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Philological Sciences

New words in the modern Kazakh language: their didactic possibilities

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Annotation. The lexical composition of the modern Kazakh literary language is considerably replenished with new words in recent stages. In accordance with the requirements of language policy and language strategy in Kazakhstan, new standards for the system of secondary education it becomes actual for school students to master new words as a didactic language unit. Cognition, assimilation and use of new words in the communicative act contributes to the formation of a schoolchild as a linguistic personality.

The article presents methodological and didactic possibilities of mastering new words in the modern Kazakh language in the system of secondary education.

Keywords: new words, secondary education system, didactic base, interactive methods.

The state compulsory standard of education of the Republic of Kazakhstan states that as a result of training at the level of secondary general education in the field of education "Language and literature" students should have "sufficient vocabulary, terminology, grammar and textual stylistics, be able to use them in the main sphere of vocabulary communication" [1]. At the same time, it should be noted the special importance of mastering new words in achieving a high level of communicative qualities of students.

Expansion of functional possibilities of the state language should be realized not only in the process of teaching the Kazakh language in the educational system, but also in the study of other humanitarian and natural disciplines. In this sense, new words created by the internal resources of the language are considered one of the main directions of realization of the state language planning, as they are the main source of replenishment of the lexical fund. Therefore, in the study of all disciplines in the system of secondary education, the mastering of new words, scientific names used on their didactic basis is important as one of the mechanisms for the implementation of state programs. Thus, in the process of teaching natural sciences, it is necessary to explain new nominations related to this field in an integrative character.

As a result of studying and learning new words in science subjects, the following outcomes can be achieved:

- the level of knowledge of the learner on Kazakh literary language and Kazakh word culture is increased;
- competence in the use of the Kazakh language in the communicative act is increased;
- the linguocultural competence of the language learner is improved;
- integration requirements in education are met;
- the learner's literacy in observing linguistic purity and linguistic culture is formed. As a result, opportunities for normalization and normalization of new words are created.

In general, new words can be integrated with almost all subjects in secondary education.

While the Kazakh language is the main subject of theoretical learning of new words, other subjects should be the main means of their practical learning.

This emphasizes the relevance of the integration process and process in education,

including in the development of science in general.

Memorizing a new word, fixing it in the learner's linguistic consciousness and entering into its use to a certain extent affects the memory of the corresponding passed topic and deep understanding of the topic.

In connection with the main tasks outlined in the state programs and programs related to the development of the state language in the modern education system, the issue of teaching new words both in general education schools and in universities becomes relevant. The relevance of the problem is due to the fact that teachers ignore the importance of new words in enriching the vocabulary of students in education (language teaching) and neologisms are not used to a sufficient extent, as well as the growing interest in the study of new words in the modern Kazakh language. Like any other language, the process of modernization of Kazakh language vocabulary is a continuous process. Language is a complex social phenomenon. It is in constant motion, being a means of human communication. The development of society is reflected in thousands of lexical units that determine social relations and changes that lead to the emergence of lexical innovations and changes in language. This process is a phenomenon that occurs not only in the Kazakh language, but in all languages. The modern stage of language development is characterized by the intensity of the rate of changes in the lexicon.

Methodology and methodology of teaching the Kazakh language in the system of secondary education are directly related to the theory and practice of the fields of lexicology (studies the lexical system as a language unit) and lexicography (considers all aspects of dictionary formation).

All concepts of lexicology in school programs are described in the following way: a) definition of a concept; b) function; c) dictionary expression.

In such a connection in the discipline of the Kazakh language through the methodology is given an idea of the lexical basic unit - the word; it is the lexical meaning, the specificity of the concept and concept of the word, polysemousness and unambiguity, literal and variable meaning, the relationship of meanings of the word, systematic relationships in the lexicon - synonyms, antonyms and homonyms, borrowed words and neologisms, lexical information about the sources of replenishment and other information.

In the textbook for the 5th grade in Kazakh schools, the reference on this issue is clear: "Words that have re-entered the vocabulary are called new words. There are two different reasons for the birth of new words: 1) new words appear, corresponding to new concepts that entered together with the development of society; 2) due to the expansion of the sphere of language use, new names are used instead of introductory words already formed in our language. They become new only when they penetrate into the language. Later it becomes a new word when it is assimilated into the language, is fully recognizable to the population and is used en masse [2].

In comparison, the following facts are found in the grade 10 material:

- first of all, the term "new uses" was used instead of neologisms;

- issues of deviance are mainly analyzed;

- language facts (reader, viewer, cosmos, cosmonaut, cosmodrome) presented as new uses are new words in the linguistic practice of the seventies of the last century, as they were included in the orthographic dictionary of 1988, e.g. the words reader, viewer are not considered neologisms at the present stage. We believe that in order for the learner to internalize, new words that are subsequently relevant should have been indicated as linguistic facts;

- in explaining new uses, this textbook focused on occasional words (the words *төбелесермен*, *атарман*, *аларман*, *ішермен* were analyzed).

The mentioned information and methods and techniques aimed at mastering new words are insufficient for the requirements of modern language policy - "formation and consolidation in the public consciousness of an authoritative image of a speaker of the state language" [3], set

forth in the legislative document. As noted in the program, one of the works that will be carried out to regulate the uneven level of proficiency of the state language in society and adequate introduction of the state language into the socio-communicative space of the country is the expansion, development, improvement of the methodology of learning new words and information about them.

In particular, it is relevant to pay constant attention to the nature of new words, the ways of their creation in education in the subjects of Kazakh language and literature. In everyday educational practice in the above disciplines and methods of their linguodidactic bases it is important to introduce new words into the consciousness of the learner, to recognize the importance of their active use in everyday speech practice for the linguistic personality in society, to form through them a personality that understands national spiritual values. For this reason, it is not enough to be limited to a small amount of text in the topics devoted to the norms of literary language, word culture, relying on new words and new words, based on the text will require a system of tasks that will interest the learner and increase his knowledge.

The most effective technology used in mastering new words in secondary general education is a set of interactive methods. The main and basic reason for this is that education that meets the new requirements of modern education requires the use of methods or a set of methods that can effectively present voluminous information in a short time, as well as allow a high degree of assimilation of information and consolidate its application in practice. Therefore, the effectiveness of using new technologies-interactive methods that comprehensively cover the activities of the teacher and the learner in mastering new words is high.

Interactive learning is one of the actual directions in the modern educational process. Issues related to the forms and content of interactive learning domestic methodological scientists such as: Abenova G., Aitbayeva A., Alimov A., Telaubakova K. J., Zhailauova M., Zhartynova J., Dauletbekova J., Mukhametzhanova S. T., Østemirova K., Tazhenova S. and others and V. Bolotov, N. I. Volkov, D. Johnson, R. Johnson, I. A. Zimnyaya, E. V. Korotaeva, N. A. Moreva, V. V. Rubtsov, J. Spiro, A. Y. Uvarov, R. L. Hon, G. A. Tsukerman, etc. are considered in the works of foreign scientists.

The vast majority of methodologists hold the same opinion about the sequence inherent in the stages of organizing an interactive lesson, namely, it is the identification of problems in the teaching material, the search for a solution to the problem within the group, the discussion of the proposed solutions, the choice of the most optimal solution.

However, the results of the analysis of materials related to interactive learning show that some of its most important characteristics are insufficiently studied both conceptually and methodologically. Russian scientist N. Suvorova, based on the etymology of the word "interactivity", says that "interactive learning is primarily dialogical learning, in which there is interaction between the teacher and the learner" [4, 26]. Also interactive learning is a special form of organizing cognitive activities. It has clear and predictable goals. One of these goals is to create comfortable learning conditions that make the learning process more productive, as well as to make the learner feel his/her success and intellectual potential. However, the above aspects (teacher-learner interaction, specific and predictable goals, comfortable learning environment, etc.) are also inherent in other learning technologies, namely, Person Centered Learning, Programming, Critical Thinking, Developmental Learning, etc. Hence, this explanation does not reflect the characteristic features of interactive learning.

The purpose of the interactive learning process is to teach learners to learn independently, to reason, to search for problem solving and decision making, respectively, the purpose of using interactive learning methods in teaching new words-conscious study by learners of lexical processes in the language, various factors affecting the emergence of new words, the influence of language consumers, the role played by language policy in this area to teach to differentiate problems, to find solutions.

Methodological scientist A. Alimov points out that when teaching by interactive method it is obligatory to arouse students' interest (motivation, enthusiasm, aspiration) to learning knowledge [5, 77].

Using interactive methods in learning new words builds and develops the following action skills in learners:

- teamwork;
- cognitive, communicative, social activity;
- initiative;
- creating feedback;
- find a solution to the problem and make a decision.

The main stages of selecting theoretical and practical material related to new words in teaching using interactive methods are as follows:

- thematic correspondence of educational materials to the cognitive and personal interests of the student;
- taking into account the age characteristics, value orientations and motivational sphere of students;
- authenticity of the educational material and its genre diversity;
- cultural and country studies;
- interdisciplinary conditioning.

The use of interactive methods in learning new words allows you to reduce the load on the nervous system of the learner, to transfer attention to only one thing, to switch activities.

Thus, in differentiating didactic possibilities of new words in the modern Kazakh language it is important to master them in the process of learning organized on the basis of interactive method. The peculiarity of the complex of interactive methods is the high orientation of interaction of subjects on activity and emotional and spiritual cohesion of students. Compared to the traditional form of conducting a lesson in the process of interactive learning is an exchange of interaction between the teacher and the student: the teacher's activity gives place to the activity of the student, and the teacher's task is to create conditions for the student's initiative. From this point of view, interactive methods used in mastering new words are an effective way to achieve positive results in enriching students' lexical fund by mastering new words that meet the requirements of modern education, fixing new words in the mental lexicon and forming students' linguistic personality by mastering new words.

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Methodological features of the development of eloquent speaking skills of students

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Annotation. The article discusses the practical features of the development of oratory skills of students. Mastering the syntax of an entire subject when accustomed to oratory speech is characterized by the recognition of its main features. Besides, in the following years in many educational organizations additional circles on the culture of compulsory communication, culture of speech, oratory are introduced. The main condition, in our opinion, should be that one of the main directions of humanization of the sphere of education is the improvement of forms and methods of active learning (for example, the implementation of the position of the subject-to-subject attitude in the learning process), rather than the presence and absence of the possibility of introducing eloquence in the program of educational organizations.

Keywords: language, word, oratory, colloquial language, development, language purity, literary language.

The wealth of language is the wealth of words. Although the richness of words has to do with the words used in each person's vocabulary, the basic richness is the fish of thought, and by abbreviating words, they learn how to create an elegant and impressive tower of thought. By giving more importance to few words, emphasizing the meaning, stylistic coloring of each word combined with the ability to think, its creative nature. To achieve the richness of thought, it is necessary to have a good command and careful, sensitive observation of the past and past development of language, ways of enrichment, replenishment of the lexical layer, the viability of new phenomena arising in the language, in short, the internal, external possibilities of language.

One of the main measures that improve the culture of word use is language purity. Language purity requires that the language not be drowned out by extraneous elements. Of course, there is no literary language that lives only on the basis of the material of a pure native language, without borrowing words from a foreign language. Nor can one write in a "purely literary" language without adding extraneous linguistic elements. There are several types of communication in our everyday speech. This is language communication-communication through language, communication of people with each other through spoken language; understand each other through public, national language, understand that the communication of mankind through language means language communication. Here it is necessary to emphasize the phrase "spoken language". Because it should convey not the meaning of oral speech, but the concept of the universal means of communication in general, the function of speech means, human language, the means of human language communication. And with this linguistic communication the habituation to systematic, meaningful speech can be called habituation to eloquent speech. When getting accustomed to eloquent speech, it is advisable to begin mastering the syntax of the whole text with the presentation of its main features. The students need to master systematically through various exercises texts that systematically begin, report, describe, comment, carefully conclude, are contained in thematic unity, built in a logical system, with words and sentences closely intertwined in their composition. This requires the teacher to do different levels of activities with the text during daily lessons. For example, compare the two texts below and determine in which text the expressed

thought is expressed clearly, persuasively, figuratively. Explain why this is the case: text 1. *Rainy, dark mountain night. It was as if the suspicion that had been lingering in Baktigul's mind for a long time was easily written off in a moment. He took another look at the neighborhood with a trained eye, who was interacting with the cattle in the night. It was a busy place. Mol, great mountain. Sometimes the mountain looks like a place of darkness, with white clouds inside. The hairy faces, covered with pine trees, look black and dark from near, like a bottomless dungeon of darkness. (M. Auezov).* text 2. *Mountain night. Fortunately, the doubt in his mind seemed to be written down in a moment. He looked around the neighborhood with the eyes that had been interacting with the cattle all night. A popular place. Mountain: Sometimes a mountain looks like a home for a diu. Faces with pine trees look hollow. (M. Auezov).*

To form communicative competences through Such comparisons will serve as a basis for the formation of good aptitudes of the learners of the ways of the future. Because the learner himself in the process of comparing objects observes the "development" of thoughts, creating a "linguistic experiment", which allows him to freely express thoughts, speak decisively, create correct sentences. The mastery of skills master such analysis by learners of the writer, understanding of the place and improvement of vocabulary of a full-fledged linguistic mechanism for the transmission of thought.

These are methods of analyzing learners' attitudes, strengthens the concept of jasadagy text, text creation (in literary language correctly speak, story, essay), leading to the formation of influences the formation of mastery kabileter. Supply sources of learners, their properly. This group is not for mgynalyk contacts compare sentences and text.

For example, we quote T. Akhtanov's novel "let your candle not go out" :

"... It was the dry word "shame" that tied my tongue. Shame on the girl who made my ears hurt without even knowing the word "shame", shame on her for running on top of adults, shame on her for hugging and kissing a guy, shame on her for laughing at his face. I was more terrible than before, if someone saw all this and found out, it would be a shame if no one saw it, and if no one saw it, I felt that some people would not be ashamed even if the dog was dying inside. Those who often talk about that shame are probably not so ashamed in front of themselves: because the sound of their words is also:

"What do people say" who come and say "oh no, it's a shame if someone sees it, it's a shame if people hear it" and there is... I made Aban feel ashamed...

This being built on the concept of shame, which gives the subject the character of a reference word.

The word "shame" became the pivot, the gesture of the young girl, the lie that means some people commit alien acts before they know it, and gave the text a supporting concept that denotes the stylistic function of the sentences.

Artistic and figurative language affects the senses, describing the surrounding beauty, unique amazing phenomena, and science, although written in the black word, has only a certain impact on the human mind. Leads the learner to search for what I know, what I see. Scientists ponder a concept and analyze it, an artist (writer, poet) fantasizes over images. The first one analyzes, proves, presents the result of science, and the second one depicts, shows, draws with words. In an artistic text, the writer's personality depends on the type of his aesthetic activity. According to the scientist-psychologist A. A. Leontiev, the features of emotions do not reflect the mental side of the activity of the object, they serve as a signal that gives the subject an individual assessment of the occurred or occurred event [1].

In teaching students eloquent speech, mainly the example of using winged, proverbs and proverbs. According to the outstanding psychologist M. M. Mukanov, "proverbs are not the psyche itself, but the selected and differentiated fruits of these processes [2,17]. Therefore, to teach text formation, it is advisable to lead the content of the text on the basis of proverbs, reasoning. Thus,

the students were offered to analyze numerous proverbs and sayings, control over the process of formation and generalization of the text, the backspread of the compressed text was carried out.

Not only language analysis, but also knowledge of Kazakh proverbs about national thinking and national outlook, peculiarities of national speech. For example, let's analyze the old Kazakh proverb "make sure, don't make sure". This proverb means cognition of the world with eyes, i.e. direct feeling, and cognition of it with words (abstract thought).

Doing so may cause the device to become unstable. Shansky said: "Do not place the device on the roof of the house or on the roof of the house or on the roof of the house. Doing so may result in fire or electric shock and may result in fire or electric shock. Doing so may cause the device to become uncomfortable. Doing so may cause the device to become damaged: Doing so may cause the device to become uncomfortable (do not place the device in a place where it will cause the device to become uncomfortable), Doing so may cause the device to fall, damage to the device, or damage to the device; Doing so may cause the device to become uncomfortable and may result in injury or death [3,71].

The following form of work is organized for the formation of skills and skills of students in composing a written text on the styles of literary language.

When mastering the construction of the text it is advisable to conduct with the use of methods of analysis, generalization, control and comparison. Also work on inductive, deductive and analogical types of thinking will be effective in the development of the learner's language through the text.

Such skills are formed by teaching essay writing, text construction, oral exposition and written narration, and text composition according to the styles of literary language.

The development of written speech is carried out through the formation of the following skills: highlighting unrelated material through understanding the proposed topic, clarifying the answer through relevant information; learning to summarize the materials necessary for writing an essay, composition (reading books, collecting documents, observation of nature, etc.); making a plan of written speech works on a certain topic, being able to systematically and clearly express their thoughts, use language material in accordance with the norms of literary language.

Such skills are developed by practicing essay writing in learning styles, composition, written expository writing, and literary language.

a) Exercises are conducted according to the fields of linguistics by grouping them into analytical, synthetic and analytic-synthetic.

b) formation of students' writing skills is carried out in three stages: 1) theoretical training; 2) preparation for speech; 3) speech, exposition. It is established that the following methods are productive in teaching writing: demonstration of question-answer model, text analysis, observation, comparison, induction and deduction methods.

b) the ability to compose a text in writing on a certain topic, style, based on the development of written speech. For this purpose, he is taught to collect material on this topic, teach him to write it, while maintaining the system, style. Therefore, the skills necessary for writing the introduction, main section, conclusion of the text are given, and then the skills of composing and writing a whole text are formed.

The skills of text construction depending on the styles of literary language are formed by means of control, comparative, stylistic experiments, etc. techniques and replacement of words in a sentence with appropriate synonyms, variants, correction of errors, rewriting, repeated improvement of the text, etc. written works.

When formulating, consolidating ideas about the text, the student performs the following tasks.

Composing a short essay of students, checking them on each other. By recognizing and identifying their friends' mistakes in the construction of the text, the learner improves his/her

knowledge, abilities and gets used to speaking eloquently in communication.

1. Reinforces ideas about text structure by substituting sentence places in a text.
2. You can determine how they have internalized the subject by giving a group of unordered sentences and assigning the task, "these sentences should be arranged in a logical order of thought".
3. On the board, the student can write one sentence and do different tasks: a) make this sentence the beginning of the text and continue independently. b) of the present text, considering the sentence, middle, beginning, and end with blank. c) construct the beginning of the text, considering the sentence as the end of the text.
4. Identify the main idea in the text.
5. Put a heading to the text.
6. Make an outline of the text.
7. Write a text according to the plan.

It is known that in the written language of the learner, in most cases, there is no text. This situation arises: 1) due to the lack of the learner's vocabulary; 2) in most cases, due to the inability to correctly use the ways of grammatical communication; 3) the main thing is that the learners in the classroom form the concept of creating integrity, preserving integrity.

The learner identifies the child's life experience on a topic, thereby identifying his or her worldview and developing his or her vocabulary. Then, if the learner has something to say about the topic, the learner doesn't know what to say and will call mom one time and not the other. These are all mistakes that happen because he does not understand "the text".

Therefore, firstly, it is necessary to develop in students the skills and abilities to compose a written text on the peculiarities of language styles of the text. Secondly, when teaching Kazakh language and literature in the educational organization is carried out in close unity with the development of language, the learner gets used to freely express his thoughts in the social environment, systematically, skillfully speak the literary norm. Thirdly, we believe that in teaching oratory a good result gives the development of language of students by the example of dancing, oratory words of writers, introduction to scientific work, business game, exchange, reflection.

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GRAMMATICAL ASPECTS OF TRANSLATION IN ENGLISH AND AZERBAIJANI

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Abstract

The article scrutinizes grammatical aspects of translation ore interpretation. Differences found in grammar between the source and the target languages have been involved in the research. Distinctions between two languages are encountered in word order. As we know, the place of predicate is quite different within the sentence in Azerbaijani and English. In Azerbaijani, the predicate comes at the end of the sentence while it is preceded by the subject in English. This difference makes the translation process complicated and requires the ability of approximation from the translator. Differences both in morphological and syntactical levels have been studied in the article.

Key words: grammatical aspect, translation, interpretation, transformation, morphological level, syntactical level.

Lytvyn defines the translation as: "Translation is one of the most ancient occupations of a person. The discrepancy of languages encouraged people to this difficult but necessary work that serves the purposes of communication and exchange of spiritual values among peoples [8, p.5]. Lytvyn ascertains that the word "translation" is considerable. Vinogradov claims that it has 2 terminological senses which can be interesting for us:

The first one defines the process of content transference, mental activity. It is expressed in one language by means of another language.

The second one is the outcome of the mentioned process. The text is written or spoken. Though these notions are quite distinctive, they are a dialectical unity, one is not conceived without another [5, p.5].

Generally, there are two main classifications covering the types of translation:

1. The character of interpreted texts (genre-stylistic classification)
2. the nature of interpreter's behaviours in the interpretation process

The major duty of the interpreter is to obtain semantic equivalence of translated text and the source text. You can find grammatical, syntactical, lexical, semantic and morphological interpretation transformations. Hence, we can classify 3 levels of interpretation as grammatical aspects:

1. word formation
2. morphological
3. syntactical

To obtain this purpose, the interpreter must use translating transformation. The reason for need to make use of transformations is that every language has its own specific grammatical, lexical structure and the interpreter should consider in interpretation process. Another challenge is the discrepancy of the semantic structure of the word since each word does not only express denotative meaning, but also a great deal of connotative senses which are quite different in many cultures and languages.

Barkhudarov thinks that interpretation should be mastered as a process and emphasizes that the word "transformation" is utilized in the case when there is a certain relationship between linguistic units and the other which emerges on the basis of the first one. As to Barkhudarov,

transformation and translation are various grammatical structures, lexical units that own the identical meaning, but also have the ability to perform the same communicative function in this context [1].

Lexical transformation is depicted in the researches by Y.I.Recker, V.N.Komissarov, L.K.Latyshev, etc. The notion of integrated transformation may be followed in the works of the same authors. They claim that integrated transformation is the combination of stylistic, lexical, morphological and syntactical transformations.

Babayev Javid underlines the importance of having a good command in English and the target language while translating something: "As it is a special gift given by God, sometimes to own good grammar and lexical knowledge does not solve everything" [2, p. 86].

The author also notes: "The combination of rapidness, approximation, attention, rich vocabulary and perfect grammar knowledge makes an interpreter professional" [3, p.132].

TT (Translation transformation) is used to transfer of all the data found in the source text in grave compliance with the norms of TL in spite of the distinction in formal semantic systems of both languages. No doubt, it is not possible to preserve forms and semantics and at the same time to deliver to the readers of the translated text data of a diverse order, since they pertain to another culture and speak another language and then delved into a different society. For this reason, the most harmonious juncture of the readers of the translated text in a foreign language and culture is possible only by means of expressed equivalence that must reach the interpreter.

The use of interpretation transformation at the word-formation level is usually used in linguistics in connection with the interpretation of scientific and socio-political texts. This is thanks to the appearance of neologism in the texts. Word-forming suffixes in Azerbaijani and English vary in usage and meaning. Substituting one part of the tongue with another is very characteristic in interpretation and is usually used in interpretation practice. In literary interpretation, interpreter must take into consideration not only word forming characteristics of English, but also the richness of the stylistic sources of word formation level of Azerbaijani compared to the English language.

The author notes the difference between word order writing that: "subject is followed by predicate in English while the place of predicate is at the end of the sentence in the Azerbaijani language. So if the speaker speaks in Azerbaijani he will use the predicate at the end of the sentence and before that translator should approximate what verb might be used and should use that verb before the speaker utters it. The translator may guess it from the context of the speech" [6, p.117].

Interpreter's knowledge of both native language and target language should be detailed and perfect [4, p.51].

At a word-building level, transformations require some features to be taken into consideration:

- a) word-forming prefixes and suffixes in various languages vary with regard to their productivity and supplementary meanings.
- b) for the relevance of interpretation, the interpreter should resort to extra lexical resources presenting modal words and vocabulary which is considered to be emotionally colorful.

At a morphological level, interpretation transformations are as follows:

1. Categorical replacement-case declension, gender, tense, mood, degrees of adjectives and adverbs, number.
2. Partial language replacement
3. Morphological lexical replacement
4. Antonymic interpretation

The replacement of a part of the tongue in interpretation can be linked to grammatical lacquer. Interpretations are used to substitute morphological lexical means. Antonymic translation is a substitution of the notions used in the original source. The major hardship of translation of the

English sentences into denial is that it is sometimes difficult to identify the word of the sentence to which the objection links.

The usage of interpretation transformation at the syntactical level includes combination and division of the sentence interpreting conversation with non-specific constructions substituting the word combination with the word and on the contrary, substituting syntax in sentences and phrases, rearranging, adding and omitting.

We classify the following interpretation transformation at the syntactical level:

- a) Substitution of the word combination with word or vice versa
- b) Substitution of the syntactical link in sentences and phrases
- c) Division of the sentence-transformation of a complex sentence in the meaning of original language for 2 or more independent sentences in the language of interpretation.
- d) Omission of language units and structures
- e) Addition of language units and structures – a type of grammatical transformation demonstrating a lexical increase.
- f) Permutation- changes in the order of components in the text of translation compared to the original – are dictated by the rules of order of words in one or another construction of a certain language.
- g) The adoption of sentence link is used very often and can be relevant when neither of the original sentences is a complete view.

There is a substitution of one sentence of the source text with 2 or more sentences of the text of translation among transformations at a syntactical level or the transformation of the simple sentence of the source text into a complex sentence of the text of interpretation.

As there are different qualifications in the scientific literature for interpretation of the predicate, we regard it possible to classify the following types of it:

1. Simple verbal predicate
2. Compound nominal predicate
3. Compound verbal predicate

The last one is subdivided into verbal predicate and a modal verbal predicate in its turn. Interpretation of the simple verbal predicate kind into Azerbaijani should be taken into account that it denotes an action and is expressed in synthetic form of the verb.

The next type of predicate is the compound verbal predicate. Azerbaijani interpretation concentrates on the fact that this type of predicate is composed of 2 verbs: Verbs in the personal form and gerund or infinitive. The first verb expresses an aspect or modal feature of the action denoted by a non-personal form. Respectively, it is possible to distinguish 2 sub-types of a compound verbal predicate.

- a) Aspect verbal predicate in which the first element contains a temporary feature of the action and it is expressed by gerund or infinitive. As the first element, verbs with characters of beginning, continuation and conclusion of the action are to start, to begin, continue, finish, stop, etc. This sub-type of grammar rule is called the complex verbal speculation.
- b) Modal verbal predicate emerges where the first element is expressed by a modal word or modal verb and the second component is the infinitive [7, p.56]

Interpretation of a predicate from English into Azerbaijani includes the features such as form, state, person, temporal feature of the action, plurality and singularity, modality, tense and method.

While translating the infinitive it should be taken into consideration that the origin and current usage are very close to the Gerund. Gerund has the functions as subject, object, predicate and adverbial modifier. But the infinitive does not have the function of adverbial modifier.

The place of gerund at the beginning of the sentence is usually used in relation with the words which depend on it such as noun-object which make up gerundial sub-group.

Gerund in the function of subject is translated into Azerbaijani as infinitive. For example, Learning languages is my hobby- Dil öyrənmək mənim hobbimdir.

Gerund in the function predicate is also translated as infinitive into Azerbaijani. For instance,

My greatest is being a student in Oxford University.-Mənim ən böyük arzum Oksford universitetində tələbə olmaqdır.

Gerund in the function of object is translated into Azerbaijani as infinitive, as well.

For example,

I prefer drinking coffee- Qəhvə içməyi üstün tuturam.

Gerund in the function of adverbial modifier is translated into Azerbaijani as adverbial modifier. It is necessary to note that Participle 1 also has such a function. The difference between them is that Participle 1 is used without preposition while gerund is observed with preposition in the function of adverbial modifier.

For example,

On hearing his voice, I jumped –Onun səsinə eşidərkən mən tullandım.

Translation of infinitive sometimes equals “must” -malı² in the Azerbaijani language which denotes importance. This is the mood in Azerbaijani which expresses an important action. For example,

I don't have any money to give you.

Mənim sənə veriləcək pulum yoxdur.

Another translation of the infinitive “to” is “ası²” in Azerbaijani which expresses necessity. For instance,

I don't have a child to show you.

Mənim sənə göstəriləsi uşağım yoxdur.

The last possible translation of the Infinitive recalls Future Tense in the Azerbaijani language. Hence, it is translated as “acaq²” into Azerbaijani.

For example,

She doesn't have any socks to wear

Onun geyiləcək corabı yoxdur.

Some translations of above-mentioned examples remind Passive Voice in the Azerbaijani language which is, in fact, in Active Voice in English.

Sometimes, the translation of ‘to’ is as ‘for’-‘üçün’ in the Azerbaijani language. In this case, it is followed by a verb infinitive. If it is followed by a noun or pronoun the preposition ‘for’ is used instead of ‘to’.

For example,

I went to the shop to buy bread.

Mən dükanə çörək almaq üçün getdim.

I went to the shop for bread.

Mən dükanə çörək üçün getdim.

Infinitive ‘to’ is sometimes translated or interpreted into the Azerbaijani language as the conjunction ‘ki’⁴.

For instance,

I gave him a chair to sit on.

Mən ona stul verdim ki, üstündə otursun.

He told me to help him.

O mənə dedi ki, ona kömək edim.

For.....to Infinitive construction is also translated or interpreted as ‘ki’⁴.

We are waiting for you to tell the truth.

Biz gözləyirik ki, sən həqiqəti söyləyəsən.

He brought water for us to drink.

O, bizim üçün su gətirdi ki, içək

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ЦИФРОВОЙ ПЕДАГОГ В РЕСПУБЛИКЕ КАЗАХСТАН: ТРАНСФОРМАЦИЯ ОБРАЗА И ПЕРСПЕКТИВЫ РАЗВИТИЯ

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Аннотация: Статья рассматривает роль цифрового педагога в контексте современных трансформаций образования в Республике Казахстан. Автор исследует влияние цифровых технологий на процессы обучения и воспитания, а также анализирует перспективы развития цифровой педагогики в образовательной системе страны. Статья освещает вызовы и возможности, с которыми сталкиваются цифровые педагоги, и предлагает рекомендации по оптимизации использования цифровых средств в образовательной практике.

Ключевые слова: цифровой педагог, трансформация образования, образовательные технологии, вызовы цифрового образования, оптимизация образовательной практики.

Современное образование в Республике Казахстан претерпевает значительные изменения в контексте цифровой трансформации общества. Все больше школ и вузов стремятся внедрять цифровые технологии в учебный процесс, и это ведет к возникновению новой роли в системе образования - цифрового педагога. Цифровой педагог в РК представляет собой современного специалиста, который владеет техническими навыками и способен эффективно использовать цифровые инструменты в образовательном процессе. В данной статье рассматривается образ цифрового педагога в Республике Казахстан, его основные характеристики, роль и задачи, а также перспективы развития данной профессиональной группы.

Образ цифрового педагога в Республике Казахстан отличается от традиционного представления о педагоге как преподавателе, который только передает знания учащимся. Цифровой педагог владеет цифровыми компетенциями, такими как информационная грамотность, коммуникационные навыки, навыки работы с электронными ресурсами и технологиями, а также способен критически оценивать и использовать цифровые ресурсы в учебном процессе.

Одной из основных характеристик образа цифрового педагога в РК является его гибкость и адаптивность. Цифровой педагог должен быть готов к быстрым изменениям и инновациям, так как цифровые технологии развиваются с высокой скоростью. Он также способен адаптироваться к разным уровням технологической грамотности учащихся и коллег, и применять различные подходы и методы обучения с использованием цифровых инструментов.

Роль цифрового педагога в РК также шире, чем у традиционного педагога. Он выступает не только в роли преподавателя, но и в роли наставника, организатора и консультанта. Цифровой педагог способен создавать цифровые учебные ресурсы,

разрабатывать и внедрять инновационные образовательные программы, использовать разнообразные онлайн-платформы и инструменты для организации учебного процесса, а также оказывать методическую поддержку коллегам в вопросах цифровой технологии и интеграции ее в учебный процесс.

Задачи цифрового педагога в РК включают разработку и реализацию цифровых образовательных программ, развитие цифровых компетенций учащихся и коллег, а также использование цифровых инструментов для повышения качества образования. Цифровой педагог также отвечает за защиту данных и информационную безопасность в образовательном процессе, а также за поддержку учащихся в освоении цифровых навыков, которые являются неотъемлемой частью современной грамотности.

Перспективы развития цифрового педагога в Республике Казахстан обширны. С развитием цифровых технологий и их интеграцией в образовательный процесс, роль цифрового педагога становится все более важной и востребованной. В перспективе цифровой педагог может стать ключевым актором в разработке и реализации инновационных образовательных проектов, а также в проектировании и оценке эффективности цифровых учебных ресурсов и технологий.

Однако, существуют и вызовы на пути развития цифрового педагога в РК. Один из таких вызовов — это необходимость постоянного повышения профессиональных компетенций цифровых педагогов, так как технологический прогресс требует от них постоянного обновления знаний и навыков. Также, важно развивать систему поддержки и обучения цифровых педагогов, чтобы они могли эффективно использовать цифровые инструменты в учебном процессе и справляться с вызовами, связанными с информационной безопасностью и защитой данных.

Цифровой педагог в Республике Казахстан имеет огромный потенциал для развития образования с использованием цифровых технологий. Стратегия "Цифровой Казахстан 2020-2030" определяет развитие цифрового образования как один из приоритетных направлений государственной политики. В рамках этой стратегии цифровые педагоги в РК могут сыграть ключевую роль в обеспечении качественного образования, соответствующего требованиям современного информационного общества.

Одним из важных аспектов образа цифрового педагога в РК является его способность адаптироваться к быстро меняющемуся цифровому окружению и использовать разнообразные цифровые инструменты и платформы в учебном процессе. Цифровой педагог должен быть внимателен к новым технологическим тенденциям, а также иметь навыки и знания в области цифровой грамотности, информационной безопасности и защиты данных.

Еще одной важной характеристикой цифрового педагога в РК является его способность индивидуализировать образовательный процесс, учитывая разные потребности и способности учащихся. Цифровые инструменты и ресурсы могут быть использованы для создания разнообразных учебных материалов, адаптированных под разные уровни знаний и стилей обучения, что способствует эффективному обучению и повышению успеваемости учащихся.

Цифровой педагог также играет важную роль в развитии цифровых компетенций учащихся. Он должен быть способен обучать учащихся навыкам работы с цифровыми инструментами, критическому мышлению, решению проблем, а также развивать их информационную грамотность и этическое поведение в цифровом пространстве. Это позволяет учащимся стать активными и ответственными участниками современного информационного общества.

Однако, успешная реализация образа цифрового педагога в РК также требует создания благоприятных условий для профессионального развития и поддержки цифровых

педагогов. Важно обеспечить доступ к современным цифровым инструментам и ресурсам, проводить систематическую подготовку педагогов к использованию цифровых технологий в образовательном процессе, а также предоставлять возможности для профессионального обучения и развития в области цифровой педагогики.

Еще одним аспектом образа цифрового педагога в РК является его способность к творческому и инновационному подходу к обучению. Цифровые инструменты и технологии могут быть использованы для создания новых, интерактивных и мотивирующих учебных сценариев, которые стимулируют творческое мышление учащихся и развивают их инновационные навыки.

Кроме того, цифровой педагог должен быть готов к сотрудничеству с коллегами и созданию сетевых образовательных сообществ, где можно обмениваться опытом, передавать лучшие практики и развивать профессиональные контакты. Важно поддерживать открытость к инновациям, адаптироваться к изменяющимся требованиям и ожиданиям современных учащихся, родителей и общества в целом.

Однако, при внедрении цифровых технологий в образование также существуют определенные вызовы и риски. К ним относятся необходимость обеспечения информационной безопасности и защиты персональных данных учащихся, а также преодоление цифрового неравенства, особенно в отдаленных и малообеспеченных регионах страны.

Образ цифрового педагога в РК представляет собой комплексную модель профессионала, способного эффективно использовать цифровые технологии в образовательном процессе, развивать цифровые компетенции учащихся, быть творческим и инновационным, а также готовым к сотрудничеству и профессиональному развитию. Дальнейшее развитие цифровой педагогики в РК требует создания поддерживающей инфраструктуры, обеспечения доступа к цифровым ресурсам и регуляции образовательных процессов, а также разработки и реализации программ профессионального развития педагогов в области цифровой педагогики. Разработка стандартов цифровой компетентности для педагогов, а также внедрение системы оценки и подтверждения цифровых компетенций также могут быть важными шагами в развитии образа цифрового педагога в РК.

Однако, стоит отметить, что образ цифрового педагога в РК не является статичным и будет продолжать эволюционировать в соответствии с быстро меняющимся технологическим и социальным контекстом. Важно регулярно обновлять подходы и стратегии в области цифровой педагогики, чтобы соответствовать новым вызовам и потребностям образования.

В заключение цифровая педагогика играет важную роль в современной образовательной системе Республики Казахстан. Образ цифрового педагога в РК включает в себя комплекс цифровых компетенций, педагогической мастерства и инновационного мышления, а также способности к сотрудничеству и профессиональному развитию. Развитие образа цифрового педагога в РК требует создания поддерживающей инфраструктуры, организации профессионального обучения и поддержки педагогов, а также установления стандартов цифровой компетентности. Эти меры помогут обеспечить эффективное использование цифровых технологий в образовательном процессе и подготовку учащихся к цифровому будущему.

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Economic Sciences

Оценка влияния и результативности социальных проектов в организациях

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Аннотация. Бизнесінің өсіп келе жатқан әлеуметтік жауапкершілігі және тұрақты дамуға көбірек көңіл бөлу жағдайында мақала олардың әсерін жақсарту үшін де, мүдделі тараптар алдындағы ашықтықты арттыру үшін де әлеуметтік бастамаларды тиімді бағалау қажеттілігін көрсетеді. Зерттеудің негізгі проблемасы-әлеуметтік жобаларды бағалаудың әмбебап әдістерінің болмауы, бұл олардың шынайы әсері мен тиімділігін түсінуді қиындатады. Зерттеудің мақсаты-жобалар әсерінің сандық және сапалық аспектілерін ескеретін бағалаудың кешенді тәсілін әзірлеу.

Зерттеу барысында бағалаудың әртүрлі әдістері, соның ішінде жобалардың экологиялық үлесін талдау, олардың қоғамдық пікірге әсері және мүдделі тараптардың қатысу деңгейі қарастырылды. Әлеуметтік жобалардың жергілікті қауымдастықтарға әсері және олардың ұзақ мерзімді тұрақтылығы да зерттелді.

Зерттеу нәтижелері бағалаудың кешенді тәсілі әлеуметтік жобалардың әсерін түсінуді едәуір жақсартып, оларды тиімді жоспарлау мен жүзеге асыруға ықпал ететіндігін көрсетті. Нәтижелер әлеуметтік бастамалардың әсерінің толық бейнесін алу үшін әртүрлі бағалау әдістерін біріктірудің маңыздылығын көрсетеді.

Зерттеу нәтижелерінің практикалық маңыздылығы ұйымдарға олардың әлеуметтік жобаларының тиімділігін дәлірек өлшеу және жақсарту үшін құралдар мен ұсыныстар беру болып табылады. Бұл ұйымдарға қазіргі әлеуметтік бастамаларын оңтайландыруға ғана емес, сонымен қатар олардың әлеуметтік және экологиялық әсерін ескере отырып, болашақта тиімдірек жобаларды жоспарлауға көмектеседі.

Аннотация. В условиях растущей социальной ответственности бизнеса и усиления внимания к устойчивому развитию, статья подчеркивает необходимость эффективного оценивания социальных инициатив как для улучшения их воздействия, так и для повышения прозрачности перед заинтересованными сторонами. Основная проблема исследования заключается в отсутствии универсальных методов для оценки социальных проектов, что затрудняет понимание их истинного влияния и эффективности. Цель исследования - разработать комплексный подход к оценке, который учитывает как количественные, так и качественные аспекты воздействия проектов.

В ходе исследования были рассмотрены различные методы оценки, включая анализ экологического вклада проектов, их влияние на общественное мнение и уровень вовлеченности заинтересованных сторон. Также было изучено влияние социальных проектов на локальные сообщества и их устойчивость в долгосрочной перспективе.

Результаты исследования показали, что комплексный подход к оценке может значительно улучшить понимание влияния социальных проектов и способствовать более эффективному их планированию и реализации. Выводы подчеркивают важность интеграции различных методов оценки для получения полной картины воздействия социальных инициатив.

Практическое значение итогов исследования заключается в предоставлении организациям инструментов и рекомендаций для более точного измерения и улучшения эффективности их социальных проектов. Это поможет организациям не только оптимизировать свои текущие социальные инициативы, но и спланировать более эффективные проекты в будущем, учитывая их социальное и экологическое влияние.

Annotation. In the context of growing social responsibility of business and increasing attention to sustainable development, the article emphasizes the need for effective evaluation of social initiatives both to improve their impact and to increase transparency to stakeholders. The main problem of the study is the lack of universal methods for evaluating social projects, which makes it difficult to understand their true impact and effectiveness. The purpose of the study is to develop a comprehensive approach to assessment that takes into account both quantitative and qualitative aspects of the impact of projects.

The study examined various assessment methods, including the analysis of the environmental contribution of projects, their impact on public opinion and the level of involvement of stakeholders. The impact of social projects on local communities and their sustainability in the long term was also studied.

The results of the study showed that an integrated approach to assessment can significantly improve the understanding of the impact of social projects and contribute to more effective planning and implementation. The findings emphasize the importance of integrating various assessment methods to obtain a complete picture of the impact of social initiatives.

The practical significance of the results of the study is to provide organizations with tools and recommendations for more accurate measurement and improvement of the effectiveness of their social projects. This will help organizations not only optimize their current social initiatives, but also plan more effective projects in the future, taking into account their social and environmental impact.

Ключевые слова: социальный проект, социальная ответственность, эффективность.

1. Введение

Оценка влияния и результативности социальных проектов в организациях представляет собой важную тему в современном обществе, особенно в контексте повышения социальной ответственности бизнеса и необходимости эффективного распределения ресурсов. Эта тема актуальна, поскольку организации все чаще сталкиваются с необходимостью демонстрации эффективности своих социальных инициатив как внутри организации, так и среди внешних заинтересованных сторон, включая инвесторов, партнеров и общественность.

Целью данного исследования является разработка комплексного подхода к оценке результативности социальных проектов в организациях.

Новизна работы заключается в комплексном подходе к оценке социальных проектов, который учитывает как количественные, так и качественные аспекты. Такой подход позволяет не только оценивать непосредственные результаты проектов, но и их долгосрочное влияние на общество и организацию.

Гипотеза исследования предполагает, что систематическая и многоаспектная оценка социальных проектов способствует повышению их эффективности и устойчивому развитию организаций. Ожидается, что комплексный подход к оценке позволит организациям не только измерить непосредственные результаты своих инициатив, но и лучше понять их влияние на различные аспекты общественной жизни и бизнес-процессы.

Теоретическая значимость работы заключается в разработке и обосновании теоретических подходов к оценке социальных проектов, что способствует углублению понимания взаимодействия бизнеса и общества. Практическая значимость работы проявляется в предложении конкретных инструментов и методик, которые могут быть применены организациями для оценки и улучшения эффективности их социальных инициатив, а также для повышения прозрачности и отчетности в этой сфере.

2. Литературный обзор

В современном обществе, где социальная ответственность организаций становится все более значимой, актуальным вопросом является оценка влияния и результативности социальных проектов. Большинство экспертов сходятся во мнении, что основой любого проекта должен быть социальный результат, целенаправленно достигаемый через взаимосвязанную последовательность этапов: от использования ресурсов до конкретных действий, непосредственных результатов и, наконец, социального эффекта.

Бабец А.Е. отмечает, что «некоммерческие организации, стремясь достичь своей миссии, могут добиться значительных успехов, выбирая оптимальные стратегии» [1]. Эти стратегии включают улучшение социально-экономической эффективности, то есть достижение более значимых результатов с меньшими ресурсами, и повышение качества предоставляемых программ и услуг.

Рождественская Н.В., Богуславская С.Б., Боброва О.С. [2, с.17] указывают, что эффективность социальных проектов оценивается по ряду критериев. Важными показателями являются масштаб деятельности организации, включающий количество благополучателей, участников и волонтеров, проведенные мероприятия, объем привлеченных ресурсов, продолжительность и географическое распространение деятельности.

Не менее значительна по мнению Купитт С., Эллис Дж. [3] репутация и PR-деятельность, так как от этого зависит узнаваемость организации, привлечение внимания и ресурсов. Оценка эффективности в этом аспекте включает анализ охвата аудитории, уровня вовлеченности, конверсии, а также отслеживание изменений трафика после проведенных мероприятий и акций [4].

Эпштейн М. и Ютас К. [5] указывают, что финансовые показатели и эффективность использования ресурсов также играют ключевую роль. Здесь оценивается, как отмечает Грэм Т. [6], объем привлеченных ресурсов и результативность фандрайзинговых усилий, включая количество проведенных акций, подготовленных грантовых заявок и продаж сувениров.

Таким образом, оценка эффективности социальных проектов является многогранной задачей, требующей комплексного подхода и внимания к различным аспектам деятельности некоммерческих организаций.

По мнению Кендалл Дж. и Кнапп М. [7] в оценке эффективности социальных проектов некоммерческих организаций часто уделяется особое внимание финансовым аспектам и привлечению ресурсов. Шелунцова М.А. отмечает, что волонтерская деятельность играет не менее важную роль, предоставляя не только средства для снижения расходов и дополнительные рабочие руки, но и специализированные профессиональные услуги, а

также расширяя возможности распространения информации и укрепления репутации организации [8, с.237].

Борисова Е., Пересецкий А., Полищук Л. приводят следующее определение: «оценка волонтерского вклада обычно включает учет количества волонтеров и уровня их участия в деятельности организации, а также проведенных мероприятий с их участием» [9, с.75]. Менее распространенной, но не менее важной является оценка стоимости привлечения и обучения волонтеров, их вклада в проекты и социальные результаты.

Особое внимание уделяется оценке долгосрочных позитивных изменений, которые являются одними из самых сложных для измерения результатов [10, с.27]. Здесь важно определить, как изменится жизнь благополучателей проекта в долгосрочной перспективе и какие системные изменения произойдут в обществе в результате реализации проекта.

Алаев А., Козлова С., Малютин К. и Перова И. отмечают, что «эффективность в этой области может включать оценку позитивных изменений в жизни благополучателей, например, изменения в моделях поведения, улучшение состояния здоровья или социально-экономического статуса» [11, с.41]. Также учитываются позитивные изменения на уровне сообщества, включая изменения в институциональных условиях и общественном мнении, а также взаимоотношениях с конкретной проблемой и ее решением [12, с.52].

Важным аспектом является законодательная деятельность организаций, включая подготовку законопроектов и докладов, обжалование законов, а также участие в экспертных советах и рабочих группах [13, с.60]. Участие в деятельности профессиональных сообществ и партнерских сетей по мнению Решта И.В. и Панина П.С. также считается значимым показателем эффективности [14, с.67]. Кроме того, важными компонентами эффективности являются обучение и просвещение стейкхолдеров, а также поиск партнеров и объединение усилий для системного решения проблем.

Оценка устойчивости результатов деятельности некоммерческих организаций после завершения проектов и программ является ключевым элементом в оценке их долгосрочной эффективности.

