in undertaking any class lesson or activity.

To appraise that teaching method is good and effective, the following characteristics would tell if it is so:

- ✓ Good method recognizes individual differences;
- ✓ If it provides students' learning;
- ✓ If it facilitates growth and development;
- ✓ If it achieves the desired results of the teacher as reflected in her instructional objectives.

One must remember that there is no such thing as the best method. Thus, there is no single correct way to teach a class. Instead, there are many good ways of teaching the students.

The procedural variation of a method calls for the third term, technique. Technique encompasses the personal style of the teacher in carrying out specific steps of the teaching process. Through technique, teachers enable to develop, create and implement, using her distinctive way, the procedures (method) of teaching.

The Mariam Webster Dictionary (2016) defines teaching as the act of imparting or providing knowledge or skills to another. Thus, the act, occupation, or profession of a teacher. It encompass both instruction in procedures, a process to guiding pupils to the information they will need, and challenging them to engage in thinking about concepts they construct in their mind. All of these are needed in order to teach students to become fully functioning individuals with good thinking capacities.

Dictionary.com defines 'method' as a procedure, technique or way of doing something especially in accordance with a defined plan. Thus, it's a manner of logical,

orderly and systematic procedure to instruction, investigation, experimentation, presentation, etc. Example, there are several methods of farming.

The Oxford Advanced Learners Dictionary (2016) defines a technique as a way of carrying out a particular task, especially in the execution of duty. For instance, new surgical techniques mean quality treatment in a shorter time. Thus, a technique is a systematic formula by which a task is accomplished.

Cambridge dictionary (2016) defines an approach as a way of considering or doing something. For instance, a person's approach to life, thus, his perspective or view of life.

The Mariam Webster Dictionary (2016) again defines a strategy as a careful plan for achieving goals usually over a long period of time. It is a plan of action designed to achieve a specific goal or series of goals. For instance, soldiers strategize ways to win a battle.

From the above definitions we can come up with the following as definitions for the various termsteaching methods, teaching techniques, teaching approach and teaching strategies.

Teaching methods are the procedure, technique or way of teaching especially in accordance with a defined plan. The term teaching method refers to the general principles, or pedagogy used for classroom instruction. Your choice of teaching method depends on what fits you — your educational philosophy, classroom demographic, subject area(s) and school mission statement. Teaching theories primarily fall into two categories or "approaches" — teacher-centered and student-centered:

### **1. Teacher-centered approach to learning:**

Teachers are the main authority figure in this model. Students are viewed as "empty vessels" whose primary role is to passively receive information (via lectures and direct

instruction) with an end goal of testing and assessment. It is the primary role of teachers to pass knowledge and information onto their students. In this model, teaching and assessment are viewed as two separate entities. Student learning is measured through objectively scored tests and assessments. Some examples of the teacher-centered methods include: Lecture methods and whole group discussion.

## **2. Student-centered approach to learning:**

While teachers are an authority figure in this model, teachers and students play an equally active role in the learning process. The teacher's primary role is to coach and facilitate student learning and overall comprehension of material. Student learning is measured through both formal and informal forms of assessment, including group projects, student portfolios, and class participation. Teaching and assessment are connected; student learning is continuously measured during teacher instruction. Some examples of the child-centred methods include: small group discussions, simulations, projects, etc.

Teaching approach is a way of going about teaching which suggests a ways that encourages good performance. Thus, according to the British Council (2015), an approach is a way of looking at teaching and learning. Underlying any language teaching approach is a theoretical view of what language is, and of how it can be learnt. An approach gives rise to methods, the way of teaching something, which use classroom activities or techniques to help learners learn. Examples of a teaching approach include the cognitive, behaviorist and constructivist approach to learning,

Teaching techniques are the unique ways of carrying out a particular task, in the teaching and learning process. Thus, it's the individual teachers' unique way of applying a strategy. For

instance, two teachers may decide to use small group discussions as their means of delivering a lesson but each may have a unique way of conducting the process of the discussion. One may decide to use two pupils to conduct the discussion; the other may decide to employ four pupils for that. Furthermore each teacher will definitely have a unique way of delivering his lesson.

Teaching strategy is a careful plan of teaching activities to be undertaken which ensures effective teaching and learning. It is a plan of action designed to achieve a specific goal or series of goals. At the planning stage of every lesson the teacher decides what method of teaching to adopt, whether teacher centered or child centered. Upon deciding which method to adopt which ensures effective teaching and learning of that specific topic, he begins to carefully plan teaching activities which can help achieve effective learning.

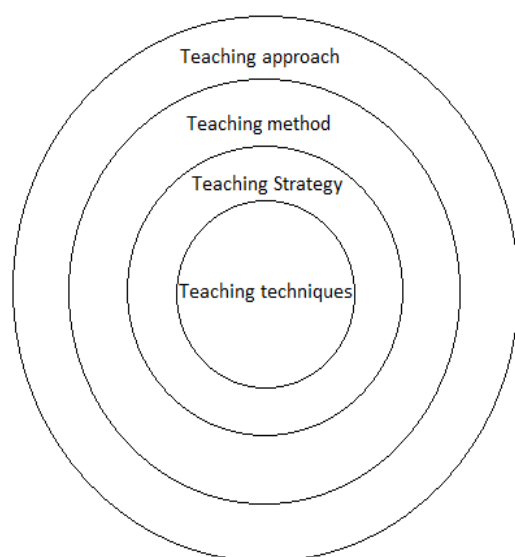
## **Differences and relationships:**

From the definitions of the root words provided by the various dictionaries, it is clear to see that the method, approach, strategy and technique are not the same and therefore cannot be used interchangeably. While an approach is informed by ones' view or perspective on issues, a strategy is a carefully planned activities use to achieve a goal; a method becomes the procedure one adopts in solving an issues while a technique becomes ones' own unique ways of solving a situation at hand.

The definitions of the actual terms which stems out from the meaning of the root word also suggest clear differences. Therefore these words cannot be used interchangeably since doing so would to a distorted view of the terms.

These definitions, notwithstanding, depicts a clear relationship between the terms: teaching approaches provide a basis for the

development of teaching methods, teaching strategies also evolve to define the components of each teaching method and the teaching techniques provide the unique ways of going about a strategy. In other words, teaching approach becomes a universal set from which we get teaching methods. Teaching methods also give birth to teaching strategies from which we are defined by specific teaching techniques.



Below is a table giving examples which clearly depicts the differences as well as the similarity in the use of the various terms:

Teaching Approach	Teaching Method	Teaching Strategy	Teaching Technique
Constructivist and cognitivist approach to learning	Child-centred method	Small group discussion, demonstration, buzz groups, etc	Pair work, discussions, snowballing, collaborating, etc
Objectivist approach to learning	Teacher-centred method	Lecture method, whole class discussion, whole class presentations, etc	Lectures, talks, conferences, symposium, etc

**Activity 1. Identify whether each sentence below suggests an**

**a. Approach b. Method c. Technique**

1. A procedural variation of a teaching strategy.
2. A general rule or principle that guides the whole process of teaching
3. A sound philosophy and orientation, which used as bases in the process of instruction
4. Guiding students by following an established patterns/steps of teaching
5. A highly personalized style of carrying out a particular step
6. A viewpoint that suggests what teaching procedure is to be used.
7. Implementation due to its instant classroom application
8. Embracing the entire spectrum of the teaching – learning process
9. Procedural in nature since it is a series of logically arranged courses of action.
10. An overall plan for the orderly presentation of a lesson
11. Guiding teaching from planning to evaluate
12. Making teaching an organized and systematic process
13. Developing the teacher's own distinctive way of carrying out some aspect of instruction
14. Teaching is done following a well spell-out procedure.
15. An example of which is looking at the learner as the center of the educative process.

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# STUDY OF THE AGRO-ECONOMIC EFFECT OF EVERY- OTHER FURROW IRRIGATION AND DIFFERENT LEVELS OF NITROGEN APPLICATION ON WHEAT YIELD

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## ABSTRACT:

**Background/Objectives:** Choosing irrigation method and nitrogen fertilizer content are highly restricted by economic issues. In this study, economic impacts of irrigation reduction in combination of nitrogen fertilizers on wheat production were investigated.

**Methods/Statistical Analysis:** Three methods (normal, fixed and variable) Every-Other Furrow irrigations, which is one of the recent methods of water management used in wheat production, were employed in main plots. Nitrogen fertilizers (0, 90, 180 and 270 Kg/ha) were applied to subplots. The experiment was conducted in Bajgah and Kooshkak stations. The grain yield-fertilization functions, considering the optimum values of nitrogen application, were obtained when different irrigation methods were used. The benefit to cost ratio, real and normal profit for optimum treatment in Bajgah and Koashkak were then calculated.

**Findings:** Our results indicated that application of 270 kg/ha nitrogen under variable E.O.F irrigation followed by 180 Kg/ha nitrogen under variable E.O.F irrigation, lead to the highest yield. Profit to cost ration, real net profit and nominal were estimated 2.52, 11337532 and 11269302 IRR for Bajgah and 2.24, 10087351 and 10087698 IRR in Kooshkak, respectively. Upon measuring environmental factors, nevertheless, application of 180 Kg/ha nitrogen under variable E.O.F irrigation is recommended.

**Application/Improvements:** Irrigation using this method utilizes water less than 43% compared to furrow irrigation method.

**KEYWORDS:** benefit to cost ratio, every-other furrow irrigation

## INTRODUCTION:

When agricultural systems met water shortage due to limited precipitation, plant water requirement to gain acceptable yield has to be met through irrigation. This kind of irrigation is called "Least irrigation."<sup>7</sup> It is obvious that when the water availability is limited or the cost of water is high, (economically), applying the least irrigation method is preferential because with the same amount of water, more land can be cultivated. When there are some problems to get investment, energy, labor



power and other resources, or when the prices of these resources are high, using the "Least irrigation method" can be useful for getting suitable benefit.