понятие социального эффекта интерпретируется двояко, в зависимости от типа инвестиционного проекта. Когда речь идет об инвестициях в коммерческие проекты, социальный эффект обычно рассматривается как второстепенный, дополняющий основной экономический результат, в частности прибыль. Это отражает баланс между стремлением к финансовому успеху и влиянием проекта на общество.

С другой стороны, в контексте некоммерческих инвестиций социальный эффект выходит на первый план, превалируя над экономическими показателями. Здесь основная цель не связана с генерацией прибыли, а направлена на достижение социальных целей и блага [15]. Экономическая эффективность при этом также имеет значение, однако скорее как показатель рациональности действий в процессе реализации проекта, а не как главный критерий оценки.

Таким образом, в разных сферах инвестиционной деятельности социальный эффект играет различные роли, будучи дополнительным в одних случаях и первоочередным в других, что отражает разнообразие подходов к вопросу социальной ответственности и устойчивого развития.

3. Методы

Основное внимание уделяется комплексному подходу к анализу таких проектов. Используются разнообразные методы оценки, включающие как качественный, так и количественный анализ.

Ключевым методом является анализ воздействия проектов на окружающую среду и общество. Это включает в себя изучение экологических аспектов, таких как восстановление

лесных массивов и снижение уровня углекислого газа, а также оценку социального влияния, включая общественное восприятие и участие в проектах.

Для оценки эффективности проектов применяется анализ взаимодействия организации с заинтересованными сторонами. Это охватывает оценку сотрудничества с партнерами и воздействие проекта на локальные сообщества, а также устойчивость и долгосрочные перспективы проектов.

Таким образом, используется интегрированный подход к оценке социальных проектов, сочетающий различные методы исследования для всестороннего понимания их влияния и результативности.

4. Результаты

Оценка эффективности социальных проектов в рамках корпоративной социальной ответственности (КСО) представляет собой многогранный процесс, который включает анализ и измерение воздействия этих проектов как на саму организацию, так и на общество в целом. В контексте КСО оценка эффективности фокусируется на определении того, насколько хорошо социальные инициативы организации соответствуют ее стратегическим целям и ценностям, а также на оценке их влияния на заинтересованные стороны, включая сотрудников, клиентов, партнеров и широкую общественность.

Эффективность социальных проектов в контексте КСО часто измеряется через улучшение бренда и репутации организации, повышение уровня удовлетворенности и лояльности сотрудников, а также через вклад в социальное и экологическое благополучие общества. Ключевым моментом является определение конкретных социальных целей проекта и последующее отслеживание прогресса в их достижении.

Важно также учитывать, что оценка социальных проектов в рамках КСО должна быть прозрачной и обоснованной, с учетом как количественных, так и качественных показателей. Это может включать изучение улучшения качества жизни целевых групп, степени удовлетворения потребностей сообщества и эффективности использования ресурсов проекта. Кроме того, рассмотрение обратной связи от заинтересованных сторон и регулярная оценка результатов проектов обеспечивают возможность для корректировки и улучшения будущих инициатив.

Таким образом, оценка эффективности социальных проектов в рамках КСО является комплексным процессом, который требует глубокого анализа и внимания к различным аспектам воздействия организации на общество и окружающую среду.

На примере компании АО «EFES KAZAKHSTAN», рассмотрим оценку социального проекта.

Компания «EFES KAZAKHSTAN» уже более четверти века занимает прочные позиции на рынке Казахстана, представляя свою деятельность в городах Караганды и Алматы с двумя заводами. С численностью персонала свыше 1000 человек, компания является частью мультинациональной группы «Anadolu Group», специализирующейся на производстве напитков. Сотрудничество с ведущими игроками мирового пивного рынка, такими как AB InBev, привело к созданию крупного мирового пивоваренного концерна. «Anadolu Efes», материнская компания, активно работает в области производства и продажи пива и безалкогольных напитков. Она лидирует на турецком рынке пива и владеет пивоварнями в Восточной Европе и странах СНГ [16].

Социальный проект #BMgoGREEN, организованный компанией «EFES KAZAKHSTAN» в сотрудничестве с частным фондом «Eco Fund Tabigat», направлен на поддержку и восстановление природных ресурсов Казахстана. Основная цель проекта – улучшить экологическую устойчивость и содействовать охране окружающей среды в стране. Эта

инициатива особенно актуальна в контексте повышенного риска и частоты лесных пожаров, которые наносят серьезный ущерб природным ресурсам и экосистемам [17].

Важным элементом проекта является восстановление лесных массивов, которые пострадали от пожаров. Посадка деревьев является ключевой деятельностью в рамках этого проекта, так как она способствует не только восстановлению утраченных лесных территорий, но и улучшению качества воздуха, снижению уровня углекислого газа, сохранению биоразнообразия и защите экосистем. Каждое посаженное дерево вносит вклад в борьбу с разрушением лесов и предотвращение негативных экологических последствий, таких как эрозия почвы и наводнения, что имеет большое значение для безопасности и благополучия местных общин.

Компания «EFES KAZAKHSTAN», являясь частью кампании, направляет свои усилия на привлечение внимания общественности к проблемам охраны окружающей среды и стимулирование более осознанного отношения к природным ресурсам. Инициатива также подчеркивает важность совместных усилий и партнерства между различными организациями и секторами общества для достижения устойчивого развития.

Проект стартовал с символической акции посадки саженцев ясеня в эко парке «Сосновый Бор» в Алматы, что отражает стремление к восстановлению лесов и поддержке экологической устойчивости. Участие руководителей компании и основателя частного фонда, а также медийного сообщества в этой акции подчеркивает общественную значимость и поддержку проекта.

В целом, #BMgoGREEN выступает как платформа для освещения экологических проблем, объединения усилий и ресурсов для борьбы с экологическими вызовами и продвижения устойчивых практик в Казахстане.

Оценка проекта показана в таблице 1. Проект #BMgoGREEN, реализуемый компанией «EFES KAZAKHSTAN» в сотрудничестве с частным фондом «Eco Fund Tabigat», оказывает заметное положительное влияние на экологическую ситуацию в Казахстане. Он не только способствует восстановлению лесных массивов и улучшению экологических условий, но также инициирует значимые изменения в общественном восприятии экологических проблем.

Таблица 1 – Оценка эффективности социального проекта #BMgoGREEN

Критерии оценки	Описание
Экологический вклад	Посадка деревьев способствует восстановлению лесных массивов, улучшению качества воздуха, снижению уровня углекислого газа и сохранению биоразнообразия.
Общественное восприятие и участие	Проект привлекает внимание общественности и способствует осознанному отношению к экологическим проблемам.
Сотрудничество с партнерами	Эффективное сотрудничество с частным фондом 'Eco Fund Tabigat' и другими партнерами для достижения общих целей.
Воздействие на локальные сообщества	Посадка деревьев помогает защитить локальные сообщества от экологических угроз, таких как эрозия и наводнения.
Устойчивость проекта	Старт проекта с символической акции и долгосрочные планы на восстановление и защиту экосистем.

Посадка деревьев в рамках проекта улучшает качество воздуха, способствует снижению уровня углекислого газа в атмосфере и защищает биоразнообразие, что имеет

ключевое значение для сохранения экосистем и предотвращения негативных экологических последствий.

Кроме того, проект успешно мобилизует общественное внимание к экологическим вопросам, способствуя более осознанному отношению к окружающей среде. Сотрудничество с различными партнерами и фондами позволяет проекту достигать более широких целей и усиливать его воздействие. Особенно важно, что проект оказывает значительное положительное влияние на локальные сообщества, защищая их от экологических угроз, таких как эрозия и наводнения, и обеспечивая более устойчивое будущее.

Устойчивость проекта также обеспечивается за счет долгосрочных планов и стратегий, направленных на восстановление и защиту экосистем. Начав с символической акции посадки деревьев, проект демонстрирует свою приверженность к долгосрочным экологическим целям и устойчивому развитию, подчеркивая важность интегрированного подхода к решению экологических проблем.

Таким образом, #BMgoGREEN является примером успешной инициативы в области корпоративной социальной ответственности, демонстрируя, как компании могут эффективно вносить вклад в улучшение экологической ситуации и повышение экологической осведомленности в обществе.

5. Выводы и обсуждение

Ключевым аспектом успешности таких проектов является их комплексное воздействие на общество и окружающую среду. Примером такой успешной инициативы служит проект #BMgoGREEN, реализуемый компанией «EFES KAZAKHSTAN». Этот проект демонстрирует, как комплексный подход к социальной ответственности может оказывать положительное влияние на экологию, общественное сознание и местные сообщества.

Одним из важнейших выводов является то, что для оценки эффективности социальных проектов необходимо учитывать не только их непосредственные результаты, но и долгосрочное влияние на социальную и экологическую среду. Проекты, подобные #BMgoGREEN, подчеркивают важность сотрудничества с различными заинтересованными сторонами, включая местные органы власти, неправительственные организации и общественность, что усиливает их влияние и устойчивость.

С точки зрения рекомендаций, компаниям следует сосредоточиться на разработке стратегий, которые обеспечивают не только экономическую выгоду, но и способствуют решению социальных и экологических проблем. Это включает в себя инвестиции в проекты, направленные на улучшение экологической обстановки, поддержку местных сообществ и повышение общественного сознания о важности устойчивого развития.

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Инструменты и технологии мониторинга и оценки социальных проектов

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Аннотация. Зерттеу әлеуметтік жобалардың белгілі бір әлеуметтік мәселелерді шешуге және өмір сапасын жақсартуға бағытталғанына назар аударады. Коммерциялық компаниялардың әлеуметтік жобаларға қатысуының себептері, сондай-ақ осындай жобаларды құру мен іске асырудың негізгі кезеңдері қамтылған. Салыстыру, жүйелеу және салыстыру сияқты әртүрлі зерттеу әдістері, сондай-ақ оларды әлеуметтік жобаларды бақылау және бағалау контекстінде қолдану сипатталған. Үш танымал компанияның мысалында әртүрлі құралдар мен технологиялардың нақты әлеуметтік жобаларда қалай қолданылатындығы көрсетілген. Қатысушылардың ерекшеліктері мен қажеттіліктерін ескере отырып, әлеуметтік жобаларды мониторингтеу және бағалау процестерін жақсарту бойынша кеңестер берілді.

Түйінді сөздер: әлеуметтік жоба, мониторинг, бағалау, сандық әдістер, сапалық әдістер.

Аннотация. В исследовании акцентировано внимание на том, что социальные проекты ориентированы на решение определенных социальных проблем и улучшение качества жизни. Освещены мотивы, по которым коммерческие компании вовлекаются в социальные проекты, а также основные этапы создания и реализации таких проектов. Описаны различные методы исследования, такие как сравнение, систематизация и сопоставление, а также их применение в контексте мониторинга и оценки социальных проектов. На примере трех известных компаний демонстрируется, как различные инструменты и технологии используются в реальных социальных проектах. Даны советы по улучшению процессов мониторинга и оценки социальных проектов с учетом их специфики и потребностей участников.

Ключевые слова: социальный проект, мониторинг, оценка, количественные методы, качественные методы.

Annotation. The study focuses on the fact that social projects are focused on solving certain social problems and improving the quality of life. The motives for which commercial companies are involved in social projects are highlighted, as well as the main stages of the creation and implementation of such projects. Various research methods are described, such as comparison, systematization and comparison, as well as their application in the context of monitoring and evaluation of social projects. The example of three well-known companies demonstrates how various tools and technologies are used in real social projects. Tips are given to improve the processes of monitoring and evaluation of social projects, taking into account their specifics and the needs of participants.

Keywords: social project, monitoring, evaluation, quantitative methods, qualitative methods.

1. Введение.

В современном обществе роль социальных проектов становится всё более значимой. Они призваны решать актуальные проблемы, стимулировать развитие социума, создавать условия для благополучия граждан. Однако без правильного мониторинга и оценки их эффективности даже наиболее благородные идеи могут не приносить ожидаемых результатов или, что еще хуже, привести к непредсказуемым последствиям. Именно поэтому выбор и применение инструментов и технологий мониторинга и оценки социальных проектов становятся критически важными. Настоящее исследование посвящено изучению этих инструментов и технологий, а также их роли в обеспечении успешного развития и реализации социальных проектов.

Актуальность темы исследования обусловлена рядом ключевых факторов. В современном мире социальные проекты приобретают особое значение, поскольку они направлены на решение наиболее острых проблем общества и способствуют устойчивому развитию социума. Отсутствие эффективного контроля и оценки может привести к нерациональному использованию ресурсов, упущению важных аспектов реализации или даже к нежелательным социальным последствиям. В этом контексте инструменты и технологии мониторинга и оценки становятся не просто средствами контроля, но и ключевыми элементами, обеспечивающими успешное выполнение поставленных перед социальными проектами задач. Исследование этой темы позволит улучшить практики управления социальными проектами и повысить их эффективность в реализации социальных изменений.

Цель исследования заключается в глубоком анализе и определении наиболее эффективных инструментов и технологий для мониторинга и оценки социальных проектов.

2. Литературный обзор.

Буриан Л. и Иржи П. в своем исследовании, указывают, что «социальный проект представляет собой организованную инициативу, направленную на решение конкретных социальных проблем или удовлетворение определенных социальных потребностей» [1, с.50]. Отличительной особенностью такого проекта является его фокусировка на улучшение качества жизни людей, поддержку уязвимых групп населения или развитие социума в целом. Социальные проекты могут инициироваться как государственными, так и частными организациями, а также гражданским обществом. Джонс П., Хиллиер Д., Комфорт Д., Кларк-Хилл С. указывают, что «основной целью таких проектов является достижение позитивного социального изменения, а не коммерческая выгода» [2, с.522]. В рамках социального проекта разрабатываются стратегии и действия, которые, будучи реализованными, способствуют улучшению социального благосостояния определенного контингента населения или общества в целом.

Использование социальных проектов в коммерческих компаниях становится все более распространенным явлением. Аксой Н. отмечает, что это связано не только с желанием предприятий демонстрировать свою социальную ответственность, но и с пониманием того, что социальные проекты могут приносить реальную пользу бизнесу [3]. Компании, реализующие социальные проекты, часто сталкиваются с повышением уровня доверия со стороны клиентов, партнеров и сообщества в целом. Такие проекты, по мнению Хендерсона Дж., «позволяют компаниям укреплять свою репутацию, выделяться на рынке и создавать положительное имиджевое восприятие» [4].

Как отмечают Спаапен Дж., Друдж Л., социальные проекты могут стать частью корпоративной культуры, мотивируя сотрудников и привлекая новых талантливых кадров,

которые ценят компании, активно участвующие в социальной жизни [5, с.211]. С другой стороны, коммерческие компании могут использовать социальные проекты для изучения новых рынков, тестирования продуктов или услуг и даже для инновационного развития.

Таким образом, социальные проекты в коммерческих компаниях не только способствуют улучшению социального окружения, но и могут стать инструментом для достижения бизнес-целей и устойчивого развития предприятия.

Арон А. указывает, что «процесс создания и реализации социальных проектов в коммерческих компаниях является сложным и многогранным, требующим четкой структурированности и учета множества аспектов» [6]. Начиная с идеи и заканчивая ее воплощением, компания проходит несколько ключевых этапов.

Смит Э., Ванклей Ф. отмечают, что первым шагом является идентификация социальной проблемы или потребности, которую компания хочет решить или удовлетворить [7, с.69]. Это может быть связано с внутренними потребностями сотрудников, экологическими вызовами или социальными проблемами в том сообществе, где компания ведет свою деятельность. Беккер Х., Ванклей Ф. указывают, что «после определения проблемы следует анализ и исследование ее основ, а также возможных путей решения» [8, с.74]. Здесь компании часто обращаются за помощью к внешним экспертам, НКО или научным учреждениям.

На основе проведенного анализа разрабатывается конкретный план действий. Он включает в себя, как отмечают Салазар Дж., Хастед Б.В., Бил М., стратегию реализации проекта, определение ресурсов, необходимых для его осуществления, и привлечение партнеров [9, с.175]. Реализация проекта предполагает активное взаимодействие всех участников, прозрачность действий и регулярный мониторинг хода выполнения задач. По завершении проекта важно провести оценку его эффективности, чтобы понять, были ли достигнуты первоначальные цели и каков реальный социальный эффект от реализации проекта.

Все эти этапы взаимосвязаны и требуют комплексного подхода. Для коммерческих компаний важно не только демонстрировать свою социальную ответственность, но и убеждаться в том, что ресурсы, вложенные в социальные проекты, приносят максимальную пользу как для общества, так и для самой компании.

Социальные проекты могут приносить коммерческим компаниям множество преимуществ, которые имеют как непосредственное, так и косвенное влияние на бизнес [10, с.97]. В первую очередь, они позволяют компании демонстрировать свою социальную ответственность перед обществом. Это, в свою очередь, укрепляет позитивный имидж бренда и увеличивает уровень доверия со стороны потребителей. Клиенты и партнеры часто предпочитают сотрудничать с теми компаниями, которые активно занимаются социальными инициативами. Второе важное преимущество — улучшение корпоративной культуры. Социальные проекты могут мотивировать сотрудников, вызывая у них чувство гордости за свою компанию. Такое вовлечение может привести к увеличению производительности и снижению текучести кадров. Также не стоит забывать о возможности изучения новых рынков и тестирования продуктов в рамках социальных проектов. Компания может получить ценный опыт, который в дальнейшем будет использоваться в основной деятельности.

Социальные проекты могут также стать источником инноваций. Работая над решением социальных проблем, компания может столкнуться с необходимостью разработки новых технологий или методов, которые впоследствии найдут применение в коммерческих целях. Социальные проекты могут улучшить отношения с местными сообществами и властями, что, в свою очередь, может содействовать более благоприятному деловому климату для компании [11].

Реализация социальных проектов коммерческой компанией может столкнуться с рядом сложностей. Одной из главных трудностей является несоответствие ожиданий и

реальности. Компании, вкладывая ресурсы в социальные проекты, ожидают определенного результата, который может не совпадать с фактическим исходом из-за непредсказуемости социальных процессов.

Также может возникнуть проблема в восприятии социального проекта со стороны целевой аудитории. Несмотря на искренние намерения, компания может столкнуться с недоверием или критикой, особенно если ее действия будут восприняты как попытка "купить" благожелательность общественности или отвлечь внимание от других, менее позитивных аспектов своей деятельности.

Другой сложностью может стать нехватка компетенций внутри компании для реализации социальных проектов. Это может потребовать привлечения внешних экспертов или дополнительного обучения сотрудников, что влечет за собой дополнительные расходы.

Иногда компании сталкиваются с проблемой интеграции социального проекта в корпоративную стратегию, что может привести к потере фокуса или размытию основных бизнес-целей. Одной из сложностей может стать отсутствие четко определенных метрик для оценки эффективности социального проекта. Это может создать проблемы при оценке вклада проекта в достижение корпоративных и социальных целей.

Таким образом, несмотря на все преимущества социальных проектов, коммерческим компаниям следует тщательно анализировать все возможные риски и сложности перед их запуском и реализацией.

3. Методы.

Применение различных методов исследования в контексте инструментов и технологий мониторинга и оценки социальных проектов позволяет получить глубокое и многостороннее понимание предмета.

Метод сравнения применяется для анализа различных инструментов и технологий с целью выявления их отличительных особенностей, преимуществ и недостатков. С его помощью можно определить, какие инструменты наиболее эффективны в разных контекстах или для разных типов социальных проектов.

Систематизация позволяет упорядочить доступную информацию о разнообразных инструментах и технологиях, сгруппировав их по определенным признакам или категориям. Этот метод помогает создать структурированное представление о существующих подходах к мониторингу и оценке, что упрощает их дальнейший анализ и применение на практике.

Метод сопоставления используется для того, чтобы определить степень соответствия между различными инструментами и конкретными потребностями или задачами социальных проектов. С его помощью можно выявить, какие технологии или методики наиболее подходят для решения определенных задач мониторинга и оценки.

Работая с этими методами в комплексе, можно получить полное и глубокое понимание того, какие инструменты и технологии мониторинга и оценки социальных проектов существуют на данный момент, какие из них наиболее эффективны и как их можно адаптировать или комбинировать для решения конкретных задач.

4. Результаты.

Мониторинг и оценка социальных проектов требуют применения специализированных методов и подходов, которые позволяют адекватно отслеживать прогресс и измерять результаты. Качественные методы часто используются для глубокого понимания контекста проекта, восприятия участников и динамики изменений. Интервью, фокус-группы и

наблюдение позволяют получить детальную информацию о восприятии проекта, его влиянии на участников и возникающих проблемах.

Количественные методы предоставляют возможность собрать структурированные и измеримые данные о результатах и эффективности проекта. Опросы, анкетирование и статистический анализ могут дать четкое представление о достигнутых результатах и тенденциях. Логический подход к моделированию проекта (или логическая рамка) — это инструмент, который помогает планировать, мониторить и оценивать проект, выделяя его цели, результаты, показатели и риски. Этот подход позволяет четко определить, что проект пытается достичь и как будет измерять свой успех [12, с.85].

Теория изменений — это подход, который фокусируется на механизмах и процессах, благодаря которым проект вызывает социальные изменения. Он помогает понять, как и почему проект работает, а также выявить непредвиденные последствия.

Кроме того, экономический анализ, такой как соотношение затрат и эффективности, может быть использован для оценки того, насколько ресурсы проекта были использованы эффективно и оправданы ли инвестиции.

В целом, успешный мониторинг и оценка социальных проектов требуют комбинации различных методов и подходов, чтобы обеспечить глубокое понимание происходящих процессов и достоверную оценку результатов.

В таблице 1 описаны некоторые методы и подходы к мониторингу и оценке социальных проектов, а также их преимущества и недостатки.

Таблица 1 – Преимущества и недостатки методов мониторинга и оценки социальных проектов

№	Метод/Подход	Преимущества	Недостатки
1	2	3	4
1	Качественные методы (например, интервью, фокус-группы)	- Глубокое понимание контекста и восприятия участников; - Гибкость и адаптивность к изменяющимся условиям.	- Могут быть субъективными; - Трудоемкие и могут потребовать больше времени.
2	Количественные методы (например, опросы, анкетирование)	- Измеримые и структурированные данные; - Возможность статистического анализа и генерализации.	- Ограниченная глубина понимания; - Требуют четко определенных показателей.
3	Логическая рамка	- Четкая структура планирования и оценки; - Упорядочивание целей, результатов и показателей.	- Может быть жесткой и не учитывать изменяющийся контекст; - Требует регулярного обновления.
4	Теория изменений	- Фокус на механизмах и процессах изменения; - Помогает предвидеть и понимать непредвиденные последствия.	- Может быть сложной для разработки и понимания; - Требует глубокого понимания контекста.
5	Экономический анализ (соотношение затрат и эффективности)	- Предоставляет четкое понимание экономической эффективности; - Помогает принимать обоснованные решения о ресурсах.	- Требует точных данных о затратах и результатах; - Может не учитывать качественные аспекты проекта.
Примечание – составлено на основе источника [13, с.105]			

Мониторинг и оценка социальных проектов — сложная и многогранная задача, которая требует грамотного подхода и применения разнообразных методов. Каждый из

рассмотренных методов и подходов имеет свои преимущества, которые делают его наиболее подходящим для определенных аспектов оценки и контроля. В то же время каждый метод имеет свои ограничения и недостатки, которые следует учитывать при их применении.

Качественные методы предоставляют глубокое и детальное понимание контекста и динамики проекта, но могут быть более трудоемкими и субъективными. Количественные методы, напротив, обеспечивают структурированное и измеримое представление о результатах проекта, но могут пропускать нюансы и детали.

Логическая рамка и теория изменений предлагают структурированные подходы к планированию и анализу социальных проектов, однако их применение может быть сложным и требует глубокого понимания контекста. Экономический анализ позволяет осуществлять оценку проекта с точки зрения затрат и выгод, однако он также имеет свои ограничения, особенно при оценке неоцениваемых качественных аспектов [14, с.78].

Таким образом, при проведении мониторинга и оценки социальных проектов необходим комплексный подход, сочетающий различные методы в зависимости от целей и особенностей конкретного проекта.

Различные компании применяют инструменты и технологии для мониторинга и оценки своих социальных проектов. В рамках своего глобального проекта по предоставлению доступа к чистой питьевой воде в развивающихся странах Coca-Cola применяет комплекс качественных и количественных методов [15, с.107]. Компания работает в партнерстве с местными НКО и сообществами, используя интервью и фокус-группы для понимания потребностей населения и определения наиболее эффективных способов реализации проекта. Для отслеживания прогресса и измерения результативности проекта используются количественные показатели, такие как количество людей, получивших доступ к воде, и уровень качества воды.

Microsoft в рамках своей программы «AI for Good» [16] применяет технологии искусственного интеллекта для решения социальных проблем. Например, для мониторинга состояния окружающей среды и оценки воздействия климатических изменений компания использует обработку больших данных и машинное обучение. Это позволяет в реальном времени анализировать данные со спутников, датчиков и других источников, делая прогнозы и предлагая решения для минимизации негативного воздействия на окружающую среду.

Компания Unilever давно занимается вопросами устойчивого развития и имеет ряд социальных проектов в этой области. В рамках своей программы по устойчивому развитию сельскохозяйственных сообществ Unilever использует экономический анализ для оценки эффективности своих инвестиций. С помощью этого подхода компания может определить, какие проекты приносят наибольшую социальную и экономическую выгоду, и скорректировать свои стратегии в соответствии с этими данными [17, с.95].

Каждая из этих компаний выбирает инструменты и технологии в зависимости от особенностей своих социальных проектов и целей, которые они ставят перед собой. При этом все они стремятся к тому, чтобы их деятельность приносила максимальную пользу обществу и была наиболее эффективной с точки зрения затрат и результатов.

Оптимизация процесса мониторинга и оценки социальных проектов требует глубокого понимания специфики этих проектов и учета потребностей их участников. Важно учитывать, что социальные проекты часто имеют сложные и многогранные цели, их результаты могут проявляться не сразу и могут быть не всегда измеримыми в стандартных количественных показателях. Целесообразно вовлекать всех ключевых участников проекта в процесс мониторинга и оценки с самого начала. Это поможет учесть различные точки зрения и обеспечит прозрачность и вовлеченность в процесс. Привлечение участников проекта к

определению показателей и критериев оценки также поможет учесть их интересы и потребности.

Важно использовать комбинацию качественных и количественных методов. В то время как количественные методы предоставляют четкие и измеримые данные, качественные методы, такие как интервью или фокус-группы, могут дать глубокое понимание контекста проекта, восприятия участников и потенциальных проблем или препятствий.

Также рекомендуется регулярно пересматривать и адаптировать инструменты мониторинга и оценки. Социальные проекты могут развиваться и меняться со временем, и инструменты, которые были эффективными на начальных этапах, могут стать менее релевантными позже. Применение технологий, таких как системы сбора и анализа данных, может значительно облегчить процесс мониторинга и оценки, но при этом важно уделять внимание конфиденциальности и безопасности данных. Следует уделять особое внимание обратной связи и взаимодействию с участниками проекта. Предоставление информации о результатах мониторинга и оценки, а также учет замечаний и предложений участников может помочь повысить эффективность и результативность социального проекта. Для успешного мониторинга и оценки социальных проектов необходим гибкий и адаптивный подход, учитывающий специфику проектов и потребности их участников.

5. Выводы и обсуждение.

В современном мире социальные проекты играют все более важную роль, становясь инструментом для решения разнообразных социокультурных, экономических и экологических вопросов. Как и любые другие проекты, они требуют качественного мониторинга и оценки, чтобы гарантировать их успешное выполнение и достижение желаемых результатов.

При изучении инструментов и технологий мониторинга и оценки социальных проектов было выявлено, что они должны учитывать особенности и специфику социальных проектов. Ключевым аспектом является интеграция различных методов, включая как количественные, так и качественные, чтобы обеспечить всесторонний и детальный анализ. При этом, такие подходы, как теория изменений или логическая рамка, позволяют создать четкую структуру для планирования, мониторинга и оценки.

Коммерческие компании активно применяют социальные проекты для укрепления своей репутации, улучшения отношений со стейкхолдерами и достижения стратегических корпоративных целей. Реализация таких проектов в корпоративной среде может столкнуться с рядом сложностей, включая внутренние корпоративные барьеры, высокие требования к мониторингу и оценке, а также необходимость адаптации к изменяющемуся контексту.

Были предложены рекомендации по оптимизации процесса мониторинга и оценки социальных проектов, основанные на учете потребностей их участников, применении современных технологий и интеграции различных методов анализа.

Мониторинг и оценка социальных проектов — это сложный и многогранный процесс, который требует комплексного и гибкого подхода. Но именно благодаря такому качественному анализу возможно обеспечить высокую эффективность и результативность социальных проектов, что, в свою очередь, способствует достижению долгосрочных позитивных изменений в обществе.

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SCRUM и гибкие методологии в ИННОВАЦИОННОМ МЕНЕДЖМЕНТЕ

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Аннотация:

Данная статья представляет собой всесторонний анализ гибких методологий в проектном менеджменте, с особым акцентом на методологию SCRUM, в контексте управления инновационными проектами. В статье проводится анализ литературы по теме, с целью определения текущего состояния знаний в этой области. Рассматриваются ключевые преимущества и ограничения SCRUM в сравнении с традиционными методами управления проектами. В статье приведен анализ эффективности гибких методологий на основе интервью с действующими менеджерами проектов с различных сфер. Особое внимание уделяется адаптации SCRUM в различных организационных контекстах, включая кейс-стади успешного применения данной методологии в инновационных проектах.

Ключевые слова: SCRUM, управление проектом, инновационный проект

Введение:

Проектное управление – это область знаний, изучающая все особенности процесса инициации, реализации и завершения проектов, результатом которых является конкретный продукт. Практика использования проектного управления, то есть инициации и реализации различных проектов, все больше набирает актуальность, учитывая потребность экономики в новых продуктах. Представители бизнеса приобретают новую характерную черту – создавать новые продукты в условиях ограниченного времени и финансового бюджета. Таким образом, можно точно утверждать, что потребность в проектном управлении – возрастает.

Вторым важным замечанием является возрастающее количественно «инновационных» проектов, иницируемых компаниями, государствами и различными проектными командами. Инновационным проектом, в данном случае, принято считать проект, результатом которого является продукт, отличающийся своим нововведением в функционале или других различных свойствах от продуктов-предшественников. На сегодняшний день иницируется все большее количество инновационных проектов. Государства, компании и все те, кто реализует инновационные проекты заинтересованы в получении новых, технологичных и отличительных продуктов, которые будут способствовать не только финансовой эффективности для инвесторов проектов, но и общему развитию уровня общества (культурного, социального или духовного), через полученные инновационные продукты.

В литературных источниках по проектному управлению существует множество вариантов классификации подходов к управлению проектами. В классическом варианте данной теории выделяют два основных подхода: традиционное управление и гибкое управление проектами. В последние годы учеными и менеджерами проектов все больше обсуждается вопрос использования третьего подхода, так называемого адаптивного управления.

В условиях все большего внедрения инновационных проектов перед менеджерами проектов встает вопрос о том, какой подход является наиболее эффективным в контексте реализации инновационных проектов.

Целью данного исследования является исследование и анализ современных «гибких» методологий в проектном управлении, с особым аспектом на методологию SCRUM, как на одну из наиболее распространенных и эффективных.

Задачи исследования:

- Изучение и сравнение традиционных и гибких методологий в проектном управлении
- Подробный анализ методологии SCRUM
- Анализ эффективности гибких методологий, в контексте управления инновационными проектами

Литературный обзор:

В современной теории проектного управления существует множество вариантов классификаций существующих подходов и методов управления проектами. Тихонов Н. в своей статье отмечает, что существует 11 основных подходов, которые, по мнению автора, используются руководителями проектов: системный, ситуационный, поведенческий, процессуальный, интеграционный, программно-целевой, маркетинговый, комплексный, количественный, функциональный, нормативный. [1] Стоит отметить, что данная классификация является не слишком распространенной среди проектных менеджеров.

В статье Ушакова Д.С. приводится иная, более распространенная система классификации подходов и методологий в управлении проектами. [2] Автор пишет о том, что всё множество методологий и философий в проектном управлении можно объединить в три большие группы подходов: традиционный, гибкий и гибридный.

Д. Ю. Брюханов, Д. Е. Воронцов в своем труде «Современные подходы к управлению проектами» также отмечают традиционный (предективный, каскадный) подход как один из первых и основных. [3] Сущность данного подхода состоит в том, что реализация проекта происходит этапами, при этом, как правило, пока не закончили предыдущий этап, к следующему не приступают. При традиционном управлении проектом характерна четкая и строгая последовательная исполнительность действий. Так же характерными чертами каскадного подхода является строгая проектная документация и отсутствие возможности вносить изменения в существующий прототип продукта на поздних этапах реализации проекта, в сравнении с гибким подходом проектного управления.

В статье Докукиной А.А. упоминается о гибких методологиях, как о наиболее эффективной концепции управления инновационными проектами. [4] Автор отмечает, что при реализации гибкого подхода управления проектом большее значение уделяется качеству финального продукта. В данном случае, в сравнение с традиционным подходом управления, внимание акцентировано на последовательном выполнении небольших отрезков работы с регулярными обсуждениями и коммуникацией между владельцем продукта и проектной командой, что является одним из основополагающих принципов гибкой методологии Agile. Допускается доработка продукта на любой стадии реализации проекта.

Андреева Р.Н. в своей статье отмечает, что на сегодняшний день существует большое количество гибких методологий. Например, методология Lean дополняет Agile схемой потока операций с целью выполнения всех итераций одинаково качественно, что позволяет выполнять несколько задач одновременно, повышая гибкость реализации проекта. Доски Kanban, которые также относятся к гибким методологиям, по мнению автора, похожи на схемы промышленного производства, чем и привлекательны для своих сторонников. Данный метод выделяется тем, что можно оставить недоделанную задачу на одном из этапов, при появлении более важной задачи. Самым популярным

методом среди гибких методологий управления является Scrum, так как он, по мнению автора, наиболее структурирован в семействе гибких методологий и характеризуется комбинированием элементов водопадного (традиционного) процесса и идей гибкого подхода. [5]

Более подробно методология SCRUM рассмотрена в статье Терентьевой З.С.. Автор указывает, что данная методология является гибким инструментарием Agile системы, который стал основой появления иных гибких методологий.[6] Главную идею данной методологии можно выразить в слогане «Работа должна быть видимой». SCRUM характерен тем, что предполагает разделение проекта на задачи и подзадачи, каждая из которых выполняется в течение короткого промежутка времени, то есть спринта (как правило длительность спринта составляет от 1 до 4 недель). Результатом каждого такого спринта является минимально работоспособный продукт, способный удовлетворить владельца продукта. Данная методология предполагает несколько основных ролей в проекте: скрам-мастер, который модерирует коммуникацию внутри проекта, владелец продукта, который отвечает за коммуникацию с заказчиком, а также команда проекта, которая отвечает за реализацию задач. В целом, все преимущество данной методологии заключается в том, что SCRUM помогает быстро адаптироваться к любым изменениям за счёт итеративности и вовлечения заказчика в процессы. Данный фактор является наиболее важным при инициации инновационного проекта в условиях быстроменяющегося мира.

Что такое инновационный продукт? Бочкина Н.О. в своей статье приводит множество вариаций определения понятия «инновационный продукт».[7] Так, к примеру, Белокрылова О. считает, что «инновационный проект – это комплекс взаимосвязанных мероприятий, обеспечивающих в течение заданного периода времени создание, производство и реализацию инновационной продукции, услуги, технологического процесса», а Горфинкель Я. определяет его, как «комплект проектной документации по реализации взаимоувязанных по целям, ресурсам, срокам и исполнителям научно-исследовательских, опытно-конструкторских, производственных, организационных, финансовых, коммерческих и других мероприятий, обеспечивающих эффективное решение конкретной научно-технической задачи, приводящей к инновации». По результатам анализа всех приведенных определений данного понятия, автором исследования было решено, что наиболее понятное и распространенное определение «инновационного продукта» следующее: «инновационный проект – это комплекс целенаправленных мероприятий, предусматривающих разработку и реализацию инновационного продукта, услуги или процесса, обеспеченный комплектом проектной документации для эффективного решения конкретной научно-технической задачи, приводящей к инновации».

Методология:

В данной статье основной акцент направлен на изучение эффективности гибких методологий, в контексте управления инновационными проектами, в частности методологии SCRUM. Методология исследования включает в себя несколько ключевых этапов:

1. Сбор и анализ данных из открытых источников. Для получения теоретической базы и понимания текущего состояния проблематики, был проведен анализ научных статей, отчетов и публикаций, посвященных традиционным и гибким подходам в проектном управлении. Также была изучена литература в области инновационного менеджмента, позволяющая определить понятие «инновационного продукта». Это позволило сформировать фундаментальное понимание предмета исследования.

2. Метод сравнительного анализа. С помощью аналитических методов был проведен сравнительный анализ традиционных подходов управления проектами и гибких

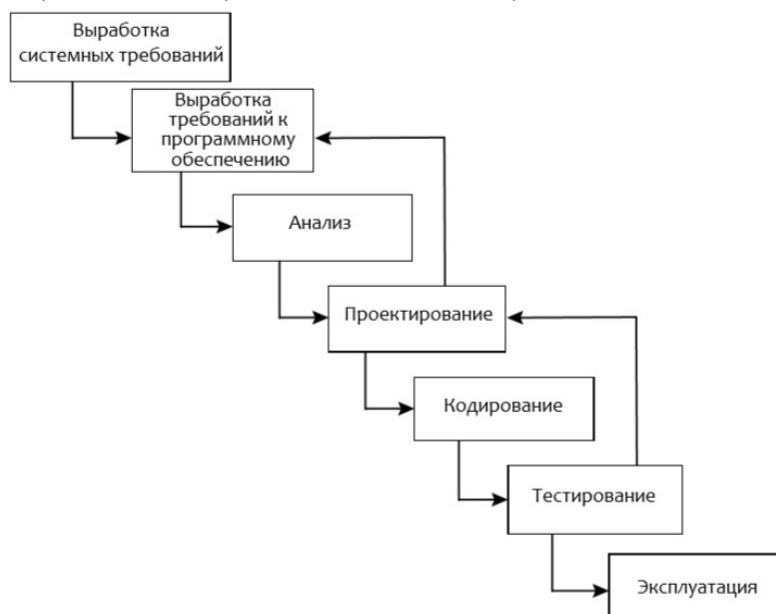
методологий. Особое внимание уделено критериям, таким как адаптивность к изменениям, скорость выполнения задач и общая эффективность в различных условиях.

3. Проведение глубинные интервью с действующими менеджерами проектов. Чтобы понять практическое применение SCRUM и других гибких методологий, были проведены интервью с опытными менеджерами проектов. В ходе этих интервью обсуждались реальные кейсы, сложности и преимущества применения гибких методологий в современных условиях. При подготовке данного исследования были соблюдены все необходимые этические нормы, включая конфиденциальность информации и добровольное согласие участников на участие в интервью.

Результаты, выводы и обсуждение:

По результатам анализа данных из открытых источников о традиционных и гибких методологиях были выявлены значительные различия между двумя подходами:

1. Традиционные (каскадные) методы управления - на проекте соблюдается структурированная последовательность действий. Необходимо закончить один этап производства, чтобы перейти к следующему. Данный подход характеризуется относительно низким уровнем гибкости в контексте адаптации под возможные изменения в проекте. Чаще всего данный подход применяют на проектах из сфер промышленного производства. Каскадный подход управления наиболее эффективен в проектах с четко установленными требованиями, а также ограниченным временем и бюджетом. На рисунке 1 изображена модель управления проектом, в случае использования традиционного подхода.

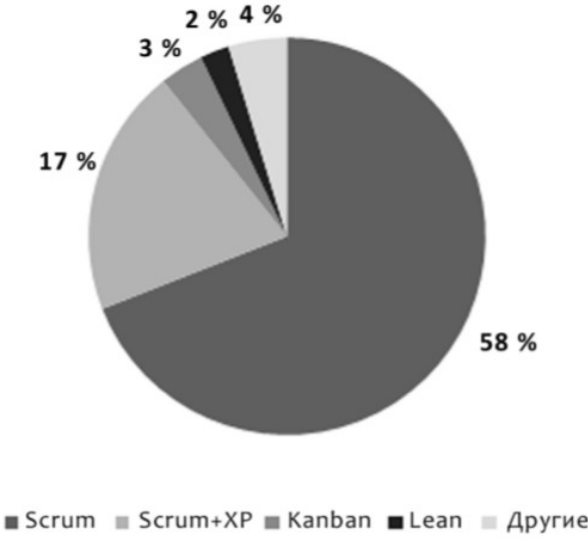


Примечание – составлено автором на основе исследования

Рис 1. Традиционная (каскадная) модель управления проектами

2. Гибкие методологии в проектном менеджменте относятся к подходу, при котором команда работает короткими итерациями, то есть спринтами, и фокусируется на конечном продукте проекта, то есть сосредотачивается не на соблюдении требований, а на удовлетворении потребностей клиента. В случае, когда становится понятно, что требования не помогают удовлетворить потребности, их меняют по ходу работы. В трудах других авторов распространено утверждение, что гибкие методологии управления проектами более эффективны в случае разработки инновационных, творческих продуктов. Характерной особенностью гибкого управления является высокий уровень адаптации под изменяющиеся условия внешней среды. В таких проектах коммуникации и продукт довлеют над документацией и требованиями.

Методология SCRUM является одной из наиболее популярных среди семейства гибких методологий в проектном менеджменте. По данным авторов, данный метод является фреймворком Agile подхода или одним из его процессов. Суть данной методологии состоит в разбиении проекта на самые важные задачи и подзадачи с ограниченными временными рамками для каждой из них.



Примечание – составлено автором на основе исследования
Рис. 2 – Популярность гибких методологий

SCRUM состоит из трех основных элементов:

Таблица 1. Элементы методологии SCRUM

Роли	Артефакты	Процессы
Владелец продукта Скрам-мастер Команда проекта	Беклог продукта Беклог спринта Инкремент продукта	Планирование спринта Обзор спринта Ретроспектива Scrum meeting Сприн
Примечание – составлено автором на основе исследования		

Владелец продукта (Product Owner) – в большинстве случаев является заказчиком, либо отвечает за коммуникации с заказчиком. Является ответственным за беклог (backlog) продукта. Основной его задачей выступает предъявлении четких требований к продукту, чтобы максимально дать понять разработчикам, что он хочет видеть в конце проекта. Именно он выставляет приоритеты: то, что является наиболее срочным и важным на данный момент.

Скрам-мастер – специалист, отвечающий за работоспособность проекта, понимание смысла всего проекта. Его основной задачей является обеспечение слаженной коммуникации в проектной команде, для эффективной реализации задач в беклоге.

Команда проекта – это разработчики и исполнители, ответственные за исполнение задач и реализацию продукта проекта, чье оптимальное количество составляет 7 +/- 2 человека. По данным с официального информационного сайта The Scrum guide команда должна быть самоорганизующейся (никто не вправе вмешиваться в их преобразование беклога продукта в продукт), многофункциональной.

Беклогом продукта, в свою очередь, называется список требований, образованных и расставленных по приоритетности,

внесенные требования из беклога продукта с высокой степенью важности и суммарной оценкой, которые должны быть выполнены в текущем спринте.

Для оценки эффективности гибких методологий в контексте управления инновационными проектами автором был проведен ряд интервью с действующими менеджерами проектов с различных сфер экономики Республики Казахстан. С целью сохранения конфиденциальности, анкетные данные опрошенных (имя, фамилия, возраст) останутся анонимными.

Интервьюируемым были заданы следующие вопросы:

1. Каков Ваш опыт в управлении проектами?
2. Какие проекты Вы реализовали в течение последних 3 лет?
3. Какого подхода Вы придерживаетесь при реализации проекта?
4. Внедрены ли принципы гибкого управления в Ваших проектах?
5. Насколько Вы ознакомлены с методологией SCRUM?
6. Сравните традиционный и гибкий подходы в управлении проектами?

Таблица 2. Характеристика интервьюируемых специалистов

№	Должность	Сфера деятельности	Опыт в проектном управлении
1	Супервайзер по проектам в коммерческом отделе	Проекты, инициируемые международной табачной компанией	9 лет
2	Project Manager	Проекты в сфере онлайн образования	2,5 года
3	Product Manager	Разработка программного обеспечения для банковской системы	1,5 года
4	Junior Project manager	Проекты в сфере мероприятий для МСБ	4 года
5	Project Manager	Организация проектов по обучению специалистов	6 лет

По результатам проведенных интервью автором исследования были составлены следующие результаты:

1. Практика гибких методологий в проектах, инициируемых на территории Республики Казахстан, набирает все большую популярность. Интервьюируемые отмечают, что развитие технологий, которые специалисты внедряют в свои проекты предполагает, что проект должен быть готов к принятию изменений и адаптации под изменение.

2. Интервьюируемые №1, №3 реализует проектную деятельность полностью на инструментах гибких методологий. В их проектах внедрены такие процессы, как постоянные митинги, реализация задач по спринтам, активная и качественная коммуникация с заказчиком.

3. Все интервьюируемые отметили тот факт, что в их проектах не сильно развита практика использования методологии SCRUM. Специалисты отмечают, что знают все принципы и основы данной методологии с теоретической стороны, однако, на практике они не часто использовали принципы и инструменты SCRUM. Опрошенные так же отмечают тот факт, что гибкие методологии набирают все большую популярность среди проектных менеджеров в Казахстане, но сейчас наиболее популярной методологией является Agile.

4. Специалисты подчеркивают, что на практике использования только гибких методологий или только традиционных методов управления проектами невозможно.

Работа в современных проектах, направленных на создание новых продуктов, по словам специалистов, предполагает в некоторых моментах использование каскадных методов (к примеру, иногда нужна строгость в документации или в решении задач), а в некоторых гибких методов управления проектами (к примеру, иногда необходима гибкость к непредвиденным изменениям, имеющих влияние на проект).

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THE CURRENT STATE AND GAPS OF THE PUBLIC-PRIVATE PARTNERSHIP PROJECT MANAGEMENT SYSTEM IN THE REPUBLIC OF KAZAKHSTAN

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ANNOTATION

The purpose of this study is to assess the current state of public-private partnership (PPP) in the Republic of Kazakhstan. The authors of the article analyzed and systematized information about the PPP project management system in Kazakhstan, and offered recommendations for its improvement. The study included both a qualitative and quantitative assessment of the current state of the PPP project management system. As a result, the main problems characterizing the current state of PPP were identified, the features of the project management system in this area in Kazakhstan were described, the factors influencing its current situation were highlighted, and specific measures were proposed to eliminate the identified problems and improve the system.

Keywords: public-private partnership, management system, project management, public administration.

Public-private partnership (PPP) is a unique type of cooperation between the public and private sectors aimed at implementing long-term investment projects in the social and infrastructural spheres with the establishment of a "price-quality ratio".

Since the introduction of PPP as part of the Private Finance Initiative (PFI) by the conservative UK government in 1992, the scheme has been adopted by many leading foreign countries, including France, Germany, China, India, Singapore, Thailand, as well as Malaysia.

Despite the increasing adoption of PPP, the experience of using this mechanism is far from successful in many countries, especially in developing countries. The reason for this is usually: the unstable state of the economy, intersectoral disagreements, delays in the development of the mechanism and the cancellation of the concession agreement, the presence of gaps in legislation.