If the goal is to get maximum benefit and suitable nutrition production, least irrigation method would be considered as a valuable solution.<sup>4</sup> Every Other Furrow Irrigation (E.O.F.I.) is one of the new methods of surface irrigation. In this method that just a part of the field is irrigated, the evaporation level would be decreased<sup>1</sup>. In this method deep penetration will be limited<sup>9</sup> and because of that, the problem of upcoming water level would be decreased. In addition, E.O.F.I will increase the irrigation speed up to 70 %<sup>11</sup>. Mast<sup>18</sup> tested the effects of irrigation method and timing on field corn (*Zea mays* L.) in Denair, California. Silage tonnage, grain yield, and plant height were compared across four treatments including; every-other furrow, the grower's standard practice, deficit, and a control with three repetitions of each treatment. The experiment showed that every-other furrow irrigation does not significantly hurt corn yields compared to the control, with every furrow irrigated on the same schedule as every-other furrow. Overall, the experiment revealed that every other furrow irrigation could be utilized to speed up the irrigation schedule.

Tafteh and Sepaskhah<sup>17</sup> in a study aimed at investigating the effect of conventional furrow irrigation, variable alternate furrow irrigation, and fixed alternate furrow irrigation methods on maize yield and nitrogen leaching found that the interaction between irrigation treatments and nitrogen application rates was statistically significant for all irrigation treatments. Total leached nitrate decreased for variable alternate furrow irrigation and fixed alternate furrow irrigation as compared to conventional furrow irrigation respectively. The results of a study conducted by Shayannejad and Moharrery<sup>15</sup> showed that there was significant difference between water use efficiency under different treatments including: normal furrow irrigation, fixed every-other furrow irrigation, and alternative (variable) every-other furrow irrigation in starch and protein contents of potato. The fixed every-other furrow irrigation treatment had the most water use efficiency. This treatment also decreased the starch content and had no effect on protein content of potato in the studied area. In a study carried out by Sheinidashtegol<sup>14</sup>, they found that variable every-other furrow irrigation treatment had the highest water use efficiency on sugarcane yield compared to fixed every-other and conventional irrigation methods. The goal of the research was to investigate the cultural and economic effect of E.O.F.I. and different levels of Nitrogen, on wheat seed yield in two regions Bajgah and Kooshkak considering both subsidized and real price of water.

## **MATERIALS AND METHODS:**

The research was conducted in two locations, Bajgah and Koshkak. Both locations belong to faculty of Agriculture, Shiraz University. The geographical and meteorological parameters for the two stations are bringing in Table 1. According to the soil analysis, the former location had sandy clay and the later sandy loamy soils (Table 1). The water for irrigation in Bajgah and Koshkak was supplied from wells and Doroudzan dam, respectively. The most important soil volumetric parameters for both regions are listed in Table 2.

The experiment was arranged in a split plot arrangement on a complete randomized blocks design with three replications. The main plots were composed of irrigation mode including three levels, as original (conventional) irrigation, fixed Every Other Furrow Irrigation (E.O.F.I.) irrigation , and variable E.O.F.I. Subplots were four different nitrogen levels including 0-90- 180 and 270 kg/ha. Each subplot included three rows with (1.8m ×30m) cm apart. On each row, plants were spaced 30×9 cm. Amount of the water reached to the plots was controlled using a contour.

Irrigation time was determined according to soil moisture content and evapotranspiration. Soil moisture content was measured in depth of 30, 60, and 90 cm under the soil surface. In each position, soil was taken using auger and after packing in plastic bags, transferred to lab. Weight of the soil samples was measured and the samples were incubated for 24 h at 105°C.

The evapotranspiration from reference plant surface was measured by Penman FAO<sup>2</sup>. Daily meteorological data, containing daily minimum and maximum of ambient temperature, mean of relative humidity, daily sunshine hours and daily average of wind speed, were taken from synoptic stations in Bajgah and Kooshkak.

Wheat harvest index was calculated according to the following formula:

$$HI\% = \frac{Y_s}{Y_t}$$

Where  $Y_s$  and  $Y_t$  are stand for grain yield and total dried biomass of the plant, respectively.

For each treatment, weights of 1000 seeds and number of spike/m<sup>2</sup> were measured, as well. Cost for agricultural activities, from swing to harvesting, are listed in Table 4.

In this survey, cost variables including costs of sowing and harvesting, cost of nitrogen fertilizer, and transporting the harvested crop to silo were considered to be the same for all treatments in both stations. In the course of economic analysis, costs and incomes variables were estimated for different treatments (see following). Dividing profit to cost components, the most economically suitable treatment was determined.

The economic analysis was conducted under two constrains: "with limitation of water consuming reduction" or "without limitation of water consuming reduction". In the method of "without limitation of water consuming reduction" in both stations, using low-irrigation, where only 59% of the water in full-irrigation was applied, the opportunity cost of water and real and nominal net profit was calculated. In this method using low-irrigation, 0.7 ha more land could be used for cultivation compared to full irrigation condition.

In the case of "with limitation of water consuming reduction", a total of 1.7 ha land was considered in such a way that 1 ha as one full irrigated and 0.7 ha as rain fed. This was compared with the case of 1.7 ha full irrigated land and respective real and nominal net profit were calculated. In these calculations, nitrogen level of zero ( $N = 0 \text{ kg/ha}$ ) in full irrigation was considered to as check. Considering the inflation rate of 17% in 1376 (data from Central Bank of Iran) and the annual inflation rate of 20% for the years 1377 to 1382, the cost of per cubic meter of water was calculated to be 227.1 Tomans.

## RESULTS AND DISCUSSION:

### The Interaction of Irrigation Methods and Nitrogen Levels:

Analysis of variance performed on the data collected at both locations is presented in Table 1 and 2. Mean comparison was subsequently performed.

Also, different levels of nitrogen had significant effects ( $\alpha \leq 0.05$ ) on total biomass and 1000 seed weight. In the treatments of  $N=0$ ,  $N=90$  and  $N=180 \text{ kg/ha}$ , the yield and number of spike/m<sup>2</sup> was 270 and 180 kg/ha nitrogen, these agricultural characters didn't show significantly different at 5%. Biological yield in original furrow irrigation and variable and fixed every other one under application of  $N=270 \text{ kg/ha}$  and  $N=180 \text{ kg/ha}$  didn't show significant difference at 5%. In original furrow irrigation variable and fixed every other one in  $N=270 \text{ kg/ha}$  and  $N=180 \text{ kg/ha}$  treatments, seed yield and

number of spike/m<sup>2</sup> were not significantly different at 5%. But these traits appeared as significant ( $\alpha \leq 0.05$ ) under in N=0, N=90, and N=180 kg/ha. Thus for, in all irrigation treatments, 180 kg/ha nitrogen application appeared to have the highest effect on seed yield. (Table 1 and 2).

#### **The Cost of Different Toman Treatments:**

According to Table 4, the cost of twice ploughs of one hectare per year is 70,000 Tomans. The cost of land leveling per hectare is 70,000 Tomans, superphosphate fertilizer 150 kg/ha, every 50 kg bag, 25000 Tomans and Urea fertilizer each bag of 50 kg, was 22500 Tomans. The quantity of seed used in each hectare was 25 kg and with 2100 Tomans per kg seed.

During growing period, only part of urea fertilizer was applied. Harvesting by combine machine costs 225000 Tomans per ha, and transferring harvested crops to silo needs 25000 Tomans per ton. So the total fixed expenses have been estimated 152000 Tomans.

In Kooshkak, Water supplied by Doroudzandam was used for irrigation of the farm. According to responsible statements about fixed and variable investments, for each cubic meter of water, the minimum price in year 1376 are estimated 100 Tomans. Considering the average annual inflation rate as 20% for six years, the cost of getting one cubic meter of water in 1382 in Kooshkak area, was calculated 298.6 Tomans. Of course every cubic meter of water was sold to farmers in Kooshkak 25 Tomans and in Bajgah 21 Rilas. This price is less than one eleventh real price of water. According to responsible statements, the price of one Kg wheat, 1720 Rilas and irrigation labor wage, for eight hours work in year 1382 for Bajgah has been recognized 5000 Tomans and for Kooshkak 7000 Tomans.

In Bajgah, the water used for irrigation was supplied from wells. Costs of extracting water from the wells is divided into two groups: fixed and current cost; the fixed costs are included initial investments such as drilling wells, buying and installing the pump motor, power supply and operational, and the current cost covers power or gasoline consumption, repair and maintenance. Cost for production per cubic meter of water extracted from wells can be estimated considering annual costs and average volume of water supplied from the wells.

These parameters are combined into the equation presented by Abdollahi Ezat Abadi<sup>8</sup> to estimate total cost required for a cubic meter of water in Toman, providing the hydrant depth is assumed equal to the well depth.

$$Y_t = 8.39 + 0.455 D$$

Where, D is depth of wells in meter and Y<sub>t</sub> is the total costs of a cubic meter of water. Assuming a well depth of 127 meters, the total cost required for access to cubic meters of water in Bajgah is to be estimated about 65 Tomans in 1375.

#### **Net profit and benefit ratio to cost ratio:**

While in the case of limitation of decrease in water consumption in Bajgah, the highest real and nominal net benefit obtained from variable E.O.I treatment with N= 270 kg/ha-1 were calculated to be 11338 and 11269 thousand Tomans, respectively. In Kooshkak where the highest real and nominal net gain was 10087 and 10088 thousand Tomans, respectively (Table 5). In the case of without limitation of decrease in water consumption in Bajgah the E.O.I treatment with N= 270 kg/ha-1 real and nominal net profit was estimated to be 11083 and 11110 thousand Tomans, respectively. Interestingly, in Kooshkak the same treatment showed the highest profit. Thus for all the treatments, N= 270 kg/ha-1, in

variable E.O.I was recognized the most economic treatment followed by N= 180 kg/ha-1 Table 5 however, from environment point of view, N= 180 kg/ha-1 is recommended to preventing more underground water and soil pollution.