The first PPP projects in Kazakhstan were implemented in 2005 as pilot concession agreements (the Shar– Ust-Kamenogorsk railway, the North Kazakhstan– Aktobe region power transmission line) based on the Civil Code. A year later, the Law of the Republic of Kazakhstan "On Concessions" was adopted, which became the foundation for the formation of the future PPP mechanism, which was amended in 2008 and 2010 based on the experience of implementing concession projects.

The extrapolation of the law on concessions was the approval of the institute of public-private partnership in the Republic of Kazakhstan in 2015 at the legislative level.

In accordance with article 1 of the Law "On Public-Private Partnership", public-private partnership is a form of cooperation between a public partner and a private partner.

The need for public-private partnership formation is dictated by the realities of the current stage of economic and social development. Cooperation between the state and business presupposes the interest of both sides in this process.

The emergence of a PPP essentially assumes that the initiating party will be the state, which, within the framework of the legislative procedure, selects a private partner for the implementation of socially significant projects through a competition, or considers a private financial initiative received from a business entity on appropriate legal grounds.

One of the main principles of public-private partnership is the fair distribution of risks among project participants, the effect of which may arise in the process of managing these projects. However, in its current state, the PPP project management system is designed in such a way that the state is forced to take on most of the risk events, which entails additional burdens on the budget and a decrease in the efficiency of PPP.

The legal basis of the public-private partnership project management mechanism is regulated in accordance with the Order of the Acting Minister of National Economy of the Republic of Kazakhstan dated November 25, 2015 No. 725 "On some issues of planning and implementation of public-private partnership projects" and assumes the following:

Planning of public-private partnership projects;

–conducting a tender (auction) and direct negotiations to determine a private partner;

–monitoring of public-private partnership agreements;

–assessment of the effectiveness of the implementation of public-private partnership projects.

The relevance of the work lies in the fact that special attention is being paid to this type of partnership. Despite the rapid pace of its development, PPP has been criticized more than once by leading experts, economists and scientists on the expediency and current situation in the economy of the Republic of Kazakhstan.

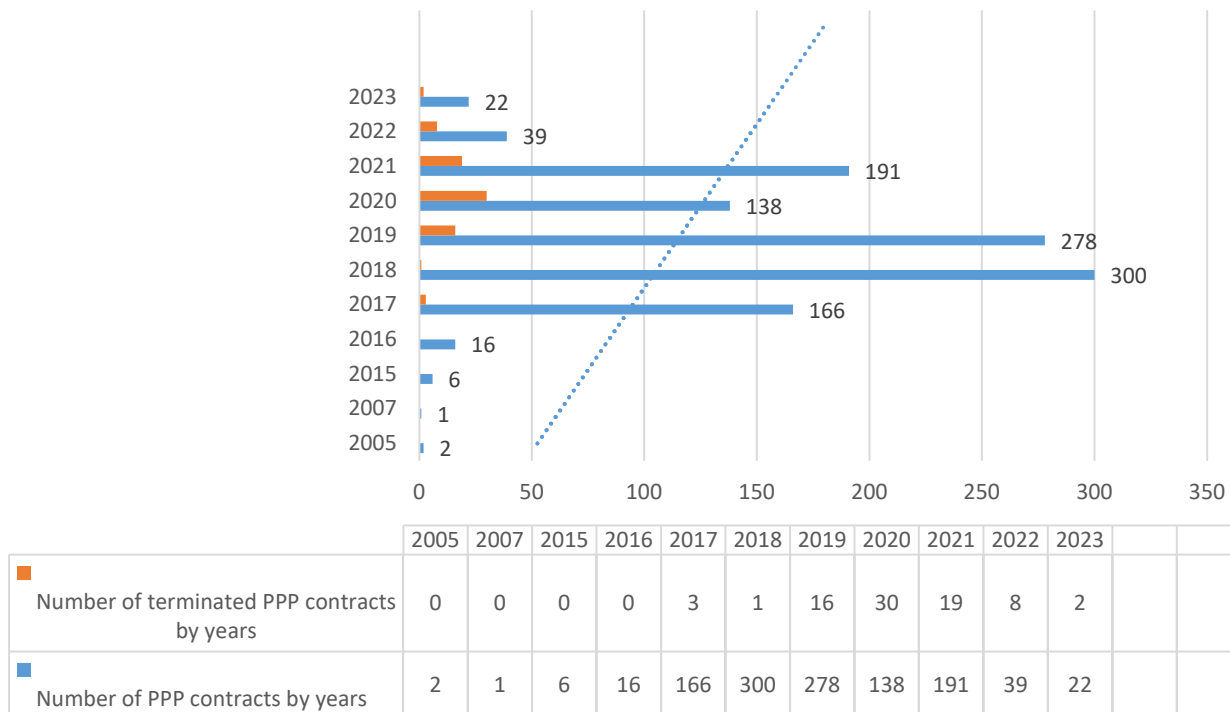
The current situation in the Republic of Kazakhstan requires comprehensive consideration in order to improve legislative aspects and approach the forms of PPP common in Western countries. There is a need to build new modern PPP approaches, transform the mechanism into an accessible and transparent source of project implementation for business and the public, and make a strict distinction between public procurement. It is worth noting that the head of state Kassym-Jomart Tokayev himself has repeatedly drawn attention to the fact that the very idea of PPP is discredited and more than 90% of the cost of PPP projects are state obligations. And at a meeting with the largest representatives of the business community in January 2022, he said that "Another direction to attract investment to the country should be the restart of public-private partnership. Today, this tool has essentially become a tool for bypassing public procurement procedures. All business risks are shifted to the budget. Super benefits and super marginalities are unreasonably provided."

The proposed changes can radically change and improve the current state of the PPP project management system in the Republic of Kazakhstan. These measures will make it more attractive to implement. The state plays a leading role in this process, and state regulation of the PPP project management system should serve as a driver for changes dictated by time and the need to transform this system.

Accordingly, it is necessary to analyze and combine what we know about the PPP project management system in Kazakhstan. We believe that it is necessary to analyze and assess the current state of the public-private partnership project management system and its development dynamics since the signing of the PPP law, identify the main gaps and barriers to the

implementation of PPP projects in Kazakhstan and propose measures to regulate and improve them.

In order to assess the current state of PPP in the Republic of Kazakhstan, first of all, let us turn to the general statistics of all projects, at the end of 2023, the Kazakhstan Center has a total number of registered PPP projects of 1305 projects, for which 1159 agreements have been signed, 67 projects are at the tender stage, and 79 PPP contracts have been terminated (see graph 1).

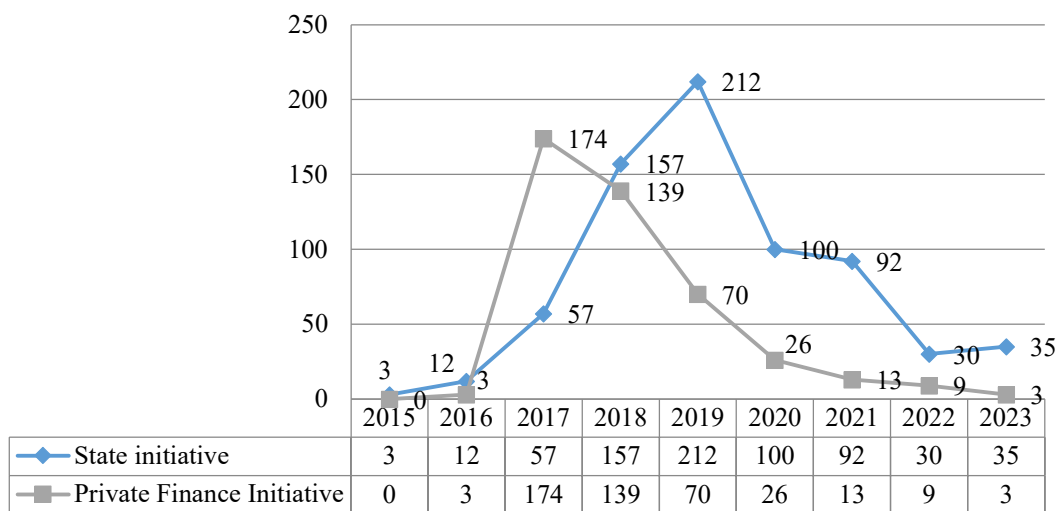


Schedule 1 – Projects for which contracts have been signed in the context of years
Note – developed by the authors based on the source

It is likely that a large number of projects over the specified period are an attempt to close infrastructure problems as a result of the creation of a new mechanism, most of which are at the expense of state participation. In our opinion, the weakness of the legislative framework and the lack of significant experience in managing large projects today provoke an increase in the number of insufficiently effective, and sometimes even unnecessary projects in Kazakhstan.

According to the level and complexity of public-private partnership projects, they are divided into republican and local, at the republican level, state regulation and project management is carried out by the relevant ministry, depending on the sector of project implementation, in local projects, the management and implementation of the project is carried out by the local executive body. The share of projects of national importance accounts for 47 projects, the remaining projects are implemented at the local level.

It is also interesting to answer the question of who is more often the initiator of projects and what is the dynamics of their implementation. From graph 2, we clearly see a negative trend in the ongoing PPP projects, both projects initiated by the state and projects initiated by business. This may indicate a loss of business interest in PPP. In our opinion, this may be a consequence of the inefficient work of state executive specialized bodies, whose task is to promote PPP, as well as manage and control the situation with the implementation of socially and economically important projects for the regions and the republic as a whole.



Graph 2 – Types of PPP project initiatives in the Republic of Kazakhstan by year
Note – developed by the authors based on the source

The following implementation methods are typical for PPP projects in Kazakhstan:

- conducting a closed competition;
- organization of a two-stage competition;
- software PPP;
- Private financial initiative (PFI-direct negotiations)

Graph 2 shows that today in Kazakhstan two thirds of all contracts have been concluded through direct negotiations, it is appropriate to draw a parallel with purchases from a single source within the framework of the law on public procurement, at the expense of a private financial initiative.

The most important advantage of this mechanism is the possibility of concluding a contract without holding a competition, in the absence of alternative proposals, which also conflicts with the principle of creating a competitive environment in the economy, because the main criterion for the success of a project was the creation of competition.

In our opinion, effective public administration in PPP will be the desire to create a high level of competition, since the quality of projects will significantly increase due to competition, accordingly, this trend should be consolidated in view of its regularities and government agencies should continue to go in this direction.

Considering the general statistics of projects, it is worth considering and highlighting the most active regions, and assessing their contribution to the development of PPP, presenting all projects in the context of regions and cities of national significance, while highlighting the way they are implemented, in this case (a competition was organized, or a business entity was the initiator within the framework of a private financial initiative).

Due to the fact that the interpretation of legislation and PPP facilities was very different and differs in the regions, there was a very noticeable increase in inappropriate and sometimes even absurd projects, which indicates primarily the inconsistency and lack of understanding of the basic principles of PPP in a number of government agencies responsible for the PPP project management system.

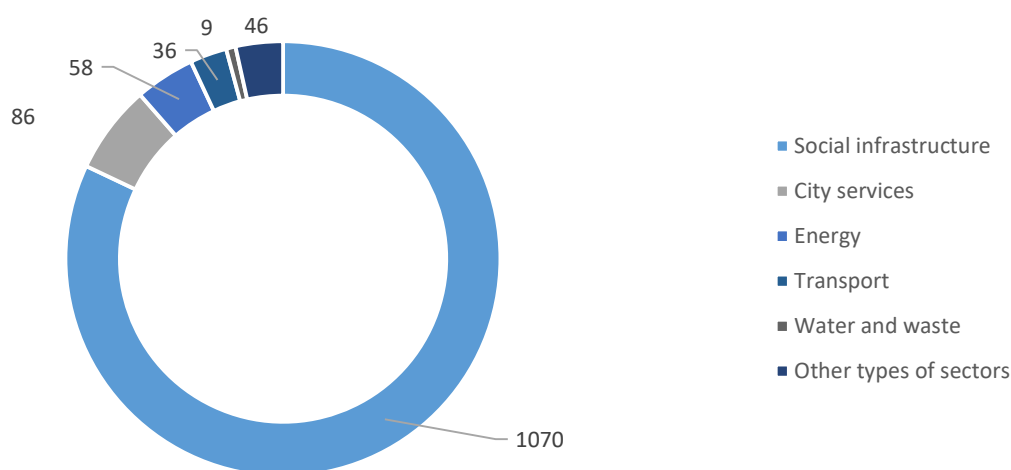
Despite the unified PPP legislation, there is a heterogeneous interpretation and lack of unity in the regional management of public-private partnership projects among local executive bodies responsible for the implementation of these projects. There is a lack of consistency and management strategy in the chain of decisions taken by local executive bodies and due to the lack of detailed data on implemented projects in the public domain, therefore it is impossible to assess both the current and projected economic and social impact on the region.

Countries that have accumulated significant experience in the field of PPP in many foreign countries offer a substantial economic multi-criteria assessment, determined by the principle of "price - quality", which allows you to justify the choice between PPP and traditional public procurement.

Based on this assessment, a decision is made to launch a project using public procurement or using a PPP mechanism.

On the contrary, in the Republic of Kazakhstan there is no universal and most effective model of project management both at the national level and at the regional level, hence similar gaps arise among regions and different executive bodies of regions and cities of republican significance.

Having assessed the state of development of the PPP management system at the regional level, it is necessary to turn to the specifics of the distribution of projects by sector. Which of the sectors has aroused the greatest interest among investors and the state itself over the past period of time. Graph 4 shows the distribution of public-private partnership projects by sectors of the economy of Kazakhstan.



Graph 3 – Distribution of projects by sector
Note – developed by the authors based on the source

Graph 3 shows that more than half of all registered projects account for social infrastructure, namely 1,070 projects. Most of them are projects in the field of education.

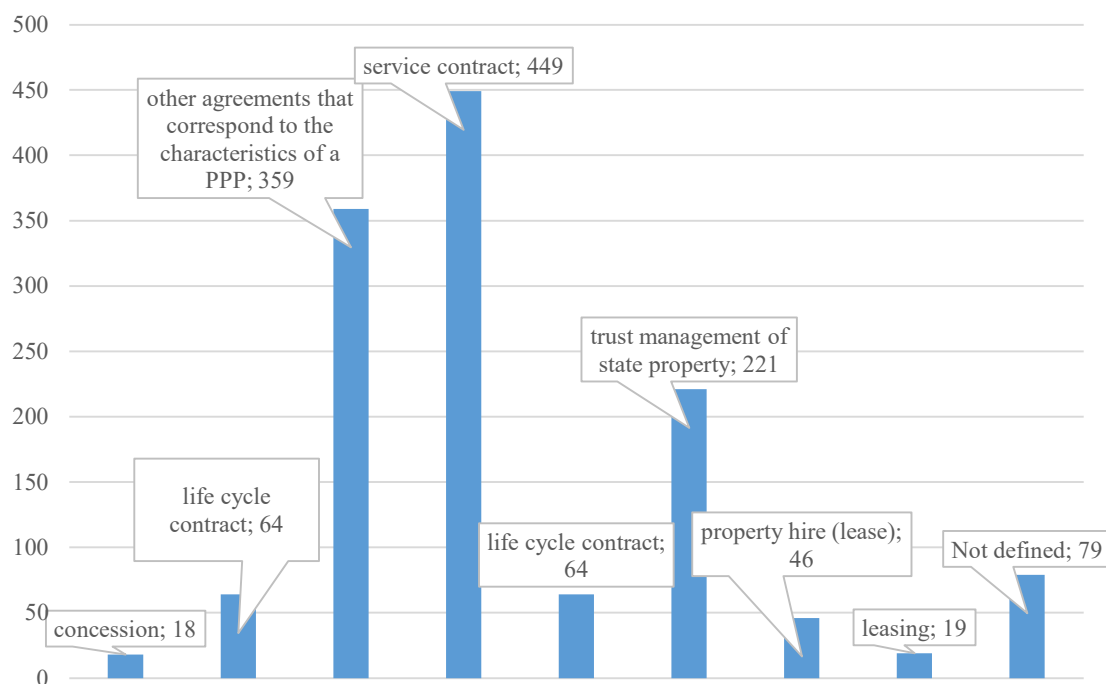
This may be primarily due to the fact that this sector is still largely run by the Government.

A significant part of the number of social infrastructure projects is accounted for by health and social services. A likely explanation for this is that they are also mostly public sectors.

Thus, public-private partnership can be carried out in all sectors (spheres) of the economy.

A rather important factor in evaluating PPP projects is the form of their implementation, since it usually determines the parameters of public-private partnership projects, including goals and objectives, institutional scheme, expected payments from budget funds or attracting private investment, measures of state support, recipients of benefits from the implementation of a public-private partnership project, and td.

According to article 7 of the law on "Public-Private Partnership", contractual public-private partnership is implemented through the conclusion of a public-private partnership agreement, including in the following forms and quantities:



Grahp 4 – Number of projects according to the form of implementation
Note – developed by the authors based on the source

Graph 5 also shows us a wide range of projects in the form of their implementation, a significant majority of projects are implemented in the form of a service contract, however, most of the contracts are not identified at all and are defined under the general concept of "Other contracts corresponding to the characteristics of PPP", since they cannot be defined in one form or another, which is also in our opinion It is a possible legal flaw, although it is not a violation of the law, but indicates an insufficient qualification of the governing authorities in the regions that initiated these projects.

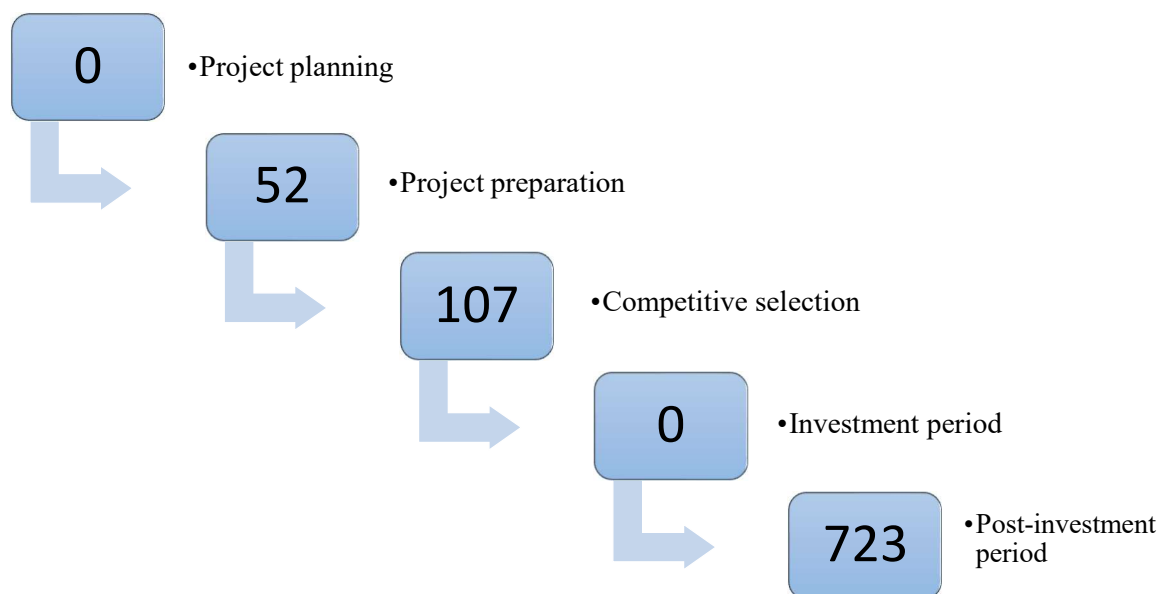


Figure 1. Pipeline status (by sector)

Figure 1 shows the distribution of projects by status, based on it, we can conclude that now there are 723 projects in the post-investment period, 107 are undergoing competitive selection, and 52 projects are being prepared and notified of the initiation of a PPP project. Thus, the

fulfillment of obligations for 423 projects at the time of analysis and writing of this article has been completed.

One of the key provisions of legislation in the field of PPP is reduced to the principle of balance, the interpretation of which implies "the mutually beneficial process of distributing responsibilities, risks, income and guarantees between a private partner and the state in the process of implementing a PPP project."

However, according to the register of projects of the Kazakhstan PPP Center, which, by the way, is currently actually the only source of data and information on all ongoing and planned PPP projects, to date, the volume of attracted investments has amounted to 1,199,988,422 thousand tenge, when the total cost of all PPP projects is 3,987,831,419 thousand tenge. tenge, which is equivalent to 30% of the total cost. Accordingly, more than 70% of the total cost of projects are government obligations. The growth of such PPP projects leads to an increase in budget costs, which are not correlated in any way and cannot be compared with the volume of attracted investments, which fundamentally undermines the generally accepted ideas and principles of PPP around the world. This situation provokes inefficient management of public treasury funds and distorts the truly correct recommended policy in the field of PPP project management.

For more than 8 years of management of the public-private partnership (PPP) mechanism in the Republic of Kazakhstan, since the entry into force of the PPP law, there has been a high pace and demand for project implementation, however, there are still no signs of a full-fledged systematic approach to project management.

The lack of rationality and intuitiveness in the decision-making process is a consequence of a significant gap in the methodological tools for managing the selection of a project for implementation through the PPP mechanism.

Thus, it becomes obvious that there is a need to develop and implement a tool for professional development and support for persons who assume responsibility for decisions made at various levels of government in the field of PPP project management.

There is also no process of forming a portfolio of projects at both the national and regional levels, which can be the basis for effective public PPP management.

A project portfolio should be understood as "a set of projects and/or programs grouped in order to improve management efficiency and achieve the strategic goals of the region."

Taking into account the above, it is necessary to identify the key features of the stages of PPP project management and determine the need to determine the feasibility of implementing the project and adding it to the overall portfolio of PPP projects, checking the main planned results and indicators of the project to meet the strategic goals of regional development, identifying all stakeholders of the project and identifying the real interests and benefits of their participation in the project, calculating the multiplicative the effect and effectiveness of the project, including (budget efficiency, economic potential, commercial component, social interest and social effect, environmental impact of the project, etc.).

Now in the Republic of Kazakhstan, the main criterion for the selection of PPP projects is compliance with the concept of People-first, characterizing the principle of value for the population or literally "for the benefit of people". All infrastructure projects should be primarily socially oriented and aimed at achieving well-being and improving the quality of life of the population.

In this regard, the goal of satisfying the interests of society sets the task for the authorities to develop, implement and test an understandable and transparent mechanism for managing a public-private partnership project, including improving the passage of competitive selection by projects.

The lack of an integrated approach to national projects is one of the main problems limiting the possibilities of implementing local PPP projects. Analyzing the key features of the PPP project

management system in the Republic of Kazakhstan, the authors attempted to identify and systematize the main gaps related to:

- legal mentality;
- strategic planning;
- hidden risks;
- the basics of partnership;
- lack or insufficiency of funding;
- PPP values;

The current state is characterized by the following factors, which include:

- Insufficient professional skills of the personnel managing the project on the part of government agencies;
- Restrictions in the application of legislation and insufficient legal regulation, lack of a well-formed legal scheme of interaction within the framework of PPP;
- Lack of mechanisms aimed at increasing the number of PPP projects;
- The presence of administrative barriers and corruption risks;
- Lack of transparency in the implementation of PPP projects;
- Insufficient competence in managing the implementation of PPP projects;
- Lack of experience and specialization of partners in project management;
- Lack of qualified management personnel;

In this case, the research process resulted in the following conclusions and proposed recommendations, which will be included in a set of measures to create an optimal, effective and understandable PPP project management model for all stakeholders, which will include the problems already solved above.

The main task is to improve the management mechanism, and as E. Sh. Juraev correctly notes in his work, "by the "perfection" of the management mechanism we mean its ability to form close links between the structural divisions of the strategic, operational and operational management of the company in order to develop transparent management procedures, effective work reporting, minimizing financial and other costs in such a complex form activities such as the implementation of a PPP project."

Today, there is a need for a synthesis of accumulated knowledge and management techniques, administrative decisions for a business that has advanced several stages in this regard with opportunities and available resources of public authorities, so that the partnership is built based solely on mutually beneficial conditions. The priority is to achieve the principle of "understanding each other from the floor of the word", while remaining truly equal partners in a mutually beneficial transfer.

Based on the results of the study, the following conclusions can be drawn:

1. The need for the introduction of portfolio project management into the public-private partnership management system, regardless of the project level, has been identified. To meet the need, it is necessary to provide:

Compliance of projects and programs with long-term strategic goals and the main indicator of economic development.

□ Professional development of managers on the part of government entities.

Consolidation of knowledge gained because of project implementation in a single database, which will contribute to the formation of a general risk accounting for public-private partnership projects, assessment of duration, calculation of cost and effectiveness of both individual stages and the project as a whole.

This will create a unified register of the most successful PPP projects.

2. It is necessary to provide local executive bodies in the regions with professional personnel in the field of project management in relation to projects implemented through the PPP

mechanism, capable of applying important executive decisions at all stages of management. The lack of an integrated approach to the management of national projects is one of the main problems limiting the possibilities of implementing local PPP projects, according to A. Oinarov.

3. There is a need for unified information access to the main indicators of implemented and planned PPP projects at the regional level. This will reduce corruption risks and increase transparency

4. There is a confusion and identification of the concepts of "public-private partnership" and "public procurement". This requires the subjects of power:

- To develop a mechanism for the qualitative selection of PPP projects, including through the adaptation of successful foreign experience in the realities of the economy of the Republic of Kazakhstan;

- To review the procedure for the implementation of private finance initiative projects;

- To reduce the number of projects involving a significant amount of government commitments;

- To carry out an economic assessment determined by the "price — quality" (value for money) method, which allows you to justify the choice between PPP and traditional purchases.

5. It is required to prepare a methodology for assessing and accounting for contingent liabilities for PPP projects. In Kazakhstan, there is no accounting for both explicit and implicit contingent liabilities in official practice. The mutual exclusion is made up of state guarantees for a private partner. Accordingly, information about full PPP obligations goes into the shadows and is not taken into account by anyone when making calculations.

Effective control of contingent liabilities will be the introduction of restrictive budget rules, the total amount of liabilities for which will be limited and reduced to a certain amount, which may represent a share of GDP or budget income.

6. It is necessary to develop a methodology for calculating the effect of the implementation of PPP projects on all stakeholders. To date, Kazakhstan does not have a methodology for calculating the effect of the implementation of PPP projects on the economy and society. The creation of a methodology for calculating and evaluating the multiplier effect will increase the attractiveness of PPP projects, which, in turn, will contribute to improving the efficiency of using budget resources and, accordingly, will increase the level and quality of PPP project management.

Тұрақты экологиялық дамуды мемлекеттік басқарудың әлемдік тәжірибесі

Жоламанова Мөлдір Қайрханқызы

Қазтұтынуодағы Қарағанды Университеті, «Мемлекеттік және жергілікті басқару»
білім беру бағдарламасының 1 курс докторанты, Қарағанды қаласы, Қазақстан
Республикасы

Бұл өршіл қалалар біздің планетамызды ластанудан қорғауда маңызды рөл атқарады. Біз әлемнің күн сайын қалай ластанатыны туралы үнемі естиміз. Мұхиттар, өзендер, тіпті біз тыныс алатын ауа да таңқаларлық жылдамдықпен бітеліп қалады. Біз осы табиғи ресурстарды қаншалықты ластай берсек, соғұрлым Жер біздің өмір сүруіміз үшін қауіпті орынға айналады. Өкінішке орай, бұл теріс динамика белгілі бір елмен немесе мемлекетпен шектелмейді. Біз жаһандық дағдарыстың шыңындамыз, егер біз тез және тиімді шаралар қабылдамасақ, жақын арада жерімізді өмір сүруге жарамсыз етеді. Мәселенің ауырлығын түсінуге көмектесу үшін бүкіл әлемдегі ластану туралы кейбір деректерді қарастырайық. Ластанған аймақта тұратын адамдар өкпенің қатерлі ісігіне 20% бейім болуы мүмкін. Американдық су объектілерінің 40% - ы судың ластану деңгейінің жоғарылауына байланысты жүзуге, балық аулауға немесе тіршілікті қамтамасыз етуге жарамсыз. Бейжіңдегі Бір тыныс күніне 21 темекі шегуге тең.

Қытай халқының жартысы таза суға қол жеткізе алмайды

Үндістанда күн сайын шамамен 1000 бала судың қатты ластануынан қайтыс болады

АҚШ-та жыл сайын ауаның ластануына байланысты шамамен 50 000 өлім орын алады

Әрине, деректер қорқынышты болып көрінеді, солай емес пе? Дегенмен, біз үмітімізді үзбейміз, өйткені осы таңғажайып өзгерістер кезінде әлемнің кейбір қалалары қарсылық көрсетеді. Және олар жеңеді!

Олар бізге табиғат-анамызға келтірілген зиянды қалпына келтіру үшін өзімізге бейімдей алатын үлгі көрсетеді.

Шешім экологиялық таза қалалар түрінде келеді. Мұндай қалалар өте нақты мінез-құлық кодексін ұстанады.

Экологиялық таза қаланың бірнеше атауы болуы мүмкін: жасыл қала немесе эко қала. Олар елдер бойынша әр түрлі болғанымен, формасы мен функциялары бірдей болып қалады.

Эко-қала немесе жасыл қала қоршаған ортаға жалпы жағымсыз әсерлерді жою үшін көп күш жұмсайды, адамдар мен табиғаттың қатар өмір сүруіне көмектесетін, барлық табиғи-қорғаныс инфрақұрылымын сақтауға және тұрақты дамытуға ұмтылатын экологиялық жобаларға инвестиция салады.

Мұндай мақсатқа жету үшін қатаң сақталуы керек белгілі бір тәжірибелер бар. Негізгі міндет-қазба отынына байланудың орнына баламалы энергия көздерін табу.

Мұндай eco-friendly қаласын дамытуда күш Үкімет пен азаматтар арасында бөлінеді. Нәтижесінде қазіргі заманғы қала ғана емес, өмір сүруге экологиялық таза орын.

Экоқалалар-болашақтың фантастикалық оазистері және шынайы жобалар.

Урбанизация процесі қазіргі жер халқының жартысынан көбін мегаполистерде тұруға мәжбүр етті. Қалалық кластерлер жыл сайын жаһандық көмірқышқыл газы

шығарындыларының 70% - на дейін, сондай-ақ килотонна қатты қоқыс шығарады. Бұл мәселелердің шешімі тұрақты муниципалитеттерді ұйымдастыру болуы мүмкін.

Экоқала дегеніміз -Экологиялық қала немесе тұрақты қала — бұл қоршаған ортаға теріс әсер етпейтін елді мекен. Оның болуы табиғатты қорғау және тиімділік принциптеріне бағынады. Тұжырымдаманың бірыңғай анықтамасы жоқ, бірақ мұндай орындар ұқсас сипаттамаларға ие.

Эко-қала немесе эко - қала-бұл Ecocity Builders (бұл терминді алғаш енгізген Ричард Регистр негізін қалаған коммерциялық емес ұйым) анықтаған «өзін-өзі қамтамасыз ететін тұрақты құрылым мен табиғи экожүйелердің жұмысынан кейін салынған адам қонысы». Қарапайым тілмен айтқанда, экоқала-экологиялық сау қала. Дүниежүзілік банк экоқалаларды «экологиялық жүйелердің артықшылықтарын пайдаланатын және осы активтерді болашақ ұрпақ үшін қорғайтын және бағалайтын кешенді қала құрылысы мен басқару арқылы азаматтар мен қоғамның әл-ауқатын арттыратын қалалар» деп анықтайды.

«Экосити» терминін 1987 жылы Ричард Регистр енгізді, бұл жай ғана «экологиялық сау» қаланы білдіреді.

19 ғасырдың бірінші жартысында Эбенезер Ховард Эбенезер Ховардтың бақша қаласы, Фрэнк Ллойд Райттың және мүмкін Ле Корбюзьенің урбанистік ойы парадигманың түбегейлі өзгеруіне және қала құрылысы канонының жан-жақты өзгеруіне негіз салды. Соғыстан кейінгі дәуірде модернистік стильдегі көпқабатты үйлердің құрылысы қалалық лашықтардың қажеттіліктерін қанағаттандыру үшін таралды.

Экоқалалардың артындағы алғашқы идеяларды 1975 жылдан бастап Urban Ecology деп аталатын коммерциялық емес ұйым құрылған кезден бастап байқауға болады. Берклидегі (Калифорния) Ричард регистрді қоса алғанда, көреген сәулетшілер мен белсенділер тобы құрған ұйым экологиялық сау қалаларды салуға бағытталған дизайн тұжырымдамаларын тұжырымдауға көмектесу үшін қала құрылысы, экология және қоғамның қатысуының қиылысында жұмыс істеді олардың кейбір күш-жігеріне негізгі көшелер бойымен ағаш отырғызу қозғалыстарын бастау кірді, күн жылыжайларының құрылысын ілгерілету, Берклидің қала құрылысы бөлімімен бірлесе отырып, қоршаған ортаны қорғауды қолдайтын саясатты әзірлеу және қоғамдық көлікті ынталандыру. Осы стратегияларға сүйене отырып, Ричард Регистр кейінірек 1987 жылы «Беркли Эко-қаласы: салауатты болашақ үшін қалалар салу» деп аталатын кітабында «эко-қала» терминін енгізіп, оны адамдар табиғатпен үйлесімді өмір сүретін қала ретінде сипаттады, сондықтан олардың экологиялық іздерін айтарлықтай азайтады. Urban Ecology 1987 жылы «Urban Ecology» журналын құрумен қозғалысты одан әрі алға жылжытқан ұқсас күрделі қалалық мәселелерге арналған мақалалар жариялай бастады. Жиырма жыл ішінде олар өздерінің көзқарастарын жүзеге асыру үшін «Тұрақты даму белсендісі» және «қала экологы» атты екі Ақпараттық бюллетень шығарады.

1990 жылдары экоқалаларды дамыту бастамасын бастаған екі маңызды оқиға болды. Бірінші іс-шараға Брундтланд есебін жариялау кірді. Брундтланд баяндамасында тұрақты даму идеясы ұсынылды. Екінші оқиға 1992 жылы Біріккен Ұлттар Ұйымының Жер мәселелері жөніндегі саммитінде болды. Саммитке қатысушылар біздің қалаларда тұрақты дамуды енгізу жоспарын әзірледі. Осы уақыт аралығында құрылған экологиялық қалалар тұрақты даму тұжырымдамасын қамтыды. Дегенмен, әзірлемелердің көпшілігі эко-қаланың көрінісін қамтамасыз ету үшін жасалған. Экоқалалар қазіргі уақытта тұрақты жаңа қала құрылысын құрудың танымал тәсілі болды.

1-кесте

Терминдер, олардың негізгі ерекшеліктері

Термин	Мағынасы	Мысалдар
Экоқала	4 бағыт бойынша қолданылады: -тұрақты даму қағидаттары іске асырылатын жаңа қонысты сипаттау үшін; -жаңғырту тұрақты даму қағидаттарында жүзеге асырылатын қолданыстағы қаланың бегілі бір ауданының атауы ретінде; -жекелеген бөліктерінде экологиялық жобалар іске асырылатын қала ретінде; - жалпы экологиялық бастамаларды қолдайтын муниципалитеттер	«Дуньтан» (Қытай) Барселона (ауд. Trinita Nova) Гренобль Абердин
Экоаудан	экоқаланың екінші мағынасын қараңыз	Сен-Жан де Сад (Шалон-сюр-Сон)
Экоқауымдастық	Әдетте тұрақты даму принциптері жүзеге асырылатын қала маңындағы аймақ ретінде қарастырылады	Эко-Виикки
Экологиялық ауыл	экологиялық талаптарға сәйкес экологиялық аудан немесе шағын ауылдық елді мекен ретінде қарастырылуы	Грин Виллидж (Филадельфия)
Эко аймақ	қоршаған ортаға тигізетін кері әсерін барынша азайтуға ұмтылатын әртүрлі елді мекендер мен қалаларды қамтитын аумақ	Кливленд
Экопарк	«жасыл» технологияларды қолданатын, экономикасын әртараптандыруға және «лас» өндірістен арылуға ұмтылатын жаңа кәсіпорындарды белсенді түрде тартатын елді мекендер	Чансин

Дүниежүзілік экологиялық қалалар саммиті деп аталады. Экологиялық қалалар бойынша халықаралық конференциялар сериясы.

1990 жылы Берклиде (Калифорния) экологиялық қалалар бойынша алғашқы халықаралық конференция өткізген кезде қалалық экология қозғалысты одан әрі дамытты. Конференция қалалардың тұрақтылығы мәселелеріне назар аударды және 13 елден 800-ден астам қатысушыны қалалардағы экологиялық тепе-теңдікті жақсарту үшін қалаларды реформалаудың озық тәжірибелері туралы ұсыныстар беруге шақырды.

Осыдан кейін, 1992 жылы Ричард Регистер конференцияда көрсетілген бірқатар мақсаттарды алға жылжыту үшін Ecocity Builders коммерциялық емес ұйымын құрды. Ұйым құрылғаннан бері ecocity world деп аталатын ecocity халықаралық конференцияларының сериясын ұйымдастырды. IECs Австралияның Аделаида қаласында (1992) өткен екі жылда бір рет өткізілетін Дүниежүзілік экологиялық қалалар саммиттерінен (EWS) тұратын ең ұзақ халықаралық конференция болды; Йофф, Сенегал (1996); Куритибе, Бразилия (2000); Шэньчжэнь, Қытай (2002); Бангалор, Үндістан (2006); Сан-Франциско, АҚШ (2008); Стамбұл, Түркия (2009); Монреаль, Канада (2011); Нанте, Франция (2013); Абу-Даби, БАӘ (2015), Мельбурн, Австралия (2017); Ванкувер, Канада (2019); және Роттердам, Нидерланды (2022).

Басқа жетекші қайраткерлерге сәулетші Пол Ф.Даунтон және осы тақырыпта көп жазған жазушылар Тимоти Битли мен Стеффен Леманн кіреді.

Экоқалалардың белгілері елді мекенді тұрақтыға жатқызуға мүмкіндік беретін келесі сипаттамаларды көрсетеді: өндіргеннен көп ресурстарды тұтынбайды; қайта өңдеуге болатыннан көп қалдықтар шығармайды; өзіне немесе көршілес экожүйелерге улы емес; оның әлеуметтік тәртібі адалдық, әділеттілік және ақылға қонымды теңдік принциптерін көрсетеді; бар өмір, ірімшік және аралық Журнал мемлекеттер - RoyalCheese.ru жаяу жүргіншілерге қол жетімділікті қамтамасыз ететін жақсы ойластырылған макет. Тұжырымдаманың мақсаты экономикалық өсуді ынталандыру, кедейлікті азайту және денсаулықты жақсарту болып табылады. Мұның бәріне көпфункционалды инфрақұрылым мен автономды электр желілері арқылы қол жеткізуге болады. Сонымен қатар, инновациялық технологиялар мен әзірлемелерді пайдалану керек

Бұдан басқа, әрбір жеке Эко-Сити экологиялық және экономикалық тиімділікке қойылатын талаптардың қосымша жиынтығы, ол әр түрлі болуы мүмкін ауқымды мақсаттар, Қытай-Сингапур Тяньцзинінде көрсетілгендей, нөл-қалдықтар және нөл-көміртегі шығарындылары сияқты эко-жоба қаласы және Абу-Даби Масдар қаласы - жоба, қалалық сияқты аз ауқымды іс-шараларға арналған Жасыл шатырларды қалпына келтіру және құру, жағдайдағыдай Августенборг, Мальме, Швеция. көміртексіз тұрақты энергияны пайдалануға және парниктік газдар шығарындыларын басқаруға бағытталған қалаларды нөлдік көміртексіз қалалар деп атауға болады.

Ғалымдар қалалардың экологиясын жақсартуға болатын бірнеше әдістерді бөліп көрсетеді: толықтырылатын энергия көздерін құру. Күн панельдерін, жел генераторларын немесе тыныс алу электр станцияларын пайдалануға болады. қоғамдық көлік құрылымын дамыту. Қалалық аймақтар мен жолдарды жоспарлауға дұрыс көзқарас тұрғын аудандардағы зиянды пайдаланылған газдардың азаюына әкеледі, сонымен қатар автомобиль апаттары бірнеше есе азаяды. Мүниципалитет шекарасында аграрлық учаскелерді құру. Осылайша, өмір, ірімшік және аралық күйлер туралы журнал жеделдетіледі - RoyalCheese.ru өнімдерді жеткізу. Бұл «фермадан үстелге дейін» дұрыс тамақтану тұжырымдамасына сәйкес келеді. құрылыстың ойластырылған тығыздығы. Осылайша, қоғамдық көлік тиімдірек пайдаланылады, сонымен қатар жылу аймақтарының пайда болуын болдырмайды. қажетті энергияны өз бетінше өндіретін «белсенді» үйлердің құрылысы, жасыл кеңістіктердің, соның ішінде ғимараттардың шатырларының көбеюі.

Ағынды суларды қайта пайдалану үшін жинайтын арнайы дренаждық жүйелер мен жол төсемдерін пайдалану.

Тұрақты муниципалитеттердің тізімдерін Economist Intelligence Unit зерттеу орталығы құрайды. Сонымен қатар, жаһандық Жасыл экономика индексіне (GEI) назар аудару керек. Осы мәліметтерге сәйкес, табиғатқа жақындау бойынша ең үлкен прогреске қол жеткізілді:

Тізімдегі бірінші орын Копенгагенге сұрақсыз беріледі және оның бірнеше себептері бар. Копенгаген «Еуропаның жасыл астанасы» деп жарияланды және ол бұл атақты Достық қоршаған ортаға мемлекеттің дамуына үлкен көңіл бөлудің арқасында сақтайды. Дания астанасында велосипедтердің жалпы саны автомобильдердің жалпы санынан асып түседі. Бұл екі есе артықшылық, өйткені қала көмірқышқыл газының шығарындыларын азайта алады және қала тұрғындарының денсаулығының орташа көрсеткіші тек өседі Копенгаген 2025 жылға қарай әлемдегі алғашқы бейтарап көміртегі астанасы болуға ұмтылуда. Міне, Копенгагеннің әлемдегі ең жасыл қала мәртебесін алуға көмектесетін кейбір бастамалары. Велосипедпен жүру олардың мәдениетінің бір бөлігіне айналды 2010 жылдан бастап Копенгаген жасыл шатырларды өзінің инфрақұрылымына біріктірді 2019 жылдың соңына қарай Копенгагендегі барлық автобустар (қоғамдық көлік) электрге ауысады.

Муниципалитеттің 2025 жылдың соңына дейін 100 000 Жаңа ағаш отырғызу бастамас Таза ағын судың сапасын қамтамасыз ету үшін әлемдегі ең қатаң сынақтардың бірі күн сайын өткізіледі.

Амстердам-өткен Мен болашақтың тамаша үйлесімі. Қалада адамдарға қарағанда велосипедтер көп, ал егер сіз велосипед әуесқойы болмасаңыз - электромобильдерді балама шешім ретінде пайдалануға болады. Қалада бүкіл елордаға таралған 300-ден астам зарядтау станциялары бар.

Бұл айсбергтің шыңы ғана, Амстердам өзінің бірегейлігінің дәлелі ретінде көп нәрсені көрсете алады.

Нидерланды астанасы жергілікті фермерлерге қамқорлық жасайды, сондықтан қала тұрғындары үйдегі органикалық тағамдардан ләззат ала алады. Қала сонымен қатар велосипедпен жүрудің белсенді жақтаушысы болып табылады, халықтың көп бөлігі жұмысқа немесе мектепке жету үшін велосипедтерді пайдаланады. Көптеген қала тұрғындары экологиялық таза материалдардан жасалған киімдерді пайдаланады. Олар сондай-ақ киімдерін өндіруде суды ластайтын улы бояғыштар мен реагенттер пайдаланылмайтынын білгісі келеді.

Стокгольм-ЕО-дағы ең экологиялық таза қалалардың бірі. Бұл 2010 жылы Еуропалық Green Capital сыйлығын жеңіп алған ЕО-ның алғашқы қаласы болды. 2050 жылға қарай қала қазба отындарынан толықтай арылуға тырысады. Стокгольм қазірдің өзінде мұнайдың, газдың немесе көмірдің үлкен қорын пайдаланбай оның жұмысын қамтамасыз ететін жақсы ойластырылған жүйені қолданады. Қазіргі уақытта Стокгольмде балама отын өндіру үшін ағынды суларды пайдаланатын биоотын өңдеу зауыттары бар. Бұл жетістіктердің барлығы Стокгольмдегі grow Smarter жобасының бөлігі болып табылады. Grow Smarter Project жобасының жетекшісі Густав Ландал: «дәретханаға барған жүз адамның қалдықтарынан алынған отын бір машинаны басқарады, бірақ егер біз органикалық тұрмыстық қалдықтарды қоссақ, онда көрсеткіш 60 адамға дейін азаяды».

Қала тарапынан тағы бір ақылға қонымды қадам - бұл Стокгольм тұрғындарын жылыту үшін пайдаланылатын қалдық жылуды (қаланың ірі нысандары: деректер орталықтары, дүкендер, стадиондар және басқалар өндіретін) пайдаланатын жоба. Куритиба, Бразилия: қайта өңдеу күшін пайдаланатын қала. Біздің көпшілігіміз Бразилияда орналасқан бұл қаламен таныс емеспіз. Куритиба мақтанышпен Бразилияның жасыл астанасы деп аталады. Қала қалдықтарының 70% - энергияға немесе қайта пайдалануға болатын өнімдерге айналдырады.

Бұл экологиялық таза қалада жолаушыларға жеке көліктеріне байланбай, қаланы айналып өтуге көмектесетін сенімді қоғамдық көлік жүйесі бар.

Куритиба сонымен қатар қала құрылысын жоспарлауға басымдық береді. Бұл қалаға тығыз дамыған аудандардан аулақ болуға көмектеседі. The Куритиба 14 орман мен 16 саябақ қала шегінде орналасқан.

Қаланы таза ұстау үшін Куритиба ынталандыру бағдарламасын қолданады. Кедей аудандардың шекараларында қоқыстарды бөлек жинауға арналған металл контейнерлер орналастырылды, тұрғындарға ыңғайлы болу үшін оларды әртүрлі түстермен бояды. Сұрыпталған қоқыстың толық пакетін әкелгендердің барлығына автобус талоны берілді, ал биоқалдықтар үшін азық-түлік пакетіне айырбастауға болатын пластикалық карта берілді.

Қаланың ең кедей 62 ауданы 11 мың тонна қоқысты миллионға жуық автобус билеттері мен 1200 тонна азық-түлікке айырбастады. Онда қайта өңдеуге жіберілген қағаз қалдықтары күн сайын 1200 ағашты кесуден құтқарады. Бұл бастаманың өзі нашар жағдайда өмір сүретін 7000 азаматты тамақтандырады.

Экоқалалардың жобаларын әртүрлі елдердің урбанистері, ғалымдары мен сәулетшілері жасайды. Мұндай тұжырымдамалардың кейбірі ішінара нөлден бастап жүзеге асырылады және қазір олар кейінгі елді мекендерді салудың прототиптеріне айналады. Қазір іске асыру сатысында.

Елімізде өндірілген энергияны Қытай мен Оңтүстік Кореяға сатуға мүмкіндік бар.

XII Астана экономикалық форумына қатысып жатқан Нобель сыйлығының лауреаты Рае Квон Чунг Қазақстанның жаңартылған энергия саласындағы мүмкіндігін жоғары бағалады. Оның сөзінше, біздің елде өндірілген жел және күн энергиясын Азия мен Еуропаға экспорттауға болады.

«Қазақстанның «жасыл экономика» бағытындағы қадамдары көңіл қуантады. Өз басым бұл елдің ұсынып отырған «жасыл жобаларын» толықтай қолдаймын. Бұл ретте, Қазақстанның күн мен жел энергиясын, сондай-ақ «жасыл энергияны» экспорттайтын ел атана алады. Бұған қазақ елінің жер көлемінің кеңдігі мүмкіндік беріп отыр», – деді Нобель сыйлығының лауреаты.

Мәртебелі мейманның айтуынша, Қазақстан өндірілген энергияны Оңтүстік Кореяға, Қытайға және Еуропа елдеріне экспорттай алады.

Жалпы, бұл бағытта Жібек жолы бойындағы елдермен берік байланыс орнатуға болады. Қазақстан жоқ дегенде жаңартылған энергия көздерін де экспорттауға қауқарлы. Мәселен, Оңтүстік Кореяға жел мен күн энергиясы қажет. Бұл елдің жер көлемі кішкентай. Сондықтан олардың мүмкіндіктері де төмен.

Орталық Азияда, оның ішінде Қазақстанда экоқала салуға болады. Бұл ретте, Рае Квон Чунг Қазақстанды Еуропа тәжірибесін негізге алуға шақырды. «Әлемде экоқалалар өте көп. Жалпы, мұндай қалаларды екіге бөліп қарастыруға болады. Біріншісі – америкалық, екіншісі – еуропалық. Қазақстан Еуропа тәжірибесін назарға алуы керек деп ойлаймын. Өйткені, Еуропадағы экоқалалар жинақы орналасқан. Олардың тиімділігі де жоғары.

Маңғыстау облысының әкімдігінде Ақтау Эко-қаласын салу және қаржыландыру туралы келісімге қол қойылды, деп хабарлайды ҚазАқпарат облыс әкімінің баспасөз қызметіне сілтеме жасап.

«Маңғыстау - еліміздің жетекші аймақтарының бірі екені баршамызға белгілі. Облыстың экономикалық дамуының басым бағыттары: көлік және логистика, құрылыс, туризм, агроөнеркәсіп кешені, сондай-ақ теңіз бағытының дамуында жетекші рөл атқаратын мұнай кен орындарының қызмет көрсету саласы. Өндірісті құру және іске қосу үшін барлық жағдай жасалған. Өңірде «Ақтау теңіз порты» АЭА жұмыс істейді. Индустриалдық аймақ құрылған. Облыс әкімдігі әлемнің түрлі елдерінің әлеуетті инвесторларымен белсенді түрде ынтымақтасуда», - деді облыс әкімі Ералы Тоғжанов.

Тараптар Маңғыстау облысындағы Ақтау эко-қалашығының ірі жобасын әзірлеу үшін құрылыстың бас мердігерін және қаржыландыру құрылымын тағайындайды. Келісімге сәйкес, инвестиция көлемі Ұлыбритания тарапынан 2,1 млрд АҚШ доллары көлеміндегі жобаның 100% -ын, ал қытайлық тарап 400 миллион долларға банктік кепілдікті қамтамасыз етеді. Жобаны жүзеге асыру үшін Маңғыстау облысының әкімдігі облыс орталығының солтүстік бөлігінен 865 гектар жер бөледі.

Сонымен қатар, IT парк, қонақ үй брендтері, спорттық стадиондар, ойын-сауық мекемелері және түрлі мемлекеттік қызметтер, заманауи энергетикалық/экологиялық таза технологиялармен тасымалдау қызметтері көрсетілетін эко-қала әлемдік саяси аренада еліміздің беделін өсірген «ЭКСПО-2017» халықаралық көрмесінің жалғасы болмақ. Ақтау қаласының әкімдігі инфрақұрылымды, оның ішінде жолдарды, энергиямен жабдықтауды, кәрізді және сумен қамтамасыз етуді өз міндетіне алады.

Қазақстан 2030 жылға қарай елдің жалпы энергобалансындағы энергияның 10 пайызын жаңартылған энергия есебінен қамтамасыз етуді жоспарлап отыр.

Бірде-бір экоқала өз мақсатына жеткен жоқ және табиғатқа нөлдік әсер етпеді. Мұндай елді мекендердің көпшілігі әлі күнге дейін түсініксіз перспективалары бар өршіл жоспарлар болып қала береді. Сондықтан барлық мамандар әзірленіп жатқан жобалармен келісе бермейді. Мысалы, Кальяри университетінің қызметкері Валария Сайу оларды ажырасқаны үшін сынайды. Көптеген бастамалар елді мекенді бизнес-кәсіпорын ретінде қарастырады. Олар қолданыстағы технологияларға тәуелді және мемлекет пен жеке фирмалардан инвестиция тартуға тырысады. Кейде бұл тұрақтылық идеясының өзінен алшақтауға әкеледі. Бұл «жасыл» елді мекендерді элиталық қауымдастықтарға айналдырады және таптық стратификацияға ықпал етеді. Мұндай оқшауланған жерлер жаһандық проблемалардан алшақтап, нәтижесінде табиғаттың ластану мәселелерін шешпейді. Тұрақты қалаларды құру-кешенді тәсілді қажет ететін күрделі міндет. Табиғатқа нөлдік теріс әсер ететін елді мекен салу үшін практикалық деректер мен ауқымды ұзақ мерзімді зерттеулер әлі жетіспейді.

ПЕРСПЕКТИВЫ ПРИМЕНЕНИЯ ИИ В ЭКОНОМИКЕ И НАУКОМЕТРИКЕ

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Введение

В последние годы искусственный интеллект (ИИ) стал ключевым элементом в различных сферах деятельности, включая экономику и наукометрию. Передовые технологии искусственного интеллекта, такие как машинное обучение, анализ данных и нейронные сети, предоставляют уникальные возможности для оптимизации процессов и принятия решений. Эти области не только претерпевают значительные преобразования, но и предоставляют значительные возможности для оптимизации процессов и принятия обоснованных решений. В экономике ИИ активно используется для автоматизации бизнес-процессов. Сюда входит использование технологий искусственного интеллекта для автоматизации рутинных задач, тем самым повышая операционную эффективность бизнеса. Процессы в сфере финансов, логистики и управления цепочками поставок также становятся роботизированными, что способствует более точному и быстрому выполнению задач. Прогнозирование и анализ данных в экономике становятся более точными благодаря использованию ИИ. Моделирование экономических тенденций и анализ данных помогают прогнозировать динамику рынка, что важно для принятия стратегических бизнес-решений. Финтех также видит новый импульс в использовании ИИ, например, в алгоритмической торговле и кредитном скоринге.

Применение ИИ в экономике

Применение искусственного интеллекта (ИИ) в экономике сегодня приводит к революционным изменениям в том, как мы ведем бизнес, принимаем решения и управляем ресурсами. Вот несколько ключевых областей, где ИИ оказывает значительное влияние:

1. Автоматизация бизнес-процессов:

Робототехника и автоматизация: ИИ позволяет создавать программных роботов, которые могут выполнять рутинные задачи, высвобождая человеческие ресурсы для более творческих и стратегических задач. Это применяется в финансах, логистике, производстве и других отраслях.

2. Прогнозирование и анализ данных:

Экономическое прогнозирование: ИИ используется для анализа больших объемов данных и прогнозирования экономических тенденций. Оно помогает предприятиям адаптироваться к изменениям рынка, прогнозировать спрос, оптимизировать цены и управлять запасами.

Аналитика данных: алгоритмы машинного обучения помогают выявлять скрытые закономерности в данных, что, в свою очередь, облегчает принятие решений на основе фактов.

3. Финансовые технологии (финтех):

Алгоритмическая торговля: искусственный интеллект используется для разработки алгоритмов, которые могут анализировать рыночные тенденции и автоматически принимать решения о покупке или продаже ценных бумаг.

4. Управление цепочками поставок:

Прогнозирование спроса. ИИ повышает точность прогнозирования спроса, позволяя более эффективно управлять запасами и сокращать затраты.

Оптимизация логистики. Использование искусственного интеллекта для оптимизации маршрутов и графиков доставки помогает сократить временные и финансовые затраты.

5. Клиентский опыт и персонализация:

Рекомендательные системы: искусственный интеллект помогает создавать персонализированные рекомендации для клиентов, улучшая их опыт и стимулируя продажи.

Чат-боты и виртуальные помощники: искусственный интеллект улучшает общение с клиентами посредством чат-ботов, что улучшает обслуживание клиентов и снижает нагрузку на персонал.

Применение ИИ в экономике не только повышает эффективность и точность бизнес-процессов, но и открывает новые возможности для инноваций и создания ценности для потребителей.

Применение ИИ в наукометрии

Искусственный интеллект (ИИ) также оказывает значительное влияние на наукометрию — область, связанную с измерением научной продуктивности, влияния и качества исследований. Вот несколько областей, где ИИ используется в наукометрии:

1. Анализ научных публикаций:

Классификация статей: Алгоритмы машинного обучения позволяют классифицировать научные статьи по темам и направлениям исследований, повышая качество категоризации и упрощая поиск необходимой информации.

Оценка важности: ИИ помогает определить важность и статус цитируемости научных публикаций, анализируя частоту цитирования и контекст в статьях.

2. Эффективность исследования:

Прогнозирование успеха проекта. Методы машинного обучения можно использовать для прогнозирования успеха научно-исследовательских проектов, что полезно при распределении ресурсов и финансирования.

Оптимизация научных экспериментов. Алгоритмы ИИ могут анализировать результаты научных экспериментов, выявлять закономерности и предлагать варианты оптимизации для дальнейших исследований.

3. Сетевой анализ научных сообществ:

Выявление влиятельных научных личностей: алгоритмы ИИ помогают анализировать социальные сети учёных, выявлять влиятельных лидеров и определять степень их влияния в научном сообществе.

Обнаружение научных тенденций: Автоматизированный анализ публикаций позволяет определять актуальные научные темы и отслеживать развитие научных тенденций.

4. Оценка научных журналов и конференций:

Анализ цитирования: с помощью ИИ можно проводить более точный анализ цитируемости статей, определять их вклад в научное сообщество и качество научных журналов.

5. Прогнозирование тенденций и развития научных направлений:

Анализ исследовательских данных: ИИ способен анализировать большие объёмы данных и прогнозировать будущие тенденции в различных научных областях, что полезно для стратегического планирования и финансирования.

Применение ИИ в наукометрии значительно повышает точность оценок, упрощает процессы анализа и предоставляет более объективные инструменты для оценки научной продуктивности и результативности исследований. Эти инновации способствуют развитию научного сообщества и способствуют прогрессу научных исследований.

Проблемы и перспективы применения ИИ

Использование искусственного интеллекта (ИИ) в экономике и наукометрии открывает широкие возможности и ставит ряд проблем, требующих пристального внимания. Давайте рассмотрим ключевые проблемы и перспективы в этих областях.

<i>Проблемы применения ИИ</i>	<i>Перспективы применения ИИ</i>
Этические вопросы - Конфиденциальность данных - Отсутствие разнообразия в данных	Анализ научных публикаций - Эффективность научных исследований - Сетевой анализ научных сообществ
Оценка качества научных статей - Прозрачность алгоритмов оценки - Отсутствие стандартов в оценке	Оптимизация распределения научных ресурсов - Использование ИИ в прогнозировании трендов - Поддержка принятия решений в научном финансировании

Вызовы в финансовой сфере - Риски в алгоритмическом трейдинге - Кибербезопасность	Разработка этических стандартов - Развитие обучения и подготовки кадров - Расширение использования
Безопасность данных - Приватность данных - Манипуляция рыночными данными	Улучшение операционной эффективности - Развитие новых финансовых инструментов - Инновации в управлении цепочкой поставок

(Таблица 1)

Несмотря на блестящие перспективы, использование ИИ в экономике и наукометрии сталкивается с некоторыми проблемами. Вопросы этики и безопасности данных требуют тщательного рассмотрения во избежание негативных последствий для человечества. Кроме того, необходимо обеспечить наличие сильной рабочей силы, которая сможет эффективно взаимодействовать с ИИ и полностью реализовать его потенциал.

Заключение

Как искусственный интеллект (ИИ) стал неотъемлемым компонентом современного общества, воздействуя на различные сферы деятельности, такие как экономика и наукометрия. Продвинутые технологии ИИ, такие как машинное обучение, анализ данных и нейронные сети, предоставляют уникальные возможности для оптимизации процессов и принятия решений в этих областях. Однако, несмотря на все перспективы, существуют вызовы, которые требуют внимания. Вопросы этики, связанные с использованием ИИ, требуют разработки соответствующих стандартов. Также, важно обеспечить безопасность данных и приватность, особенно при работе с чувствительной информацией. Подготовка кадров, способных эффективно работать с возможностями ИИ, также становится ключевым аспектом успешной интеграции этих технологий в общество. В заключение, применение искусственного интеллекта в экономике и наукометрии предоставляет огромные возможности для улучшения процессов и принятия решений. Однако, для максимизации выгод и минимизации рисков необходимо продолжать развивать эту область ответственно, с учетом этических, безопасностных и образовательных аспектов.

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МИНИМИЗАЦИЯ РИСКОВ В УПРАВЛЕНИИ РЕСУРСАМИ ПРОЕКТА: МЕТОДЫ И ИНСТРУМЕНТЫ

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Аннотация. Статья посвящена анализу методов и инструментов минимизации рисков в управлении ресурсами проекта. В ней рассматриваются как традиционные подходы к управлению рисками, так и современные вызовы, возникающие в условиях цифровизации и быстро меняющейся бизнес-среды. Основное внимание уделяется количественным и качественным методам анализа рисков, инструментам для их идентификации и оценки, а также стратегиям минимизации рисков, включая избегание, снижение, передачу и принятие рисков. Статья также освещает проблемы и ограничения существующих подходов к управлению рисками, а также предлагает рекомендации для практиков и менеджеров проектов.

Ключевые слова: управление рисками, минимизация рисков, методы анализа рисков, управление ресурсами проекта, цифровизация в проектах

Введение. Управление рисками является ключевым аспектом успешного управления проектами. В современном динамичном мире, где проекты становятся всё более сложными и многогранными, важность эффективного управления рисками не может быть переоценена. Риск в контексте управления проектами можно определить как неопределенность, которая может иметь как положительные, так и отрицательные последствия для проекта. Управление рисками включает в себя процессы идентификации, анализа и реагирования на риски проекта, с целью минимизации потенциальных убытков или максимизации возможных выгод.

Управление рисками играет важную роль в обеспечении успеха проектов. Непредвиденные события могут серьезно повлиять на сроки, бюджет и качество проекта. По данным Project Management Institute, неэффективное управление рисками является одной из основных причин неудач проектов. В исследовании, проведенном в 2020 году, было выявлено, что проекты, в которых не уделяется должного внимания управлению рисками, чаще всего превышают бюджет и не выполняются в срок [1]. Это подчеркивает важность разработки и применения эффективных стратегий управления рисками.

Основной целью данной статьи является исследование методов и инструментов для минимизации рисков в управлении ресурсами проекта. Статья направлена на анализ различных подходов к управлению рисками, включая как традиционные, так и инновационные методы. Особое внимание уделяется роли управления ресурсами в процессе минимизации рисков, поскольку ресурсы проекта (как человеческие, так и материальные) являются ключевыми факторами, влияющими на успех проекта.

Для достижения поставленной цели, статья решает следующие задачи:

1. Анализ теоретических основ управления рисками в проектах.
2. Исследование роли управления ресурсами в процессе минимизации рисков.
3. Обзор и сравнение различных методов и инструментов управления рисками.
4. Выявление проблем и вызовов, связанных с минимизацией рисков в управлении ресурсами проекта.

Важность данной темы также подтверждается многочисленными исследованиями в области управления проектами. Например, исследование Kerzner (2017) показывает, что интеграция управления рисками в процесс управления проектом значительно повышает вероятность его успешного завершения [2]. Также, согласно исследованию Hillson (2017), применение специализированных инструментов и методик для управления рисками способствует более точной оценке и эффективному реагированию на потенциальные угрозы [3].

Основная часть. Риск в управлении проектами определяется как неопределенное событие или условие, которое, в случае его наступления, оказывает положительное или отрицательное влияние на цели проекта. Это определение подчеркивает два ключевых аспекта риска: неопределенность и влияние на проектные цели. Риск может проявляться в различных формах, включая технические, управленческие, финансовые и внешние факторы, и может влиять на сроки, бюджет, качество и другие ключевые параметры проекта [4].

Риски в проектах можно классифицировать по различным критериям. Одна из распространенных классификаций включает:

1. **Внутренние риски** возникают из-за факторов, находящихся внутри проекта, например, недостаточная квалификация команды, ошибки в планировании, недостаточные ресурсы. Примеры внутренних рисков включают недостаточную квалификацию команды, когда команда проекта не обладает необходимыми навыками или опытом, и это может привести к ошибкам, задержкам и даже провалу проекта. Например, если команда разработки программного обеспечения не знакома с определенным языком программирования, это может замедлить процесс разработки и увеличить количество ошибок.

Также к внутренним рискам относятся ошибки в планировании - неправильное планирование, включая нереалистичные сроки, недооценку ресурсов или недостаточное учёт рисков, может привести к значительным проблемам в проекте. Например, если проект строительства здания имеет нереалистичный график, это может привести к спешке в работе, снижению качества и увеличению затрат.

Ограниченный бюджет, недостаток оборудования или материалов также могут серьезно помешать прогрессу проекта. Например, если для строительного проекта не хватает финансирования, это может привести к задержкам или даже приостановке работ.

2. **Внешние риски:** исходят из внешней среды проекта, такие как изменения законодательства, экономические колебания, природные катастрофы. Примеры внешних рисков включают законодательные изменения, которые могут повлиять на проекты в различных отраслях. Например, новые экологические или строительные нормы могут потребовать изменений в проекте, что приведет к увеличению затрат и задержкам. Изменения в экономике, такие как инфляция, изменение курсов валют или экономические кризисы также относятся ко внешним рискам, и могут серьезно повлиять на стоимость и жизнеспособность проекта. Например, внезапная инфляция может увеличить стоимость материалов и труда, что повлияет на бюджет проекта. Непредвиденные природные события, такие как землетрясения, наводнения или ураганы, могут привести к значительным задержкам и увеличению затрат в проектах. Например, землетрясение может повредить строительную площадку, требуя дополнительных работ по восстановлению и усилению конструкций [5].

3. **Технические риски:** связаны с технологическими аспектами проекта, включая инновации, сложность систем, непроверенные технологии. Внедрение новых технологий или инновационных решений всегда сопряжено с рисками, поскольку они могут быть недостаточно испытаны в реальных условиях. Например, использование новой

программной платформы в проекте разработки может привести к неожиданным техническим проблемам, которые затруднят процесс разработки.

Проекты, включающие сложные системы или интеграцию множества компонентов, несут в себе риски, связанные с непредвиденными взаимодействиями между различными элементами. Например, в проекте по созданию крупномасштабной информационной системы могут возникнуть проблемы совместимости между различными модулями или подсистемами.

Применение новых или непроверенных технологий может привести к техническим проблемам, задержкам и увеличению затрат. Например, использование нового материала в строительстве, который еще не был широко протестирован в аналогичных условиях, может привести к непредвиденным проблемам с долговечностью или безопасностью [6].

4. **Управленческие риски:** возникают из-за проблем в процессах управления проектом, таких как недостаточное управление коммуникациями, конфликты в команде, неправильное распределение ресурсов. Эффективная коммуникация является краеугольным камнем успешного управления проектами. Недостатки в коммуникации могут привести к непониманию, неправильной интерпретации задач и целей, а также к ошибкам в работе. Например, если изменения в проекте не сообщаются всем заинтересованным сторонам, это может привести к путанице и дублированию работы.

Конфликты между членами команды могут снизить моральный дух и эффективность работы. Например, конфликт между двумя ключевыми членами команды может привести к задержкам в принятии решений и выполнении задач, а также создать негативную рабочую атмосферу.

Эффективное управление ресурсами, включая время, бюджет и человеческие ресурсы, критически важно для успеха проекта. Неправильное распределение ресурсов может привести к перерасходу бюджета, недостаточной производительности и задержкам в проекте. Например, назначение слишком малого количества сотрудников на ключевую задачу может замедлить её выполнение.

Проекты часто подвержены изменениям, и умение адаптироваться к ним является ключевым навыком. Недостаточное управление изменениями может привести к хаосу, непредвиденным затратам и срыву сроков. Например, если изменения в требованиях проекта не учитываются должным образом, это может привести к необходимости пересмотра уже выполненной работы.

Эффективное лидерство необходимо для мотивации команды, принятия решений и руководства проектом к его целям. Отсутствие сильного лидерства может привести к недостаточной координации, низкой мотивации и, в конечном итоге, к неудаче проекта.

Неспособность удовлетворить или управлять ожиданиями заинтересованных сторон может привести к недовольству клиентов и других ключевых участников. Это может произойти, если проект не соответствует первоначальным требованиям или если эти требования были неправильно поняты или документированы [7].

Управление рисками начинается с проактивного подхода, который подразумевает раннее включение процессов управления рисками в жизненный цикл проекта. Это означает, что уже на стадии планирования проекта команда должна идентифицировать потенциальные риски, анализировать их и разрабатывать стратегии реагирования. Такой подход позволяет не только предвидеть возможные проблемы, но и подготовиться к ним заранее, что существенно снижает вероятность негативного влияния на проект.

Систематизация процесса управления рисками также играет ключевую роль. Она включает в себя четко определенные шаги: от идентификации рисков до их качественного и количественного анализа, разработки стратегий реагирования и непрерывного мониторинга. Такой структурированный подход обеспечивает полноту охвата всех

возможных рисков и эффективность принимаемых мер. Например, систематический анализ рисков может выявить потенциальные проблемы в снабжении материалами для строительства, что позволит заблаговременно найти альтернативные источники поставок или разработать планы на случай задержек [8].

Методы и инструменты минимизации рисков можно разделить на несколько категорий, включая количественные и качественные методы анализа рисков, инструменты для идентификации и оценки рисков, а также различные стратегии минимизации рисков.

Количественные методы анализа рисков включают в себя использование числовых данных для оценки вероятности и последствий рисков. Эти методы часто используют статистические модели и анализы, такие как анализ чувствительности, деревья решений и моделирование Монте-Карло. Например, моделирование Монте-Карло позволяет оценить влияние различных рисков на проект, проводя множество симуляций с разными переменными, чтобы определить вероятные исходы.

Качественные методы, с другой стороны, фокусируются на нечисловой оценке рисков. Они включают в себя методы, такие как анализ SWOT (Strengths, Weaknesses, Opportunities, Threats), экспертные оценки и мозговые штурмы. Эти методы помогают определить риски, оценить их важность и приоритетность на основе мнений и опыта команды и заинтересованных сторон [9].

Идентификация и оценка рисков – это первый шаг в процессе управления рисками. Для этого используются различные инструменты, такие как:

- чек-листы рисков, которые представляют собой списки потенциальных рисков, основанные на опыте предыдущих проектов;
- анализ причин и следствий (рыбий скелет Исикавы): помогает определить потенциальные причины проблем в проекте;
- матрица рисков: используется для классификации рисков по степени их важности и вероятности.

После идентификации и оценки рисков необходимо разработать стратегии для их управления. Существуют различные стратегии минимизации рисков:

- избегание рисков: изменение плана проекта для полного исключения риска. Например, изменение поставщика для избежания риска задержек поставок.
- снижение рисков: снижение вероятности или воздействия риска. Это может включать в себя дополнительные меры контроля качества или внедрение дополнительных этапов проверки.
- передача рисков: включает передачу риска третьей стороне, например, через страхование или аутсорсинг определенных аспектов проекта.
- принятие рисков: в некоторых случаях команда проекта может решить принять риск, особенно если потенциальные выгоды перевешивают риски. В таких случаях важно иметь план действий на случай реализации риска.

Эффективное управление рисками требует сочетания всех этих методов и инструментов. Ключевым аспектом является гибкость и способность адаптироваться к изменяющимся условиям, а также непрерывное мониторинг и переоценка рисков на протяжении всего жизненного цикла проекта. Это помогает обеспечить успешное выполнение проекта, минимизируя потенциальные угрозы и неопределенности.

Одной из основных проблем в управлении рисками является сложность точной идентификации и оценки рисков. Риски часто носят неопределенный характер и могут изменяться в течение жизненного цикла проекта. Кроме того, существующие методы анализа рисков могут не учитывать все возможные сценарии, особенно в сложных или инновационных проектах.

Другой проблемой является сопротивление изменениям со стороны команды и заинтересованных сторон. Управление рисками часто требует изменений в плане проекта, что может встречать сопротивление, особенно если эти изменения воспринимаются как угроза устоявшимся процессам или интересам.

С развитием технологий и цифровизацией бизнеса появляются новые риски. Например, внедрение новых информационных систем увеличивает риски, связанные с кибербезопасностью. Также цифровизация ведет к увеличению зависимости от технологических систем, что делает проекты более уязвимыми для технических сбоев.

Заключение

Управление рисками в проектах требует комплексного подхода, включающего как традиционные методы анализа и минимизации рисков, так и адаптацию к новым вызовам. Эффективное управление рисками не только помогает избежать потенциальных проблем, но и способствует более эффективному и гибкому управлению проектами.

Для практиков и менеджеров проектов важно постоянно совершенствовать навыки в области управления рисками, включая обучение новым методам и инструментам. Важно также уделять внимание развитию культуры управления рисками в команде, где каждый член команды осознает свою роль в идентификации и минимизации рисков.

Будущие исследования в области управления рисками могут сосредоточиться на разработке новых инструментов и методик, адаптированных к быстро меняющейся бизнес-среде и технологическим инновациям. Особое внимание следует уделить управлению рисками в цифровой среде, где традиционные подходы могут быть недостаточными.

В заключение, управление рисками остается ключевым элементом успешного управления проектами. Постоянное развитие в этой области и адаптация к новым вызовам позволят менеджерам проектов эффективно справляться с неопределенностями и достигать поставленных целей.

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AN EMPIRICAL LITERATURE REVIEW OF THE DEMAND FOR GOLD DURING CRISES WITH SPECIAL ATTENTION TO COVID-19⁺

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Abstract

This study provides an empirical review of the literature exploring the role of gold demand during crises, with a concentration on the unique difficulties and outcomes brought about by the COVID-19 pandemic. To forecast where interest in gold is headed, this review synthesizes data from a number of different studies. Particularly pertinent in light of the unprecedented health and economic turmoil is the review's discussion of gold's role as a safe-haven asset and the complexities of the gold market on a global scale.

1. Introduction

For thousands of years, people have been drawn to gold, which has been called "the most desirable of all metals." Gold is revered as a symbol of wealth and a store of value around the world due to its inherent beauty, rarity, and special properties. Gold's allure in the modern era stems from more than just its cultural and historical value; it also serves an important function in the global monetary system, particularly in times of economic turmoil and crisis, which helps explain the recent uptick in demand for gold. Through an expanded literature review, this study endeavors to address a knowledge gap. In addition, the severe disruptions caused by the COVID-19 pandemic are also highlighted.

Since at least the 1970s, economists, financial analysts, and policymakers have found the surge in demand for gold during economic instability to be fascinating. The exceptional qualities of gold as a safe haven asset have been brought to light by historical events such as the 2008 financial crisis and the oil crisis of the 1970s. Gold's status in today's global financial markets has been reevaluated in light of the unprecedented crisis ushered in by the COVID-19 pandemic. This review seeks to synthesize the relevant empirical research in order to gain a better understanding of the factors that influence the demand for gold and its role as a safe haven during times of crisis.

Our review incorporates several studies spanning from 2007 to the present. We also review recent studies that attempt to figure out the impact of the COVID-19 pandemic on the price of gold. Through an encompassing review, this study attempts to provide answers to important questions about the demand for gold as an economic hedge and its sensitivity to the evolution of these factors. We believe that this is also of great concern for market players, regulators, and financial backers.

2. Literature review

⁺ This study was derived from the M.A. thesis written by Halil Berat BELİRİR under the supervision of Mert TOPCU.

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Using data from 1983 to 2003 and GARCH and APGARCH models, Tully and Lucey (2007) analyzed the correlation between gold prices and the US dollar exchange rate. Although many macroeconomic variables were found to have statistically significant effects on gold prices, they found that exchange rate was the primary factor driving gold prices.

Using monthly data from April 2001 to March 2011 and the Vector Error Correction Model, Bhunia and Das (2012) looked into gold volatility and the causal relationship between gold prices and stock returns in India. According to their findings, gold prices and stock prices were highly correlated during the global crisis and its aftermath.

Using data from 1982–1990, 1991–2004, and 2003–2009 and VAR and EGARCH methods, Fan et al. (2014) investigated the effect of macroeconomic factors on gold prices. Among the examined macroeconomic variables, they discovered that the US dollar index was inversely related to gold prices.

During the 2008 financial crisis, Choudhry et al. (2015) studied the dynamic correlations between gold returns, stock returns, and stock market volatility in the United Kingdom (FTSE 100), the United States (S&P 500), and Japan (Nikkei 225). Using daily data from January 2000 to March 2014, they discovered that gold's poor performance as a safe haven during the financial crisis was due to the bidirectional dependence between gold returns and stock returns and volatility.

Artificial Neural Networks (ANN) and Vector Autoregressive (VAR) methods were used by Aydin and Cavdar (2015) to examine monthly data from January 2020 through September 2014 regarding the relationship between the USD/TRY exchange rate, gold prices, and the Borsa Istanbul (BIST) 100 index. According to the results of their research, ANN was more effective than VAR in making predictions.

Nair et al. (2015) used Johansen cointegration and Granger causality tests to investigate the correlation between the Rupee/US Dollar exchange rate and Indian gold prices from January 2005 through December 2013. Their conclusion is that the US dollar's exchange rate was significantly correlated with gold's price volatility.

Using daily data from 1986 to 2015, Yaya et al. (2016) examined the volatility and spillover effects between the gold and oil markets, dividing the time period into pre- and post-crisis segments. Before and after the crisis, gold's price volatility was lower than that of the oil market, suggesting that gold cushioned the blow of inflationary shocks.

From January 2009 to November 2015, Kanjilal and Ghosh (2017) used daily data to examine the fluctuating connection between gold and global crude oil prices. There was a disparity between gold and oil prices, which may indicate that gold is sought after as a haven in times of uncertainty.

Gold prices were studied by Gao et al. (2019) from August 2006 through December 2017 using the TVP-SVAR-SV model to examine the dynamic effects of economic policy uncertainty. They discovered that gold's safe-haven value is volatile and economy-specific, exhibiting both positive and negative correlations at different times.

From January 2004 through December 2018, Sheikh et al. (2020) used ARDL and NARDL techniques to examine the structure of the relationship between macroeconomic fluctuations and stock index returns. Their findings showed that investors reacted differently to gold and oil prices before and after the global financial crisis, and gold prices responded positively to interest rate and exchange rate shocks in the post-crisis period. They also brought attention to the imbalance in power within the partnership.

Yousef and Shehadeh (2020) used GARCH and GJR-GARCH models on daily data from 2012 to 2020 to examine gold price volatility during the COVID-19 pandemic. Their research showed that an increase in COVID-19 cases was associated with greater price and volatility in gold.

Sari and Kartal (2020) examined the impact of COVID-19 on financial and commodity markets using ARDL Bounds Testing on daily data from January 2020 to April 2020. Researchers found that the price of gold was inversely related to the number of cases of COVID-19.

Using daily data from January 2020 to June 2020, Syahri and Rabiyanto (2020) analyzed the relationship between gold prices, exchange rates, and CSPI volatility during the COVID-19 pandemic using GARCH and DCCGARCH methods. They found that fluctuations in the price of gold had a sizable effect on stock market volatility, and that there was a positive and dynamic relationship between the CSPI and gold.

The volatility of gold spot and futures prices in response to major events was studied by Lamouchi and Badkook (2020) using GARCH and T-GARCH models from January 1979 to March 2020. They found that gold prices were more unstable during the Asian crisis and the global financial crisis, and more stable during other times such as the 1987 stock market crash, the Gulf War, the 9/11 attack, and the COVID-19 pandemic.

Granger causality tests were used by Sumer and Ozorhon (2020) to examine the relationship between gold prices and the performance of the Turkey Real Estate Investment Trust (T-GYO) index from January 2004 to May 2020. Researchers found that the T-GYO Index outperformed gold in all years except 2008 and 2018, when it was hit by the global financial crisis and the Turkish lira crisis, respectively.

Using daily data from September 2019 through December 2020, ztürk and avdar (2021) examined the effect of the COVID-19 pandemic on volatility in Bitcoin, gold, oil, and exchange rates. The ARMA-EGARCH method was used to demonstrate the interdependence of the variables and the transmission of shocks due to the COVID-19 pandemic.

The effects of the COVID-19 pandemic on Bitcoin, gold, oil, and exchange rates were studied by ztürk and avdar (2021) using daily data from September 2019 to December 2020. Using the ARMA-EGARCH technique, they demonstrated that the variables had reciprocal shock transmission due to the COVID-19 pandemic.

Before and during the COVID-19 pandemic from January 2019 to May 2020, Mensi et al. (2021) studied the dynamics of price spillover between US and Chinese stock indices, crude oil, and gold futures markets. According to their research, the COVID-19 pandemic exacerbated the impact of shocks in the commodity markets on the stock markets in the United States and China.

Kumar et al. (2021) analyzed the relationships between oil prices, gold prices, exchange rates, and stock prices in Iraq from December 2018 to September 2020 using the ARDL method. Insignificant short-term effects were found for oil prices, gold prices, and exchange rates on stock prices, but no long-term effects were found.

Using daily data from January 2020 through June 2020 and the ARDL technique, Atri et al. (2021) analyzed the effect of COVID-19 news-induced panic on gold and oil prices. According to their research, the deaths and panic caused by Covid-19 had a positive effect on gold prices because of gold's status as a safe haven.

From January 2017 through April 2021, Tanin et al. (2021) used the nonlinear autoregressive distributed lag (NARDL) method to examine the correlation between seven major exchange rates and gold prices. Their research revealed that the USD/GBP, USD/CAD, USD/JPY, USD/DKK, and USD/EUR exchange rates had positive short-term effects on gold prices during the COVID-19 period, lending credence to the notion that gold was perceived as a safe haven.

Gold prices and seven major exchange rates were analyzed by Tanin et al. (2021) using the nonlinear autoregressive distributed lag (NARDL) method from January 2017 to April 2021. According to their findings, the short-term price of gold was influenced by the value of the US dollar relative to the British pound, the Canadian dollar, the Japanese yen, the Danish krone, and the Euro during the COVID-19 period.

Zeinedini et al. (2022) analyzed the effect of global oil and gold prices on the Tehran Stock Exchange index using daily data from February 2020 through January 2021 using the Quantile Regression method. Gold prices and the index of the Tehran Stock Exchange were not found to be significantly correlated.

Using the ARDL boundary test and data from January 2020 through December 2021, Cui et al. (2023) investigated the association between gold prices, gold price volatility, oil price volatility, silver price volatility, and COVID-19-related deaths. Gold was seen as a safe haven during the COVID-19 pandemic, and their findings showed that both oil price volatility and gold price volatility boosted gold prices.

Khan et al. (2023) used GARCH, GJR-GARCH, and EGARCH to examine the volatility of Bitcoin, the Euro, the S&P 500 Index, Gold, Crude Oil, and Sugar markets from November 2018 to June 2021. All financial markets, but especially crude oil and the S&P 500, showed high and persistent volatility, pointing to significant positive asymmetric behavior.

By separating the COVID-19 pandemic into three stages—before the pandemic, during vaccination, and after vaccination—Arfaoui, Yousaf, and Jareo (2023) investigated the asymmetric return and volatility connections between the gold market and the energy markets. Using daily data from January 2019 through November 2022 and BEKK GARCH models, they discovered that the return and volatility spillovers were largely time and energy market dependent.

The commodities copper, heating oil, aluminum, crude oil, lead, gasoline, wheat soybeans, tin, and gold were ranked, and the safe haven hypothesis was analyzed by Enilov, Mensi, and Stankov (2023). Using daily data from September 2011 to June 2021 and VAR and ES methods, they found that aluminum had the highest safe haven properties before and during the pandemic.

Ghazani, Khosravi, and Caporin (2023) used wavelet analysis on data ranging from October 2018 to April 2021 to examine the daily returns of copper, zinc, lead, crude and Brent oil, and gold during the COVID-19 pandemic. The researchers discovered that the COVID-19 pandemic had effects on the markets similar to those seen during the global financial crisis.

3. Concluding remarks

The impact of the pandemic on the demand for gold in a variety of countries and/or nation groups is the subject of several of the studies that were discussed in the section that came before this one. Individuals' disposable incomes have been affected as a direct result of the pandemic as a result of factors such as lockdowns, restrictions, and income losses. As a direct result of these factors, individuals' consumption patterns have changed. When compared to the time when the pandemic was having a significant impact, the later stages of a pandemic may see a fluctuation in the demand for gold among individuals and institutions. It is necessary to conduct research in order to empirically determine how the pandemic will affect the demand for gold throughout the various stages it goes through.

In conclusion, the empirical literature that was reviewed in this article demonstrates that gold will continue to be significant as an asset that can be used as a safe haven, especially during times of economic instability. Gold's demand rises in response to increased economic uncertainty, acting as a reliable hedge against currency depreciation and financial market volatility, as shown repeatedly by historical crises such as the Great Financial Crisis and the Asian Financial Crisis. Other examples of such crises include the European Debt Crisis and the Russian Financial Crisis. Importantly, the one-of-a-kind effects felt all over the world as a result of the COVID-19 pandemic have served to bolster gold's reputation as a safe haven.

During the COVID-19 crisis, factors such as uncertainty regarding the pandemic's duration, responses from fiscal and monetary policy, and the economic impact of lockdowns have all contributed to the increase in the demand for gold. Investors and market participants have begun to look to gold as a way to both store their wealth and protect themselves from the unprecedented risks posed by the pandemic.

The insights that were gained from this analysis provide investors who are looking to diversify their portfolios and reduce risk with valuable guidance at a time when the global economy is struggling with ongoing economic uncertainty and the possibility of future crises. In the process of formulating monetary and fiscal policies during times of economic turmoil with the goal of stabilizing economies, policymakers can also learn important lessons from the empirical evidence presented here.

This systematic review of empirical research comes to the conclusion that the appeal of gold as a safe-haven asset extends beyond modern financial markets and has persisted throughout history. It continues to shine brightly as a beacon of stability in the turbulent seas of economic crises, with the COVID-19 pandemic representing the most recent chapter in its long and illustrious history.

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How Does Governance Quality Affect Education: A Theoretical Framework

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Abstract

Education quality is influenced by factors several factors including the social, economic, and cultural dynamics. Among these dynamics, one of the crucial factors is governance quality, which can affect educational outcomes through several channels. This study provides a theoretical discussion on how governance quality affects education and offers four broader transmission mechanisms: (i) resource allocation and efficiency, (ii) institutional quality and accountability, (iii) social inclusivity and access, and (iv) stability and long-term planning.

Introduction

Education stands as a cornerstone of the progress of any society, influencing individual prosperity, economic development, and social cohesion. Within the intricate web of factors shaping educational outcomes, governance quality emerges as a pivotal yet often underexplored determinant. Therefore, the previous literature includes a limited number of studies regarding how governance quality affects education. For instance, Abdelaziz (2022) emphasizes that governance might lead to qualified higher education institutions by improving resource management, accountability, stakeholder involvement, and transparency. Fomba et al. (2023) identify two main channels through which institutional quality affects education: public spending on education and the quality of teaching. The effectiveness of public spending on education can be compromised by poor institutional quality, while unethical behavior among teachers, often a result of institutional underdevelopment, can hinder the quality of education¹.

Fazekas and Burns (2012) discuss that governance is indispensable for knowledge. As education systems become more complex, the capacity of governance systems to learn and analyze data is expected to be increasingly important. The study provides an in-depth analysis of how governance and knowledge interact within complex education systems, emphasizing the need for adaptable governance structures capable of handling increasing complexity and utilizing diverse forms of knowledge effectively. Siddique et al. (2016) assert that weaknesses in education sector governance, such as budgetary constraints and lack of accountability mechanisms, contribute to disparities in educational attainment. Good governance is suggested as a key factor in raising institutional performance and improving education delivery. Zaman (2015) recommends enhancing the capacity of governments and higher education sectors to implement meaningful policy reforms for internationalization given the finding that governance indicators significantly contribute to the internationalization of universities and these indicators are key to formulating higher education policies.

¹ Fomba et al. (2023) particularly underline the importance of control of corruption and political stability. Corruption, a key aspect of institutional quality, directly affects education by reducing the value of diplomas, impacting the distribution of resources, and influencing the recruitment and allocation of teachers and scholarships. Political instability can lead to infrastructure destruction and hinder student enrollment.

Given the fact that we still do not know much about how governance quality affects education in detail, this study aims to unravel this nexus by bringing a deeper theoretical understanding regarding the transmission channels. Through a comprehensive exploration of governance's impact on education, we not only contribute to the academic discourse but also offer valuable insights for policymakers and stakeholders.

The rest of the study is structured as follows: Section 2 describes transmission channels. Section 3 gives concluding remarks.

2. The theoretical transmission channels

As nations strive for excellence in education, the quality of governance becomes a critical factor influencing policy formulation, resource allocation, institutional effectiveness, social inclusivity, and long-term planning. The theoretical lens employed herein aims to shed light on the intricate dynamics that connect governance quality to the educational achievements of a society. By delving into the theoretical foundations, we seek to elucidate the pathways through which governance quality shapes the educational development of individuals and communities.

- Resource Allocation and Efficiency

Governance quality influences the allocation and utilization of resources within the education sector. Transparent budgetary processes, devoid of corruption, contribute to the efficient use of funds for educational purposes. Bilan et al. (2019) show that good governance practices could decrease the government's transaction expenditures. They assert that the successful implementation of these initiatives would result in the minimization of bureaucracy; reduction of corruption; and as well as increasing i) the transparency in decision-making at the government level, ii) public governance openness, and iii) the level of trust in public governance by the society. Therefore, a well-governed system would be better able to direct resources toward building and maintaining educational infrastructure, hiring qualified educators, and providing essential learning materials, thereby enhancing the overall educational experience.

- Institutional Quality and Accountability

The quality of governance directly correlates with the effectiveness and accountability of educational institutions. Mallinson and Suter (2017) underscore the significance of accountability as a governance instrument. Efficient governance is closely linked to clearly defined accountability structures and superior systems for monitoring processes and outcomes in pursuit of mutually agreed-upon objectives. Institutions operating within a transparent and accountable governance framework are more likely to deliver quality education. Robust governance mechanisms hold educational institutions accountable for their performance, ensuring that they strive for excellence and prioritize the academic success of students. Glassman and Sullivan (2006), in particular, assert that the role of governance is very important for providing and delivering effective services at all levels of education.

- Social Inclusivity and Access

The promotion of social inclusion and the attainment of inclusive growth objectives are heavily reliant on the quality of governance (Ivanyna and Salerno, 2021) and the education system is an important component of this objective. In recent times, inclusive education has garnered more attention from a multitude of nations. (Rambla et al., 2008). Welfare-oriented societies formulate policies that seek to mitigate inequalities in educational access and achievement by taking into account, among other variables, socioeconomic standing, geographical placement, and

gender. Inclusionary practices that advocate for equal access to educational opportunities contribute to the mitigation of educational inequities.

- Stability and Long-Term Planning

In the process of devising strategies to reduce educational opportunities disparities, communities that are well-governed take into consideration a number of factors, including gender, socioeconomic status, and geographic placement, amongst others. The provision of equal opportunities for academic accomplishment, which helps to reduce educational disparities, is a factor that contributes to the promotion of inclusion. Bilan et al. (2019) state that reduced transaction expenses resulting from competent governance competence can have a significant impact on the macroeconomic stability of a nation, which in turn affects political stability. In addition, Voß et al. (2009) discuss that the initial wave of planning methodologies prioritized the development of infrastructures, administrative capabilities, and the welfare state. It operated under the premise that advancements could be achieved through the implementation of bureaucratic processes, forecasting, and analysis.

3. Conclusion

It is necessary to have a more in-depth theoretical framework to make a complete comprehension of the intricate link that exists between education and the quality of governance. Given this requirement, this study offers four new transmission mechanisms: (i) resource allocation and efficiency, (ii) institutional quality and accountability, (iii) social inclusivity and access, and (iv) stability and long-term planning, through which governance quality can affect education.

The act of challenging excellent governance is not only a moral need, but it also represents a wasteful use of human resources from a strategic perspective. Countries should acknowledge the enormous effect that governance standards have in building the framework for informed policy decisions and systemic advances in educational performance when they are working to improve educational outcomes.

To develop well-informed policies within the education sector, effective governance serves as the essential framework for the creation of such policies. To formulate and carry out policies that adequately address the diverse needs of their population, governments that demonstrate characteristics such as transparency, inclusiveness, and responsiveness are better capable of doing so. By establishing a powerful governance framework, one can ensure that educational policies are in line with the requirements of society. This, in turn, helps to cultivate an environment that is conducive to the achievement of exceptional levels of education.

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DEVELOPMENT OF AN INTEGRAL SYSTEM OF INDICATORS OF MANAGEMENT EFFICIENCY AND QUALITY OF MEDICAL SERVICES

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For the development and subsequent implementation of an integrated system of indicators of management efficiency and quality of medical services in the medical center "Western", Atyrau, we created a working group, including a quality manager, a general practitioner, an accountant, a nurse, and the chief physician of the center.

The process of developing the indicator system was carried out in 3 phases.

First stage: identification of potential indicators of management efficiency and quality of medical services provided by the Western Medical Centre, Atyrau. At this stage, the working group carried out a systematic literature review designed to compile a complete list of quality indicators. The participants of the group studied the data of regulatory legal acts, articles and educational publications on the topic, reports of scientific and scientific-practical conferences, methodological recommendations of the Republican Centre for Health Development of the Ministry of Health of the Republic of Kazakhstan (RCHD of the Ministry of Health of the RK). Based on the results of the work, a preliminary list of indicators relevant to the assessment of management efficiency and quality of medical services provided by the Western Medical Centre, Atyrau was compiled.

Second stage: selection of indicators of management efficiency and quality of medical services provided by the Western Medical Centre, Atyrau. At this stage, the selection of indicators acceptable for implementation in the medical center was carried out, first during the discussion in the working group, then during the work with a focus group of Medical Centre employees and invited external experts.

As revealed, during the literature review, the assessment of competitiveness of a medical organization should be based on a system of balanced scorecards, which should track the current position of the organization relative to its competitors across 4 criteria or domains:

- 1) Customer/patient satisfaction.
- 2) The financial position of the company.
- 3) Staff training and development.
- 4) Business process metrics.

Thus, at this stage we selected indicators for each group of indicators. We formed a list of criteria that allowed us to assess the acceptability of an indicator for implementation in the Medical Centre.

In this phase of the project, we have used the design logic of a study conducted by a group of Canadian scientists in developing a performance framework for Ontario's cancer system.

Focus group participants were asked to fill out a paper questionnaire and to rate on a Likertscale the indicators proposed by the working group based on the following criteria:

1. Allows to assess the quality of medical services of the Medical Centre.
2. Can be applied in the evaluation of any PHC organization.
3. Evaluates one area of the IC's performance: client/patient satisfaction; company's financial position; staff training and development; business process performance.
4. Allows assessment of the development of the Medical Centre.
5. Is measurable.
6. Has documentary evidence that can be verified.
7. Periodically measured.
8. Not time consuming to measure and validate data.
9. Requested or analyzed by external organizations.
10. Allows to compare the position of the Medical Centre with competitors.