In the method of limitation of decrease in water consumption for economical calculations, the rent price of the land is added to fixed costs (4 Million tomans ha-1).

Economical interpretation was conducted by the sub budget method. In these calculations, the check was the treatment of N= 0 kg/ha-1 in conventional irrigation but in second strategy 0.7 hectare did not take in consideration, because regarding the rent and the volume of crop harvested it was not economic. Again it is clear that the variable every other irrigation is most economic and the treatment of N= 180 kg/ha-1 in every other irrigation is in second priority. Of course the treatment of N= 180 kg/ha-1 is recommended to prevent the environment and underground pollution.

According to Table 7 the ratio of benefit to cost in all cases for variable every other irrigation (with N= 270 kg/ha-1) in both two regions was maximum, so that the ratio for this treatment in Bajgah was calculated as 2.52 and in Kooshkak 2.24 unit. This function shows that every one toman investment in this treatment in Bgah and Kooshkak regions will bring 2.52 and 2.24 rilas benefit to the farmers, accordingly. So in drought conditions, farmers can continue to cultivate using variable every other irrigation with more confidence. The treatment of N= 270 kg/ha-1 in every other irrigation method having 5.09 ton/ha-1, has been the optimum one. The volume of water used in this treatment was 3988 cubic meter in hectare and nominal cost of water was calculated 9057 and 837 thousand tomans accordingly.

#### **Fertilizer utilization-yield function:**

The functions of fertilizer application and yield in Bajgah region are briefly as below:

$Y = 1653 + 34 N - 7.87 \times 10^{-2} N^2$	$R^2=0.9224$	Original irrigation
$Y = 1996 + 20 N - 5.09 \times 10^{-2} N^2$	$R^2=0.9554$	Variable every other irrigation
$Y = 1653 + 14 N - 4.65 \times 10^{-2} N^2$	$R^2=0.905$	Fixed every other irrigation

The functions of fertilizer utilization-yield in Kooshkak region are as below:

$Y = 1649 + 31 N - 7.191 \times 10^{-2} N^2$	$R^2=0.9395$	Original irrigation
$Y = 1760 + 18 N - 4.4 \times 10^{-2} N^2$	$R^2=0.9894$	Variable every other irrigation
$Y = 1565 + 20 N - 6.23 \times 10^{-2} N^2$	$R^2=0.9693$	Fixed every other irrigation

Then, the cost equation is presented as a function of nitrogen level is written as below:

$$C(N) = 6 \times 106 + 980 N$$

The optimum level of nitrogen application in conventional furrow irrigation was estimated to be 212 kg/ha-1 but it's level was not significantly different comparing with the dosage needed for every other variable irrigation (191-198 kg/ha-1). The optimum level of Nitrogen in fixed every other irrigation method is significantly less (145-156 kg/ha-1).

## CONCLUSION:

This study shows that in every other furrow irrigation treatment, compared with conventional furrow irrigation, less water has been delivered to soil without a significant decrease in the crop yield. Decrease in using water of irrigation and no decrease in yield of E.O.F.I. system; indicate that these kinds of irrigation are more economic. The results of this survey also, shows that the treatment 270 kg.ha<sup>-1</sup> Nitrogen in variable every other furrow irrigation (E.O.F.I.) is the most economic treatment, and the second economic treatment has been 180 kg.ha<sup>-1</sup> Nitrogen. Of course to prevent the pollution of underground water and other elements, the second treatment N= 180 kg.ha<sup>-1</sup> in E.O.F.I. has been recommended.

The ratio of maximum profit to cost in all cases for variable E.O.F.I. with the treatment N= 270 kg.ha<sup>-1</sup> has been observed. The tables show that the profit has a reverse relation with the price of water. According to the results in conventional fixed and variable every other irrigation, the most harvest index has been for N= 90 kg.ha<sup>-1</sup> and N= 180 kg.ha<sup>-1</sup>, because of Nitrogen shortage in the soil and plant growth decrease in treatment N= 0 kg.ha<sup>-1</sup>. The best mean ratio of seed yield to biological yield in different furrow irrigation methods has been for this treatment.

The ratio of income to costs and real and nominal net profit for the suitable treatment in Bajgah was 2.52, 11337532 and 11269302 Tomans, for Kooshkak 2.24, 10087251 and 10087698 Tomans accordingly.

For better water usage, and to decrease the waste, different solutions as increasing the price of water and delivering the water to farmers in volume are suggested. This research recommends the E.O.F.I. to farmers for getting the highest profit and to prevent the environment pollution it is emphasized not to use too much Nitrogen, because accordingly to this study, increasing the Nitrogen usage more than necessary limit, doesn't bring any more benefit to farmer, but may pollute the underground water. So that the treatment N= 180 kg.ha<sup>-1</sup> is recommended.

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Table 1. Analysis of variance on data collected at Bajgah station

n	P value	F	SE	R <sup>2</sup>	Traits	Furrow irrigation method	Order
36	0.050	18.593	0.010	0.903	Fresh plant total weight	*Original	1
36	0.000	30.420	0.005	0.920	Seed yield	*Original	2
36	0.000	41.480	0.014	0.960	Seed yield	**Variable	3
36	0.000	30.340	0.002	0.910	Seed yield	***Fixed	4
36	0.048	19.272	0.521	0.906	No. plants/m <sup>2</sup>	*Original	5
36	0.026	37.227	0.013	0.949	No. plants/m <sup>2</sup>	**Variable	6
36	0.004	29.594	0.031	0.991	No. plants/m <sup>2</sup>	***Fixed	7
36	0.040	25.562	0.493	0.976	No. spikes/m <sup>2</sup>	*Original	8
36	0.024	39.510	0.006	0.952	No. spikes/m <sup>2</sup>	**Variable	9
36	0.038	24.766	0.194	0.925	No. spikes/m <sup>2</sup>	***Fixed	10

\*, \*\*, and \*\*\* (original, variable, and fixed) are introduced as materials and methods section.

According to Table 3, comparison of full irrigation method with every other furrow irrigation, revealed that the weight of 1000 seeds, biological yield, seed yield and the number of spikes/m<sup>2</sup> were significantly different ( $\alpha \leq 0.05$ ).

Table 2. Analysis of variance on data collected at Kooshkak station

n	P value	F	SE	R <sup>2</sup>	Traits	Furrow irrigation method	Order
					Fresh plant		
36	0.040	23.534	0.008	0.922	total	Original	1
36	0.000	30.422	0.004	0.939	Seed yield	Original	2
36	0.039	24.290	0.002	0.923	Seed yield	Variable	3
36	0.000	30.339	0.007	0.970	Seed yield	Fixed	4
36	0.033	29.128	0.038	0.936	No. plants/m <sup>2</sup>	Original	5
36	0.039	24.674	0.204	0.924	No. plants/m <sup>2</sup>	Variable	6
36	0.017	59.206	0.229	0.967	No. plants/m <sup>2</sup>	Fixed	7
36	0.040	26.485	0.305	0.962	No. spikes/m <sup>2</sup>	Fixed	8

Note: Original, variable, and fixed are introduced as Matetoman and method part.

Table 3. Summary of Geographical and meteorological parameters in Bajgah and Kooshkak regions

Location	Longitude	Latitude	Elevation	Water table (m)	Average temperature(°C)		Average rainfall (mm)		Soil texture
					Average annual temperature °C	Average temperature in 2003	Average annual rainfall	Average rainfall in 2003	
Bajgah	52° 32'	29° 36'	1810	>30	14.06	14/4	396.82	415/6	Sandy Clay
Kooshkak	52° 35'	30° 04'	1609	1-2	15.60	15/5	413.36	470/5	Loamy Clay

Table 4. Volumetric moisture parameters of soil in field capacity and permanent wilting point in different depth in Kooshkak and Badjgah regions

Kooshkak		Badjgah		Depth (cm)
Wilting point (%)	Field capacity (%)	Wilting point (%)	Field capacity (%)	
21.30	39.00	16.75	33.50	0-30
28.12	42.00	15.73	39.00	30-60
28.12	42.00	15.73	39.00	60-90
28.12	42.00	15.73	39.00	90-120

Table 5. Agronomic characteristics of wheat cultivar under different irrigation treatments and nitrogen levels in two locations Bajgah and Kooshkak regions

	Nitrogen levels (kg ha <sup>-1</sup> )	Every-other furrow irrigation method							
		Original		Variable		Fixed		Mean	
Grain yield (t/ha)	0	2.073	f§	1.87	f	1.645	f	1.86	c
	90	4.455	b	3.352	d	2.774	E	3.53	b
	180	5.412	a	4.239	b c	3.716	c d	4.46	a
	270	5.353	a	4.687	b	3.742	c d	4.59	a
	Mean	4.32	a	3.54	b	2.97	b		
Total biomass(t/ha)	0	4.20	f	4.88	f	4.90	f	5.00	d
	90	11.08	c d	10.15	d e	9.67	e	10.30	c
	180	15.27	a	12.06	b c	10.45	d e	12.59	b
	270	16.11	a	12.61	b	11.30	c d	13.34	a
	Mean	11.92	a	9.93	B	9.08	b		
No. of spike/ m <sup>2</sup>	0	228	f	206	f	181	f	205	c
	90	490	b	369	d	305	e	388	b
	180	595	a	466	b c	409	c d	490	a
	270	589	a	516	b	412	c d	505	a
	Mean	476	a	389	B	327	b		
1000 SW*		34.59	d	31.017	f	31.01	f	32.208	d
	0	7							
		36.34	c	32.04	e f	32.89	e	33.759	c
	90	7							
		39.34	a	37.043	b c	37.413	b c	37.933	a
	180	3							
		37.91	b	34.68	d	34.898	d	35.832	b
	270	7							
	Mean	37.05	a	33.695	b	34.053	b		
Harvest Index(%)	0	39.86		38.32		33.57		37.25	
	90	40.20		33.02		22.68		31.97	
	180	35.44		33.15		35.56		34.67	
	270	33.22		37.17		33.11		34.50	
	Mean	37.78		35.92		31.23		34.60	

Note: Original, variable, and fixed are introduced as Matetoman and method part.