A total of 3 focus groups were conducted by the working group: with external experts, internal experts and a mixed group of external and internal experts. The purpose of the focus group was to identify indicators that could contribute to obtaining reliable information on the performance of the Medical Centre.

We analyzed the average scores for each indicator on a five-point scale using the above criteria. The original list was reduced to 8 indicators.

It should be noted that during the development of the integral system of indicators, the working group came to the conclusion that it was necessary to develop a strategic plan for the center. In this regard, we recommended the clinic management to develop a three-year plan for the development of the center based on the proposed system of indicators.

Thus, the final list of indicators of management effectiveness and quality of medical services provided included the following indicators:

- 1) Number of stars of Medical Centers according to the block "Management Indicators" based on the results of RCRC rating.
- 2) Number of stars of Medical Centers according to the block "Clinical indicators" according to the results of RCRC rating.
- 3) ROA.
- 4) Availability of ISO RK 9001-2016 certificate.
- 5) Availability of a certificate of accreditation of the IC by a national accreditation agency.
- 6) Rating of clinic assessment in 2GIS and Yandex Map geosystems.
- 7) Staff Loyalty Index.
- 8) Patient Loyalty Index.

It should be noted that the listed indicators are easily measurable and do not require a large amount of supporting documentation. For example, the first two indicators are confirmed by the RCHD rating published on the website or by a confirmation letter sent at the request of the Medical Centre. ROA indicators are supported by the balance sheet data, which is compulsory for any organization. The availability of ST RK ISO 9001-2016 certificate and accreditation certificate in its turn confirms that the activity of the center meets international requirements in the field of quality of medical services. The clinic assessment rating in the 2GIS and Yandex Maps geosystems is also easily accessible and can be checked at any time of analyzing the activity of the center and recorded by creating a screen shot of the monitor screen with the assessment of the center in the geosystem. The index of loyalty of patients and clinic staff was proposed by us and selected by the focus group due to the simplicity of selection and analysis of the survey data. NPS (Net Promoter Score) a methodology for measuring the level of loyalty on a 0-10 scale.

The score obtained in the NPS-survey is an indicator of the user's commitment to the company, in our case MC. In other words, it is an indicator that the user will or, on the contrary, will not stop

using the company's services in the near future. NPS-assessment ranges from -100 to +100, and is defined as the difference between the percentage of supporters and the percentage of critics of the company. Respondents with a score of 9 or 10 are categorized as 'promoters'; respondents with scores of 7 or 8 are 'neutrals' and respondents with scores between 0 and 6 are 'critics'. The patient/staff loyalty index is the difference between the proportion of promoters and critics.

The NPS methodology, unlike other methods of measuring customer or staff satisfaction, includes only 2 questions: Rate how likely you are to recommend our clinic to your friends or family on a scale from 0 to 10 points. Where 10 means "I would definitely recommend it", 0 means "I would never recommend it"; Explain the reasons for your choice.

In order to maximize the coverage of the clinic's patients for participation in the survey, we generated a QR code of the link to the NPS questionnaire and put it on the doors and stands of the medical center. The obtained tool includes a reliable evidence base for measuring the efficiency and quality of medical services of the MC. However, the system of integral indicators itself does not work without the creation of a system of collection and processing of indicators, as well as a system of management of the obtained data. In other words, in order to implement the system of

integral indicators in the center, it was necessary to identify persons responsible for data collection and processing, data collection and storage tools. It was also necessary to define the procedure for collecting and analyzing information, as well as for managing these indicators.

In this regard, we developed a Regulation on the KPI system of the IC employees, which defined the procedure for measuring, collecting information on the performance of indicators, analyzing them and awarding bonuses to employees based on the results of KPI achievement:

- 1) **Collection** -the quality manager collects information on indicators, conducts NPS survey.
- 2) **Analysis** - quality manager analyses achievement of indicators, prepares report for quality committee.
- 3) **Validation** - the quality committee checks the documentation and report submitted by the quality manager, forms a conclusion.
- 4) **Motivation** -the quality manager submits a request for bonuses to be awarded to the employees based on the results of the achieved KPIs.

The quality manager of the Medical Centre was appointed responsible for data collection. The frequency of data collection was set as once every six months. Storage of measurement data was also assigned to the quality manager in paper and electronic formats.

In the course of project discussions with the management of the Medical Centre, it was decided to implement the KPI system in the clinic in stages:

Stage 1 - 2023 - heads of structural divisions, marketing specialist, SMM manager.

Stage 2 -2024 - doctors and nursing staff.

Stage 3 -2025 - support staff.

Thus, in 2023, the project of KPI implementation based on the system of integral indicators involved the heads of structural divisions, for whom KPI maps of 8 above-mentioned indicators were drawn up.

As stated above, KPI map indicator data was collected and analyzed by the QMS manager, who in turn presented the results of the analysis to the Quality Committee for validation.

After validation of the documentation confirming the achievement or non-achievement of KPIs, the Quality Manager formed a petition with the minutes of the Quality Committee attached to it to the HR department of the MC, which based on the data forms an order to award bonuses to employees.

It should be noted that at the 2nd and 3rd stages of implementation of the system of integral indicators, we recommended to the management of ICs to form KPI maps of other employees

according to the principle of cascading target indicators. For example, the number of stars of the RC according to the "Management Indicators" block based on the results of the RCRC rating at the nurse level can look like the indicator "Availability of a diploma on graduation from an applied or academic bachelor's programme" or "Availability of a certificate on training in MIS skills".

In addition, it is important to avoid conflicts of interest when selecting KPI indicators: for example, it is not recommended to set the "Staff Loyalty Index" indicator to assess the performance of a doctor or nurse. Otherwise, the organization's management will receive distorted information, as employees may artificially "improve" the indicators in order to achieve the indicators.

We have identified key challenges in setting performance targets (KPIs).

These include:

1) *Setting fuzzy or unmeasurable KPIs.* An example of fuzzy formulation of the target indicator can serve as an indicator of the strategy of NAO "Astana Medical University" for 2022-2026, which is formulated as follows, as the expansion of access to modern educational and scientific laboratory complexes of third-party organizations. The unit of measurement is specified as "unit". The indicators for 2022-2026 are set as follows: 1 - 2022, 2 - 2023, 3 - 2024, 4 - 2025, 5

- 2026. In this case it is not clear what will be increased - the number of organizations whose teaching and research laboratory complexes will be used by the university, or the number of teaching or research laboratories that belong to third-party organizations and will be used by the university. What in this context is to be considered as "access to modern teaching and research laboratory complexes": conducting laboratory classes for university students, having an agreement on the possibility of using teaching or research laboratories as bases for training or research, or conducting research by university staff and students on the basis of laboratories? As can be seen from the example, unclear wording of the indicator leads to errors in interpretation and further difficulties in measurement.

2) *A large number of KPIs* leads to poor focus on performance indicators. Experts recommend setting no more than 7-10 indicators.

3) *Non-compliance of KPIs with business objectives* and the organization's development strategy. An example of such a KPI for a medical organization is "Share of automated services". Meanwhile, the desire to increase the share of automated services in the provision of medical services is not specific to the healthcare industry, as it is associated with increased stress of patients and staff. While for the banking system this indicator would be quite acceptable and in line with business objectives.

4) *Lack of communication and transparency.* An important role in the implementation of the KPI system is the communication of information about the meaning and indicators of the indicators, as well as the consequences of their achievement or non-achievement. Companies practice written familiarization with KPI maps of employees, the methodology of measuring their achievement, the procedure for collecting information on their performance, and checking the validity of data. In order to avoid labour disputes, it is also recommended to familiarize employees in writing with the final report on KPI performance.

5) *Setting unrealistic or unattainable KPIs:* when setting KPI targets, it is necessary to analyze the company's resources and capabilities. For example, it would be extremely difficult for a neighborhood clinic to achieve a high share of income from medical tourism compared to a clinic located in a metropolitan area.

6) *Lack of systematic collection and analysis of KPIs:* this problem is characteristic of organizations that do not have a quality management system. Non-observance of the frequency of KPI data collection, non-observance of the established procedures related to validation of KPI assessment materials, bonus or deprecation of employees who have or have not fulfilled KPIs - all this leads to demotivation of personnel and makes the KPI system ineffective and useless.

Performance management of a healthcare organization based on measurable metrics allows managers to recognize success, identify problem areas and develop actions to provide better care for their patients.

The balanced scorecard concept allows you to track an organization's performance through various categories of indicators.

Application of the presented system of indicators allows to achieve various effects: monitoring of the quality of medical services; quick identification of key problems; understanding of the level of satisfaction of patients and staff; planning of IC detail on the basis of objective indicators; determination of further corrective actions.

The presented model can be applied to both private and public sector organizations.

However, the application of the presented model requires its adjustment in accordance with the organizational structure of a particular clinic and its development strategy.

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Основные методы и инструменты планирования проектов: теория и практика Казахстана

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Введение

Все больше компаний начинают применять технологии и принципы проектного управления в своей деятельности. Согласно Казахстанской Ассоциации Управления Проектами (КАУП), анализ международного опыта показал влияние правильного управления проектами на некоторые показатели проекта. Продолжительность реализации проекта в таком случае уменьшается в среднем на 20-30%, а его расходы – на 10-15% [1]. В связи с этим заметно значение использования технологий управления проектами для успешности реализации проекта и деятельности компании в целом. Неотъемлемым этапом процесса управления проектами является планирование, качество которого может значительно повлиять не только на ход работ, но и на конечный результат. Для наиболее эффективного подготовки планов по проекту в практике применяются различные методологии и подходы. Существует множество методов и инструментов планирования проекта, каждый из которых имеет свои особенности и условия для применения. Данное исследование сосредоточено на изучении теории и практики применения методов планирования в компаниях Казахстана на данный момент.

В современном динамичном бизнес-пространстве Казахстана, где стремительные перемены и инновации становятся неотъемлемой частью корпоративной реальности, эффективное управление проектами становится необходимостью, определяющей конкурентоспособность предприятий. В контексте постоянно меняющейся экономической среды и растущих требований к бизнес-процессам, вопросы планирования проектов приобретают особую актуальность.

Цель исследования заключается в определении основных методов планирования проектов, применяемых в современных организациях Казахстана. В рамках рассмотрения данной темы были изучены актуальные литературные источники, а также проведено анонимное анкетирование среди людей с различным опытом применения технологий управления проектами в своей деятельности.

Объектом исследования являются различные организации Казахстана, применяющие технологии управления проектами в своей деятельности. Предметом исследования является процесс применения инструментов и методов планирования в управлении проектами в практике казахстанскими компаниями.

Научная новизна исследования заключается в систематизации и анализе актуальных практик планирования при управлении проектами, а также выявлении новых перспективных направлений развития в этой области в Казахстане.

Теоретическая значимость работы проявляется в предоставлении обзора современных методов планирования проектов в Казахстанских компаниях. Практическая значимость исследования заключается в том, что его результаты могут быть использованы руководителями проектов при выборе инструментов планирования, а также в повышении профессиональной компетенции менеджеров в Казахстане.

Литературный обзор

Существуют разные методы к управлению проектами, применяющиеся на разных этапах жизненного цикла проекта. Многие из них рассматриваются как в различных стандартах и учебных пособиях по проектному менеджменту, так и в научных и практически направленных статьях и исследованиях.

При выборе метода для планирования проектов важно обратить внимание на государственные и международные стандарты управления проектами. Project Management Body of Knowledge (PMBOK) является наиболее распространенным стандартом, предоставляя как общую теорию, так и конкретные методы и инструменты для различных этапов проекта. Шестое издание PMBOK было выбрано как основа, предоставляя более четкое и детальное представление. Если обратить внимание на этап планирования, данный гайд подробно прописывает его отдельно для каждой области знаний в управлении проектом. Так, есть отдельные разделы под Планирование управления ресурсами, Планирование управления коммуникациями и другие, в каждом из которых помимо необходимой для процесса информации приводятся инструменты и методы, которые можно использовать [2].

Исследователи и практики часто рассматривают различные методы и инструменты, такие как диаграмма Ганта, например, как в контексте планирования, так и в других аспектах управления проектами. Онлайн-платформы, такие как Wrike и Kislrod.io, предоставляют разнообразные инструменты из различных методологий, обеспечивая гибкий подход к управлению проектами [3, 4]. Онлайн-платформа Creately, в свою очередь, фокусируется на визуализации и предлагает наглядное руководство по планированию проекта, включая SMART-цели, Структуру Декомпозиции Работ и другие методы. В своих статьях они не только предоставляют перечень инструментов, но также описывают их использование и приводят визуальные примеры, улучшая понимание сути методов планирования [5].

Помимо специализированных платформ и проектов, рассмотренных выше, методы управления проектами привлекают внимание не только практикующих специалистов, но и авторов учебных материалов. Один из значимых источников – книга Драгана З. М. "Набор инструментов для управления проектами", предоставляющая подробный обзор инструментов проектного менеджмента, систематизированных по группам процессов. Особенности каждого метода планирования, начиная от целевого плана до карты балльной оценки приверженности, раскрываются в отдельном разделе учебника. Автор не только дает понимание использования каждого инструмента, но и обосновывает, когда их применение наиболее эффективно, выявляя преимущества и недостатки, а также предоставляя практические советы [6].

Другой автор, Васючков Т. С., в своем учебнике "Управление проектами с использованием Microsoft Project", хоть и сфокусирован на конкретном программном обеспечении, не ограничивается лишь его аспектами. Помимо базовых понятий управления проектами, автор также рассматривает задачи и работы в области планирования проекта, делаясь практическими навыками работы с MS Project. Это позволяет получить не только теоретическую основу, но и реальные навыки в планировании и управлении проектами с использованием современного программного обеспечения [7].

Основные работы русскоязычных и иностранных авторов, таких как Лапыгин, Боронина, Ким, и Ньютон, предоставляют базовые понятия управления проектами и являются важными источниками для изучения этой темы. В книгах и учебниках указанных ученых описываются базовые принципы по управлению проектами, основные этапы и стадии проекта, задачи и работы, которые необходимо выполнить. Данные труды дают четкую теоретическую основу в данной теме, в том числе и в области планирования проекта, что позволяет определить требования, по которым можно подобрать и сравнить методологии планирования проекта. Однако, несмотря на обширность информации, предоставленной в этих трудах, она в большей части остается на уровне теории [8, 9, 10, 11].

С другой стороны, работы Катранова и Карабасовой рассматривают гибкие и традиционные методологии управления проектами в общем, не фокусируясь на конкретном инструментарии [12, 13]. Эти работы оказываются полезными для понимания отличий и эффективности гибких методов управления. Исследование Катранова, например, предоставляет результаты исследования международного агентства "Standish Group" относительно успешности проектов в зависимости от используемых методологий. Сравнительно, работа Орынбетовой является более конкретной, описывая различные методы и инструменты управления проектами, такие как методология SMART, Agile планирование, доска Канбан и диаграмма Ганта. Автор также предлагает использование различных программ и платформ для совместной работы. Несмотря на это, обзор и анализ каждого метода в работе не всегда достаточно подробен, что ограничивает возможность сделать окончательные выводы [14].

В литературе, посвященной управлению проектами, особенное внимание уделяется таким инструментам, как диаграмма Ганта, Канбан и Scrum, рассматриваемым как ключевые методы в области проектного менеджмента. В этой связи, был проведен анализ ряда статей исключительно иностранных авторов, таких как Pell A., Ozkan N., Burgo F., предоставляющих сравнительные обзоры указанных инструментов.

Авторы, такие как Pell A., в своей статье "Agile vs. Scrum vs. Kanban: What's the difference?" подробно рассматривают особенности каждого метода, хотя в конце не предоставляют конкретных рекомендаций по их применению [15]. Ozkan N. и коллеги, в своем систематическом обзоре литературы, предоставляют обширную информацию о преимуществах Scrum и Канбан, включая их гибридное сочетание, а также характеристики переходов между ними [16]. Burgo F., в свою очередь, предоставляет сравнительный анализ Scrum, Канбан и Скрамбан, выделяя гибкость и адаптивность последнего [17].

В отличие от вышеупомянутых авторов, Rad N. фокусируется на сравнении диаграммы Ганта и доски Канбан, рассматривая их функционал, составные элементы и правила разработки. С учетом своего опыта, в качестве одного из авторов "Руководства к стандарту PMBOK", Rad N. предоставляет более четкую аргументацию в сравнении инструментов планирования. Он также выделяет сферы их наилучшего применения, рекомендуя Канбан для Agile проектов и диаграмму Ганта для предиктивных проектов. В заключении, Rad N. предлагает возможность комбинированного использования обоих инструментов: диаграммы Ганта для всего проекта и доски Канбан для отдельных его этапов [18].

Среди многочисленных исследований, посвященных методам и инструментам планирования, основное внимание уделяется отдельным случаям и их применению в конкретных областях. Например, Ramachandran K.K. и Brčić M. в своих работах подробно изучают диаграмму Ганта в контексте менеджмента и разработки расписания [19, 20]. Авторы предоставляют информацию о истории развития данного инструмента, анализируя уже созданные диаграммы и обращаясь к определениям других экспертов в данной области.

Reto B.V., сосредотачиваясь на теоретическом анализе, рассматривает Канбан как метод Agile в менеджменте [21]. В своей работе он предоставляет разнообразную

информацию о происхождении и применении Канбан, выделяя его роль в управлении качеством и коммуникациями.

Помимо диаграммы Ганта и доски Канбан, сетевая диаграмма, или сетевой график, также является популярным методом планирования проекта. В статье "Применение методов сетевого планирования в управлении ИТ-проектами" Стельмашенко Л.Н. подробно исследует этот подход, анализируя методы CPM и PERT в контексте ИТ-проектов. Результаты исследования подчеркивают, что данный метод позволяет не только планировать сроки выполнения проекта, но и эффективно отслеживать и корректировать ход работ [22, с. 511]. Метод критического пути также упоминается в работе Тулембаевой А.Н., где он выделяется как основной метод планирования в управлении проектами в оборонно-промышленном комплексе Казахстана [23].

Итоговый обзор литературы позволяет сделать вывод о том, что многие исследования фокусируются либо на отдельных методологиях, не проводя их сравнительного анализа, либо сравнивают лишь два конкретных метода. Эти работы, зачастую, имеют теоретическую направленность и основаны на уже существующих данных. Тем не менее, большинство авторов предоставляют исследования по применению широко известных инструментов, таких как диаграмма Ганта и сетевой график. В связи с этим возникает потребность в более практическом и систематизированном сравнении эффективности различных методов планирования, а также в анализе их актуальности в современном управлении проектами.

Методы

В рамках проводимого исследования был проведен анонимный опрос среди представителей различных организаций, предпринимателей, менеджеров и т.д. В ходе проведения опроса респонденты отвечали на вопросы связанные с их опытом использования методов и инструментов планирования задач, как в проектах, так и в своей обычной работе. В анкете была представлена возможность оценить эффективность, удобство и прозрачность тех подходов, которые используются опрошенными на практике. Данная оценка проводилась с помощью внедрения вопросов со шкалой Лайкерта, где «1» равнялась самой низке оценке, а «5» - самой высокой. Кроме того, в конце опроса респонденты могли оставить свое мнение о преимуществах и недостатках тех подходов планирования, которые они используют в своей практике.

Помимо полевых исследований путем опроса, была изучена научная и практическая литература по данной теме для более глубинного понимания применяемых для планирования методологий.

В основе данной статьи лежит следующий исследовательский вопрос: какие методы планирования в управлении проектами в организациях Казахстана являются наиболее распространенными и актуальными на данный момент?

Результаты

Для выявления наиболее распространенных в Казахстане методов и инструментов планирования проектов был проведен опрос, в котором приняло участие 20 респондентов с различным опытом работы в проектах и компаниях. Опрос состоял из 12 вопросов, 3 из которых включали использование шкалы Лайкерта, а также 1 вопрос открытого типа.

Один из вопросов анкеты был связан с тем, какие инструменты планирования используют респонденты на практике. Участники могли выбрать более одного варианта ответов на данный вопрос в случае, если они используют более одного инструмента одновременно (рисунок 1).

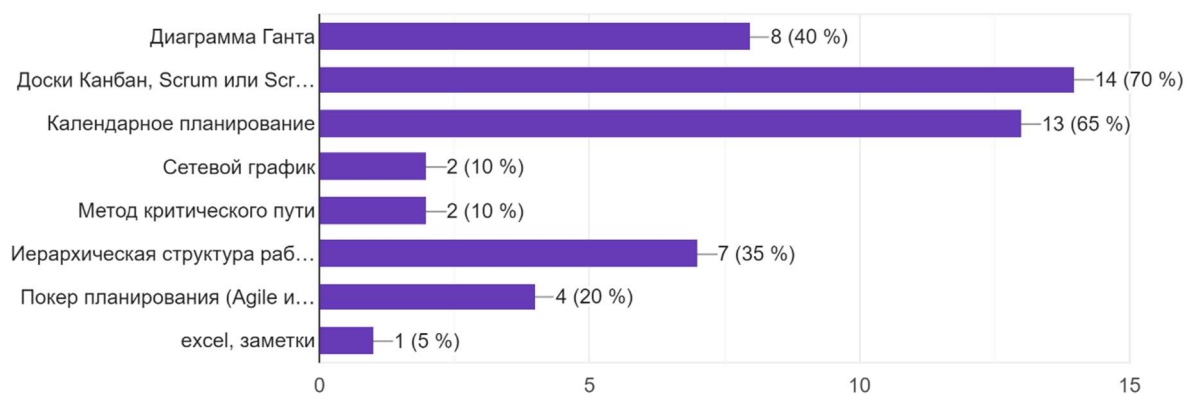


Рисунок 1 – «Какими инструментами вы пользуетесь при планировании?»

Примечание – составлено автором на основании проведенного исследования

На представленной линейчатой диаграмме можно увидеть, что наиболее частыми вариантами ответа на этот вопрос являются: «Доски Канбан, Scrum и Scrumban» - 70% ответов, «Календарное планирование» - 65%, и «Диаграмма Ганта» - 40%.

Следующий вопрос коснулся темы программ и онлайн-платформ для планирования проектов и задач, и также предполагал возможность множественного выбора ответов. Результаты представлены на рисунке 2 ниже.

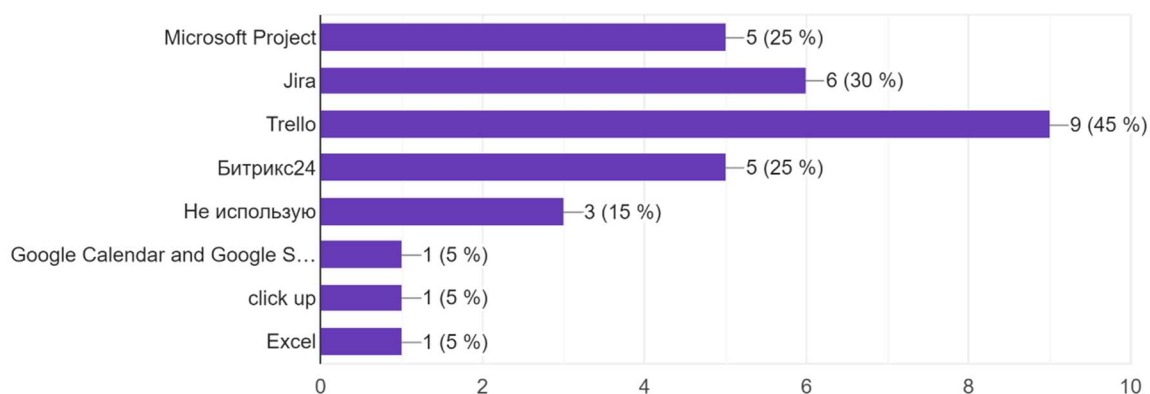


Рисунок 2 – «Используете ли вы какие-то программы или онлайн платформы для планирования? Если да, то какие?»

Примечание – составлено автором на основании проведенного исследования

Согласно ответам респондентов, наиболее распространенной программой для планирования является Trello. Практически половина опрошенных, а точнее 45%, выбрали данный вариант. На втором месте находится Jira (30%), которая похожа на Trello, но обладает более обширными функциями. По 25% ответов набрали программы Microsoft Project и Битрикс24.

Следующая группа вопросов включает использование шкалы Лайкерта для оценки применяемых методов по 5-балльной шкале. Ниже представлена оценка эффективности инструментария, который используется респондентами (рисунок 3).

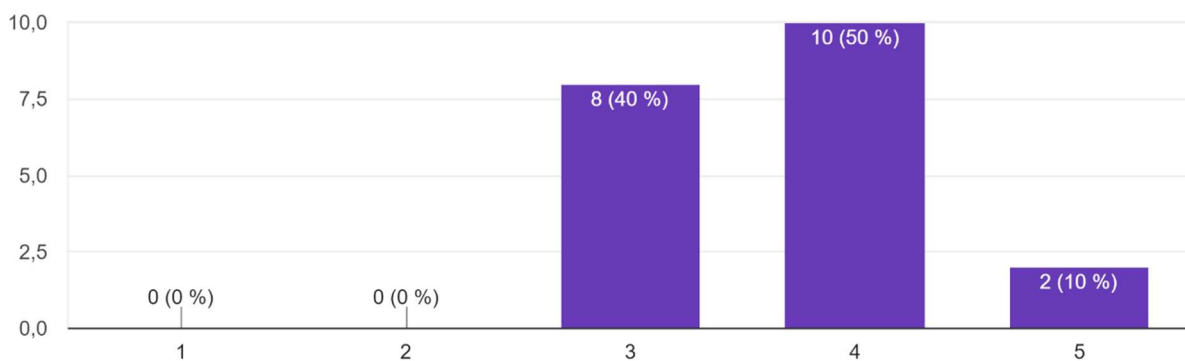


Рисунок 3 – «Как бы вы оценили ЭФФЕКТИВНОСТЬ используемых вами или вашей компанией методов и инструментов планирования?»

Примечание – составлено автором на основании проведенного исследования

Половина участников анкетирования оценили эффективность используемых ими методов на 4 балла из 5, 40% оценили на 3 балла и лишь 10% отметили максимальное значение.

Оценка удобства применения инструментов планирования представлены ниже на рисунке 4.

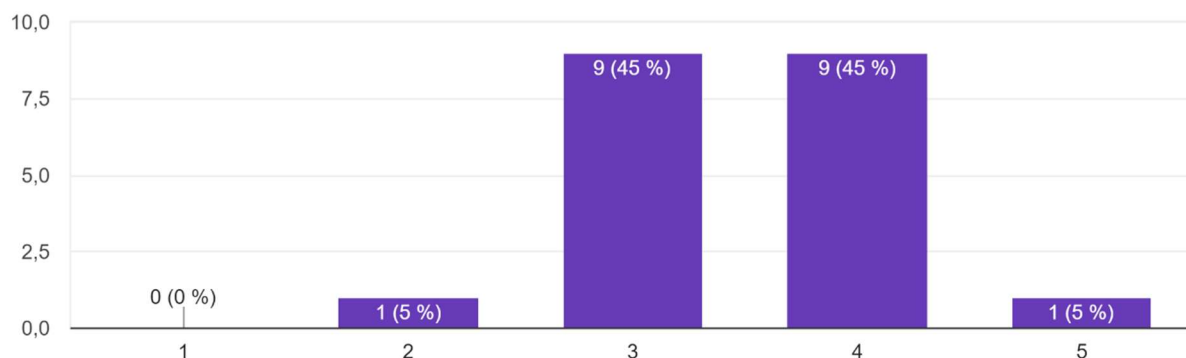


Рисунок 4 – «Как бы вы оценили УДОБСТВО используемых вами или вашей компанией методов и инструментов планирования?»

Примечание – составлено автором на основании проведенного исследования

В данном вопросе мнение большей части опрошенных разделилось практически поровну. По 45% респондентов оценили удобство используемых ими методик на 3 и 4 балла.

Последний вопрос со шкалой Лайкерта просит оценить прозрачность методов планирования (рисунок 5).

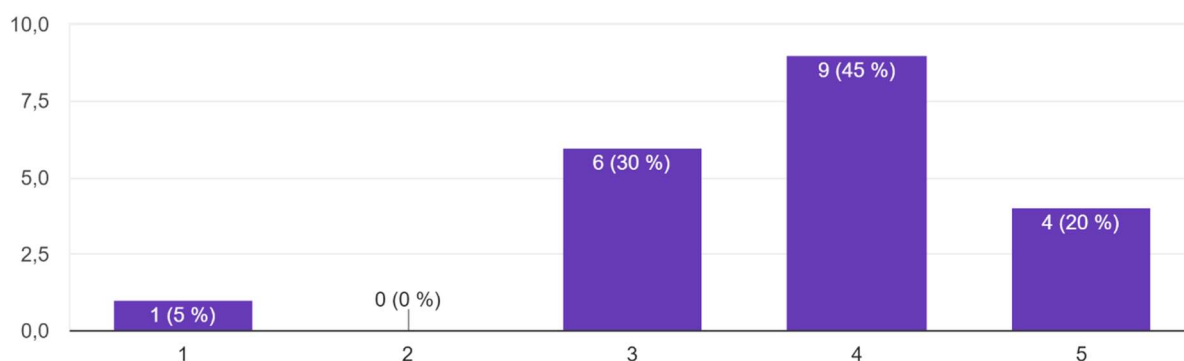


Рисунок 5 – «Как вы оцениваете ПРОЗРАЧНОСТЬ используемых вами или вашей компанией методов и инструментов планирования для всех участников команды?»

Примечание – составлено автором на основании проведенного исследования

На диаграмме выше можно увидеть, что большинство респондентов оценивают прозрачность применяемых методов и инструментов планирования на 4 балла: данный вариант набрал 45%. На 3 балла прозрачность оценило 30% участников опроса, и 20% отметили 5 баллов.

Последний вопрос анкетирования был открытым и предлагал респондентам указать преимущества и недостатки используемых в их компаниях методов планирования. Большинство ответов касалось именно слабых сторон и проблем, с которыми сталкиваются люди в своей работе. Полученную информацию можно отсортировать и представить в виде списка:

1. Недостаток квалификации проектных менеджеров, применяющих гибкие методологии;
2. Проблема контроля выполнения составленных планов;
3. Не все умеют использовать те или иные инструменты планирования;
4. Недостаток гибкости применяемых методов;
5. Ограниченность функционала некоторых программ;
6. Низкая эффективность некоторых инструментов при больших объемах работ.

В результате проведенного опроса была получена информация о том, какие инструменты планирования наиболее распространены в компаниях Казахстана, а также то, насколько они эффективны и удобны по мнению респондентов. На основе полученных данных можно сделать выводы о том, какие методологии преобладают в практике управления проектами в нашей стране.

Выводы и обсуждение

Проведенное исследования позволило собрать данные о том, какие методы и инструменты распространены на практике при планировании проектов в Казахстане. Согласно ответам респондентов, наиболее распространенными инструментами планирования являются доски Канбан, Scrum и Scrumban, календарное планирование и диаграмма Ганта. Первый вариант является наиболее ярким представителем гибких и смешанных методологий проектного менеджмента. Данный ответ был отмечен 70% участников анкетирования, что говорит о распространенности адаптивных или комбинированных подходов к планированию. Календарное планирование и диаграмма Ганта являются наиболее частыми примерами традиционных, или каскадных, методов управления проектами. Они достаточно просты и понятны в использовании и не требуют наличия специальных программ, что очень удобно для многих команд. Путем анализа

результатов можно сделать предположение, что данные инструменты применяются совместно для различных ситуаций и условий. Для этого руководители проектов и команды могут использовать разнообразные программы, такие как Trello, Jira, Microsoft Project и Битрикс24. Данные платформы были отмечены респондентами как наиболее распространенные в их практике, согласно проведенному опросу.

Также участников опроса попросили оценить эффективность, удобство и прозрачность применяемых на практике инструментов и методов планирования. Половина участников анкетирования оценили эффективность используемых ими методов, присваивая им 4 балла из 5, в то время как 40% респондентов уделили оценку в 3 балла, и всего лишь 10% указали максимальное значение. Относительно удобства применяемых методик мнение опрошенных разделилось практически поровну: 45% респондентов выставили оценку 3 и 4 балла. Прозрачность используемых методов и инструментов планирования оценена большинством участников на 4 балла (45%), при этом 30% выбрали 3 балла, и 20% присвоили этому показателю 5 баллов. Из этого можно сделать вывод, что в общем оценка данных критериев держится на уровне выше среднего или среднем. Это может говорить о том, что те подходы, которые применяются компаниями Казахстана в целом выполняют свои функции, но все равно имеют свои недостатки, которые могут мешать достижению высокой результативности при работе над проектом.

В конце проведенного анкетирования были получены ответы касательно тех трудностей, с которыми сталкиваются руководители и проектные команды во время и после планирования задач. По мнению респондентов, к ним относятся: общий недостаток квалификации или опыта кадров, применяющих технологии управления проектами, проблема контроля выполнения составленных планов, недостаток гибкости применяемых методов или их ограниченность при выполнении некоторых видов работ. Эти ответы подчеркивают значимость аспектов обучения и развития квалификации персонала, а также потребность в более гибких и адаптивных методах для более успешного выполнения различных видов работ.

Представленные данные могут служить основой для дальнейших исследований в области управления проектами, направленных на совершенствование методологий и инструментария для разработки планов, а также на создание образовательных программ для повышения квалификации проектных команд в данной области. Для наиболее полного изучения темы рекомендуется проведение более обширных и глубоких исследований с руководителями проектов и их командами, работающих в различных сферах с целью выявления специфики применения того или иного подхода планирования в зависимости от специфики деятельности. В дополнение к этому, для выявления более глубоких причин использования определенных инструментов, исследователи могут применять методы интервью или фокус-групп с участниками, имеющими обширный опыт работы в проектах.

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Journalism

Журналист шығармашылығын дамытудағы интеллектінің рөлі

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Журналистиканың болашағына оның интеллектуалдық әлеуеті мен шешетін мәселелерінің шығармашылық сипаты кепіл бола алады. Бұл жерде интеллект дегенді қалай түсінген дұрыс? «Интеллект» терминінің ғылыми маңыздылығын айтпағанда, күнделікті және танымал түсіндірмелерінің өзі шексіз. Англиялық психолог Г. Айзенктің интеллект түрлері кеңінен танымал. Олар: “биологиялық - (негізінде мидің құрылымы мен орындалуы бар) оларсыз ешқандай таным процестері орындалуы мүмкін емес; “психометриялық” - IQ ақыл-ой дарындылығы көрсеткішінің коэффициентін құрайды және көбіне тәрбие мен білім беруден тәуелді; “әлеуметтік” - ақпаратты сынай отырып өңдеу, стратегияны өндіру болып табылады. Осы тұрғыдан келгенде кез-келген журналистік материал бұқаралық аудиторияға қандай да бір түрде әсер етеді. Бұқаралық ақпарат құралдары, соның ішінде радио мен теледидар-манипуляцияның күшті құралы. Бұл мәселеде жеке журналистің зияткерлік деңгейі шешуші рөл атқарады. Оның қоғамдағы беделі мен аудиторияның мойындауы журналистің интеллект деңгейіне байланысты. Журналистің беделі тек дұрыс имиджге ғана емес, сонымен бірге оның зияткерлік әлеуетіне, өзі дайындаған материалдың сапасына, сөйлеу мәдениетіне де байланысты. Журналист мамандығы оны ақпарат беруде іздеудің нәзіктігін игеруге міндеттейді. Мұндай мақсатқа жету үшін журналист үнемі оқиғалардың ортасында болады, үнемі ақпарат іздейді және өз бетімен жұмыс істейді және ақпаратты тиісті түрде жеткізеді. «Адамның сөйлеу мәдениеті сөйлеу коммуникациясы процесінде маңызды рөл атқарады, оның міндеттерінің бірі-әңгімелесушіге жақсы әсер қалдыруға деген ұмтылыс, яғни өзін-өзі таныстыру. Адамның қалай сөйлейтініне сүйене отырып, оның рухани және интеллектуалдық даму деңгейі, ішкі мәдениеті туралы қорытынды жасауға болады» (2, 21). Сыртқы түрі сияқты, журналистің сөйлеу мәдениеті аудиторияға қажетті әсер етуге көмектеседі, өз кезегінде мәдени лексикологияны тікелей эфирде қолдана білу журналистің интеллектуалды әлеуетіне байланысты. Егер журналист жағдайды білмесе, аймақта және әлемде болып жатқан оқиғалар туралы білмесе, онда аудитория алдында бір сурет жұмыс істемейді. Ресейлік ғалым В.Бойко атап өткендей: «жақсы интеллект-психикалық энергияның қуатты көзі» (1, 12). Бұл тек энергия көзі ғана емес, сонымен қатар экспозиция құралы. Аудиторияны манипуляциялау, өз кезегінде, визуалды (теледидарда) және аудио (радио) құралдармен жүзеге асырылады.

Көптеген ғылыми зерттеулердің нәтижесінде білім беру мен интеллектіні дамыту саналылық пен қисынды ойлау тұрғысынан алып қаралды. Ал, қалған адам парасатының түрі анықталмаған, пайдаланылмаған және де сондай-ақ көп жағдайда дамымаған күйде қалып келеді. Бізге бұл құпияның сырын ашқан Говард Гарднер болды. Ол өзінің: «Состояние ума: Теория о множественном интеллекте» деген кітабында көпшілікке алғаш рет адам

интеллектісінің бірнеше түрінің бар екендігі жөнінде атап көрсеткен. Ол өз кітабында бір-біріне тәуелсіз интеллектінің алты түрі бар екендігі, оның әрқайсысының жоспарлау жүйесі мен (оқуы), ақпаратты талдау (ойлау мен мәселені шешу) және мәліметтерді сақтау (ес) тәрізді өзіндік жүйесінің бар екендігін жазған.

Ол сондай-ақ, әрбір интеллект автономиялы болса да, олардың барлығы және мезгіл-мезгіл (терең саналылық дәрежесінде) бірігіп жұмыс істеуге тиіс деп атап көрсеткен.

Тәжірибелік көзқарас тұрғысынан алғанда, біздің әрқайсымызда жасырын түрде осы алты бөлек ми орталықтары бар.

Алайда, біз қанша уақыттан бері интеллектінің бір түрін ғана пайдалануға үйренгендіктен, біздің миымыздың шынайы күш-қуаты сыртынан жабық мүлде қозғалмаған күйде тұрады. Бұлардың яғни интеллектінің көптігі жөніндегі теория, көптеген ғылыми ашылулар тәрізді оның түсіндірмелі теориясы көрсетілмеген жағдайда (интуитивно) алдынала бұған дейін білетін анықталған жай ретінде қабылданады. Тек бұл сөздермен бейнеленбеген тәрізді сезіледі. Мысалы, қисынды ойлау бір қарағанда интеллект күшінің ең көбірек көрсеткіші деп қарағанда, ал көп жағдайда ашылған математикалық ғылыми жаңалықтар көп ойланып-толғанудың нәтижесінде емес, жарқ етіп жанған бір сәтте дүниеге келген.

Ал, жоғары интеллектідегі (IQ) өз қолымен ешнәрсе атқара алмайтын адамдар. Сол жоғардағы аталған, жоғары интеллект генийлеріміз автокөлік немесе су құбырларын жөндеуде сенуге мәжбүр болатын интеллекті төмен адамдар болып саналатын адамдар жөнінде не айтуға болады? Адамдардың басым көпшілігінің пікірі бойынша шығармашылық ойлау, интеллектінің маңызды түрі ретінде, мәселені қисынды шешуден кейінгі екінші орынды алады.

Интеллектінің «көптігі» теориясының жаңалығы сонда сарапшылар әлі күнге дейін нақты түрінің қанша екендігі жөнінде таласып келеді. Бірақ бәрінің бір тоқтамға келгендігі күнделікті өміріміздің басты кілті болып саналатын интеллектінің алты түрі бар:

1. Вербальный интеллект - бұл сөз жүйесін, яғни әңгіме, хат жазу, оқу және тыңдау.
2. Визуальный интеллект - көру жүйесі мен бейнелік көріністерді қамтиды.
3. Логический интеллект (қисынды ойлау) - талдау, саналы ойлауды басқару және кейбір мәселелерді шешу аспектісі.
4. Творческий (шығармашылық) интеллект – жаңалық, даралық, жарқ етіп көріну және жаңа идеяларды шығару, ойлап табу.
5. Физический интеллект - дене бітімі, координация, (тұлға, ептілік, қимыл, оңтайлы).
6. Эмоциональдық интеллект (сезім, көңіл-күй қалпы) - сезім жүйелерін жеке адамдардың және басқа адамдардың сезімі мен ішкі және өзара жеке даралай байланыс жүйесі.

Мидың әртүрлі жүйелік концепцияларының өз алдына жеке интеллектісі бар. Бұлардың барлығы да біздің тірлігімізді құрайды: (вербальный, визуальный, логический, творческий, физический, эмоциональный) араласу, көру, ойлау, шабыттану, дене, біздің өзара үйлесімді байланысымыз және сезімдеріміз. Демек осы интеллектілердің әрқайсысының бар болғаны 10 пайызын ғана пайдалану мүмкіндігіне ие болған жағдайда, интеллектуальдық күштің жалпы ұтысы - 60 пайыз ғана болады.

Егер де адам өзінің ментальдық қорларын алты интеллект бойынша дамытып жүзеге асырса, бұл сапалық секірістің 600 пайызын құрайды. Адам осы сәтте өзін жеткілікті түрде ақылды сезіне ме? Бұл сіздің жанұялық өміріңіздің үйлесімді жалғасуын қабілетті ете ме? Сіздің жұмысыңыздың сапасын көтеріп және жеке армандарыңыздың орындалуына мүмкіндік бере ме?

Мұның бәріне де жету үшін, әрбір жеке интеллектіні тұрақты түрде дамыту, яғни (физический) дене жаттығуларын тұрақты түрде дамыту бұлшық еттеріңізді шынықтырғандай болуы тиіс. Сіз алға қарай өзіңіздің ментальдық мүмкіндіктеріңізді өсіріп, интеллектуальдық атлет бола аласыз. Адам интеллектілерінің көп табиғаттылығын ашу сізді өзіңізді ментальдық бұлшық еттері дөңгеленген Сильвестер Сталлонеге ұқсатуға мүмкіндік береді.

Адамның ақылдылық қабілеттерін аша түсетін мына бағдарлама: Бұрынғы адам интеллектілерінің табиғатына деген көзқарас оқымыстыларды адасуға әкеп соқты. Осыған дейін атап көрсетілген логикалық ойлауға ала бөтен, ерекше көңіл қою сіздің шынайы интеллектілеріңізді жасырын қалдырды. Мұндай бір жақты қарау ақыл-ой қабілеттерінің дамуына үш бағытта кедергі келтірді:

1. Бір ғана логикалық интеллект қана дамытылып және мадақталды. Интеллектуальдық қабілеттің кез-келген бағасы, мектеп партасынан директорлар кеңесінің отырыс залына дейін, адам қаншалықты мәселені логикалық талдаумен иелене алады. Міне осыны негізге алып, және осы көрсеткіш негізінде оның кәсіби жарамдылығы мен қызмет бабында өсу мүмкіндіктері талқыланып талданады. Қалған интеллектінің бес түріне ешқандай да көңіл бөлінбеді, нәтижесінде орташа адамдардың интеллектуальдық күш-қуаты дамымаған және талап етілмеген күйде қалып келді. Сонымен қатар, егер адамда интеллектілердің басқа түрі дамыған болса да, - мысалы тұлғалық (физический) немесе сезім, көңіл-күй қалпы (эмоциональдық) мұғалімдер мен жұмыс берушілердің көз алдында олардың бағасы болмады.

2. Қалған интеллектінің бес түрі жеткілікті бағаланбаған және пайдаланылмаған күйде қалды. Логикалық ойлау қабілеттілігін өз бойынан анықтамаған адамдар, бірақ жеке шығармашылық, тұлғалық және эмоциональдық интеллектісі бар, талантты адамдар оның дамуына ерекше күш салмады. Мұның орнына олар өздерінің логикалық интеллектілерін дамытуға табанды түрде кірісті.

3. Ал, мұндай қабілеттерін ойлау түрінде анықтамаған адамдар, өздерінің ақылдылық және қабілеттілік жағынан басқалардан кемшіндеу санады.

Интеллектуальдық қабілетті бағалаудың стандартты әдістері үнемі төмен нәтижелер берді, олар өздерін «ақымақтармыз» немесе «аса талантты емеспіз» деп есептеді. Нәтижесінде олар өз қабілеттерінен жоғары нәтиже күтпеді, және өздерінің алдына маңызды мақсат та қоймады. Сондай-ақ жақсы нәтижеге жетеміз деп ойлаған да жоқ.

Гарднер мынаны атап көрсеткен: «менің теориямда кәсіпкерлер өте тамаша болып енді, оларды мектепте ешуақытта ақылды деп санаған жоқ, себебі олар өз уақытында символдарға жеңіл түрде қарап, көңіл қойған жоқ. Бірақ, олар басқа адамдарға және өздерінің мұғалімдері үшін де қиын болып табылатын қол жетпейтін нәрселерді жиі түсінеді».

Адам миының жұмыс істеуінің жаңа принциптерін түсіну, сізге ментальдық қорларыңызды кеңінен пайдалануға, осыған дейін пайдаланылып қозғалмаған нәрселерді іске қосуға мүмкіндік береді. Интелект табиғатының көптігін ашу сіздің тығылып жатқан даналығыңызды ашуға мүмкіндік береді. Сіз әрине маңызды үш қадам жасасаңыз:

1. Барлық интеллектінің түрін бағалайсыз да және жаттықтырасыз. Мұнан әрі қарай сіз өзіңіздің ақыл күш-қуатыңызды 6-шы бөлігімен ғана шектеп қоймайсыз. Барлық интеллектінің алты түріне мүмкіндік аласыз да, өзіңіздің ментальдық «кедергіңізді» түпкілікті жоясыз. Яғни барлық алты салада тыңғылықты түрде бір интелект түрін пайдаланудың орнына, сәйкес интеллектіні (немесе бірнеше интеллектінің түрін қоса) өзіңіз соқтығысатын қиындықты жеңу үшін пайдалануға тырысасыз.

Жаңа әдістің пайда болуы оқытушылар мен менеджерлер тестілеу арқасында логикалық интеллектіні бағалауды қайта қарауды қолға алып, интеллектінің қалған түрлерінің даму дәрежесін байқауға мән бере бастады.

2. Сіз бойыңыздағы интеллектінің басқа интеллектіден жақсы дамыған түрін пайдаланасыз. Тіпті сіз шығармашылық жағынан қабілетті болсаңыз, әлде дене ептілігіне ие болсаңыз, немесе эмоциональдық сферада қиын түйін мәселеңіз болмаса да, өз талантыңызды 100 пайызға пайдаланбаңыз. Көп интеллектілік жөнінде алған біліміңіз сізге өзіңіздегі бар күш-қуатты тиімді пайдалануға көмектеседі.

3. Расында да сіз қаншалықты ақылдысыз, бағалаңыз.

Егер сіз өзіңізді мәселелерді логикалық шешу лайық емес болғандықтан өзіңізді аса талантты емеспін деп санасаңыз, өз қабілетіңізге жаңа жағынан қарауыңыз қажет. Яғни, сізде қай интеллект бәрінен жақсы дамыған, осына жақсы түсіну, бұл дегеніңіз жеке және кәсіби өсуіңізге пайдалы қуатты құрал болып табылады. Бұл сізге, осыған дейін орындалмайтын болып көрінген және оны сіз орындау мүмкін емес деген нәрселерді сенімді түрде орындауға мүмкіндік береді.

Дэвид Ласар, Патрицкий Фиппс, Говард Гарднерлер жүргізген зерттеулер мынаны дәлелдеді:

Алты интеллектінің бар екендігін анықтаған әрбір адам, ХХІ ғасырда әлемдегі тез өзгерістің өмірге аса қажетті деген 10 шақты сапалық қасиеттерді жинақтайды. Мұндай дағдыларды қалыптастыруға күш салған адамдардың көп жағдайда толыққанда өмір сүруі мен кәсіби жетістіктері мен қоса өз армандарының орындалуы да ғажап нәрсе емес.

Есіңізде ме, сізге ақыл күш-қуатыңызды өсіру үшін ерекше таланттың қажеті жоқ. Сіз ішкі сарайыңызда даналылықтың иесісіз. Бұл сіздің мұраңыз, сіз онымен дүниеге келдіңіз. Әрбір адам миының «базалық қоры» интеллектінің алты түрі, жинау сызығынан шығып кеткен. Сіз оны күнделікті қандай дәрежеде болмасын пайдаланасыз (көп жағдайда әрине өте аз дәрежеде)

Сондай-ақ жүзу мен көлік жүргізуде берілген бағдарлама сізге туа біткен қабілеттеріңізді қалай пайдалану керектігін көрсетеді. Кімде-кім интеллектінің алты түрін тиімді пайдалануды бастаса мына нәрселерді үйренеді:

1. көңіл аударарлық есептер мен түсінікті де ұғынықты баяндау жазбаларын жазу.
2. кез-келген жағдайда нақты және сенімді түрде өз ойын жеткізу.
3. өзінің дұрыстығын қиналмай дәлелдеу
4. оқу мен қағаздық жұмыстарды қысқарту, жазбалар мен есептерді бір қарағанда меңгеру арқылы баяндау.
5. «Есте ұстау» қабілетінің мол мүмкіндігі, маңызды мәліметтерді ойша қабылдауға қабілеттілік, фактілер, сандар мен оларды елеулі уақытта еске түсіру.
6. Әдетте басқа адамдар байқамайтын жайлы мүмкіндіктер мен жауаптарды байқай білу.
7. Кез-келген кәсіптік, жеке және жанұялық жағдайда тіпті шешілуі мүмкін емес деген мәселелердің шешімін табу.
8. Жағдайды тану, яғни кімде-кім сізді алдап адастыруға немесе билеуге ұмтылған сәтте.
9. Өте жеңіл қимылдау дене дағдылары мен жаңа жұмыс түріне үйрену.
10. Аз ғана күш салып, үлкен нәтижелерге жету.
11. Басқа адамдардың нені ойлайтыны мен сезінетінін олармен сөйлеспей тұрып-ақ түсіну.
12. Жеке эмоциональдық-проблемалық эмоцияларды бақылау.

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Technical Sciences

TECHNOGENIC LOADS AND POLLUTION OF ENVIRONMENTAL ELEMENTS IN THE YASINIA TERRITORIAL COMMUNITY OF ZAKARPATTIA REGION

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Abstract. The article analyzes the existing anthropogenic impacts on the natural environment and the centers of excessive impact and pollution of environmental elements in the Yasinia territorial community of Zakarpattia region. Examples of the negative impact of intensive forestry and agriculture, the critical load of recreational and tourist activities, etc. are given.

Keywords: technogenic load, territorial community, environment, spatial development, Yasinia territorial community.

Changes in the environment and the development of hazardous processes on the territory of the Yasinia territorial community (TC) determine the general trends of its development, affect the possibilities of spatial planning and the functioning of economic activity. The location of the centers of development of negative processes should be taken into account in the strategic planning of the community, which is also reflected in the financial costs of combating them. Despite the intensive development of natural processes such as landslides, mudflows, floods, etc. on the territory of Yasinia TC, a holistic analysis of threats to community development requires an analysis of negative anthropogenic loads, the experience of which should be taken into account when making project decisions in the future.

Given the geographical location and the level of development of the Yasinia TC, several main activities can be identified that cause the greatest technogenic load, pollution of environmental elements and the concomitant development of other processes. Among them, the most environmentally threatening is long-term forestry, which is characterized mainly by logging using outdated technologies and equipment. The main forest user within the Yasinia TC is the Yasinia Forestry and Hunting Enterprise of the State Enterprise "Forests of Ukraine" with a total area of 29 511.4 hectares. It is formed of six forestries, among which the largest is Lazeshchyna forestry with a total area of 5682 hectares, of which 5 170.9 hectares (91%) are forest land [1].

Forestry on the territory of Yasinia TC is characterized by a high level of intensity, which is associated with the active development of forest areas and systematic annual forest restoration. The use of the community's forest resources is accompanied by the intensive use of exploitation forests, which, depending on the age and ecological condition of the stands, are withdrawn for

logging. For example, in 2020, 29 437 m³ of timber was cut down on the territory of the Yasinia forestry as a result of harvesting for public use [1]. Another 81 019 m³ of timber was harvested as a result of forest formation and rehabilitation logging on an area of 1426.5 hectares [1]. As a result of intensive logging, foci of strong anthropogenic pressure were formed on the community's territory, characterized by the further development of a complex of negative processes (Fig. 1).

The reduction of forest areas in the study community contributes to an increase in the rate of rainwater runoff down slopes with the accompanying development of erosion processes, intensive rise in river water levels during heavy rains and the formation of floods, etc. In addition, during the process of logging and transportation of timber, mountain streams are clogged with various wastes, wood fragments, etc. This creates a kind of congestion in water flows with the accumulation of water and waterlogged mass. During periods of intense rainfall, such areas are the main centers of mudflow formation, which systematically occur on the territory of the Yasinia community and originate in areas of logged forest. Heavy machinery and timber are also often driven along the bottoms of streams, causing severe deformation of the channels, disruption of the hydrological regime, destruction of flora and fauna, and intensification of landslide and erosion processes [2, 3].

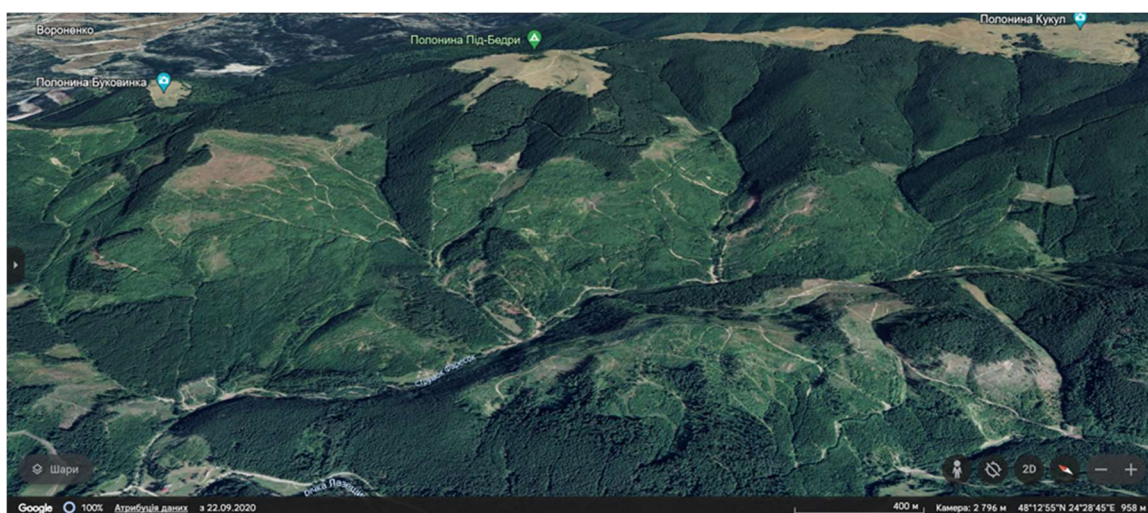


Fig. 1. Results of forest management and development of erosion processes in the upper reaches of the Lazeshchyna River basin within the Yasinia TC («Google Earth»)

Technogenic load and the development of negative natural processes in the territory of Yasinia TC are also influenced by improper agricultural practices in mountainous terrain and excessive load. Due to the mountainous terrain, most of the arable land, pastures and hayfields are located in the valley of the Chorna Tisza River and its main tributaries. Their formation is secondary to the long-term development of the area and the cutting of natural forests. The deprivation of natural vegetation and improper plowing along the slopes composed of soft mudstones in the Yasinia Valley contribute to the development of linear erosion and landslides, mainly during periods of intense summer rains. Related erosion processes and mudflow formation also occur in the highlands of the community in areas of excessive pressure from the pastoral (mountain meadow) economy, which in the past was one of the leading industries in the region. Today, the largest mountain meadows in the community are Shumnieska, Holovcheska, Shysa, Menchul, Tatul, etc.

The illegal extraction of pebbles from the channel of the Chorna Tisza River and its tributaries has a favorable impact on the intensification of erosion processes and landslides in the densely populated coastal areas of Yasinia and other settlements. As a result, the process of bank erosion (lateral erosion) is developing here, accompanied by landslide processes and the loss of

valuable residential and public land. This also leads to an increase in the destructive impact of floods on the coastal areas of villages, increasing the level of danger for the local population.

One of the most environmentally friendly uses of natural resources is organized recreational and tourist activities. It is the main area of potential community development, given the presence of unique natural objects, a set of natural conditions favorable for tourism, and the availability of the necessary primary infrastructure. However, the locations with the highest recreational load also require constant monitoring for the development of negative processes. For example, the intensive development of erosion and degradation of soil and vegetation cover often becomes threatening in areas of excessive use of ski slopes and slopes, improper operation and maintenance. Such processes are intensively manifested at the Drahobrat ski resort. Currently, there are about 70 hotels and 11 ski lifts with a total length of 8 550 meters [5]. The two longest cable cars are 1 500 and 1 200 meters long [5]. The layout of Drahobrat as a settlement remains rather chaotic, and the houses are located in an unplanned manner. They are not isolated, located near streams or even on wet ground.

The greatest anthropogenic pressure on the natural environment and pollution of the Yasinia TC territory is observed directly within the settlements - Yasinia town, Lazeshchyna, Chorna Tisza villages, etc. The highest concentration of air and water pollution is observed here. The settlements of the Yasinia community also lack centralized water supply and sewage, which causes pollution of river waters by domestic wastewater [4, 7]. In the upper reaches of the Lazeshchyna River basin, there is also a solid waste landfill in close proximity to the river, as well as the fact that only 8% of the population living there is provided with household waste collection [8]. As a result, the river banks become dumping grounds for household waste, which flows and accumulates in the lower reaches of the Tisza River during floods. Under the influence of high levels of flood waters, significant coastal areas are also scattered along the riverbed [8].

The Chorna Tisza river valley also has the highest pollution with heavy metals, oil products, etc. Heavy metals are found even in the snow cover [6, 11, 12]. This is the result of the location of the main road infrastructure and the traffic load. The construction of a road and a railway on the banks of the mountainous Chorna Tisza River contributes to the intensification of landslide processes in the area of the Kevelevo village, where the river flows through a narrow valley between the slopes of Chornohora and Svydovets. Their cutting in some places causes a loss of slope stability, which, under the influence of gravity, begins to shift, collapse and fall off towards the riverbed.

Since the establishment of the Yasinia TC, the main task of local authorities has been to find effective management tools and establish a strategy for systemic community development in the economic, social and cultural spheres. The development of the territorial community is closely dependent on the efficient use of natural resources, the establishment of local economy and production. An important aspect of the development of the Yasinia community is to improve its territorial organization and balance the environmental situation.

Today, the administration of Yasinia TC is actively working on developing a common vision of the community's development. The main current document on the economic, social and environmental development of the community is the Strategic Development Plan of Yasinia TC for 2023-2027, which is the main guideline for planning the directions of community development, as well as for determining the criteria for selecting and evaluating individual projects to achieve strategic goals [9]. It was developed at the initiative of the Yasinia Village Council and with the support and assistance of the U-LEAD with Europe Program. This document is the main guideline for planning the directions of community development, as well as for determining the criteria for selecting and evaluating individual projects to achieve strategic goals [9].

A new basic document for the development of the Yasinia TC is currently being formed. In particular, on April 25, 2023, a Working Group was established to formulate a task for the

development of a Comprehensive Plan for the Spatial Development of the Territory of the Yasinia Settlement Territorial Community [10]. Its purpose is to develop master plans for settlements and planning decisions for detailed territory plans [10]. The meeting of the working group considered the issues of approving the materials of the conditions analysis and developing scenarios for the spatial development of Yasinia TC. On August 5, 2023, a Strategic Session was held to formulate a task for the development of a Comprehensive Spatial Development Plan for Yasinia TC for the purpose of public discussion and identification of promising locations for the placement of important development facilities, as well as the identification of priority spatial development solutions. Its main visions by local communities are presented in the form of a map. As a result, the main scenario for the development of the community we studied was tourism on the basis of preserving the cultural and environmental self-identification of the region [10]. However, the SWOT-analysis of the Yasinia community revealed that the local population is concerned about the threats of hazardous natural processes, various man-made pressures and environmental pollution.

To ensure the balanced development and safety of the population of Yasinia TC, it is necessary to develop a monitoring system for the manifestations and permanent centers of development of hazardous processes of natural and man-made origin. It should include expeditionary field surveys and routine monitoring observations with modeling elements:

- 1) conducting a field survey of the largest centers of negative processes;
- 2) mapping of the development centers based on detailed landscape surveys of the territory;
- 3) introduce periodic monitoring of process centers (landslides, collapses, mudflows, avalanches, drying out, etc.) outside of settlements;
- 4) development of a system of routine monitoring of the main centers of landslide and landslide-slide processes within settlements;
- 5) modeling of the areas of actual and potential spread of hazardous processes in the community.

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КОНСТРУКТИВНЫЕ ОСОБЕННОСТИ МОДЕЛИРОВАНИЯ КОРПУСНЫХ ДЕТАЛЕЙ ПРИ ЭКСПЛУАТАЦИИ

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Аннотация

В данной статье рассматриваются конструктивные особенности корпусных деталей, их эксплуатационные свойства при воздействиях внешних факторов.

Корпусные детали предназначены для размещения в них сборочных единиц, деталей и механизмов. Они являются базовыми деталями и должны обеспечивать постоянство точности относительного положения деталей и механизмов, как в статическом состоянии, так и в процессе эксплуатации конструкции. Поэтому они должны обладать достаточной жесткостью.

Процесс создания корпусных деталей с учетом его эксплуатационных характеристик и служебного назначения до получения в готовом виде подразделяют как основу проектирования и процесс изготовления.

В настоящей работе рассмотрены теоретические и технологические аспекты связанные с производством деталей типа Кронштейн используемых для подъемно панельных работ.

Ключевые слова: корпусные детали, кронштейн, технологический процесс, эксплуатационные свойства, стойкость, ресурс

Стратегия развития машиностроения предусматривает внедрение новейших технологий с возможностью замены оборудования, постепенное накопление опыта его производства, а затем развитие приоритетных технологий.

Корпусные детали имеют определенную общность служебного назначения, что означает наличие совокупности одинаковых поверхностей, сторон и что в свою очередь определяется особенностью технических решений, обеспечивающих достижение требуемых параметров точности при изготовлении деталей каждой группы. Конструкция и размеры корпусов определяются условиями размещения в них необходимых деталей и узлов. Поэтому они имеют стенки, ребра, перегородки или арматуру, обеспечивающие повышение их жесткости. Имеются корпуса с гладкими цилиндрическими поверхностями, протяженность которых превышает их диаметральный размеры. При этом к внутренним цилиндрическим поверхностям предъявляют повышенные требования по точности диаметральных размеров и точности геометрической формы с высокими требованиями по шероховатости.

Такие детали имеют основные базирующие поверхности, как правило, в виде плоскостей. С помощью этих поверхностей они присоединяются к другим деталям — рамам, станинам, корпусам. Имеются вспомогательные базирующие поверхности — поверхности отверстий и плоскостей, а также их сочетания [1].

Механическая обработка корпусных заготовок сводится главным образом к обработке плоскостей и отверстий, поэтому технологические требования, обуславливающие наименьшую трудоёмкость обработки, определяют следующими основными условиями:

1. Форма корпусной детали должна быть, возможно, ближе к правильной геометрической форме, например, в поперечном сечении предпочтительнее форма правильного четырёхугольника; форма корпусной детали должна так же предусматривать возможность ее полной обработки от одной базы: от плоскости и двух установочных отверстий на этой плоскости или от базовых отверстий в корпусе;
2. Обработка плоскости и торцов отверстий по возможности должна выполняться на проход, для чего плоскости и торцы не должны иметь выступов; торцам отверстий необходимо придать удобную форму для обработки торцевой фрезой;
3. Корпусная деталь не должна иметь поверхностей не перпендикулярных осям отверстий;
4. Точно растачиваемые отверстия не должны иметь внутренних выступов, препятствующих растачиванию на проход; диаметры обрабатываемых отверстий внутри корпусных деталей не должны превышать диаметров соосных им отверстий в наружных стенках деталей;
5. В корпусных деталях следует избегать разнообразия отверстий и резьб [2].

Эксплуатационные свойства корпусных деталей характеризуется способностью материала работать в конкретных условиях. В каждом конкретном случае будет свой набор эксплуатационных характеристик. Для машины, работающей на крайнем севере, это будут одни характеристики, детали ракетных двигателей должны иметь другие характеристики.

Надежность и долговечность машин зависит от эксплуатационных свойств их деталей и соединений - статической, усталостной и контактной прочности, коррозионной стойкости, герметичности, износостойкости, прочности посадок и др. Указанные свойства, в свою очередь, зависят от механических свойств материалов, точности размеров деталей, параметров качества их поверхностного слоя и условий эксплуатации.

В последние годы сформировалось целое направление исследования поверхностного слоя - инженерия поверхности изображенная на рисунке 1.

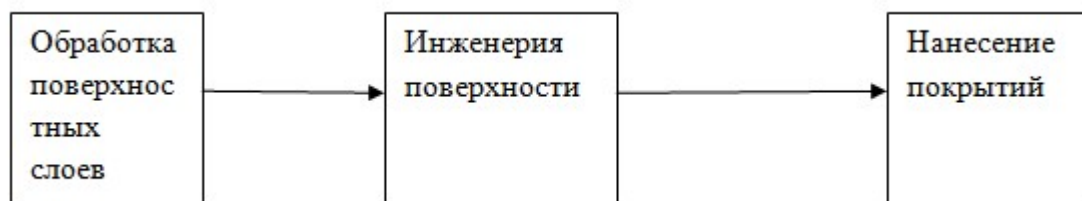


Рисунок 1 – Направления инженерии поверхности

Анализируя условия функционирования детали и технические условия на изделие, конструктор определяет эксплуатационные свойства деталей и их допустимые пределы изменения. На основе анализа определяются материал детали, размеры, допуски, параметры качества поверхностного слоя и оптимизируются эксплуатационные свойства детали. Решение этих задач возможно расчетно-аналитическим, экспериментальным или опытно-статистическим способом.

Расчетно-аналитический способ заключается в расчете механических свойств детали, точности ее размеров, взаимного расположения поверхностей и параметров качества поверхностного слоя детали, исходя из необходимости обеспечения требуемых эксплуатационных свойств.

Экспериментальный способ предусматривает окончательный выбор материалов для изготовления деталей, допусков, качества поверхностного слоя на основе испытаний опытной серии машин.

Опытно-статистический способ базируется на основе опыта конструктора и справочных данных.

Результаты решения задачи конструктора являются частью исходных данных задачи технолога. Исходя из условий производства (наличие соответствующего оборудования, оснастки, инструмента, типовых техпроцессов и т. д.) технолог выбирает экономически целесообразные методы изготовления. При этом учитывается взаимосвязь погрешности размеров с условиями обработки: точность оборудования, тип инструмента, режимы обработки.

На этапе производства формируется поверхностный слой детали, имеющий заданные параметры качества.

Для улучшения показателей качества проводят теоретические и экспериментальные исследования по установлению взаимосвязи эксплуатационных свойств деталей машин с условиями их обработки.

В настоящее время ведутся теоретические работы по физическому и математическому описанию формирования эксплуатационных свойств деталей в процессе их обработки. Кроме обеспечения эксплуатационных свойств деталей машин часто возникает необходимость повышения их уровня. Можно выделить четыре основных направления решения данной задачи:

- совершенствование существующих методов обработки;
- управление качеством криволинейных поверхностей трения;
- модификация поверхностных слоев деталей;
- разработка новых методов обработки;
- создание инструментов и оснастки на основе объединения проектирования, изготовления, эксплуатации, ремонта и восстановления деталей в единый технологический процесс.

При разработке индивидуальных технологических процессов изготовления детали получают огромное количество технологической документации и оснастки, причем во многих случаях технологические процессы и оснастка незначительно отличаются друг от друга, так как в номенклатуре завода или цеха всегда имеется много однотипных и близких по конфигурации деталей.

Исследуемая корпусная деталь Кронштейн по своим конструктивным признакам относится к классу сложнопрофильных деталей. Кронштейн представляет собой корпусное Т-образное тело малых габаритов с тремя отверстиями $\varnothing 14$ мм, выемками для облегчения массы детали, пазами шириной 14,6 и 36 мм для размещения элементов других деталей в сборке, тремя отверстиями $\varnothing 1,5$ мм для контровки гаек в сборке. Форма детали образована сочетанием простых поверхностей (плоских, цилиндрических) и сложных поверхностей (контур детали, выемки, сопряжения).

Сопряжения поверхностей детали необходимы для предотвращения образования усталостных трещин, так как деталь работает в условиях знакопеременных нагрузок.

Кронштейн устанавливается в раму по поверхностям 1' (27h12 мм), 2' (14,6H9 мм), 3' ($\varnothing 14$ H8 мм) (рисунок 2). Эти поверхности являются основными конструкторскими базами. Также конструкторскими базами являются поверхности 1 (56h12 мм), 2 (36H9 мм), 3 ($\varnothing 14$ H8 мм). По ним происходит соединение кронштейна с тягами в сборке. К этим поверхностям предъявляются повышенные требования как по точности выполнения размеров и точности взаимного расположения (неперпендикулярность поверхностей 3 и 3' относительно поверхностей 1 и 1' не более 0,05), так и качеству поверхности (Ra1,6 для поверхностей 1, 2,

3, 1', 2', 3'). В то же время эти поверхности просты и достаточно протяженны. Это позволяет использовать их в качестве технологических баз на завершающей стадии обработки.

Рабочими поверхностями изделия являются внешние и внутренние плоские поверхности 1, 1', 2, 2' и внутренние цилиндрические поверхности 3, 3'. Неуказанные предельные отклонения допусков: отверстий H14, валов h14, остальные $\pm \frac{IT14}{2}$.

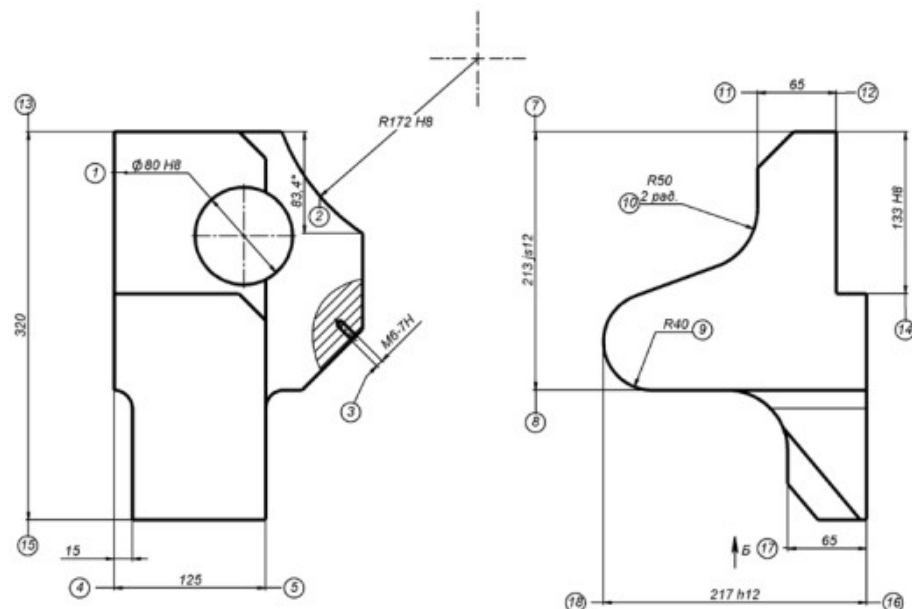


Рисунок 2 –Эскиз детали Кронштейн

При выборе способа получения отливки необходимо соотносить возможности каждого способа литья и требования, предъявляемые к литому изделию: размерная точность, шероховатость поверхности, механические и эксплуатационные свойства, структура отливки, допустимые дефекты.

Литое изделие "Кронштейн" имеет массу 15 кг и габаритные размеры 230×160×175 мм.

Данные требования могут быть обеспечены следующими способами литья: литьем в кокиль, литьем в керамические формы, литьем по выплавляемым моделям, литьем в песчано-глинистые формы. Поскольку отливка подлежит механической обработке, её нецелесообразно получать литьем в кокиль из-за относительно низкой стойкости кокилей. Литьем в керамические формы и литьем по выплавляемым моделям можно получать сложные отливки практически из любых сплавов. При этом достигается высокая геометрическая и размерная точность изделия, чистая поверхность при минимальных припусках на механическую обработку.

Маршрут обработки корпусной детали включает в себя следующие основные этапы: обработку поверхностей, используемых в качестве технологических баз при последующей обработке; взаимосвязанных плоских поверхностей; основных и крепежных отверстий; отделочную обработку плоских поверхностей; отделку основных отверстий. Каждый этап состоит из нескольких операций в зависимости от вида обрабатываемых поверхностей и требований по точности. В некоторых случаях в маршрут включают старение между черновой и чистовой обработкой.

Исследователями уже давно было замечено, что многие эксплуатационные характеристики машин зависят от состояния поверхностного слоя составляющих корпусных деталей.

Поверхностный слой после обработки резанием существенно отличается от основной массы металла, так как под действием инструмента его твердость и кристаллическое

строение изменяются. Толщина дефектного поверхностного слоя зависит от материала заготовки, вида и режима обработки и др. От качества поверхности зависят следующие эксплуатационные характеристики деталей: износостойкость поверхностей трущихся пар, характер посадок подвижных и неподвижных соединений, усталостная или циклическая прочность при переменной нагрузке, противокоррозионная стойкость поверхности и др.

После механической и некоторых видов термической обработки появляются микротрещины. При нагружении деталей, особенно при знакопеременной нагрузке, микротрещины объединяются и разрастаются. В результате деталь теряет свои эксплуатационные свойства [3].

При исследовании механической прочности элементов детали Кронштейн с использованием метода конечных элементов (МКЭ), что является важным шагом в обеспечении надежности и долговечности детали. МКЭ представляет собой численный подход, используемый для анализа и моделирования поведения материалов и структур при различных механических нагрузках. Вот основные этапы исследования элементов детали Кронштейн на механическую прочность с использованием МКЭ: создание геометрической модели, преобразование геометрической модели в сеточную модель, состоящую из конечных элементов, выбор зоны крепления детали к опоре, придать нагрузку. При этом получаем следующие результаты исследования:

1 Разработка трехмерной геометрической модели;

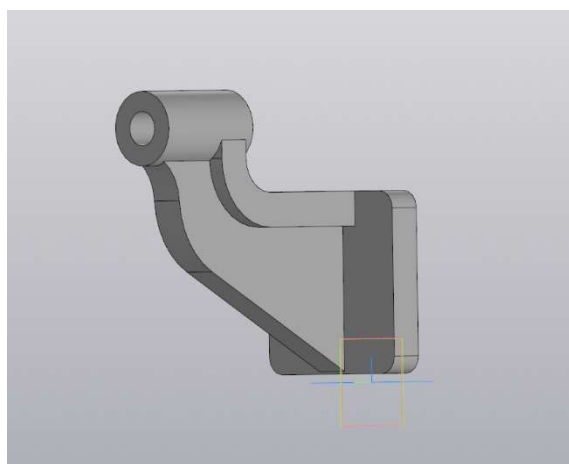


Рисунок 3 – Трехмерная геометрическая модель детали Кронштейн

2 Использование метода преобразование геометрической модели в сеточную позволит сделать точные расчеты на деталь или узел, распределяя необходимые нагрузки равномерно в указанных сетках. В данном расчете мы указали размер сетки в 1 мм. Это самый точный размер для расчета;

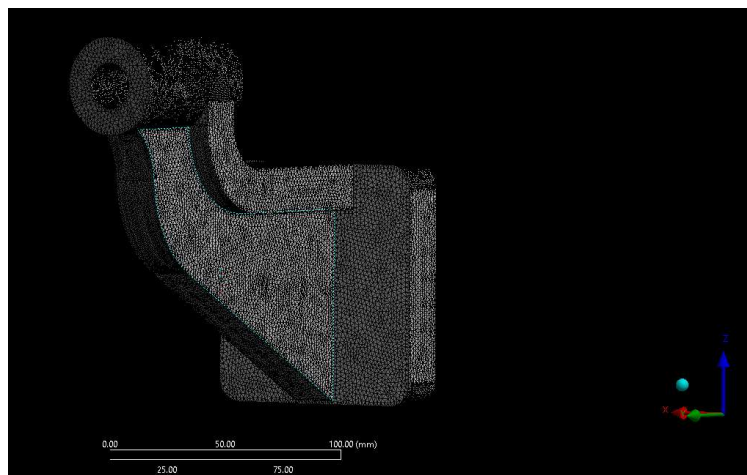


Рисунок 4 – Сеточная модель детали

- 3 Указать зону крепления детали к опоре или другой ее части;

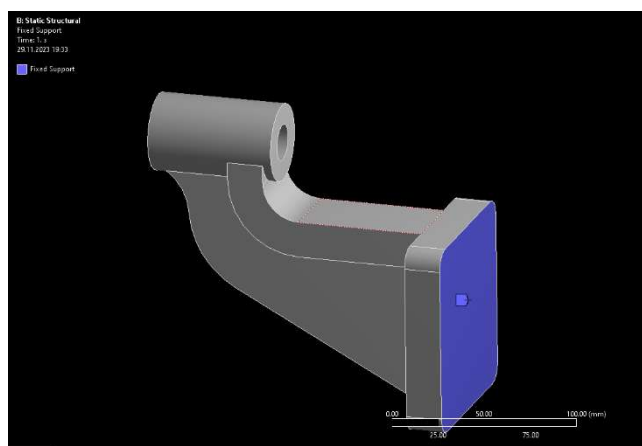


Рисунок 5 – Точка опоры детали

- 4 В данном расчете придаем нагрузку в размере 10 кН.

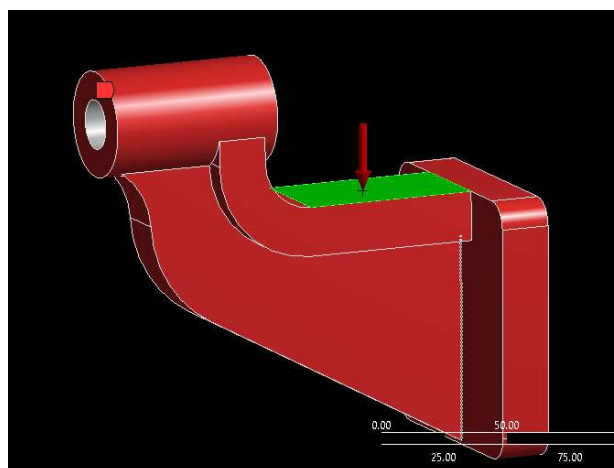


Рисунок 6 – Нагрузка на точку опоры

Результаты после подачи нагрузки на данный узел выдержал испытания на 100 %. Максимальная деформация в 0,03 мм. Ниже указано диаграмма изменения узла.

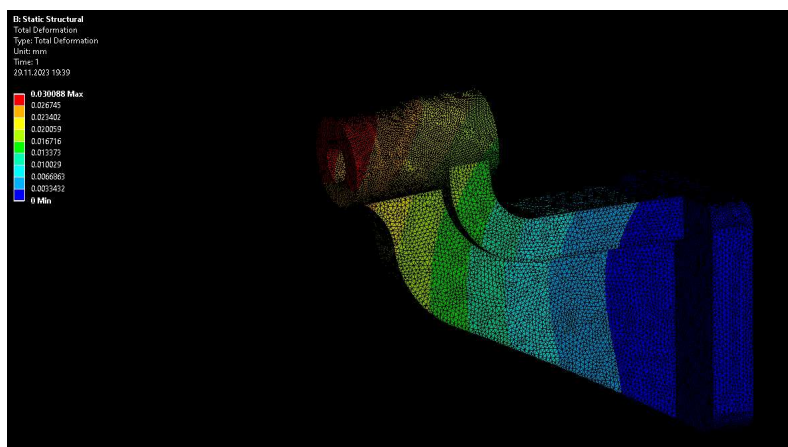


Рисунок 7 – Эквивалентное напряжение конструкции

Очевидно, что для точного анализа динамической прочности необходимо сосредоточиться на напряжённо-деформированном состоянии конструкции. Минимальное и максимальное распределение напряжений конструкции по Мизесу показано в соответствии с рисунком 8. Данное распределение напряжений является характерным на всём цикле нагружения. Результаты после подачи нагрузки на данный узел выдержал испытания на 100 %. Максимальная деформация в 0,03 мм. Ниже указано диаграмма изменения узла.

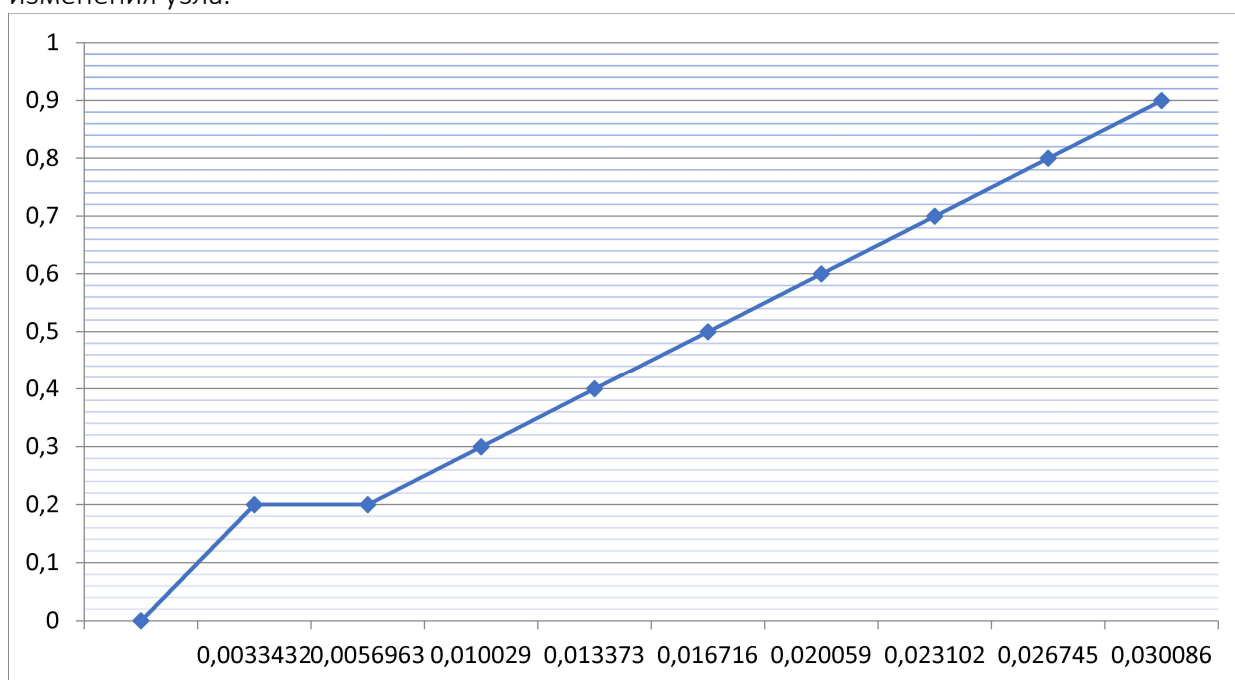


Рисунок 8– Распределение напряжений при максимальном значении напряжения конструкции от времени

Из рисунка 7 следует, что наиболее напряжённой является область конструкции, показанная в соответствии с рисунком 8 на показателе 0,030086 кН.

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ЦЕНА КАК ЭКОНОМИЧЕСКАЯ КАТЕГОРИЯ В ПЕРЕХОДНЫЙ ПЕРИОД

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Ценообразование на рынке логистических услуг являются одним из ключевых элементов рыночной экономики. Цена – сложная экономическая категория. В ней пересекаются практически все основные проблемы развития экономики, общества в целом. В первую очередь это относится к производству и реализации товаров, формированию их стоимости, к созданию, распределению и использованию ВВП и национального дохода.

Существуют две основные теории цены. По мнению сторонников одной теории, цена товара выражает его стоимость. Сторонники другой теории считают, что цена товара представляет собой сумму денег, которую покупатель готов заплатить за товар определенной полезности. Отсюда цена – денежное выражение стоимости товара.

В отличие от цены, ценообразование представляет собой процесс формирования цены на товар или услугу. Имеют место в основном две системы ценообразования:

- 1) централизованное, которое предполагает формирование цен государственными органами на основе издержек производства
- 2) рыночное, основанное на базе взаимодействия спроса и предложения.

Чем же определяется размер цены товара? Это самый сложный вопрос экономической теории, который до сих пор вызывает ожесточенные споры двух диаметрально противоположных школ.

Наиболее последовательным сторонником стоимостной теории цены является К. Маркс с его учением об абстрактном труде как объективной субстанции стоимости. Сущность этой концепции заключается в следующем: товар имеет стоимость и цену.

Стоимость – это воплощенные в товаре общественно полезные затраты труда, но не всякие, а только соответствующие средним (для данного периода) условиям, умелости и интенсивности труда. А поскольку всякий товар есть результат труда, то это делает все товары качественно однородными, а, следовательно, сопоставимыми и соизмеримыми. При таком подходе труд, воплощенный в товарах, также становится качественно однородным, трудом «вообще», лишенным конкретики. В экономической теории такой труд принято называть абстрактным.

Таким образом, отношение стоимостей различных товаров отражает отношение представленных в них величин абстрактного труда. Эти величины и определяют объективные пропорции обмена товарами (или купли-продажи).

Что же касается цены товара, то она есть денежное выражение его стоимости. Цена отдельного товара может отклоняться от его стоимости под влиянием случайных рыночных факторов.

Таким образом, теория Маркса усматривает в стоимости объективную основу цены, тем самым различая стоимость и цену.

Другая концепция объясняет цену товара суммой денежных затрат в наилучшем варианте использования производственных ресурсов. В этом случае рыночная цена товара зависит не столько от затрат изготовителя, сколько от оценки полезности таких затрат покупателем. При этом цена является самостоятельной вне стоимостной величины, для определения которой оценка покупателя более значима, чем затраты производителя. Цена «освобождается» от стоимости, для объяснения цены в ней нет необходимости.

В итоге спор между изложенными концепциями сводится к следующему: что же определяет цену товара – «предложение» (стоимость) или «спрос» (полезность)? Является ли полезность товара «функцией» его стоимости или, напротив, стоимость есть «функция» полезности товара?

Современная экономическая теория не оставляет надежды синтезировать оба подхода к ценообразованию, совместив в цене «объективность» (стоимость) и «субъективность» (полезность) товара.

Однако бесспорным является положение о том, что количественное определение затрат на производство и реализацию товаров и услуг было и остается объективной потребностью и реальностью в любой общественно-экономической формации. Ведь очевидно, что объективный процесс формирования затрат в условиях рыночных отношений происходит на базе рыночных цен и требует возмещения всех расходов, связанных с осуществлением процессов производства и реализации товаров за счет доходов, полученных от их продажи.

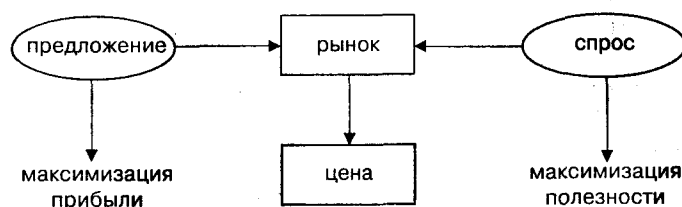
Фирмы, не обеспечивающие такие условия, разоряются и гибнут, а их место занимают другие фирмы, которые имеют более низкие затраты на производство и реализацию товаров. Они получают более высокие доходы, обеспечивающие им условия для осуществления нормального процесса воспроизводства.

На рынке встречаются продавцы и покупатели, отстаивающие противоположные интересы.

Продавцы имеют цель продать свои товары и при этом получить по возможности как можно большую цену и прибыль. Но так как каждый из продавцов приходит на рынок с одним и тем же намерением, между ними возникает конкуренция. Покупатели, в свою очередь, заинтересованы в приобретении нужных им товаров с как можно большей полезностью и низкой ценой. Выравнивание интересов продавца и покупателя осуществляется через цену, которая на рынке формируется путем взаимодействия спроса и предложения. Цена выравнивает соотношение спроса и предложения и является тем компромиссом, который достигается между продавцом и покупателем.

Таким образом, рынок – это экономический процесс, который путем столкновения интересов продавцов и покупателей (спроса и предложения) приводит к образованию цены.

Рынок можно выразить следующей элементарной схемой:



Из представленной схемы можно сделать такой принципиальный вывод: цена занимает центральное место в рыночных отношениях, сглаживая противоположные экономические интересы продавца и покупателя, приводя в соответствие спрос и

предложение. Ценообразование, являясь одним из основных звеньев рыночной экономики, выступает не только гибким инструментом, но и важным рычагом управления.

Рынок и цена – категории, обусловленные товарным производством. При этом первичным является рынок, что объясняется так: при товарном производстве экономические отношения проявляются главным образом не в самом процессе производства, а через рынок. Именно рынок является основной формой проявления товарно-денежных отношений и стоимостных категорий.

Установление цен на новый товар. Стратегический подход фирмы к проблеме формирования цены во многом зависит от этапа жизненного цикла товара. Особенно большие затруднения имеет этап выдвижения на рынок нового товара. Существует различие между определением цены на подлинно новый товар, защищенный патентом, и товар-имитатор, аналогичный уже имеющимся на рынке товарам.

Установление цены на подлинную новинку. Фирма, выступающая на рынке с новинкой, защищенной патентом, устанавливает на нее либо цену «снятия сливок», либо цену внедрения на рынок.

При стратегии снятия сливок многие фирмы, создающие новинки на основе крупных изобретений или результатов НИОКР, когда издержки освоения и внедрения на рынок нового товара (реклама и другие средства продвижения товаров к покупателю) оказываются для конкурентов слишком высокими, когда нужные для выпуска нового товара сырье, материалы и комплектующие изделия имеются в ограниченном количестве или когда довольно трудной является реализация новых товаров (в случае, если склады торговых посредников переполнены, рыночная конъюнктура вялая и фирмы оптовой и розничной торговли неохотно заключают новые сделки на покупку товаров), сначала устанавливают максимальные цены, чтобы снять «сливки» с разных сегментов рынка. При этом фирмы стремятся максимизировать прибыль до тех пор, пока новый рынок не станет объектом конкуренции. Метод «снятия сливок» имеет преимущество при следующих условиях: 1) имеется высокий уровень спроса большого числа покупателей; 2) издержки производства не настолько высоки, чтобы свести на нет прибыль фирмы.

Используя стратегию внедрения на рынок, фирма, наоборот, устанавливает на товар-новинку относительно низкую цену с целью привлечь большее число покупателей и завоевать большую долю рынка. Примером такой стратегии может служить покупка большого предприятия, установление на товар минимально возможной цены, завоевание большей доли рынка, снижение издержек производства и по мере их уменьшения продолжение постепенного снижения цены. С чисто финансовой точки зрения положение фирмы, использующей данный подход, может характеризоваться как увеличением массы прибыли и дохода на вложенный капитал, так и значительным снижением рентабельности. Однако, применяя низкие цены, руководство фирмы должно максимально точно определить возможные экономические последствия этого. Но в любом случае риск весьма велик, так как конкуренты могут быстро отреагировать на низкие цены и также существенно снизить цены на свои товары. При анализе рынка и составлении прогноза сбыта фирме, выступающей на рынке с новым товаром по цене ниже средней, необходимо также принимать во внимание, что размер понижения цены на ее изделие должен быть довольно существенным (30–50%), даже при значительно более высоком качестве товара, и при наличии на рынке множества потребителей, которые готовы заплатить повышенную цену за товары повышенного качества или более высокого технического уровня. При этом не имеет значения, идет ли речь о выходе фирмы на новый для нее рынок сбыта или о внедрении на достаточно известный рынок нового изделия. В любом случае политика фирмы должна быть примерно одна и та же – за счет значительно более низких цен внедриться на рынок, приучить покупателя к марке своей фирмы или показать ему преимущества своего товара и

обеспечить фирме достаточную долю рынка. Лишь после того, как товар получил признание на рынке и началась его реклама среди покупателей, фирма может приступить к пересмотру своей производственной программы и цены на товар в сторону их роста.

Установление низкой цены дает эффект при следующих условиях:

- рынок очень чувствителен к ценам, т.е. спрос эластичен от цены;
- с увеличением объемов выпуска издержки фирмы снижаются;
- пониженная цена не привлекает конкурентов.

Установление цены на новый товар-имитатор. В настоящее время установление цен на товары и услуги, уже имеющиеся на рынке, не может осуществляться без постоянного совершенствования технических показателей изделия и повышения его качества. Эти изменения должны производиться с учетом запросов и предпочтений отдельных групп покупателей. Ясно, что качественное совершенствование уже имеющихся на рынке товаров может осуществляться лишь с учетом интересов конкретных покупателей. При этом улучшение качества сопровождается ростом издержек производства, а значит, и повышением цен на товары. Чтобы добиться успеха в конкуренции, руководству фирмы необходимо разработать стратегию, обеспечивающую постоянное понижение цен на традиционные для данного сегмента рынка товары и услуги.

В условиях рынка фирма обязана одновременно решать две задачи: во-первых, постоянно повышать качество и улучшать потребительские свойства уже имеющихся на рынке товаров и, во-вторых, непрерывно понижать цены на них. Для этого необходим радикальный пересмотр систем управления и организации производства. Однако без маркетинга решить эти задачи невозможно. Важно правильно определить общий подход к ценообразованию на конкретные виды товаров для конкретного сегмента рынка. От того, насколько правильный подход к ценообразованию выбрало руководство фирмы, зависит не только ее конкурентоспособность на рынке, но и способность обеспечить рентабельность производства при снижении цен, а значит, и длительная устойчивость финансового положения фирмы.

При планировании разработки нового товара-имитатора фирма сталкивается с проблемой его позиционирования. Она обязана принять правильное решение о позиционировании товара-имитатора по показателям качества и цены.

Если действующий лидер на рынке занимает положение № 1, т.е. выпускает товар с премиальной наценкой и реализует его по максимально высокой цене, фирма-новичок, возможно, будет проводить одну из остальных стратегий. Она может изготовить товар высокого качества и установить на него среднюю цену, но может произвести товар среднего качества и установить на него среднюю цену и т.д. Фирма-новичок обязана изучить объемы и темпы роста рынка для каждой из девяти позиций таблицы и конкурентов в каждой из этих позиций.