In each column, means having at least one common letter do not have significant differences at  $\alpha=0.05$  using LSD test.

1000 SW stands for weight of 1000 seeds



Table 6. Some of the different expenses of plant production per hectare in Bajgah and Kooshkak

Explain	Cost (toman/ha)
Land rent (toman/ha)	4000000
Plowing (toman/ha)	140000
Field leveling (toman/ha)	70000
Phosphate fertilizer (toman/ha)	60000
Urea fertilizer (toman/ha)	500
Seed per ha(toman/ha)	450
Herbicide (toman/ha)	225000
Harvesting via combine (toman/ha)	225000
Transport charges to silo (toman/ha)	35000
Unexpected costs (toman/ha)	100000
Total fixed costs (toman/ha)	1520000

Location	Irrigation methods	Nitrogen Level (kg ha <sup>-1</sup> )	Gross Income (toman)	Real Cost (toman)	Nominal Cost (toman)	Real Net Profit (toman)	Nominal Net Profit (toman)
Bajgah	Conventional	0	4368800	2957172	2596017	0	0
		90	8514000	3007172	2706517	4095200	4034700
		180	10543600	3047672	2747017	6084300	6023800
		270	10302800	3088172	2787517	5803000	5742500
	Variable	0	6914400	4417440	4084515	1085332	1057102
		90	12108800	4598440	4305515	6098732	6030502
		180	15892800	4679440	4386515	9801732	9733502
		270	17509600	4760440	4467515	11337532	11269302
	Fixed	0	4585600	4417440	4084515	-1243468	-1271698
		90	8600000	4598440	4305515	2589932	2521702
		180	13140800	4679440	4386515	7049732	6981502
		270	13588000	4760440	4467515	7415932	7347702
	Conventional	0	2752000	3502039	2615828	0	0.5
		90	6811200	3612539	2726328	3948700	3948700.5
		180	8066800	3653039	2766828	5163800	5163800.5
		270	8118400	3693539	2807328	5174900	5174900.5

Kooshkak	Variable	0	5951200	5002888	4116330	1698351	1698698
		90	10973600	5223888	4337330	6499751	6500098
		180	13278400	5304888	4418330	8723551	8723898
		270	14723200	5385888	4499330	10087351	10087698
	Fixed	0	5332000	5002888	4116330	1079151	1079498
		90	10852000	5223888	4337330	6378151	6378498
		180	12418400	5304888	4418330	7863551	7863898
		270	12143200	5385888	4499330	7507351	7507698

Table 7. Net profit and gross income based on nominal and real price per m3 in Bajgah and Kooshkak (limitation of decreasing water use)

Note: Original, variable, and fixed are introduced as Matetoman and method part.

Nominal price of water in Kooshkakregion 25 Rilas and in Bajgah region 21 Tomans per cubic meter.

Real price of water in Kooshkak region 298.6 Tomans and in Bajgah region 227.1 Tomans per cubic meter.

Table 8. Net profit and gross income based on nominal and real price per m3in Bajgah and Kooshkak (without limitation of decreasing water use)

Location	Irrigation methods	Nitrogen Level (kg ha <sup>-1</sup> )	Gross Income (toman)	Real Cost(toman)	Nominal Cost(toman)	Real Net Profit(toman)	Nominal Net Profit(toman)
Bajgah	Conventional	0	4506400	2840201	2574281	-0.1556	0
		90	8651600	2884519	2675961	4100881	4043520
		180	10681200	2917387	2707641	6097613	6041440
		270	10440400	2950228	2739321	5823972	5768960
	variable	0	6914400	4417440	4084515	830761	897766
		90	12108800	4598440	4305515	5844161	5871166
		180	15892800	4679440	4386515	9547161	9574166
		270	17509600	4760440	4467515	11082961	11109966
	Fixed	0	4585600	4417440	4084515	-1498039	-1431034
		90	8600000	4598440	4305515	2335361	2362366
		180	13140800	4679440	4386515	6795161	6822166
		270	13588000	4760440	4467515	7161361	7188366
Kooshkak	Conventional	0	2889600	3363516	2594300	276123	159128
		90	6948800	3465196	2695980	4233643	4116648
		180	8204400	3496876	2727660	5457563	5340568
		270	8256000	3528556	2759340	5477483	5360488
	Variable	0	5951200	5002888	4116330	1698351	1698698
		90	10973600	5223888	4337330	6499751	6500098
		180	13278400	5304888	4418330	8723551	8723898
		270	14723200	5385888	4499330	10087351	10087698
	Fixed	0	5332000	5002888	4116330	1079151	1079498

90	10852000	5223888	4337330	6378151	6378498
180	12418400	5304888	4418330	7863551	7863898
270	12143200	5385888	4499330	7507351	7507698

Note: Original, variable, and fixed are introduced as Matetoman and method part.

Nominal price of water in Kooshkakregion 25 Rilas and in Bajgah region 21 Tomans per cubic meter.

Real price of water in Kooshkak region 298.6 Tomans and in Bajgah region 227.1 Tomans per cubic meter.

Table 9. Benefit – cost ratio in different irrigation treatments based on nominal and real price of water

Location	Irrigation methods	Nitrogen level (kg ha <sup>-1</sup> )	Profit/cost		Cost of water/ha(toman)		Water Used Volume m <sup>3</sup> /ha	Caltivator Costs (toman)	Transpor t Charges (toman)	Yield (t ha <sup>-1</sup> )
			Real	Nominal	Nominal	Real				
Bajgah	Convention al	0	0.00	0.00	1127280	1219072	5368	1520000	88900	2.54
		90	1.36	1.49	1127280	1219072	5368	1520000	173250	4.95
		180	2.00	2.19	1127280	1219072	5368	1520000	214550	6.13
		270	1.88	2.06	1127280	1219072	5368	1520000	209650	5.99
	variable	0	0.25	0.26	837480	9056748	3988	1520000	70350	2.01
		90	1.33	1.40	837480	9056748	3988	1520000	123200	3.52
		180	2.09	2.22	837480	9056748	3988	1520000	161700	4.62
		270	2.38	2.52	837480	9056748	3988	1520000	178150	5.09
	Fixed	0	-0.28	-0.31	837480	9056748	3988	1520000	60900	1.74
		90	0.56	0.59	837480	9056748	3988	1520000	87500	2.5
		180	1.51	1.59	837480	9056748	3988	1520000	133700	3.82
		270	1.56	1.64	837480	9056748	3988	1520000	138250	3.95
Kooshka k	Convention al	0	0.00	0.00	1285175	1796160	5147	1520000	56000	1.6
		90	1.09	1.45	1285175	1796160	5147	1520000	138600	3.96
		180	1.41	1.87	1285175	1796160	5147	1520000	164150	4.69
		270	1.40	1.84	1285175	1796160	5147	1520000	165200	4.72
	Variable	0	0.34	0.41	960175	1341940	3847	1520000	60550	1.73
		90	1.24	1.50	960175	1341940	3847	1520000	111650	3.19

					1341940	3847			
	180	1.64	1.97	960175	6		1520000	135100	3.86
					1341940	3847			
	270	1.87	2.24	960175	6		1520000	149800	4.28
					1341940	3847			
Fixed	0	0.22	0.26	960175	6		1520000	54250	1.55
					1341940	3847			
	90	1.22	1.47	960175	6		1520000	106750	3.05
					1341940	3847			
	180	1.48	1.78	960175	6		1520000	126350	3.61
					1341940	3847			
	270	1.39	1.67	960175	6		1520000	123550	3.53

Note: Original, variable, and fixed are introduced as Matetoman and method part.

Nominal price of water in Kooshkakregion 25 Tomans and in Bajgah region 21 Tomans per cubic meter.

Real price of water in Kooshkak region 298.6 Tomans and in Bajgah region 227.1 Tomans per cubic meter.

Table 10. Optimum level of nitrogen application (kg ha-1)

Irrigation methods	Optimum level of nitrogen application(kg ha <sup>-1</sup> )	
	Kooshkak	Bajgah
Original irrigation	211	212
Variable every other irrigation	198	191
Fixed every other irrigation	156	145

Note: Original, variable, and fixed are introduced as material and method section.

## **N26: A FINTECH - REVOLUTIONIZING THE BANKING SECTOR'S SUPPLY CHAIN**

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### **ABSTRACT:**

In relation to the operational strategies of N26 it is evident that they have implemented different innovative business techniques and transformed the financial service model from partly traditional to fully digital one. The present paper has presented a critical analysis of the electronically operated supply chain of the bank N26 and provides recommendations to fulfil the gaps in the fintechs in order to learn from the efficiency and quality dimensions followed in N26.

However, they transformed the need of collaboration with traditional banks into option through becoming self-sufficient in both the knowledge and expertise domain. Conversely to ensure efficiency gain in supply chain N26 has to deal with the challenges along with threats like fail to compete with other digital banks that cater to customers in countries where full digitalization of service is not supported. It is true that the organization is visioning good opportunities in new markets in developed countries like USA; if it does not modify its operations to fit with the needs of another chunk of customers living in developing world will miss the prospect to fully utilize its potential. It may be taken away by other firms allowing more flexibility of strategies suitable for those markets.