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Установка для термической обработки железобетонных изделий и конструкций с использованием солнечной энергии

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Аннотация. В данной статье рассматриваются работа установки для термической обработки бетонных и железобетонных изделий с использованием солнечной энергии. Для ускорения скорости затвердевания сборных железобетонных изделий производится термообработка. В работе дано описание термообработки бетонных и железобетонных изделий, режимов термообработки, использования термоаккумулирующих материалов в строительстве была разработана конструкция камеры для термообработки бетонных изделий и конструкций. Особенность этой работы в том, что разработанной конструкцией камеры в том, что в нем размещаются также панели с товарным парафином. Предлагаемая нами конструкция установки с теплоаккумулирующим материалом по сравнению с традиционными гелиоустановками имеют более простую конструкцию, которая обеспечивает длительное равномерное, высокотемпературное нагревание бетонного изделий и обеспечивается энергоэффективная термообработка. Солнечная радиация в теплоаккумулирующем материале происходит накопление тепловой энергии за счет его фазового перехода из твердого в жидкое состояние.

Ключевые слова: термическая обработка бетона, гелиокамера, железобетонные изделия и конструкций, теплоаккумулирующий материал, жидкий парафин, солнечная энергия

Строительство-одна из наиболее энергоемких отраслей народного хозяйства, поэтому производство бетона в качестве основного строительного материала связано с расходом значительного количества материально-технических и топливно-энергетических ресурсов. При этом 35% от общего потребления топливно-энергетических ресурсов при производстве бетонных и железобетонных изделий и конструкций приходится на районы с благоприятными условиями для использования солнечной энергии при их изготовлении. Поэтому вопрос использования солнечной энергии в технологии производства бетона, изделий и конструкций из него представляет в первую очередь большой практический и научный интерес на ее энергоемкой стадии - стадии готовой обработки с использованием тепловой энергии низкого потенциала (до 100°C) [1].

В настоящее время в стране и за рубежом проведены значительные исследования и имеется опыт по использованию солнечной энергии для теплообработки сборных железобетонных изделий и конструкций [2-5]. Разработаны технологии, установки и камеры для термообработки строительных изделий и конструкций, а также установки, способствующие повышению эффективности использования солнечной энергии для термообработки, обеспечивающие равномерный нагрев строительных изделий без снижения их качества [6-8]. Однако на сегодня вопрос эффективности применения

различных гелиокамер и установок полностью не решен. В существующих технологиях в процессе нагрева бетонного изделия поток солнечной радиации воздействует не на бетон, а на солнечные приемники с промежуточным охлаждением (вода, масло и т.д.) [9,10]. Обычно предполагается, что происходит не солнечная термическая обработка изделий и конструкций, а термическая обработка их с использованием теплоносителя, нагретого солнечной энергией. Однако, анализ зарубежного опыта показывал, что использование промежуточных охладителей в виде воды или масла имеет очень серьезные недостатки из-за больших теплотерь и низкой эффективности [11-13]. По этой причине применение гелиотехнологий в производстве сборного бетона не получило широкого распространения за рубежом.

В СНГ этот вопрос тщательно изучен, предложена технология применения методов прямого использования солнечной энергии для производства сборных изделий на полигонах, используются гелиоформы с различными прозрачными и солнечно-восприимчивыми покрытиями [14-16]. Однако существующие гелиоустановки и камеры имеют ряд недостатков: сложность конфигурации, низкая производительность, низкая эффективность теплоаккумулирующего материала, неравномерный прогрев обрабатываемого крупногабаритного изделия, что снижает их качество.

Перспективным и экономически целесообразным направлением в вопросе термообработки бетона и изделий из него применением солнечной энергии является разработка эффективных теплоаккумулирующих и комбинированных систем и гелиоустановок [17].

В соответствие с поставленной задачей была разработана конструкция теплоаккумулирующей гелиоустановки для термообработки бетонных и железобетонных изделий с использованием солнечной энергии. В качестве аккумулятора тепла в установке использован товарный парафин.

С целью оценки эффективности работы камеры с теплоаккумулирующим материалом были проведены эксперименты по изучению режима термообработки бетонных изделий и конструкций в сравнении с традиционной гелиокамерой.

На основе изучения опыта термообработки бетонных и железобетонных изделий, режимов термообработки, использования термоаккумулирующих материалов в строительстве была разработана конструкция камеры для термообработки бетонных изделий и конструкций [17]. Задачей разрабатываемой установки является повышение эффективности использования солнечной энергии для термообработки изделия, обеспечение равномерности прогрева крупногабаритных изделий и повышение их качества, повышение теплоаккумулирующей способности установки.

Технический результат достигается тем, что в установке используется теплоаккумулирующая панель с фазопереходным теплоаккумулирующим материалом из товарного парафина, которая повышает эффективность, теплоаккумулирующую способность, а также эффективно регулирует тепловой режим в гелиокамере установки.

В соответствии с рисунком 1 показана установка для термической обработки бетонных и железобетонных изделий с использованием солнечной энергии, которая состоит из камеры (1). Стенки камеры из двойного светопрозрачного материала (2), в камере размещается панель (3) с товарным парафином с температурой плавления 20-35°C. Энтальпия плавления фазопереходного материала из товарного парафина - 200-205 Дж/г.

Камера имеет ограждение из бетонной стенки (4) и бетонное основание (5). Стенка и днище утепляются теплоизоляционным материалом (6). Бетонное изделие или конструкция (7) в камере размещается на специальных опорах, которые закрепляются в бетонном основании (5).

Светопрозрачное ограждение (2) камеры устанавливается непосредственно на основание (5) и закрепляется на стенку (4) шарнирно. Стыки ограждений герметизируются. На основании (5) для закрепления светопрозрачного ограждения (2) устанавливаются специальные ограничители 9.

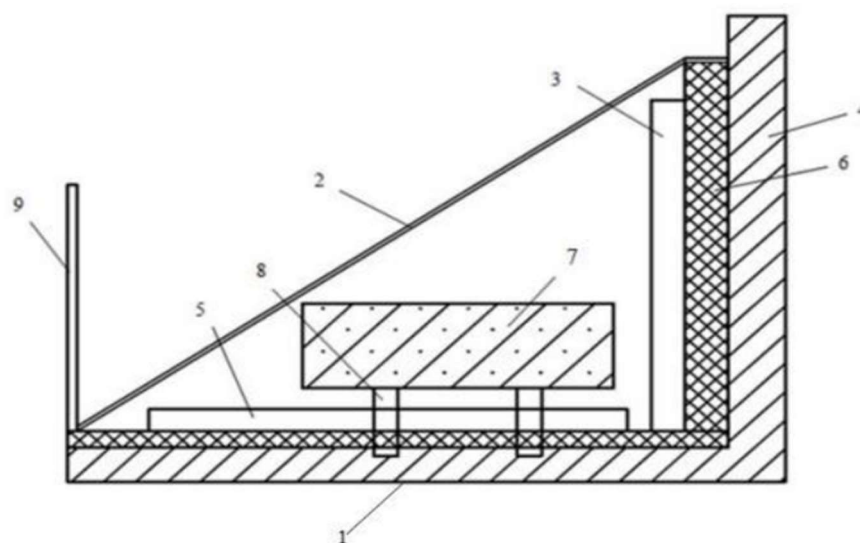


Рисунок 1- Конструкция установки для термообработки бетонных и железобетонных изделий с использованием солнечной энергии

Принцип использования солнечной радиации в разработанной камере следующее. Лучи солнца, проникая через светопрозрачное двойное ограждение (2), нагревает воздух в камере (1). При повышении температуры в камере вода от бетонного изделия (7) испаряется. За счет испарения в камере (1) повышается давление до 2 атм. Повышение давления в камере способствует более глубокому проникновению пара в поры бетонного изделия (7). Происходит тепловлажностная обработка и запускается процесс твердения бетона изделия.

Особенность разработанных конструкций камеры в том, что в нем размещаются также панели с товарным парафином. Солнечная радиация, попадая на панель с теплоаккумулирующим материалом, нагревает и расплавляет парафин в панели (3). Во время солнечной радиации в теплоаккумулирующем материале происходит накопление тепловой энергии за счет его фазового перехода из твердого в жидкое состояние.

В вечернее и ночное время, нагретый товарный парафин в панели, остывая и меняя свое фазовое состояние отдает накопленное тепло в камеру, поддерживая температуру в камере и надолго сохраняя тепловлажностной режим обработки изделия.

Бетонное изделие или конструкция (7) содержится в камере до тех пор, пока бетонное изделие не достигнет проектной прочности.

Таким образом, предлагаемая конструкция установки с теплоаккумулирующим материалом по сравнению с традиционными гелиоустановками имеют более простую конструкцию, обеспечивается длительное равномерное, высокотемпературное нагревание бетонного изделий и обеспечивается энергоэффективная термообработка. Вместе с тем при нагревании влажных бетонных изделий и конструкций происходит интенсивное парообразование, что приводит к повышению давления в камере до 1-2 атм. При таком режиме сушки изделия или конструкции (высокая температура и давление выше от 1 до 2 атм.) его прочность увеличивается на 5-10%, а также повышается их качество. Имеется возможность эффективного регулирования режимом тепловлажностной обработки.

Для обоснования эффективности термообработки бетонных изделий и конструкций в разработанной конструкции камеры с теплоаккумулирующим материалом в лаборатории

испытаний строительных материалов, изделий и конструкций были проведены эксперименты. В результате экспериментов были сравнены изменение влажности и температуры в камере с теплоаккумулирующим материалом из товарных парафинов в течение суток с значениями их в гелиокамере традиционной конструкции. Результаты изменения температуры в течении суток в камерах представлены в соответствии с рисунком 2.

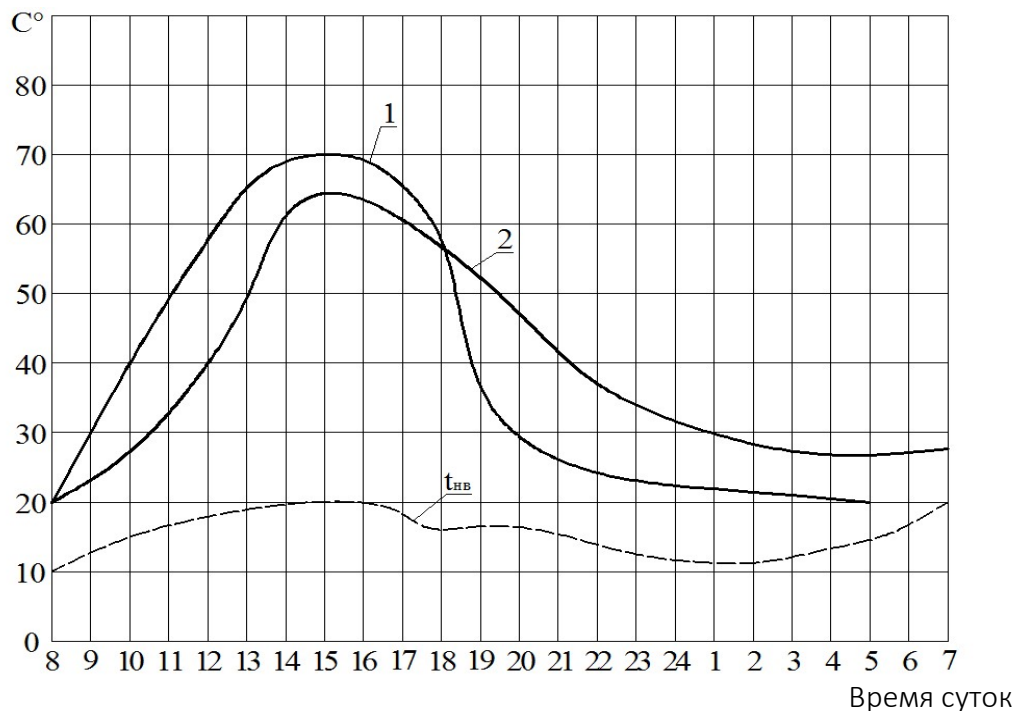


Рисунок 2 – Изменение температуры в камере в течение суток в июле и январе на 42 широте северной широты в г. Шымкенте: 1) традиционным способом 2) с теплоаккумулирующим материалом

Как показали результаты экспериментальных исследований в камере с теплоаккумулирующим материалом из товарного парафина (рисунок 2) пик температуры дольше сохраняется в течение суток, а также в вечернее и ночное время температура в камере выше на 2-4⁰C по сравнению с камерой без теплоаккумулирующего материала. Было установлено, что максимальное давление в традиционной гелиокамере составила примерно 0,9 атм., а в камере с теплоаккумулирующим материалом она составила 1,2 атм., что на 30% выше.

Выводы

Результаты проведенных исследований показали, что применением теплоаккумулирующих материалов в гелиокамеры для термообработки бетонных изделий и конструкций дает возможность создать оптимальный (мягкий) режим термообработки при одновременной экономии энергоресурсов.

Эффективность гелиотехнологии может быть существенно повышена за счет применения новых быстротвердеющих вяжущих и химических добавок, позволяющих обеспечить более интенсивное твердение бетона, которые уже появились на рынке.

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Работа выполнена в соответствии с договором на выполнение научно-исследовательских работ в рамках государственного заказа от «20» октября 2022 года № 291/ЖГ-2-22-24 АР14972832 «Разработка энергосберегающей технологии термообработки бетонных изделий и конструкций использованием альтернативной солнечной энергии»

POMEGRANATE SEED OIL (PUNICA GRANATUM L.): EXTRACTION METHODS AND CHARACTERISTICS. MINI-REVIEW

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Abstract. An overview of the various methods by which pomegranate seed oil can be obtained is presented. A comparison of the effectiveness of the considered methods, taking into account the oil yield and its characteristics, showed that aqueous enzymatic extraction can serve as an effective tool in obtaining an organic target product.

Keywords: pomegranate seed oil, extraction methods.

МАСЛО СЕМЯН ГРАНАТА (PUNICA GRANATUM L.): СПОСОБЫ ЭКСТРАКЦИИ И ХАРАКТЕРИСТИКИ. МИНИ-ОБЗОР

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Аннотация. Представлен обзор различных методов, с помощью которых может быть получено масло из семян граната. Сравнение эффективности рассмотренных методов с учетом выхода масла и его характеристик показало, что эффективным инструментом в деле получения органического целевого продукта может послужить водная ферментативная экстракция.

Ключевые слова: масло семян граната, способы экстракции.

Гранат (*Punica granatum* L.) - это типичное сочносеменное растение. Использование плодов этого растения в получении сока связано с образованием биоотходов (кожуры, семян), которые потенциально могут быть преобразованы в продукты с добавленной стоимостью для широкого спектра применений [1-3].

Семена, оставшиеся после получения сока из плодов граната, обычно высушивают и используют в получении масла [4].

Сегодня масло семян граната продают в основном интернет - магазинах и в фирменных магазинах предприятий-изготовителей и рекомендуют его, как правило, для косметических целей, указывая на то, что 65-85% его объема составляют гранатовые или пунические кислоты (*punicic acid*), которые в таком весомом количестве не встречается больше ни в одном объекте.

Обычно масло граната фасуют в маленькие флаконы из темного стекла (рис.1).



Рис. 1. Стоковое фото с упаковкой и флаконом нерафинированного масла семян граната (10 мл - \$2.79). с официального сайта производителя натуральной косметики Спивакъ.

Доступ: <https://oilsoap.ru/product/maslo-granatovyh-kostochek-nerafinirovannoe-10ml/>, 2023

Идея капсулирования масла семян граната (предназначено взрослым и детям от 12 лет для внутреннего приема по одной капсуле в день) принадлежит Томасу Геттфриду - президенту швейцарской компании Вивасан (Vivasan/Vitasan).



Рис. 2. Стоковое фото капсулированного масла семян граната от швейцарскопроизводителя GELPELL AG (60 капсул следующего состава: масло семян граната -500 мг, желатин-131.589 мг, глицерин-50.861 мг, вода-22.55 мг) с официального сайта компании VIVASAN.

Доступ: <https://vivasan.club/ru/p/pomegranate-oil-capsules/>, 2023

Рекомендуют применять их при заболеваниях щитовидной железы, болезни Альцгеймера, сахарном диабете, состоянии иммунодефицита (в том числе ВИЧ), онкологии и других видах опухолей, женском бесплодии, гипертонии, атеросклерозе, ИБС, мигрени, менопаузе, ПМС, климаксе, профилактике преждевременного старения организма и ожирении; аутоиммунных заболеваниях. астеноневротических состояниях, экземе, псориазе, нейродермите, повышенном уровне холестерина, остеопорозе. Поэтому масло семян граната оставили в стороне от таких групп, куда входят, например, жидкий крем-флюид «Букет роз» или функциональное масло для кожи этого же производителя, а отнесли к группе «минерально-витаминные комплексы».

Одна упаковка Vivasan (рис. 1) вмещает 60 капсул (которые все вместе содержат 30 г концентрированного масла семян граната). В капсулах содержится не исходное, а сгущенное масло (70.9 % всего содержимого капсул) с высоким содержанием пуниковой кислоты (60 масс. %) и витамина Е, поэтому упаковка стоит недешево – 53.75 долларов US.

Необходимость использования в капсулах сгущенного масла связывают с тем, что пуниковая кислота дает мощный противоопухолевый и антиоксидантный эффект только тогда, когда ее концентрация в принимаемом масле не ниже 60 масс. %.

В гранате на сочные семена (зерна) приходится около 63 % от полной массы этого фрукта, а на отжатые семена – около 14 % от общей массы зерен [5]. Методом холодного отжима может быть получено всего 4.29 % масла к полной массе высушенных семян [6]. Поэтому технология изготовления Vivasan рассчитана на получение 1 л масла из 500 кг зерен граната.

Из опубликованных работ становится ясно, что выход сверхкритического CO₂ экстракта со свойствами масла семян граната значительно превышает выход его аналога холодного отжима. За 2 ч экстракции высушенных измельченных семян граната при расходе СК CO₂ 13.4 л / ч, давлении 30 МПа и температуре 323 К (50 °C) было получено 13.94 масс. % экстракта со свойствами гранатового масла, а при давлении 37.9 МПа, температуре 47.0 °C и скорости потока CO₂ 21.3 л / час - 15.63 г масс. % [7].

В то же время, выход СК CO₂ экстракта семян граната намного ниже, чем выход масла, которое можно извлечь из семян с помощью экстракции их n-гексаном или метиловым спиртом при атмосферном давлении. Это обусловлено тем, что сверхкритический углекислый газ способен извлекать из растительного сырья только часть

неполярных соединений с молекулярной массой до 2000 дальтон, тогда как *n*-гексан и метиловый спирт способны растворять не только эти соединения, но и некоторое количество высокомолекулярных веществ липофильного характера.

Как уже было отмечено выше, масло семян граната разных способов получения с разными исходными и потребительскими характеристиками. Если поставить гранатовое масло холодного отжима граната на хранение в необработанном исходном виде, оно приобретет крайне неприятный «прогорклый» запах и вкус и станет непригодным для пищи.

Прогоркание обуславливается появлением некоторых летучих альдегидов, кетонов и кислот, невысокой молекулярной массы, а также нелетучих веществ перекисного характера, которых не было в масле первой свежести.

Различают два типа прогоркания жиров: биохимическое прогоркание под действием плесеней, развивающихся на жире, и чисто химическое, связанное с окислением кислородом воздуха радикалов жирных кислот, входящих в состав глицеридов, которое предотвращают введением антиоксидантов и консервантов.

В этом отношении у СК CO₂ экстракта семян граната есть свои неоспоримые преимущества перед маслом холодного прессования: относительная защищенность от всевозможных окислительных процессов; полное отсутствие способных к размножению микроорганизмов. Это позволяет подавать экстракт на расфасовку в плотно закрывающиеся флаконы сразу после изготовления без всякой дополнительной обработки, направленной на защиту от микроорганизмов. Учитывая присутствие в нем лабильных веществ, в качестве простой меры предосторожности к экстракту добавляют розмариновый антиоксидант, продлевая срок хранения этого продукта в сухом прохладном месте до 2 лет.

Основная жирная кислота семян граната - это конъюгированная линоленовая кислота CLA - *punicic acid*, присутствие которой и обуславливает уникальные лечебно-профилактические свойства СК CO₂-экстракта семян граната.

Кроме нее, в небольших количествах обнаруживается и другой изомер линоленовой кислоты - *цис-9, транс-11, транс-13* – так называемая альфа - элеостеариновая кислота, свойства которой отличны от свойств *punicic acid* и ее наличие требует соблюдения некоторых превентивных мер, а именно – обязательного добавления к смесям, кремам, содержащим масло гранатовых косточек, антиоксидантов в должном количестве. Во многом именно поэтому СК CO₂ экстракт выпускается изначально стабилизированным должным количеством мощного растительного антиоксиданта с тем, чтобы при использовании его в составе смесей и кремов, можно было бы пренебречь данной рекомендацией.

Процесс сверхкритической CO₂ - экстракции устраняет необходимость в потенциально опасных растворителях, таких как гексан, и, тем самым, позволяет избежать ненужного загрязнения окружающей среды и потенциального вреда для человека.

Другим положительным аспектом процесса СК CO₂ – экстракции является характерный для данного вида сырья аромат, но в более оригинальной форме. Аромат СК CO₂ экстракта семян граната более живой и активный, чем у масла семян граната холодного отжима.

Хотя механизмы действия CO₂ экстракта семян граната в настоящее время широко изучаются, многие исследователи уже не сомневаются в его противовоспалительном действии с охватом обоих путей (циклооксигеназный и липооксигеназный) метаболизма арахидоновой кислоты. Он также оказывает угнетающее воздействие на продуктивность Фактора Некроза Опухоли - альфа (ФНО-α) – медиатора, играющего ключевую роль при любом виде воспалительного процесса.

Кроме того, имеются данные о том, что *punicic acid* является естественным лигандом для различных типов PPAR - рецепторов пролиферации пероксисом, имеющих большое значение в нормальных процессах дифференцировки и созревания кератиноцитов.

Масло семян граната признано учеными самым богатым растительным источником женского стероидного гормона эстрогена (фолликулина). В нем найден также мужской гормон тестостерон и женский стероид - эстриол, а также в масле содержится широкий спектр полифенольных соединений, включая флавоноиды с сильно выраженными антиоксидантными свойствами.

Масло семян граната довольно часто описывают как продукт уникальный, но с «необычным ароматом» и «гнилостным» или «неприятным» запахом.

Учитывая это, способ получения масла из семян граната по патенту США за номером 9506011B2 включает несколько стадий, в том числе стадии его очистки и стабилизации [8].

Рассмотрим каждую стадию этого способа более подробно.

Разделение. В изобретении его осуществляют путем простого отделения семян от сусла.

Сушка. Удаление влаги может происходить в течение заданного времени в заданном диапазоне температур и на заданной глубине сушилki с принудительной циркуляцией воздуха. Установленный диапазон температур 80 - 110° С приемлем, как правило, для достижения надлежащего уровня высушивания за 3 - 9 часов. Удаление влаги из семян можно проводить в туннельной сушилке с циркулирующим воздухом при $100 \pm 5^\circ \text{C}$ в течение времени от 3 до 5 часов с получением семян с остаточной влажностью 5-8%.

Очистка. Высушенные семена граната могут содержать фрагменты кожуры и перегородок плодов граната. Как правило, полезно удалить эти нежелательные материалы из семян граната на этапе очистки. Удаление нежелательного материала из высушенных семян можно проводить путем помещения семян на шейкерную палубу, воздушной аспирации и воздушной аспирации под вакуумом.

Отслаивание (измельчение) - это семян граната в частицы. Перед конверсией в частицы проводят обработку высушенных и очищенных семян паром с температурой 70°C до тех пор, пока их влажность не повысится до уровня в 12-16 масс. %. Отслаивание может давать хлопья $\sim 0,5 \text{ мм}$. Непосредственно перед отслаиванием нагревают семена до температуры 47-53 °C. Семена граната, нагретые до $50 \pm 3^\circ$, подвергают предварительному отслаиванию и тут же - основному, которое проводят с помощью установки с шириной зазора на роликах 0.2 мм или другой установки, приемлемой для достижения такой же степени измельчения. Нужная степень отслаивания достигается за счет регулирования подачи пара и повышения его температуры до 70°C . Идеальные условия отслаивания позволяют получать хлопья размером $0.50 \pm 0.5 \text{ мм}$ с содержанием воды $13.0 \pm 0,5 \text{ масс. \%}$. Из партии высушенных семян граната в 325 кг можно получить 310.9 кг хлопьевидных семян.

Получение масла. Выделение масла из хлопьевидных семян граната обычно осуществляется путем приложения внешнего давления и / или путем экстракции с использованием в качестве растворителя изомера гексана, например, 2-метилпентана (изогексана), который обеспечивает 95 % степень экстракции через 4 часа обработки материала в таком экстракторе, как аппарат Сокслета. Экстракция 2-метилпентаном может вестись и на противоточном экстракторе (таком, как корона) в эффективных рабочих условиях.

В качестве наилучших условий работы противоточного экстрактора могут быть выбраны такие:

скорость подачи хлопьев - 65 кг / ч; время удерживания - 60 мин; установка уровня минимального слоя; поток свежего растворителя $150 \pm 5 \text{ кг / ч}$; температура растворителя $52 \pm 4^\circ \text{C}$; скорость подачи пара RFE 21 ч; давление пара RFE 13 фунтов на квадратный дюйм; температура отработавшего пара (DT) у верхнего лотка $84 \pm 3^\circ \text{C}$; температура пара DT у нижнего лотка $100 \pm 2^\circ \text{C}$.

Окисление масла можно свести к минимуму за счет добавления в растворитель токоферолов или других антиоксидантов в количестве от 50 до 1000 частей на миллион. Экстракционный способ обеспечивает получение сырого масла с перекисным числом (PV) 0,69, содержанием свободных жирных кислот (FFA) 1.54 % и цветовыми параметрами Lovibond (ячейка образца 1 дюйм) 70.0 Y и 2.9 R.

Качественное растительное масло имеет характеристики со значением FFA не выше 3.5 %.

Перекисное число (PV) является показателем окислительной порчи. Он показывает содержание в масле активного кислорода; допускается содержание 0.1-40 ммоль активного кислорода в 1 кг масла.

Стабилизация. Стабилизация предполагает проведение стадий очистки (рафинирования) и отбеливания.

Стабилизация (рафинирование). Ее цель заключается в том, чтобы освободить масло семян граната от примесей и / или нежелательного материала. Процесс высвобождения примесей обычно называют рафинированием или очисткой каустической содой. Для стабилизации масла семян граната Punica может потребоваться не только очистка каустической содой, но и промывка водой. На потребность каустической доработке могут указывать высокие значения показателя FFA около 1.54. Такое рафинирование обычно проводят путем нагревания сырого масла семян граната до 65 °C, добавления 0.1% фосфорной кислоты, перемешивания смеси неочищенного масла семян граната и фосфорной кислоты в течение 15 мин и добавления гидроксида натрия в количестве 1-4 % от исходного веса масла. Дальнейшая обработка полученной смеси проводится путем нагревания до 40 - 50 °C и центрифугирования для удаления образовавшегося черного осадка и других примесей из масла. Процесс очистки может также предусматривать добавление к осветленному маслу воды в количестве 15 масс. % от исходного веса масла с последующим перемешиванием образовавшейся водно-масляной смеси в течение 15 минут при 75° C. Масло отделяют от воды центрифугированием. Этот процесс должен заканчиваться получением каустически очищенного и промытого водой масла с FFA-содержанием жирных кислот менее 0.5%. Процесс рафинирования может включать стадию заморозки, которая применяется для облегчения удаления воска.

Стабилизация (отбеливание). Эта стадия направлена на снижение общей цветности масла семян граната. Этот процесс обычно называют отбеливанием. Отбеливание можно проводить с использованием отбеливающей глины или активированного угля, применяя тепло и добавляя лимонную кислоту, перемешивая и предварительно нагревая масло до 65 ° C. Лимонная кислота добавляется к маслу в количестве 0.2 масс. % от его веса. Также полезно использовать с этой целью фильтрующие средства (например, ацетат – целлюлозный фильтр). Эффективным может стать добавление 0.5-5 мас. % глины и перемешивание при 75-115 °C в течение 10-60 мин в реакторе под полным вакуумом, а также охлаждение масла до 50 – 80 °C и фильтрация. Хотя приемлемы любые указанные средства для отбеливания, обычно его проводят в реакторе (таком как Парр) с использованием различных сортов отбеливающей глины. Масло можно предварительно нагревать до 65 ° C, может добавляться в него лимонная кислота в количестве 0.2 мас. % от его веса, оно может после этого перемешиваться в течение 15 минут. К маслу может добавляться фильтрующий агент Trisyl S615 в количестве 0.2 % от его веса, а полученная смесь - перемешиваться в течение 15 минут. Или к маслу может быть добавлена отбеливающая глина (3.0 масс. %) и смешана с ним в герметичном реакторе. Отбеливание масла можно проводить при 95 °C в течение 30 мин. при полном вакууме, после чего нужно охладить его до 65 °C и профильтровать. Отбеливание можно проводить с использованием отбеливающей глины, такой как Tonsil Supreme 124FF, выполняя следующие шаги: 1-сначала

нужно поместить масло в мини –RBD -отбеливающий реактор и нагреть его до 65 градусов, затем добавить к нему 0.2 масс. % лимонной кислоты и перемешать в течение 15 минут; 2- после кислоты нужно добавить и фильтрующий раствор Trisyl S615 (0.2 % от веса исходного масла) и перемешивать еще 15 минут; 3- а после фильтрующего раствора- еще и отбеливающую глину (в количестве 3 % от веса исходного масла); 4- провести отбеливание при 95° С в течение 30 мин при полном вакууме; 5- наконец, охладить все это до 65° С и пропустить через фильтр.

За счет проведения этих этапов можно эффективно осветлять масло с получением продукта со значениями показателей цветности Lovibond Y и R 2.0 и 0,2 соответственно.

Цвет масла определяется на электронном калориметре фирмы Lovibond в соответствии со шкалой ASTM; интенсивность цвета Y измеряется в диапазоне от 0,5 до 8 единиц; помутнение образца регистрируется по рассеянию цвета ... $R \leq 0.7$.

Дезодорация. Она помогает предотвратить появление у масла неприятного запаха; включает выдерживание масла под вакуумным давлением (например, 18-28 мм рт. ст.) и подогрев масла до заданной температуры (например, до 180-210 °С) в течение установленного времени, например, за 30-120 минут и барботирование паром или газообразного азотом. Стадия дезодорации также включает охлаждение масла семян до температуры 40-90 °С и грубую фильтрацию. С этой целью используют также добавки: терт-бутилгидрохинон (англ. tert - butylhydroquinone -ТВНҚ) в концентрации 50-200 млн. долей, токоферолы в концентрации 50-200 млн. долей и / или акробилпальмитат в концентрации 50-200 млн. долей.

Для устранения или предотвращения неприятного запаха у масла семян граната можно нагревать его под вакуумом до температуры ниже 210 °С.

Дезодорация (удаление запаха у отбеленного масла семян граната) может проводиться и при подогреве масла за 30-120 мин до температуры 180-210° под вакуумным давлением (28 -30 мм рт. ст.).

Обычно на дезодорацию масла семян граната отводится от 30 до 60 мин.

Масло семян граната также может образовывать гелеобразное вещество, затрудняющее его использование для различных продуктов. Стандартные способы экстракции и дезодорации не повышают стабильность масла, которое с легкостью превращается в полимеризованный продукт

Считается, что именно высокие уровни содержания полезных компонентов в масле семян граната делают его более реакционноспособным по сравнению с другими редкими маслами. Иногда полимеризованное гранатовое масло обрабатывают гексаном, стараясь вернуть его обратно в желаемое жидкое состояние. Однако и эта стандартная методика в данном случае не дает должного эффекта.

В то же время, технология изготовления СК CO₂ – экстракта семян граната не так многопланова, как описанная выше технология прессового масла. Она основана на использовании веществ – флюидов, которые под воздействием сверхкритических для них давления и температуре могут приобретать промежуточное состояние между жидкостью и газом.

Сверхкритическую флюидную экстракцию осуществляют, как правило, по схеме двухстадийного непрерывного процесса в аппаратах высокого давления, например в тарельчатых колоннах. На первой стадии сверхкритический газ контактирует с жидкой или твердой смесью, извлекая растворимые компоненты. На второй стадии экстрагент регенерируют путём сброса давления или изменения температуры, что приводит к полному осаждению извлеченных веществ. Затем рабочие параметры газа изменяют до требуемых значений и снова направляют его на первую стадию, организуя циркуляцию экстрагента.

СК CO₂ экстракт со свойствами масла семян граната нацело лишен неприятного запаха, характерного для прессового масла и других его аналогов. После добавления к нему 0.05 масс. % экстракта органического розмарина в качестве антиоксиданта, СК CO₂ экстракт семян граната может прекрасно храниться целый год в закрытой упаковке в прохладных условиях.

Сравнение состава СК CO₂ экстракта с составом масла, полученного экстракцией семян граната гексаном в аппарате (экстракторе) Сокслета не выявило отличий между этими продуктами в составе жирных кислот. Содержание общего количества токоферолов в масле от экстракции семян сверхкритическим CO₂ было примерно на 14 % выше, чем в масле, извлеченном из семян в аппарате Сокслета [7].

При испытании экстракционного метода максимальный выход гранатового масла (22.4 ± 6.7 г на 100 г высушенных и измельченных в кусочки размером 2 мм семян граната) был отмечен в варианте, который предусматривал 3-4 ч экстракцию 1 весовой части семян 15 весовыми частями n-гексана в аппарате Сокслета. Показатель преломления у этого масла составил 1.5138 ± 0.0005 ($t=20^\circ\text{C}$); у других растительных масел он ниже и варьирует в пределах 1.4497(кокосовое масло) – 1.489 (льняное) [9].

Относительно высокий выход масла с почти таким же высоким коэффициентом преломления, как и у масла от экстракции семян граната n-гексаном, был получен в опытах с экстракцией их метанолом. Масло семян граната от экстракции метанолом по своему составу и свойствам приближается к полувывсыхающим маслам. И совершенно иными были выход (он уменьшился как минимум в 2 раза) состав и свойства масла от экстракции семян граната петролейным эфиром в течение 60 минут при слабом кипении этого растворителя при атмосферном давлении и температуре 40°C . Оно было золотистого цвета, с легким запахом печенья. Физико-химические показатели его изменялись в зависимости от использованной температуры для сушки семян граната 90 или 140°C . Плотность масла снизилась от 1.13 (сушка семян при 90°C) до 0.83 (140°C); коэффициент рефракции при температуре 20°C снизился с 1.505 (при 90°C) до 1.400 (140°C); выход масла снизился от 11.3 (при 90°C) до 0,83(140°C) % от полной массы высушенных и измельченных семян. Однако независимо от температуры сушки семян, объем полученного масла оставался одним и тем же - около 10.5 мл /100 семян. Чем тяжелее было масло, тем больше оно склонялось к быстрому затвердеванию во время хранения. Коэффициент рефракции (преломления) хорошо отражал происходившие изменения в температуре застывания масла. Сушка семян при температуре 110°C и выше позволяло получать из них более легкое - «рафинированное» масло с более низким содержанием склонных к затвердеванию компонентов [10].

С помощью СК-CO₂ удалось извлечь до 14% масла от его общего количества в высушенных и измельченных семенах после 3 часов экстракции (что соответствовало максимальному выходу 2.66 г масла / 100 г семян). Экстракция гексаном в аппарате Сокслета увеличило выход масла до 18.8 г на 100 г семян. Пунические (C18: 3) и линолеиновые (C18: 2) кислоты были основными жирными кислотами и составляли около 82% общего содержания жирных кислот в масле. Экстракция докритическим бутаном требовала меньше времени для извлечения одного и того же количества масла, чем СК CO₂ экстракция [11].

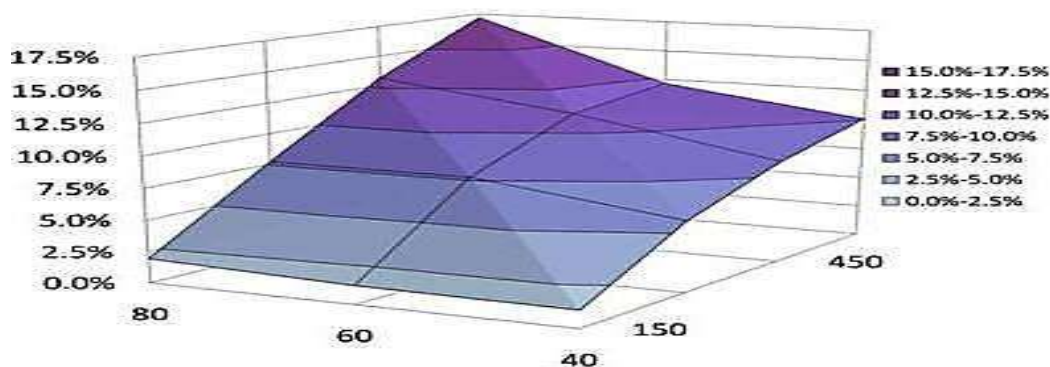


Рис. 3. Зависимость тотального выхода масла из семян граната от температуры и давления сверхкритической экстракции. Доступ: <http://www.igic.ras.ru/structure/napr/Admin1349343637.php/> ИОНХ РАН-2018.

Учеными Института органической и неорганической химии Российской академии наук было установлено (смотри рисунок выше), что при температуре 40 °С и давлении 150 бар выход СК CO₂ – экстракта из семян граната составил 5.0 -7.5 %, а при температуре 80 °С и давлении 450 bar - 15.0 – 17.5 % от их полной массы (рис. 3).

Сверхкритическая CO₂- экстракция при температурах 40-60 °С и давлении 200-350 бар (с использованием таких модификаторов, как вода, этанол и гексан в количестве 9-18 % к общей массе растворителя) давала в 7 раз более низкий выход масла (до 3 % к общей массе сухих семян), чем экстракция n-гексаном в аппарате Соклета [12].

Была испытана экстракция масла из семян граната перегретым (по англ. Superheated) гексаном (SHNE) и в аппарате Соклета при 80, 100 и 120 °С, средних размерах частиц 0.25, 0.50 и 1.00 мм и скорости потока n-гексана 0.5, 1.0 и 2.0 мл/мин, а также холодное прессование. В качестве оптимальных параметров для SHNE были выбраны температура 80 °С, размеры частиц семян 0.25 мм и скорость потока n-гексана 1 мл/мин. SHNE обеспечила более высокую степень экстракции (за 2 ч 22.18%), чем экстракция Соклетом (за 24 ч 17.94%) и холодное прессование (за 72 ч 4.29%) [13].

Изучена экстракция методом SFE (40-60 °С, скорость потока 10-20 л/ч, давление 20-40 МПа) и экстракция гексаном в аппарате Соклета (при 69 °С в течение 8 ч). Максимальный выход пуниковой кислоты и токоферолов на уровне 40 % обеспечила экстракция SFE при 37.9 МПа, 47 °С и скорости потока CO₂ 21,3 л/ч [14].

Экстракция семян граната методом SPE при давлениях 15, 30 и 45 МПа, температурах 35, 50 и 65 °С, которая продолжалась 2 ч, показала, что выход масла значительно увеличился (до 12%) при повышении давления с 15, 30 МПа до 45 МПа. Повышение температуры в диапазоне температур 35-65 °С оказало меньшее влияние на выход масла [15].

Проведено сравнительное изучение экстракции сверхкритической жидкостью SFE (CO₂), субкритическим пропаном и в аппарате Соклета. В методе SFE был использован порошок из семян граната размером 20-30 меш в количестве 40 г при скорости потока растворителя 10 л/ч, температуре 40-60 °С, давлении 20-30 МПа и времени экстракции 0-3 ч. В методе экстракции субкритическим пропаном: 40 г при 5 л/ч, 30-60 °С, 8-12 МПа, 0-1,5 ч. В аппарате Соклета: 10 г порошка с использованием в качестве растворителя гексана. Максимальный выход масла был отмечен при экстракции в аппарате Соклета (22,31%), против 13,06% в методе SFE и 17,12% в методе с использованием субкритического пропана [16].

Также была испытана: экстракция UAE – ультразвуковая экстракция (мощность 140-180 Вт, 35-45 °С, 20-40 мин, скорость потока 9-11 мл/г); экстракция в аппарате Соклета (150 мл n-гексана в течение 3 ч при 60 °С); экстракция SFE (давление 38 МПа, 47 °С, расход растворителя 21 л/ч, время 2 ч). Выход масла в методе UAE составил 25.11% при 140 Вт, 40

°C, 36 мин и 10 мл/г против 20.5% в методе SFE и 15.72% в методе экстракции в аппарате Сокслета [17].

Примечательно, что при UAE - экстракции гексаном (130 Вт; 20 кГц; зонд 13 мм; температура 20-60 °C; соотношение гексан: семена 8/1–20/1; время экстракции 2-40 мин; уровень амплитуды 30-60%; отношение длительности импульса к интервалу: 3/4–2/1) степень экстракции быстро увеличивалась со 2 до 10 ее минуты, а затем медленно с конечным выходом масла 15,66–18,16%. Выход экстракта увеличивался с увеличением амплитуды и соотношения гексан: семена и уменьшался с увеличением отношения длительности импульса к интервалу [18].

Были получены гранатовые масла холодного отжима и от экстракции в течение 8 ч при 40-60 °C растворителем (эфиром). Выход масла при холодном прессовании составил 6.9%, а при экстракции эфиром – 12.7% [19].

Проведена экстракция 10 г порошка семян граната гексаном в аппарате Сокслета при 110 °C в течение 8 часов и холодная экстракция 40 г порошка этим же растворителем при 25 °C в течение 8 ч; была испытана и микроволновая (MW) экстракция частиц семян размером 0,125–0,800 мм в течение 5-20 мин (соотношение растворителя к образцу: 2:1, 6:1 и 10:1, мощность 176-300 Вт). Самый высокий выход экстракта (35.19%) был отмечен для MW; для экстракции гексаном в аппарате Сокслета он составил 34.7%, а для холодной экстракции этим же растворителем- 17.5% [20].

Также были испытаны: поэтапная обработка высушенных измельченных семян MW (при мощности 360, 540, 720 и 900 Вт в течение 30, 60, 90 и 120 секунд) + экстракция в аппарате Сокслета; экстракция бензолом при 60 °C в течение 3, 4 и 5 ч. Исходя из качества PSO и выхода, оптимальной признана 4 ч экстракция семян с предварительной их MW обработкой в течение 60 секунд при 720 Вт [21].

В еще одной работе для экстракции семян применялась SFE при 240, 280 и 320 бар и температуре 40, 50 и 60 °C с расходом CO₂ 8.0 кг/ч в течение 180 мин, а также экстракция гексаном при 70 °C в течение 6 мин в аппарате. Результаты показали, что максимальной растворимость масла в CO₂ была при 320 бар и 60 °C. Масло, экстрагированное методом SFE (0.18 г масла/г нерастворимого твердого вещества), было высокого качества и более богато пуниковой кислотой (85.4%), чем масло, экстрагированное с помощью гексана в аппарате Сокслета (84.2%) [22].

Также были изучены некоторые характеристики масла, извлеченного из семян методом SFE (40 °C, 200 бар, скорость потока 2 мл/мин) и спиртовой экстракцией (длительность 2 ч при весовом соотношении между спиртом и высушенными измельченными семенами 6:1 и температуре 75 °C) и отжатого напрямую в экспеллере. Прессовое PSO и SFE-PSO показали более высокое содержание конъюгированной линоленовой кислоты, в то время как PSO от экстрагирования семян спиртом отличалось от них более высоким содержанием фенольных соединений, токоферолов и фитостеролов, а также более высокой антиоксидантной активностью и более высокой стойкостью к окислению [23].

Изучена экстракция семян граната водой при соотношении вода/твердое вещество 1,0–3,0 (мл/г), pH 3.0–11.0, температуре 10-70 °C в течение 30-390 мин при постоянной скорости встряхивания 100 об/мин с последующим центрифугированием образовавшейся водно-масляной смеси при 5000xg в течение 10 мин; экстракция 10 г измельченных зерен граната (40 меш) в аппарате Сокслета 250 мл из n-гексана при температуре 68 °C в течение 6 ч; холодное и горячее гидравлическое прессование при температуре 26 ± 2 °C и 50 ° при скорости подачи стvзу 6.25 кг/ч. Выход масла составил 26.8% для экстракции гексаном, 19.3% для водной экстракции, 7.0 % для холодного отжима и 8.6% для горячего отжима. Условия водной экстракции были оптимизированы таким образом, чтобы соотношение вода/твердое вещество составляло 2.20 мл/г, температура составляла 63 °C, время

экстракции 375 мин, а pH 5.0. Сравнение характеристик полученных масел показало, что наибольшее содержание ненасыщенных жирных кислот имеет масло, полученное методом водной экстракции. Кроме того, в нем наблюдались более высокие уровни йода и перекиси и более низкие уровни кислоты, п-анизидина и неомыляемых веществ. Масло, полученное водной экстракцией, также проявляло более высокую антиоксидантную активность, чем масла, полученные экстракцией гексаном или горячим прессованием [24].

Были проведены разные опыты по водной ферментативной экстракции семян граната с UAE – обработкой и без нее. Выбор был остановлен на варианте, предусматривавшем двухчасовую обработку при 55 °C при соотношении между водой и семенами 6/1 мл/г с добавлением в среду 2 % фермента пеклива. Выход масла в этом варианте составил 15.33 г на 100 г сухих семян через 2 ч, который был увеличен до 18.15 г после UAE- обработки (130 Вт, 20 кГц с зондом Ti–Al–V) [25].

Таким образом, именно водная ферментативная экстракция может послужить эффективным инструментом, открывающим дорогу к получению органического масла семян граната.

Эта оптимистическая нота является хорошим поводом для того, чтобы завершить данный обзор.

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Автоматизация и управление технологическими процессами литейного производства

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Автоматика (от греческого – самодействующий) представляет собой научно-техническую отрасль, предметом которой являются методы и средства осуществления различных целенаправленных действий без непосредственного участия человека.

В рассматриваемой области – металлургическом, в частности литейном производстве, такие действия чаще всего сводятся к управлению производственными объектами, под которыми под разумеается оборудование для выполнения технологических процессов [1].

При этом термин «управление» означает такое воздействие на технологический процесс, которое обеспечивает желаемое изменение его внутреннего состояния, а для подвижных объектов – перемещение по заданной траектории в пространстве и времени.

Технической базой автоматизации служит механизация производства, заменяющая физический труд человека. Однако если ограничиваются только механизацией, то за человеком сохраняются функции управления, представляющие продукт мыслительной деятельности производственного персонала. Автоматизация процессов управления в значительной степени сокращает персонал и освобождает его от этих функций, обеспечивая при этом следующие преимущества: рост производительности труда; повышение качества продукции и ее конкурентоспособности; сокращение затрат сырья, топлива, электроэнергии; повышение культуры производства.

В общей структуре АСУ ТП (рис. 1) [2] объектом является как отдельный производственный агрегат, так и некоторый взаимосвязанный их комплекс (поточная линия, участок цеха или цех). На выходах объекта располагаются датчики $D_1 \dots D_n$ для получения оперативной информации о технологических параметрах объекта. Входы объекта оборудуются исполнительными механизмами ИМ1 ИМК для ввода управляющих воздействий.

Управляющий вычислительный комплекс (УВК) работает как обычный многоканальный регулятор. Однако с целью повышения надежности системы в процессе ее эксплуатации возможен вариант, когда управляющие воздействия на объект вводятся не непосредственно, а на датчики локальных стабилизирующих регуляторов.