Based on the analysis and discussion, N26 has to explore the effectiveness of new technologies to enter the market in the developing world and accordingly has to modify the mode of operations in the supply chain. It also has to explore new strategies to reduce the operational cost and increase efficiency.

### **INTRODUCTION:**

#### **Supply Chain Management:**

As defined in Slack, Brandon-Jones and Johnston (2013), Supply Chain Management (SCM) of a firm implies management of whole supply chain from the supplier of raw material or inputs to the customers of the firm and SCM includes purchasing of raw materials, its distribution, logistics, materials management and customer relationship management (CRM). Maintaining a good and effective relationship with its partners (B2B) as well as customers (B2C) is one significant factor to ensure the sustainability of the business. Use of innovation in operational strategy in terms of implementation of new ideas, new technology, employment of skilled personnel as well as capacity building of the existing ones and effective management of the same increases the operational efficiency of the firm and opens the path towards gaining of competitive advantage.

## **N26BACKGROUND:**

The nature of transformation – evolution in supply chain from traditional banking to digitized banking

History of innovation in financial sector depicts its start from 1979 when 32 percent of their budget was allocated to the implementation of new technology to digitise the supply chain which gradually increased with the change in the market environment (Scott, Reenen and Zachariadis 2017). However bigger banks failed to perceive the benefit of such digitalization in increasing operational efficiency and consequently, Fintechs started to fill up such vacuums. Earlier research works also found that Fintechs improve their operational efficiency through strategic partnership with banks or other Fintechs to reduce transaction cost and gain competitive advantage (Schubert et al. 2011, Brandl & Hornuf 2017).

Literature reveals evidence that innovation in the firm's operation as well as in the supply chain in the financial market has several beneficial impacts on firm's performance. Scott, Reenen and Zachariadis (2017) have analysed longitudinal data from 6848 banks of 29 European countries, America and Canada to explore the impact of introducing SWIFT service on bank performance. Researchers found that positive impact is perceived more in the long period however smaller firms benefit early from higher return and also positive network effect on the performance of firms is significant from the study. Transformation in operations and specifically in supply chain through adoption of new technology like big data, artificial intelligence is responsible for the potential increase in revenue in financial industry – with increase in sales volume and higher degree of customer satisfaction (Phadnis 2018). Such operational transformation of Fintechs to provide service in relation to Payments, Financing or Asset Management increased the transaction volume from € 2.2 billion to € 17 billion (Brandl & Hornuf 2017).

Haddad and Hornuf's (2016) and Ernst and Young (2017) work reflect that entrepreneurs' and consumers' access to technology as well as firm's access to improved capital market are significant influencing factors towards the formation of Fintechs based on innovative B2C business model. From this line of research, it can be argued that N26 used all these factors under their material management strategy to grow as an innovative financial service provider. Following the work of Lerner and Tufano (2011) and Brandl and Hornuf (2017), it can be argued that N26's innovative approach is dynamic – as a Fintech it acquired banking license from European Central Bank and spread over different geographical regions with continuous research on gaps in banking service in those areas and simultaneously upgrading the system with customized features to focus on demand-oriented service (N26 GmbH 2019).

N26

The bank N26 has brought a transformation in the financial service market using innovation in operational strategies, digitising the supply chain to gain a competitive advantage in the market. B2C business model was preferred by N26 and some other digital retail banks in Germany due to greater customer demand for digitalization (pull factor) and involvement of lower investment for start-up (push factor) (Ernst & Young GmbH 2017). N26 differentiated its service portfolio by collaboration with different Fintech organizations and offers their services like investment, insurance, international money transfer along with banking service through a common platform.

N26 was founded in 2013 by Valentin Stalf and Maximilian Tayenthal to redesign the retail banking system in Europe and other parts of the world. From its initial operation in 2015, number of customers rose up to 2.5 million covering 24 European countries; with contribution of 700

professionals from 50 nationalities and 3 offices in Berlin, New York and Barcelona (N26 GmbH 2019). Their vision is to takeover other existing banking services with a target of 5 million customers in 2020 (www.netguru.com, 18 March 2019). It is a thoroughly digital banking system and targeted mainly individuals to ease their banking operations through mobile application only. They have no bank branch but the cash can be withdrawn from any retail shop and a wide range of ATM. Till now N26 has raised \$2.7 billion from different venture capitalists and big investors (N26 GmbH 2019). In 2015, N26 changed their strategy to target individuals of all ages with wide range of services to compete with existing banks who were already in the market with the smartphone applications. Their Unique Selling Propositions are first mobile banking, second holding banking license and then demand-oriented instant service delivery using innovative technology to simplify the process of diverse and complex financial transactions. It is evident that different Banks and Fintech collaborated and are providing financial service in innovative ways. Given this backdrop, the present work explored how innovation in approach to materials management – like adoption of new strategies, technology and improved relationship management techniques for managing the supply chain components helped N26 to gain competitive advantage.

Products and Services of N26	
1. The only current account optimized for the smartphone	12. Debit Credit - Adjust the overdraft frame in two minutes
2. Intuitive mobile app for iOS and Android	13. MoneyBeam - send money to friends with one click, by e-mail or SMS
3. All finances in just one app	14. TransferWise - International transfers in 19 currencies
4. Account opening in less than 8 minutes via smartphone, paperless through video identification	15. N26 Invest - Simple, flexible investment, individually depending on risk appetite
5. Clear security features on product, e.g. lock and unlock the cards with just one click	16. Complete N26 Credit - Lending Accounts in minutes
6. directly in the app	17. N26 Business - For freelancers and the self-employed for private and business use
7. Cash in and out of more than 7,000 retail partners with Cash26 throughout Germany.	18. N26 Savings - Save money on very attractive terms
8. Real-time Banking - Push notification for all transactions in the same second.	19. N26 Insurance - digital insurance service
9. Mastercard - payments abroad or foreign currency fees	
10. Accounts: Free Current Account N26 Business Account for Freelancers & Self Employed	
11. Premium accounts N 26 Black and N26 Metal	

Source: N26GmbH, 2019; Productmint, 2020

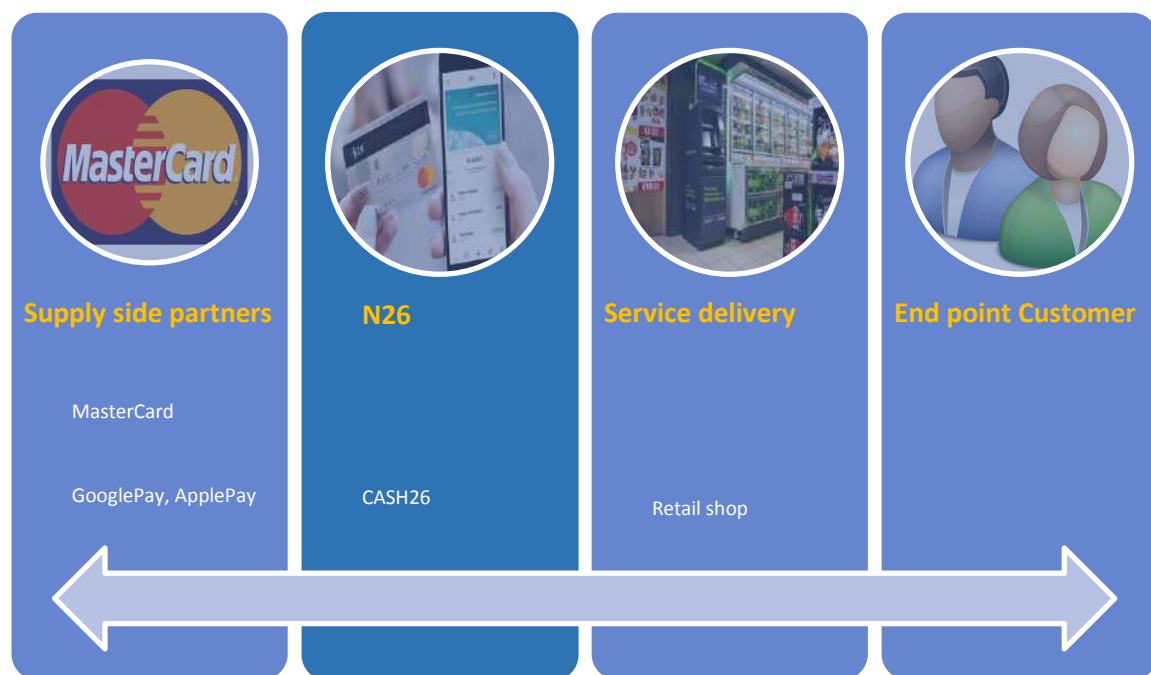
Partners: MasterCard, Allianz, TransferWise, Vaamo, Barzahlen, WeltSparen, Clark, Auxmoney

### **The structure of the Supply Chain and the Approach in Supply Chain Management including Materials Management**

Major SCM practices as mentioned in Slack, Brandon-Jones and Johnston (2013) and Talib, Rahman and Qureshi (2011) are,

1. Re-engineering of material flows/lean practices covering management of the flow of material, inventory reduction, waste elimination, JIT delivery, JIT capability.
2. Customer relationship including fulfillment of customer requests, dealing compliance, generating long-term relationship and partnership, customer service management, increased sensitivity.
3. Planned partnership strategies with suppliers i.e., involving suppliers in quality management and ensuring reliability.
4. Using ICT (Information and Communication Technology)

However, the nature of the structure of the supply chain varies depending on the way the industry operates and provides service to its customers (Talib, Rahman & Qureshi 2011). Seldom, similar practices are adopted in the product development sector and service sector while integrating quality management in the supply chain (Behra & Gundersen 2001). Fintechs and concerned bank N26 serves on the foundation of ICT in building relationship with suppliers and customers, gathering data (upstream in the chain), procuring data, analysing and sharing of report (downstream in the chain) and concentrate on improving the core competencies to ensure smooth operation through supply chain integration. It influences the efficiency and effectiveness of SCM practice (Talib, Rahman & Qureshi 2011).



## Supply Chain of N26

### Operational strategies followed in the supply chain of N26:

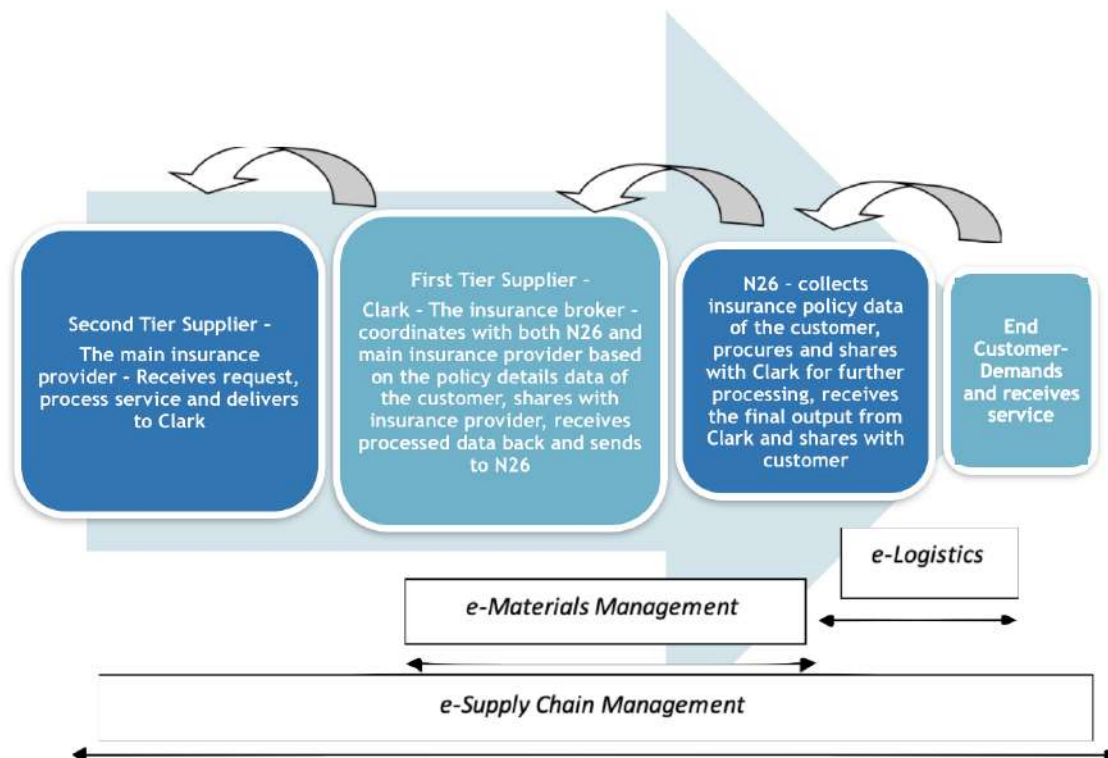
The operational strategies followed by N26 helped them to gain a competitive advantage with time. They reduced operational time at the front end, provide service in a cost-effective manner, modify their service delivery as per the market demand and offer the service in simplified way. Below the operational strategies are explained which led to the success of the firm and attracting venture capitalists to expand the business.

**IIT capability** is reflected in acquiring European banking license within one year to gain control over the larger part of the value chain with increased flexibility while serving a larger international community. **IIT delivery, Quality and Cost minimisation** are practiced through penetrating into the financial service markets to capture from complex, expensive existing providers to reduce opportunity cost faced by the customers. N26 developed products adding value at each stage of the process which increased efficiency; increased effectiveness through hindering waste to build up or remain in the system. **Speed** is assured by reducing the processing time of transaction related to onboarding, making deposit, withdrawal, transfer, setting loan processing, and insurance policy handling. **Flexibility** is ensured through **Process Modification** – continuous update and adjustments in services and service delivery process based on customer feedback to adapt to changing



demand in the market and **Predictive Analytics led Process Re-engineering** –using customer database to analyse the preferences by different categories of customers, their income levels, expenditure habits and nature as well as frequency of transactions. Efficient analytics team links transaction information with consumer behavior to identify everyday financial needs. It assists in fraud management, risk scoring, service customization.

**Example of one service flow of N26 in its digitized supply chain – Partnership with Clark to provide Insurance service**



**Competitive Advantage Gain through improved materials management and overall supply chain management**

N26 gained competitive advantage in different aspects through several factors which is explained below.

**Quality management in supply chain**

Anggraini, Hamiza, Doktoralina and Anah (2018) presented that efficient management of each component of the supply chain in the banking and financial sector significantly positively associated with performance effectiveness. Deloitte (2017) reflects that the following customer-centric approach as a part of dynamic enterprise system is evident in quality management of supply chain management in N26 after adding several value propositions. For instance, this approach is followed during the design phase and delivery in collaboration with suppliers and customers. Following Anggraini, Hamiza, Doktoralina and Anah (2018) study that quality is one significant aspect of supply chain, it can be argued that, N26 is gaining a competitive advantage through ensuring quality starting from selection of suppliers and availing their service, processing it to customize as per customer's demand followed by delivery to the end customer or corporate.

### **Collaboration**

The gain in competitive advantage is significant through collaborations with multiple Fintechs like MasterCard to ease credit card transaction, Clark for insurance, TransferWise for international money transfer, Auxmoney for credit lines.

### **Innovation**

Likewise in individual service design, account features for freelancers and regular employees are separated.

### **Waste minimization**

To gain efficiency in supply chain process different wastes are minimized by employing skilled personnel (data scientists, experienced managers from booming Fintechs), ensuring cross-segment activities with other Fintechs as mentioned, having no over processing, negligible waiting time (less than 1 second), digital transfer implying zero transport and logistics cost.

### **Cost reduction**

Knauseder (2019) explained that novelty centered banking service delivery model of N26 has technology at the core. The value proposition entails mobile banking with digitised supply chain which helps to achieve the competitive advantage over existing providers through minimum operational expenses. N26 is gaining efficiency through reduction or elimination of infrastructural cost as mentioned in Knauseder's (2019) comparative analysis of different innovative banking models; however employment of highly skilled personnel and procurement of large amount of data may increase variable cost of operations.

### **Pull Principle under Lean Enterprise**

N26 service delivery system can be compared with integrated lean enterprise production system followed by Toyota i.e. it provides different services in a single flow matching the consumer's demand. Provision of services with quality is ensured involving less process – leading to saving time and other resources with problem solving capabilities following five principles of lean – Value, Value Stream, Flow, Pull and Perfection (Slack, Brandon-Jones and Johnston 2013).

### **Efficient use of Regulatory framework**

In the work of Wurgler (2000), the author mentioned that the German Banking Act (KWG) and Payment Service Supervision Act (ZAG) regulates financial market and provide the license to banks. To cope with the regulatory structure, new financial service providers collaborate with established banks (Thwaites 2016). Here N26 utilised the regulatory framework as an opportunity and not as a threat. The company acquired a banking license from European Central Bank within a year to access the whole European banking market. Thereby they gained the competitive advantage over other Banks and Fintechs through cost minimization and efficient use of time as being a new Fintech and did not require collaborating with established banks to deal with the regulatory structure.

### **Operational transformation through Innovation**

As found in operational strategy of N26, the digitalization and collaboration in supply chain helped them to build a large customer base in a comparatively shorter period of time compared to

other Fintechs or banks – similar to the progress in history of market transformation as visible in Puschmann (2017).

### **Knowledge and Expertise**

As evident from works of Kortum and Lerner (2000), Zingales (2000), Park and Steensma (2012), established banks possess better knowledge about the regulatory structure, can get patents in a timely fashion which new Fintechs lack. As Bömer and Maxin (2018) have mentioned, these Fintechs have expertise in new technology and its innovative use converts the traditional service into more efficient and lucrative service. N26 have shown the application of both such knowledge and expertise which helped to gain competitive advantage.

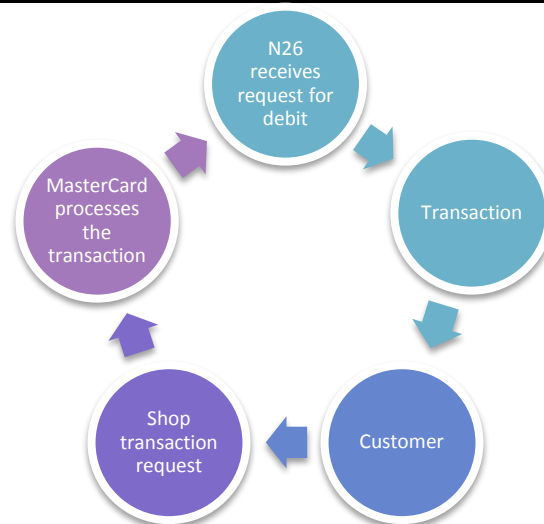
### **Services**

Bömer and Maxin (2018), Ghazawneh and Henfridsson (2015) found that financial services provided through digital marketing and other internet-based techniques collaborate with banks to offer a place to sell the banks products. N26 offers its partners an opportunity to serve their customers from its platform and therefore these products became a part of N26 service delivery model. Therefore changing the flow of information from one direction to another with no requirement of inventory increased efficiency, release service flow rate and saves capital. Thus through lean synchronization N26 has re-engineered the flow and B2B and B2C relations in the process and outcome respectively as well as created a place in the relevant value chain.

### **The role of relationships in the organisation's approach to materials management and logistics**

The role of relationship in SCM is found effective to increase competitive advantage and is maintained in two ways – 1) Horizontal integration (customer relationship management and service management and 2) Vertical integration (supplier relationship management within different tiers (Anggraini et al. 2018). Studies show that vertical integration positively influences productivity (Javorcik 2004, Javorcik & Spatareanu 2009, Kimura 2002, Sutton 2012, Tam et al. 2010, Wynarczyk & Watson 2005). According to Rama et al. (2003), direct collaboration increases effective knowledge transfer and coordination though they were not clear about the linkage with second-tier supplier or customer in the chain. However, N26 successfully reduced cost and minimised waste through efficient relationship management at all tiers in both upstream and downstream network. With a digitized supply chain, the approach to materials management and logistics gets converted into management of input data or signal, gathering of data and transfer at each tier with proper coordination, data processing, generating information and finally performing the task based on the same.

N26 has collaborations with different financial service providers upstream who have a contract with N26. On the other hand, for some of the services, N26 maintains network with second tier like for cash withdrawal with the retail shop. The credit card transaction where the first tier supplier is MasterCard is presented in the figure below.



As reflected in a report of Ernst & Young (2017), launching of insurance and investment product by N26 is an example of expansion of its market beyond core market by means of cooperation and focusing improvement in the services through full integration (vertical with broker and second tier supplier and horizontal with supplier and customer). Schmidt et al. (2018) show the evidence that collaboration enables the offering of the white label to add-on service.

### **Competitive Advantage:**

#### **Efficiency enhanced through CRM:**

Banks develop a CRM structure that helps to identify the needs to serve them with customised products (Anggraini et al. 2018). Information about new or existing products can be shared and feedbacks can be collected after service delivery. The proper response to complaints and modification of operational strategy followed by enhanced service increases the efficiency of customer service management. For example, N26 offers Standard, Black and Metal account with different offerings – e.g., the Standard is free and Black charges €5.90 per month. However if someone does foreign transaction the 1.7% fee that the regular account holders incur is waived for Black account holders (www.forbes.com, 20 March 2017).

#### **Flow Management:**

Effective relationship with suppliers and customers helps to interlink demand, placement of input requirements to suppliers, processing order and delivery to ensure dependability with flexibility (Talib, Rahman and Qureshi 2011, Anggraini et al. 2018). Sometimes efficiency in SCM is enhanced through better networking and making contracts such that first or second tier suppliers can directly deliver to reduce the lead time. For example, while availing insurance with N26 account, the policy data is visible and accessible to Clark and N26 and they jointly process the data to complete all the paper works on behalf of the account holder that saves time and simplifies the access to service by the customer.

#### **Sharing of Risk and Uncertainty:**

Stuart et al. (1999) have mentioned that new Fintechs collaborate with established banks so that banks would share the uncertainties and risks prevailing in the operations of Fintechs. N26 has

successfully created the comfort zone with other partners through collaboration where other Fintechs are either to a great extent (MasterCard) or to some extent (TransferWise) well established and are sharing the risk of N26. Service offerings of established Fintechs through innovative mobile platform of new bank N26 – helped to gain trust of their customer base on N26.

#### **Client Base Creation:**

Dusnitsky (2008), Bömer and Maxin (2018) have shown that new financial service providers collaborate with existing successful banks to increase their number of clients. N26 access the clients of other providers whom they serve through their platform. As well, to strengthen the client base with more communication and coordination N26 is initiating consumer research led process re-engineering and building contracts with new service providers in USA and Spain.

#### **Access to existing Network with information transparency:**

Bömer and Maxin (2018) and Baum et al. (2000) studies revealed that another major factor is to get access to different B2B networks that influences joining in incumbent's value chain. In relation to N26 it is mutually beneficial and both the N26 and its partner organization are accessing the supply chain of the other.

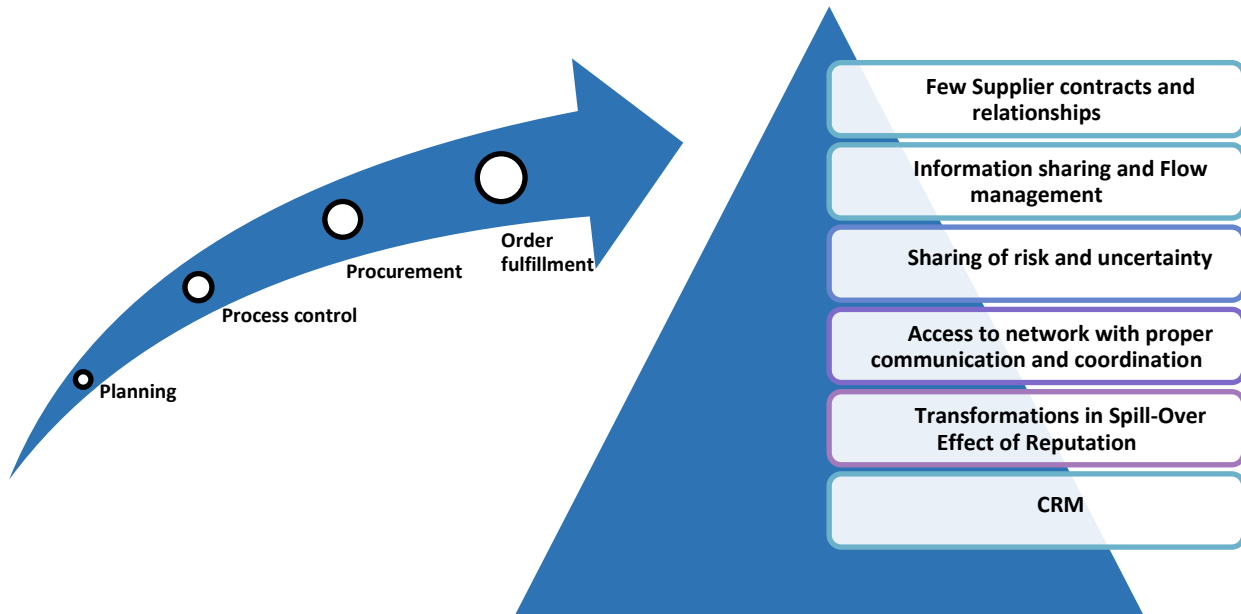
#### **Transformations in Spill-Over Effect of Reputation:**

To ensure quality of service new Fintechs collaborate with existing banks (Bömer & Maxin 2018, Stuart et al. 1999, Reuber & Fischer 2005, Maxin 2018). Due to N26, banking service is transformed from traditional complicated time taking customer support to technology based prompt online services. Thus collaboration led reputation gain has brought Fintech led innovative banking service and in this manner N26 automatically gathered reputation.

Moreover, in place of Fintechs collaborating with banks, the bank here is collaborating with Fintechs and at first gained through their reputation. N26 and its partners are mutually gaining competitive advantage through each other's reputation - with access to their value chains.

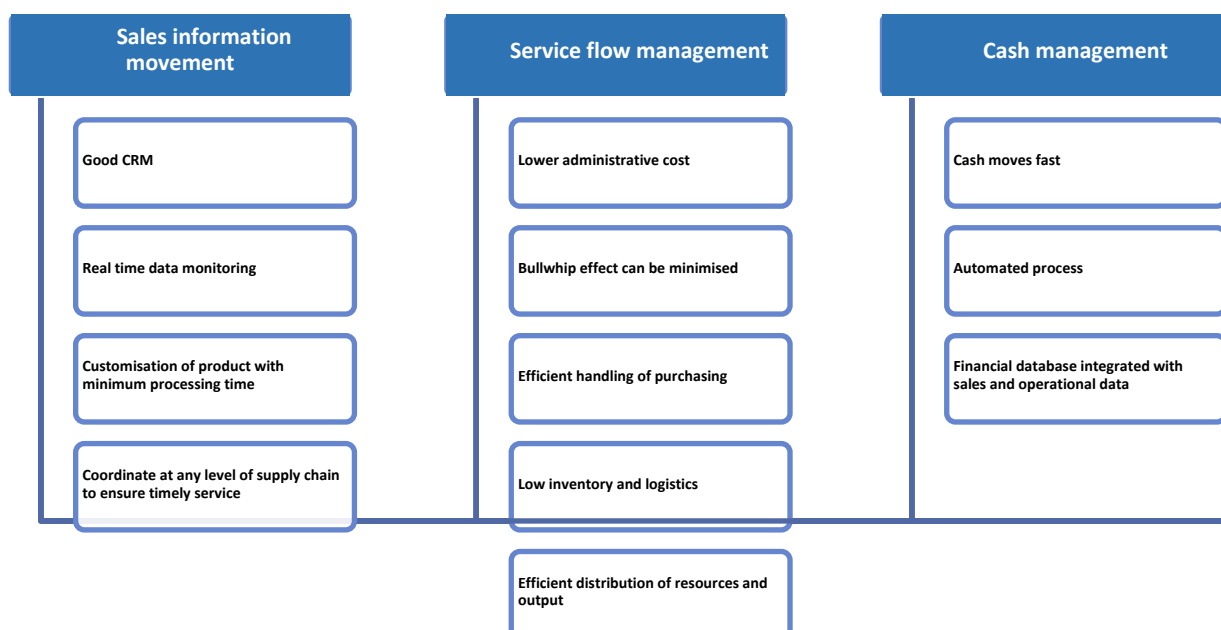
#### **Fund:**

The fourteen case studies on the collaboration of German Fintechs and banks has mentioned that Fintech firms build relation with banks as they receive inadequate fund from venture capital firms and depend on different financial possibilities through banks (Bömer & Maxin 2018). While N26 was efficient enough to convince the world's most billionaire investors Peter Thiel and Li Ka -shing and has raised \$2.7 billion funds from them. In addition, they accumulated \$300 million from Insight Venture Partners and different other venture capital firms (Nicola S., Bloomberg, 10 January 2019). Accordingly, N26 modified its operational strategy like instead of focusing on more product development it is concentrating on building a customer base in new markets – according to the strategy preference of the investors (Kahl S., Bloomberg, 1 April 2019).



### The role of emerging technologies in the N26's approach to supply chain

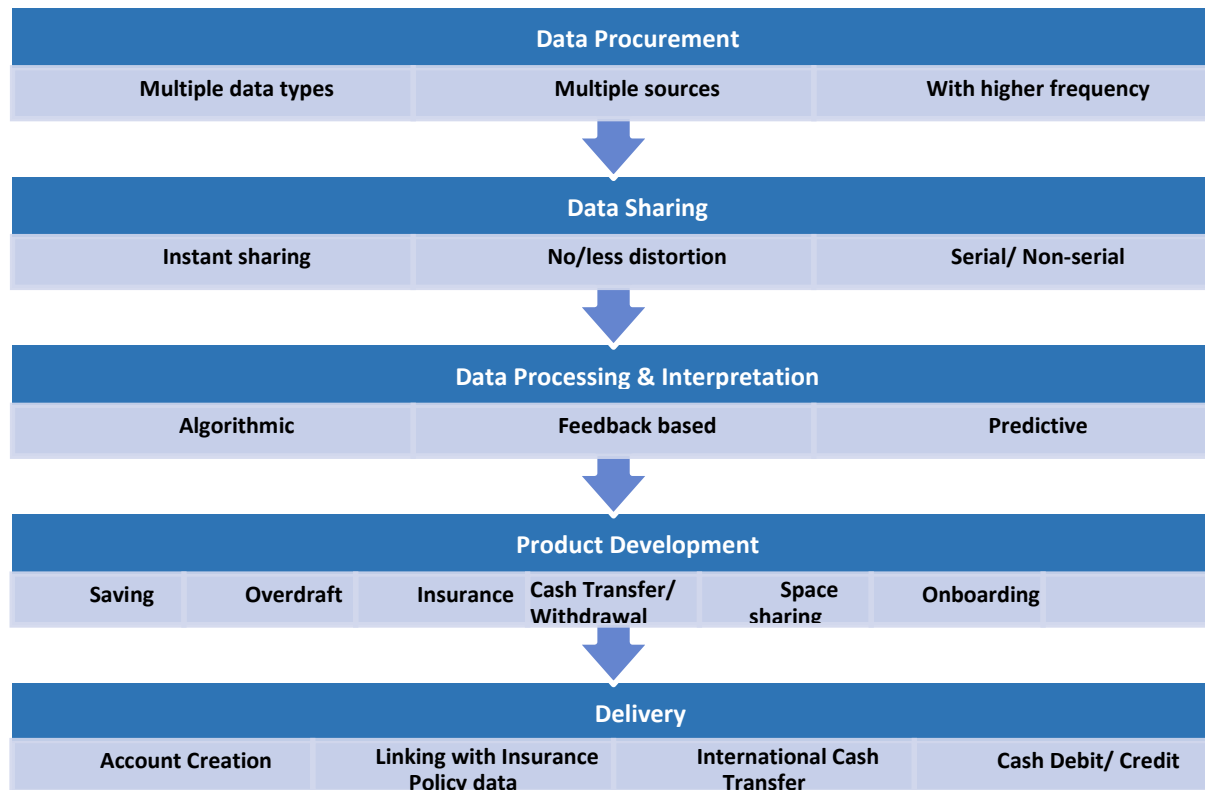
In the prevailing era of the digital economy, retail banks, specifically in Europe, offer banking and financial services to individuals (B2C) and corporate (B2B) through the complete digital pathway. They expand the product line and enter into new financial markets through cooperation with other Fintechs whose enterprise resource planning and implementation utilize state-of-the-art technology and avoid information distortion (Phadnis 2018). Digitalisation of supply chain uses technologies like Internet of Things and applies Big Data concepts to reduce human bias in the decision-making process to reduce potential revenue loss (Ho, Lim & Cui 2010; Soon, Kwong & Suan 2018). As retail banking services face difficulty in tailor-made service provisions, N26 has planned to allow more customization through the use of Big Data analytics which can be further strengthened using IoT (Phadnis 2018, N26 GmbH 2019).



The benefits of using big data analytics in managing the supply chain, N26 is having benefits like;

1. Lower occurrence of variability in ordered and delivered service;
2. Higher revenue with efficient data procurement and processing;
3. Automated data procurement linked to planning for product customization, processing, development and delivery;
4. Ensuring secured transactions with less error and human bias.

#### The structure of N26 SCM in digitized format



#### Competitive advantage

Use of innovative ICT (Information, Communication Technology) in SCM is helping to share information with partner firms even if they are not directly linked in the supply chain. As they upload data in a common cloud-based platform operational time and cost are saved – as found in earlier research too (Phadnis 2018). Furthermore, Phadnis (2018) explained how adoption of IoT will increase efficiency in SCM as the decision-making ecosystem is positively associated with well-designed algorithms with minimum human bias (BCG, 2016; O’Neil, 2016).

#### Data gathering

Effectiveness of IT enables a firm to gather any transaction data, cost, number of supply points, location, service specific data (e.g., number of savings accounts, amount of deposits, transaction location, frequency and period, preference of supermarket for cash withdrawal, choice of insurance policy, average income and expenditure etc.). Big data has significant implication in Supply Chain Operations Reference Model (SCOR) from planning, sourcing, producing and delivery (Soon, Kwong & Suan 2018). As the study mentioned, traditional supply chain models are enhanced with exact sensing of demand followed by effective and timely response through data mining, text mining and rule-based ontologies. Data is gathered from a large data warehouse or database from cloud-based common platform or from social media.

## Data processing

Traditional service providers use data structures like (Arrays, Linked List, Stacks and Queues, Hash Tables, Binary Search Trees (BST)) to manage the supply chain where the response is mainly based on average values and programs contain simple 'if-then-else' logic. However, the main drawback of this system is less or no flexibility to control multi-dimensional complexities considered while doing efficient materials requirement planning (Phadnis 2018). Advanced analytic technique – as adopted by N26 – has more flexibility in the process of analysing predictions to map multiple 'ifs' with multiple 'thens' and the Bullwhip effect can be reduced in this manner.

## Interpretation and decision making

The process of data interpretation followed by decision making becomes easier with clear visibility of the whole supply chain – operational stages through access to a high volume of data in different pattern through the sensor-led recognition process. Effectiveness and efficiency of operations in the supply chain of N26 increases with a high volume of real-time data transaction. Decision making after data interpretation leads to effective sharing of transaction data which helps predicting customer demand at  $t_n^{\text{th}}$  period based on transaction data of  $t_{(n-1)}^{\text{th}}$  period. This leads to customisation of new service package, modification of quality and/or quantity within a short span of time.

## Discussion

### Transformation process in the financial service delivery system

In terms of the operational strategies and process of N26 it is evident that they have implemented different innovative business techniques and transformed the financial service model from partly traditional to fully digital one. To expand in the market, reduce uncertainty and gain advantage they collaborated with established or popular financial service providers, adopted latest state-of-the-art technology and explore to build dynamic strategies contextual to the market need – market reach and coverage.

The history of financial market transformation in Germany shows an interaction between Fintechs and banks which saw a new concept after the emergence of N26 where this mobile bank also contains features of Fintechs. Factors leading to the transformation of financial service from partly traditional to fully digital are efficient use of regulatory framework, use of innovative technology, collaboration, quality management in supply chain, acquiring fund, relationship management and many more.

Brandl and Hornuf (2017) have shown that the financial industry in Germany experienced transformation from traditional operating mode through digitalization. The evidence shows that transformation has been taken place at different layers of operation. Fully digitised services have transformed the supply chain management where service delivery is much faster and error free (Slack, Brandon-Jones and Johnston 2013). Though it possesses **strengths** like speed, flexibility, quality, dependability whereas **weakness** lie in minimising cost given the requirement of the high-security system and fraud management, need for skilled personnel, timely upgrade of technology, optimization of quality and quantity of data storage. N26 has data scientists and a team of software professionals to manage the service for large number of customers in various locations. However they transformed the need of collaboration with traditional banks into option through becoming self-sufficient in both the knowledge and expertise domain.



Conversely to ensure efficiency gain in supply chain N26 has to deal with the challenges along with **threats** like fail to compete with other digital banks that cater to customers in countries where full digitalization of service is not supported. It is true that the organization is visioning good **opportunities** in new markets in developed countries like USA; if it does not modify its operations to fit with the needs of another chunk of customers living in developing world will miss the prospect to fully utilize its potential. It may be taken away by other firms allowing more flexibility of strategies suitable for those markets.

### Recommendation:

Based on the above analysis and discussion, N26 has to explore the effectiveness of new technologies to enter the market in the developing world and accordingly has to modify the mode of operations in the supply chain. It has to explore new strategies to reduce the operational cost and increase efficiency.

N26 needs to build a new stakeholder pool to active the scheme for individual investment partnership. It has also to build an academia- industry interface to assess the gaps in the performance followed by mitigating the risk through reducing the gaps to enhance the business process reengineering.

Regular workshops for capacity building of student community will help to feed N26 with new ideas to improve the enterprise system.

However, N26 has shown some progress even during the crisis period of the pandemic where they have raised \$3.6 billion and is targeting to reach a higher breakeven (Reuters, 2020, 17 December).

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