Изображенный на рис. 1 коммутатор служит для переключения входных (информационных) и выходных (управляющих) каналов связи, а специальное устройство сопряжения с объектом

(УСО) предназначено для преобразования информационных и управляющих сигналов.

Для компьютера как цифрового вычислительного устройства входные и выходные сигналы имеют вид цифровых кодов. В то же время от датчиков поступают сигналы в аналоговой форме, т. е. в виде непрерывно изменяющихся токов или напряжений. Для преобразования таких сигналов в цифровую форму служат аналого-цифровые преобразователи (АЦП), а преобразование цифровой информации с выхода компьютера в аналоговые силовые воздействия (достаточно мощные токи и напряжения для привода исполнительных механизмов) осуществляют цифро-аналоговые преобразователи.

Помимо чисто управляющих функций, компьютер в составе АСУ ТП в период между выдачей управляющих воздействий на объект может выполнять ряд расчетов, например определения оптимального состава плавильных.

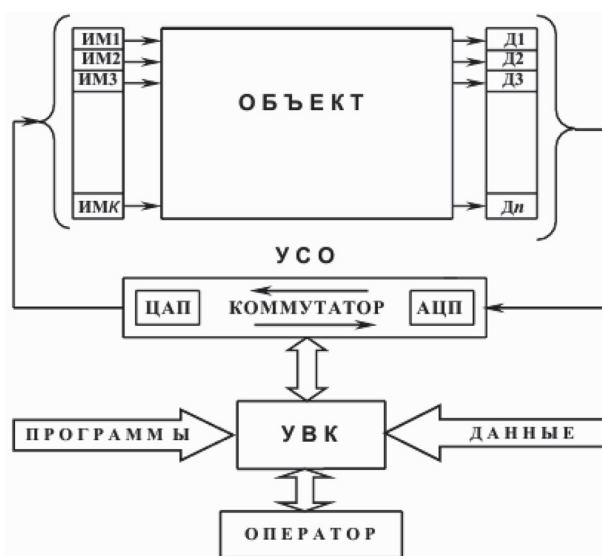


Рис. 1. Пример структурной схемы АСУ ТП

Оптимального освежения оборотных литейных материалов, оптимальных значений технологических параметров на основании статистического анализа производственных данных и др. Результаты этих расчетов оперативно используются в процессе управления.

Отметим, что при значительной расчетной нагрузке управляющей системы с целью борьбы с ее усложнением применяют прием декомпозиции. Одним из ее решений служит переход от одно- к многоуровневой (иерархической) структуре АСУ ТП, при которой на нижнем уровне осуществляется непосредственное управление объектами, а верхний уровень на базе отдельных компьютеров, связанных с нижним уровнем, загружается задачами, обеспечивающими наиболее благоприятные условия функционирования АСУ ТП в целом [3]. Устройства цифровой вычислительной техники, действующие в составе АСУ ТП, используются также для фиксации всей оперативной информации и ее наглядного отображения в документах, экранных окнах, табло. Эти же устройства приводят в действие предупредительную и аварийную сигнализацию.

В отличие от чисто технической направленности рассмотренных АСУ ТП автоматизированные системы управления предприятием (АСУП) предназначены для управления работой коллективов людей, обеспечивающих производство, в том числе и нижестоящий уровень управления в виде АСУ ТП.

АСУ управления литейным предприятием строится по иерархической схеме (рис. 2) [4], которая выработана практикой и является результатом декомпозиции (разложения) сложной задачи управления на систему подзадач по определенным уровням иерархии. На высшем уровне 1 осуществляется планирование работы предприятия в соответствии с

директивами вышестоящих организаций и с учетом научно-технического прогресса, развития предприятия и его подразделений, тенденций к изменению спроса на продукцию. На уровне 2, согласно содержанию портфеля заказов, производится оформление заказов, организация снабжения сырыми материалами и сбыта готовой продукции, учет простоев оборудования и технико-экономических показателей, планирование текущих ремонтов, составление оптимальных графиков грузопотоков и загрузки оборудования, выбор рациональной технологии и оптимальных режимных параметров оборудования.

На уровне 3 в соответствии с материалами вышестоящего уровня решаются задачи координации действий отдельных подразделений предприятия и готовится база для оптимального управления путем моделирования ситуаций и обработки массивов специальной информации.

Низшим уровнем 4 в иерархической структуре АСУП является уровень АСУ ТП, к которому примыкают системы автоматизированного проектирования САПР литейной технологии и автоматизированные системы научных исследований (АСНИ), сопряженные с теми же технологическими объектами управления (ТОУ).

АСНИ призваны систематически контролировать технологические параметры производственных процессов, осуществлять статистические исследования, прогнозировать тенденции динамики технико-экономических показателей и в особенности качества продукции на основе пооперационного контроля, синтезировать математические модели и путем моделирования (вычислительного эксперимента) выявлять возможные режимы оптимизации технологии на различных участках литейного производства [3].

САПР с использованием математических моделей, стандартов и технических условий, мощных графопостроителей и других средств призваны оказывать помощь производственному персоналу в оперативной разработке технологических процессов и всей необходимой документации, включая рабочие чертежи и схемы, обеспечивая быструю переналадку автоматических линий.

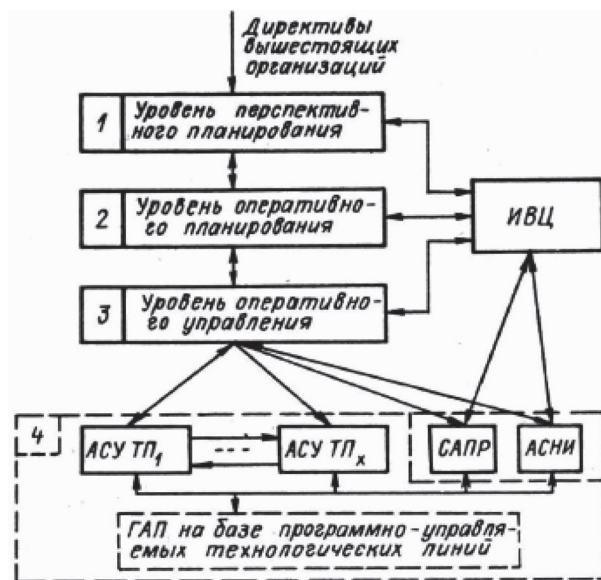


Рис. 2. Иерархическая структура АСУП литейного предприятия

Любой из показателей директором завода, начальниками цехов и служб может быть вызван на экран монитора, а система показателей в форме таблиц или графиков использована для

анализа производственной ситуации и принятия решений по необходимой коррекции процессов управления производством в целом и на отдельных его этапах.

Эффективность работы интегрированной АСУП характеризуется рядом критериев [5].

Экономические критерии в обобщенной форме можно представить в виде приведенного.

Подобная интеграция, кроме непосредственных функций – координирования работы составляющих АСУ, позволяет на основе информационного обмена между компьютерами резко уменьшить объемы массивов информации, сократить время ее поиска, сократить необходимость дублирования информации и снизить численность обслуживающего персонала. Информация из цехов предприятия через локальные вычислительные сети регулярно поступает в АСУП обо всех видах работ, о поступлении сырья, отгрузке полуфабрикатов или готовой продукции.

В АСУП производится также множественный учет массивов личного состава, основных фондов, норм и фактического расходования материалов; осуществляются расчеты заработной платы, амортизационных отчислений и подготовка платежных ведомостей.

Где C_i – отпускная цена отливок, руб.; P_i – производство отливок за период времени t , шт.; $Зэ$ – эксплуатационные затраты, руб.; $Ен$ – нормативный коэффициент; Kt – капитальные затраты за тот же период времени, руб.

Росту критерия Дпр способствуют повышение качества отливок и снижение затрат на их производство. Недостаток критерия Дпр и других критериев чисто экономического характера заключается в неполной его конкретизации применительно к управлению техническими системами.

Поэтому в последнее время все более широко используют комбинированные технико-экономические критерии, из которых определенными преимуществами обладают удельные затраты:

где S_1 – затраты на потребляемые сырье и энергию;

S_2 – мера выпуска продукции за время t ;

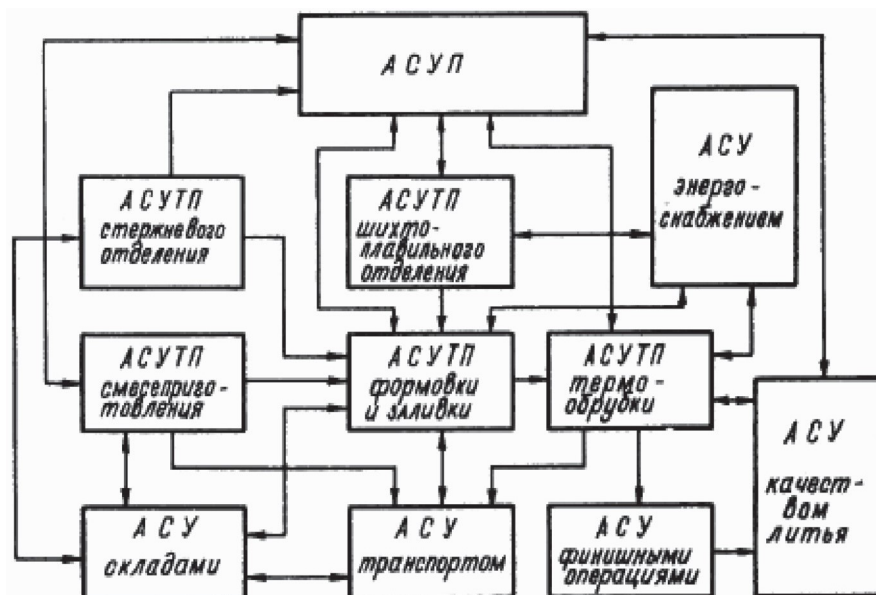


Рис. 3. Структурная схема интегрированной АСУ литейным предприятием

где Q_i – расход материалов (включая шихтовые, формовочные, стержневые, отработанную смесь и возврат литья); e_i – расход энергии (электрической, сжатого воздуха); S_{qi} , S_{ei} , S_{ni} – стоимость единиц сырья, энергии и очистных работ соответственно; n_i – число отливок, подвергающихся очистке; k – общее число отливок, произведенных за время t ; Q_{lj} –

производительность цеха (участка) по отливкам вида j за то же время; K_k – коэффициент качества отливок (в идеальном случае $K_k = 1$, при снижении качества K_k уменьшается); K_s – коэффициент сложности отливки (для наиболее сложной отливки $K_s = 1$, а для отливок меньшей сложности $K_s < 1$) [4].

Одним из важнейших ограничений является

Условие где Q_z – заданная производительность цеха (участка).

Задач оптимального управления составляющими общего производственного процесса виде технологических процессов шихтовки, плавки, смесеприготовления, формовки, заливки форм, очистки поверхности отливок и др. на отдельных участках литейного цеха. При этом для автоматизированного управления качеством отливок используются технические средства оценки показателей качества: массы и размеров отливок, глубины пригарных корочек, шероховатости поверхности, механических свойств, химического состава, внутренних дефектов и др. При обнаружении отклонений от заданных значений показателей качества на каждой стадии технологического процесса управляющий вычислительный комплекс вырабатывает необходимые управляющие воздействия на процесс производства отливок.

В соответствии с современными тенденциями обеспечения наибольшей живучести технических систем управления специализированные АСУТП на отдельных участках функционируют независимо друг от друга (децентрализованная структура АСУТП), но их работа координируется центральным компьютером АСУ ТП литейного цеха.

Внешние связи на современном уровне осуществляются через Интернет и с использованием электронной почты.

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GRAPHICS OF THE DEPENDENCE OF THE BEARING CAPACITY OF FOUNDATIONS IN RAMMED DOWN

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Abstract: In recent years, a new direction in construction on subsidence soils and the construction of foundations in compacted soil has been successfully developing. The essence of the foundation method in rammed pits is that the pits for individual foundations are not torn off, but the pit is rammed to the calculated depth, followed by embedding with concrete. To increase the bearing capacity of the foundation soil, hard or local soil material is compacted in portions into the bottom of the compacted pit to form a widened part. The load from the foundations along the base and side walls is transferred first to the compacted soil, and then to the soils of natural composition, due to which a higher bearing capacity of the foundations is achieved. This article examines the results of field studies and analytical calculations to determine the dependence of the load-bearing capacity on the size and volume of the widened part, in the form of a dependence graph.

Keywords: soil mechanics, compaction, widened part, concreting, crushed stone, silty sandy loam.

INTRODUCTION

Being an optimal alternative to cone-pile foundations in compacted soils, foundations in rammed pits work on the principle of volumetric wedges, with the load transmitted through inclined side surfaces and ends. In addition, the soil around the compacted pit is highly compacted, and the greater the slope of the side surface of the well, the greater the bearing capacity of the foundation. According to the methods of theoretical calculation of foundations in rammed pits and pyramidal piles, currently used, not only the soil resistance of the frontal part (F_{fr}) and the lateral surface (F_{lat}), but also the soil resistance acting perpendicular to the lateral surface of the foundation are calculated ($F_{per.lat}$) is calculated.

METHODS AND MATERIALS

The first study of the bearing capacity of pyramidal pile foundations was carried out in 1927 by the Russian scientist V.K. Dymokhovskiy [1], who made the following conclusion: "... the total resistance of the pile increases significantly when changing from a cylindrical to a conical shape. But this depends to a lesser extent on the angle of lateral inclination». He was the first to develop a scheme for calculating the bearing capacity of a pyramidal pile, the resistance of which is determined by the sum of the following three indicators:

- soil resistance R_s ;
- soil resistance of the lateral surface R_f ;
- soil resistance acting perpendicular to the lateral surface $R_{p.l}$.

$$R = \frac{1}{n}(R_s + R_f + R_{p.l}); \quad (1)$$

In the mid 1930s, V.N. Golubkov [2] studied a pyramidal pile foundation and developed a formula for determining the resistance

$$R_{CB} = \frac{E_{rp,cb} \cdot V_{CB}}{0.5 \cdot V_a}, \quad (2)$$

where: $R_{p,p}$ - is the resistance of the pyramidal pile foundation, t; $E_{m,def}$ - average modulus of volumetric deformation of soil, t/m²; $V_{v,f}$ - volume of the foundation in the ground, m³; 0.5 - coefficient of linear reduction of useful additional pressure; $F_{m,sf}$ - average cross-sectional area of the foundation.

Fedorov B.S., Kolchunov V.I., Pokusaev A.A., Naumov N.V.[3] analyzed the test results of many researchers and established a correlation between the use of test materials, the length and magnitude of the conical inclination of the pyramid. The correlation curve is established by the value of the coefficient K_e , which is determined by the ratio of the bearing capacity of pyramidal piles and the volume to be embedded in the ground. According to graphical analysis, the most useful are pyramidal piles with a length of 1.5...3.0 m and a cone slope of 5°...12°. Many calculation methods used today are based on this scheme. These methods propose different theoretical schemes for determining the third component and use different approaches.

N.L. Zotsenko [4] established that there is a direct relationship between the resistance P_{ck} and the bearing capacity of the soil cone.

$$P = k m P_{ck}^e F_c; \quad (3)$$

where: P - is the load-bearing capacity of the mid-amide pile, tn; k - coefficient of soil homogeneity ($k=0.8$); m - scale factor, ($m=0.5$); P_{ck}^e - average value of soil resistance on the conical part of the mid-amide pile, kg/cm³; F_c - cross-sectional area of the upper part of the adamal pile, m²;

This calculation method is based on a significant simplification, since it is necessary to determine in advance only the load-bearing capacity of pyramidal piles and subsequently check it with more detailed methods, for example, a static load test. It is also suggested to use static probe test results.

Bakholdin B.V., Igonkin I.T. [5], Goncharov B.V., Semenov Y.V.[6] proposed formula for determining the bearing capacity of its pyramidal form:

$$F_d = RA + \sum u_i h_i (f_i + f_{ot,i}) \cos \alpha; \quad (4)$$

where R – calculated resistance of the soil on the frontal part of the priamidal pile, MPa; A - ploshchad upper part, m²; u_i - area of cross-section, corresponding to the average thickness of the i -th layer of soil, m²; h_i - thickness of the i -th layer of soil, m; f_i - calculated resistance of the i -th layer of soil on the lateral surface, MPa; $f_{ot,i}$ - additional resistance perpendicular to the lateral surface, MPa;

$$f_{ot,i} = \sigma_{ot,i} (tg \varphi_i + tg \alpha); \quad (5)$$

where $\sigma_{ot,i}$ – voltage, acting in the direction perpendicular to the lateral surface, MPa; φ_i — угол трения трения грунта, degrees; α - angle between the lateral surface and the axis of the primidalnoy swai, degrees;

In conditions where the deformation modulus cannot be determined from the results of a compression test and simple physical and mechanical characteristics, it can be determined using the formula of the “Guidelines for the design of pile foundations” of the Russian Federation.

$$\Phi = m[RF + \sum l_i (u_i f_i + u_{oi} f_{oi})]; \quad (6)$$

where F - is the bearing capacity of the pyramidal pile, tn; m – coefficient of operating conditions of the pile, taken from 0.8 to 1.0 depending on the type of soil; R - calculated soil resistance under the frontal part, t/m³; F - is the area of the lower edge of the pile, m²; l_i – thickness of the i -th soil layer in contact with the pile, m; f_i - is the calculated resistance of the soil in contact with the side surface, u_{oi} - is the perimeter of the transverse i -th section of the pyramidal pile, m; f_{oi} - perpendicular pressure exerted on the lateral surface from the i -th soil layer, tn/m²;

$$f_{oi} = R_i \sin \alpha \quad (7)$$

where R_i - is the calculated resistance at the lower boundary of the i -th soil layer, determined by BNbD, tn/m²; α - angle between the lateral and vertical axis, degrees;

When determining the value of the force f_{oi} acting perpendicular to the lateral surface of a pyramidal pile, a method was proposed to include the values of porosity and permissible soil pressure in the calculation. The bearing capacity of a pyramidal pile is determined by the following formula (SNiP 2.02.03-85) under the action of a vertical load.

$$F_d = \gamma_c [R A + \sum h_i (u_i f_i + u_{oi} i_p E_i k_i \xi_R)], \quad (8)$$

where F_d - is the bearing capacity of the pyramidal pile, tn; γ_c - is the coefficient of the working condition of the pyramidal pile in the ground, $\gamma_c=1.0$ is taken. R – calculated soil resistance under the lower end of the pile, kPa; A – bearing area of the pile on the ground, m²; f_i – design resistance of the i -th generation soil on the side surface of the pile, kPa; h_i - thickness of the i -th soil layer in contact with the side surface, m; u_i - is the parameter of the i -th transverse section of the pyramidal pile, m; u_{oi} - sum of sides of the i -th section, m; i_p - inclination of the lateral surface, in percent; E_i - deformation modulus of the i -th soil surrounding the lateral surface, kPa (determined by compression test); k_i - coefficient depending on the type of soil; ξ_R - is the rheological coefficient, assumed to be $\xi_R=0.8$;

Musab Ayed Kissab [7] studied the bending capacity of conical piles with lateral loading in cohesive soils. It was found that conical piles show more rigid behavior than prismatic ones having the same volume of material with an optimal stress distribution along the depth of the pile. Accordingly, conical piles are more efficient and economical than prismatic piles having the same volume of material.

Monolithic reinforced concrete pyramidal piles differ from conventional pile piles: the shape and dimensions of driven piles and monolithic pyramidal piles are the same, but their operating conditions in the ground are somewhat different. The stress that occurs during driving in the soil surrounding the pyramidal pile persists for a certain period of time, then after pulling the tool for tamping the pit out of the ground, the stress created there will be relieved. At this time, the density and strength of the soil around the foundation in the compacted pit will decrease, as well as the bearing capacity.

RESEARCH METHODOLOGY

This part discusses numerical simulation techniques, test planning, and verification. A three-stage design model was used to calculate the bearing capacity of the foundation in a rammed pit with a flared end, and numerical simulations were carried out by MFE using the elastoplastic Coulomb-Moore model. The work of the foundation in rammed pits is modeled in 3 stages:

Stage I. Bearing capacity of the soil material of the extended end;

Stage II. Load-bearing capacity of compacted soil beyond the flared end;

Stage III. Sediments of soaked subsidence soil under compacted soil.

The minimum value of these bearing capacities is taken as the calculated bearing capacity of the foundation in compacted pits.

Many types of numerical methods are currently used. Among them, MFE is the most widely used and highly effective. Features include flexible variable-size element meshes, standardized methods for defining discrete problems for arbitrary domains, and easy incorporation of natural boundary conditions into numerical simulations. In addition, the mathematical analysis of MFE analysis is simple, its method can be applied to a wide range of initial solutions, and the calculation error can be estimated with relatively few restrictions. Therefore, MFE is currently used more often than other methods to solve various problems in soil mechanics and geotechnics.

To bring the theoretical solution closer to the actual operational state of the soil, a numerical analysis of the stress-strain state during the interaction of the base soil and foundation

in compacted pits, under the influence of vertical and horizontal loads, was also carried out. To carry out geotechnical analysis, the PLAXIS 2D program, developed on the basis of MFE, was used.

Krutov V.I., Bagdasarov Yu.A., [8], Gotman A.L., Shemenkov Yu.M., [9] developed numerical analytical modeling based on an analysis of research results and the main factors influencing the calculation of the foundation base in compacted pits. For this purpose the following parameters were selected:

- c , ϕ , E silty sandy loam soil;
- Depth of the compacted pit h ;
- The volume of gravel and sandy loam soil of the construction site used to form the expanded part below the foundation;

Each of the listed factors is represented by a certain number of discrete levels, and according to SNiP 2.02.01-83*, indicators of soil strength and deformation can be used when calculating building foundations. Thus, the mechanical parameters of the foundation soil have 3 levels or types.

- a. I type of soil condition: $c=30\text{kPa}$, $\phi=18^\circ$, $E=15\text{MPa}$;
- b. II type of soil condition: $c=20\text{kPa}$, $\phi=16^\circ$, $E=12\text{MPa}$;
- v. III type of soil condition: $c=10\text{kPa}$, $\phi=14^\circ$, $E=9\text{MPa}$;

The depth of the compacted pit has 2 levels: $h=3.0\text{m}$ and $h=4.0\text{m}$, and the volume of materials in the expanded part has 4 types: crushed stone $V_{c.s}=0.75\text{m}^3$, $V_{c.s}=1.50\text{m}^3$, sandy loam of the construction area $V_{s.l}=2.0\text{m}^3$ and crushed stone $V_{c.s}=1.50\text{m}^3$, respectively.

RESEARCH RESULTS

The bearing capacity of the foundation in compacted pits is 800...3000 kN, in loess-like soil and in appropriate soil conditions $J_p \geq 0,03$; $S_d \leq 1,6 \text{ } \Gamma/\text{M}^3$; $S_2 \leq 0,75$ is often used. The load initially acts on the expanded part of the base and the side surface of the compacted soil of the foundation, and then on the natural soil of the foundation (V.I. Krutov [8], A.L. Gotman, Yu.M. Shemenkov [9], Amirov R., V. [10], Yu.A. Bagdasarov [11]).

The bearing capacity of the foundation in compacted pits is determined under the action of a vertical load by the following 3 conditions and the minimum value is accepted:

1. According to the strength of the foundation soil in contact with the rigid material of the expanded part:

$$F_{u1} = g_c \cdot R_m \times A_H; \quad (9)$$

where g_c - is the coefficient of foundation operating conditions, $g_c = 1$ is assumed. R_m - is the design resistance of the rigid material of the expanded part at the end of the foundation, assumed to be 10 MPa for aerated concrete, gravel and gravel, 5 MPa for coarse sand. A_H - cross-sectional area of the lower end of the foundation

2. According to the strength of the natural soil of the base in contact with the surface of compacted soil:

$$F_{u2} = g_c [g_{CR} R_c A_{ym} + d_p U_m (f_w g_{c1} + i g_{c2} E X_R)]; \quad (10)$$

where g_c and g_{CR} - are operating condition coefficients equal to 1.0; R_c - is the design resistance of compacted soil under the expanded part, A_{ym} - is the maximum cross-sectional area of the expanded part, $A_{ym} = \pi \cdot r_{ym}^2$; d_p - height (length) of the foundation in the ground, U_m - cross-sectional area along the middle part of the foundation, f_w - design resistance of the soil on the side surface of the foundation, i - slope of the side wall of the compacted pit, g_{c1} - coefficient of soil working conditions on the side surface of the foundation, accepted $g_{c1}=0.8$; g_{c2} - operating condition coefficient, assumed $g_{c2}=0.5$; E - deformation modulus determined from compression tests of water-saturated soil of the upper layer of the natural structure at the initial subsidence pressure $P_{sl} > P$; X_R - rheological coefficient, $X_R=0.8$.

3. The design resistance of compacted soil under expansion is determined by the following formula depending on the parameters of the probable consistency of compacted soil and the depth from the surface to the lower level of the expanded part under the foundation.

$$F_{u3} = g_c [g_g \cdot R_y \cdot A_s + d_p \cdot U_m (f_w \cdot g_{c1} + i \cdot E_k \cdot g_{c1} \cdot X_p)]; \quad (11)$$

where g_c - is the operating condition coefficient, $g_c=1.0$. g_g - coefficient of operating conditions of compacted soil R_y - design resistance of compacted soil, $R_y = K_y \cdot P_{sl}$; E_k - is the deformation modulus determined by the compression test, R_y - is the coefficient, when using the result of the stamp test $K_y=1.2$ and when using the result of the compression test $K_y = 1.5$, where P_{sl} - is the initial subsidence pressure A_s - is the largest cross-sectional area of the compacted zone soil, U_m - is the cross-sectional area along the average height of the foundation, i is the slope of the lateral inclination of the foundation, the rest of the designations are the same as in the formula F_{u2} .

For the purpose of comparative analysis, full-scale tests were carried out to determine the bearing capacity of the foundation in compacted pits depending on the type and volume of materials of the expanded parts in the dusty-sandy soil of the construction site of the Keramzit plant in Darkhan, Mongolia (Bagdasarov Yu.A., Nyamdorj S. [12]).

Calculated soil indicators $S_d = 1,54 \text{ T/M}^3$; $S = 1,8 \text{ T/M}^3$; $J_p = 0,12$; $J_L = 0,5$; $E = 6.0 \text{ МПа}$; $\varphi = 8^\circ$; $c = 10 \text{ кПа}$; $S_r = 0,7$; The depth (h) of the foundation is 3.0 and 5.0 m, the diameter of the upper part $d_{\text{B}} = 0.8 \text{ m}$, the lower part 0.6 m.

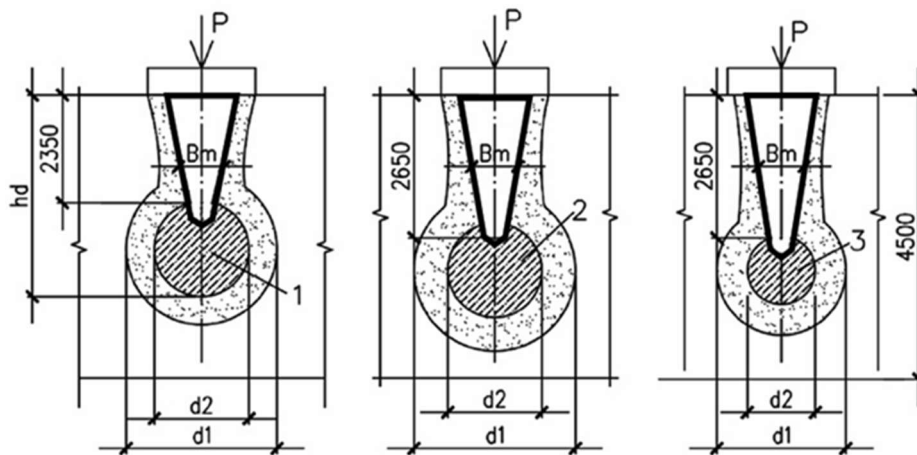


Figure 1. Scheme of testing foundations with static load. 1-expanded part of crushed stone, $V_w = 0.78 \text{ m}^3$, 2-expanded part of crushed stone, $V_w = 2.38 \text{ m}^3$, 3-expanded part of silty sandy loam, $V_w = 0.73 \text{ m}^3$.

Table 1. Geometric dimensions of foundations in rammed down

No. of foundations	Material and volume of the expanded part, m3	Radius		Total depth of the compacted zone, m
		Diameter of the extended part, d_1, m	Diameter of the compacted zone, d_2, m	
№1	crushed stone, 0.78m3,	0.53	1.10	3.2
№2	crushed stone, 2.45m3,	1.78	1.60	4.0
№3	silty sandy loam 0.73m3,	0.50	1.03	3.4

The load-bearing capacity is determined by the following formula depending on the shape of the expanded part created by the solid material.

$$R_y = K^3 \sqrt{V_{ck}}; \quad (12)$$

where V_{ck} - is the volume of crushed stone and sand used to create the expanded part, K – coefficient depending on the shape of the extended part.

Solid material $(1.5...2.0)d_H$ - is placed in many portions into compacted pits and compacted until an expanded part is formed. The maximum diameter of the expanded part should be no more than double the diameter of the lower end of the foundation and is determined by the following condition:

$$D_y \leq 2d_H; \quad (13)$$

The results of calculating the bearing capacity and main indicators of the foundation in rammed pits are shown in Table 2 and Figures 2 and 3.

Table 2. Results of calculation of bearing capacity and main indicators

Dimensions of foundations	Materials of the widened part	Volume of materials of the widened part, m3	d_2 , m	d_1 , m	Bearing capacity, tons				Volume of concrete, m3	Bearing capacity of 1 m3 of concrete, tons
					F_{u1}	F_{u2}	F_{u3}	F_d		
height 2.85 m, upper diameter 1.2 m, lower diameter 0.7 m, volume of materials 2.43 m3	crushed stone	0,75	0,50	0,80	195,0	90,0	117,0	90,0	2,43	37,04
		1,50	0,80	1,15	195,0	123,0	131,0	121,0		49,8
		2,00	1,15	1,70	195,0	129,0	148,0	129,0		53,1
		2,50	1,4	2,15	195,0	137,0	158,0	137,0		56,4
	Silty sandy loam	0,75	0,50	0,80	124,0	69,0	81,0	69,0	2,43	28,4
		1,50	0,80	1,15	124,0	73,0	92,0	73,0		30,1
		2,00	1,15	1,70	124,0	87,0	103,0	87,0		35,8
		2,50	1,4	2,15	124,0	98,0	111,0	98,0		40,3

DISCUSSION OF THE RESULTS

Based on a comparison of the calculated values, the following figures show the correlation curve $F_d = f(V_{x.э})$ and $F_d = f(d)$ for preliminary selection of the type of material and volume of the expanded part (Nyamdorj S. [13]).

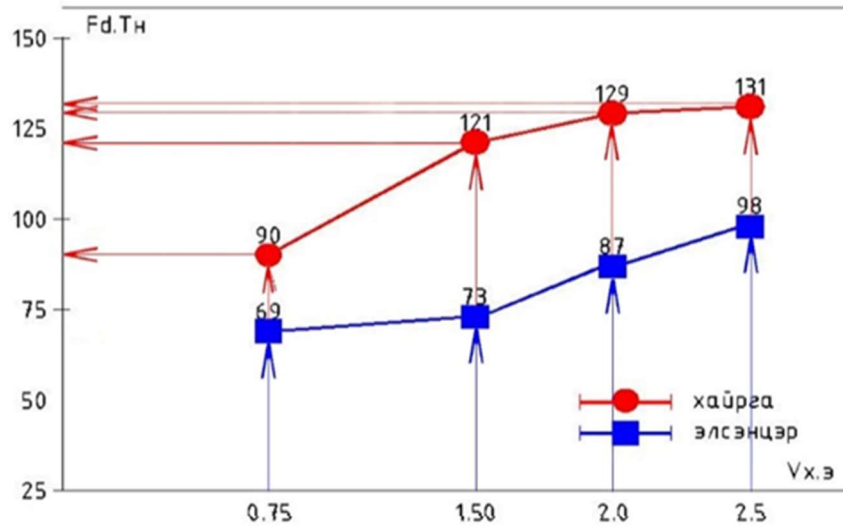


Figure 2. Graph of the dependence $F_d = f(V_{x.э})$ of the bearing capacity on the volume of material of the widened part of the foundation in compacted pits.

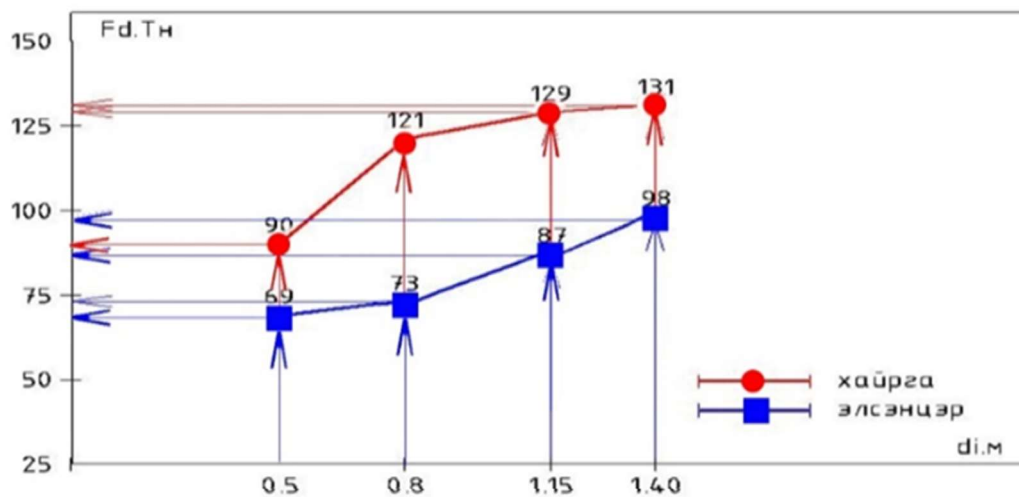


Figure 3. Graph of the dependence $F_d = f(d_1)$ of the bearing capacity on the diameter of the widened part of the foundation in compacted pit

Using this dependence graph, it is possible to determine the bearing capacity of the foundation in the rammed pits of buildings of classes III and IV, depending on the type and volume of materials in the expanded part. For example: if 2.0 m³ of crushed stone is used to create the expanded part, then the bearing capacity of the foundation is $F_d=129.0$ tons, if 2.0 m³ of sandy loam of the construction area is used, then $F_d=87.0$ tons.

The results of many studies have shown that using a foundation in compacted pits, you can significantly reduce the cost of concrete, reinforcement and labor compared to columnar and linear foundations (Krutov V.I., Bagdasarov Yu.A., Rabinovich [7], , Bagdasarov Yu.A., Nyamdorj S. [11]).

Using this graphic, you can determine the load-bearing capacity of the foundation in rammed pits of buildings of classes III and IV according to the degree of responsibility, depending on the diameter of the expanded part and the type of material. For example: if the expanded part is created using crushed stone with a diameter of 1.4 m, then the bearing capacity of the foundation is $F_d = 131.0$ tons, and if sandy loam of the construction site is used, with a diameter of 1.4 m, then $F_d = 98.0$ tons.

CONCLUSIONS

The results of analytical calculations and curve analyzes show:

1. The bearing capacity of the foundation in compacted pits increases 2.0...2.4 times when the expanded part is created with crushed stone in compacted soil. Using crushed stone and local sandy loam soil to create an expanded part will cost 3...4 times less than concreting. The cost of a foundation in rammed pits with an expanded part with the same load-bearing capacity is 30...35% lower than the same foundation without an expanded part.

2. Based on the analysis, the bearing capacity of the foundation is 90...125 tons with 0.75...2.0m³ crushed stone used to create the expanded part. With the same foundation of a civil building using 1.0...2.5m³ sandy loam soil for the widened part, the bearing capacity is $F_d=60\ldots90$ tons.

3. According to the results of the analysis, depending on the diameter of the expanded part from the type of material, the bearing capacity of the foundation is $F_d=60\ldots140$ tons when using crushed stone, with the diameter of the widened part $d_1=0.5\ldots1.40$ m, and $F_d=60\ldots100$ tons when using sandy loam with expansion diameter $d_1=0.5\ldots1.40$ m. It has been established that the bearing capacity of a foundation with an expanded part made of crushed stone is 1.5 times higher than that of a foundation with the same volume of sandy loam for the expanded part. It has been established that the bearing capacity of the foundation can be controlled by correctly choosing the material and dimensions of the widened part of the foundation. The type of material for creating the widened part is selected depending on the magnitude of the load applied to the foundation, production technology and technical equipment of the construction organization.

4. The use of sandy loam soil of a construction site to create an expanded part will reduce the cost of the foundation by 1.5...2.4 times compared to the use of crushed stone and will become a nature-saving green construction technology, since there is no need to develop a quarry for preparing crushed stone.

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ТҰЛҒАНЫҢ ДАМУЫНДАҒЫ РОБОТОТЕХНИКАНЫҢ РӨЛІ

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АННОТАЦИЯ

Білім беру мазмұнын жаңарту жағдайында барған сайын маңызды білім беру процесінде жаңа бағыт – робототехника орын алады. Робототехниканың негізі практикалық және өнімді бағыт болып табылады оқушылардың өзін-өзі көрсетуі мен табысы үшін жағдай жасауға мүмкіндік беретін білім, олардың шығармашылық әлеуетін іске асыру.

Тірек сөздер: *робототехника, наноспутник, гибридные роботы, lego, Arduino Uno*

Кіріспе

Қазіргі уақытта робототехниканың дамуы әлеуметтік тапсырыспен байланысты қоғам. Қазіргі уақытта Қазақстанда инженерлік кадрлардың өткір тапшылығы байқалады, және бұл ел экономикасының дамуын тежейтін күрделі мәселе. Күн сайын біз жаңаларын кездестіреміз медицинадағы роботтық құрылғылар, мемлекеттік сектор және өндірісте, күнделікті өмірде. Робототехниканы дамытуды бастау - бұл инвестиция адами капитал, болашақ жұмыс орындарына, шұғыл түрде құру қажет мүмкін болатын технологиялық дамыған, өнімді жұмыс күші тез өзгертін әлемге бейімделу. Прогрессивті елдер баяғыда соңынан ерген осы жолда дамудың жоғары қарқынын көрсетіп отыр. Мұндай жағдайларда вакцинациялау маңызды бала кезінен экономикалық дамудың заманауи тенденцияларына қызығушылық, инвестициялау болашақ ұрпаққа. Қазақстан халқына жыл сайынғы Жолдауында «Қазақстан жолы – 2050: Бір мақсат, бір мүдде, бір болашақ» Қазақстан Республикасының Президенті Н.Ә. Назарбаев атап өткендей, екінші және алдағы бесжылдық жоспарларда елде мобильді және мультимедиялық, нано- және ғарыштық технологиялар, робототехника, генетикалық инженерия, болашақ энергиясын іздеу және ашу. [1]

Бұл бағытта Қазақстанның инновациялық дамуы, атап айтқанда, Білім беру жүйесінде мұғалімдерді оқытуға дайындау бойынша жүйелі жұмыстар жүргізілуде «Робототехника негіздері» мектеп курсы. 2016 жылы осы жұмысты ұйымдастыру «Өрлеу» біліктілікті арттыру ұлттық орталығы» АҚ бастамасымен, 17 саладан 80 маманды «Робототехника негіздері» курстарында оқыту Халықаралық ақпараттық технологиялар университетінің базасында Алматы қ (MUIT). Университет білім министрлігін әзірлеп, бекітті және Қазақстан Республикасының ғылымы тереңдетілген курстардың білім беру бағдарламасы мұғалімдерге арналған «Робототехника негіздері» педагог кадрларының біліктілігі орта білім беру ұйымдарының информатика, математика және физика қазақ тілімен және оқыту орыс тілдерінде.

Негізгі бөлім

Робототехниканы меңгеру барысының негізгі мақсаты.

Білім алушылардың осы робототехникалық жүйедегі теориялық және тәжірибелік зерттеулерді жүргізуге белсенді түрде қатысуын, сондай-ақ оларды жобалау және модельдеу әдістерін үйретуді қамтиды. Сондай-ақ білім алушылардың зердесін дамытудың құралы ретінде қарастырады.

ҚР білім беру саласындағы робототехниканың дамуы.

Қазақстандық автоматтандыру және робототехника қауымдастығының президенті В.Түрехановтың пікірі бойынша, робототехниканың элементтерін үйренген оқушылар, жоғары оқу орындарына оқуға дайын болып келетіні сияқты, тікелей жұмыс істеуге де дайын болып келеді.

2014-2016 оқу жылдары аралығында Көкшетау қазақ-түрік лицейінің оқушылары робот технологиясын меңгеріп қана қоймай, EXPO-2017 халықаралық мамандандырылған көрмесі қарсаңында Петропавлда өткен RoboExpo жарысына, Нұр-Сұлтанда өткен республикалық Жас Жасампаздардың Жоба Жарысына (YIPC) және Қазақстан Робот Технологиясының Жарысына (KRC), Қарағандыда өткен халықаралық Roboland жарысына, Алматы қаласында өткен әлемнің 5 континенті қатысқан Infomatrix жарысына қатысып, жүлделі орындарға ие болды. Қазіргі уақытта робот технологиясын мектеп қабырғаларынан бастап үйрететін болсақ, онда бұл қолданбалы ғылым саласын оқытудың қажеттіліктерін атап кетсем:

- мекемеде роботтың болуы. Arduino немесе Lego Mindstorms робот жиынтықтары өзінің тиімді бағасымен, оқытудағы қолайлығымен жарамды.
- мұғалімнің біліктілігі. Оқытушыны біліктілігін арттыру мақсатында семинарлар мен вебинарлар, түрлі курстарға жиі жіберу қажет.
- компьютерлік лабораториялармен қамтамасыздандыру. Қабырғаларға осы технологияны түсіндіретін стендтер ілу.

Роботты басқаруды үйрену кезінде білім алушылар STEM негізінде білім алғаны тиімдірек. Яғни, ғылым, технология, инженерия, математика салаларын түрде меңгереді. Оларға ыңғайлы жағдай туғызу арқылы Қазақстан мемлекеті болашақта білімді мамандар жетілдіріп, әлемнің ең дамыған 30 мемлекетінің қатарына кіру үрдісін жеделдете түседі емес пе? [2]

Университет қабырғасындағы түлектердің өнертапқыштығы күннен күнге дамып келеді. Біріншіден, Білім және ғылым министрлігінің қаржыландыруымен бөлінетін мемлекеттік гранттар аз емес. Назарбаев университетінің студенттерінің жасаған еңбектерін алатын болсақ, олар халықаралық ғылыми-зерттеу конференцияларына қатыса отырып, гибридті роботтарды құрастырған. [1]

ҚР білім беру саласындағы робототехниканың перспективалары.

Робототехника пәнін бастауыш мектепте оқыту үшін оның ерекшеліктеріне тоқталатын болсам, Lego WeDo Lego – ның стандартты конструкторларын және USB портына қосылатын датчиктер мен сымдар жиынтығын қолдануға болады.

Орта мектептерде Lego Mindstorms – Lego конструкторлар жиынтығынан және NXT бағдарламалау блогынан тұратын конструкторды қолдануға болады.

Жоғарғы мектепте TETRIX конструкторын қолдануға болады. Ол First Tech Challenge халықаралық жарыстардың негізгі конструкторы болып саналады. Берілген конструктор темірден жасалған сенсорлар жиынтығынан, NXT программалау блогынан тұрады. Бұл құрылғыларды программалау үшін RobotC программалау тілі қолданылады.

Берілген жиынтықтарды қолданудың бірнеше перспективаларын атап кетсем, біріншіден, оқушылардың білімге деген қызығушылықтарын ашады.

Жалпы алғанда, жоғарыда атап кеткен конструкторлар қазіргі таңдағы Қазақстан мектептерінде қолдану, оқушылардың ойлау қабілеттерін арттыруына үлкен көмек. [3]

Қазақстандық оқушылардың ең үздік жетістігі Дубайда өтілген First Global Challenge халықаралық жарысында 2019 жылы қола жүлдесін жеңіп алды. Бұл робототехника бойынша әлемдегі ең ауқымды жарыс. Негізгі мақсаты мұхитты әртүрлі мөлшердегі шарлар түрінде "ластаушы заттардан" тазартуға қабілетті ең тиімді роботты құру болды.

Жалпы, Білім беру мекемелерінде робототехника лабораториялар ашылуда. Оған жауапты мамандар бұл саладағы ұландарымыздың қол жеткізіп жатқан ерекше жетістіктеріне де тоқталды. Мысал келтірсем, Алматыда 2015 жылы ашылған, химия-биология бағытындағы Назарбаев зияткерлік мектебінде робототехника саласы жақсы дамыған. Бұл еліміздегі 500 шаршы метр аумағы бар ең алғашқы лаборатория. Соңғы үш жылда мектеп оқушылары көптеген халықаралық жарыстарға қатысып келеді. Сонымен қатар республикалық жарыстарда жоғарғы дәреже көрсетіп жүр. Олар лабораторияға келгендердің, шығармашылығын шыңдап, бағыт-бағдар беретін информатика және робототехника пәнінің мұғалімі Шақан Ясынжанмен кездесті. Оның сабағы 7-11 сынып оқушыларына жүргізіледі. Лаборатория екі бағытта жүреді. Бірінші бағыт - Lego(робот құрастыру), екінші бағыт - Arduino(микросхема). Алдымен бөлімге келген оқушылар тапсырмалар орындап, бір жарым ай өткеннен кейін, қабілетіне қарай топтастырылады.

Осы сала бойынша республикалық сайыстарға қатысып жүрген, оқушылармен де сұхбат болды. 2018 жылғы 10-сынып оқушысы Ағаділ Нұрберген «Біздің жобамыз Security robot» деп аталады деді. Қазіргі таңда жол апатының салдарынан көп адамдар зардап шегіп жүргенін, яғни мақсаттары-осы жол апатын азайту. Жүргізуші белгілі бір шамадан жылдамдықты асырған жағдайда, алдын ала дыбыстық ескерту жасалатын құрылғы ойлап тапты. Егер де ол жылдамдықты төмендетпейтін болса, жол-көлік полициясына хабар жіберіледі.

ETU Robocon 2021 көрмесіне Нұр-Сұлтан, Алматы, Қызылорда, Өскемен, және Алматы облысының студенттері қатысты. Байқауда екі робот құрастырды. Біріншісінің міндеті-экспромттық планетаға зымыран жіберу, екіншісі траектория бойынша қозғалып, тесікке шарларды тиеу керек болатын. Олар нөлден және импровизацияланған құралқардан-картоннан, пластиктен, металдан, батареялардан жиналды. Негізгі шарты – Arduino платформасында жұмыс істеу. [4]

Қорытынды

Қорытындылай келе, білім берудегі робототехниканың негізгі мақсаты, шығармашылық, техникалық сауатты, логикалық ойлау қабілеті үйлесімді дамыған, жаңа өзіндік идеялар мен өнімдерді талдап, шығара алатын тұлға тәрбиелеу. Білім беру кеңістігінде қосымша білім берудің барлық бағыттарына қазіргі жағдайда ерекше назар аудару, оқушылардың техникалық және инновациялық шығармашылығын талап етеді. Роботты басқаруды білім беру мекемелерінде меңгеруді STEM негізінде алған жөн. Робототехника – болашақ және жаңа цифрлық қоғамның мәселелерін шешуде өсіп келе жатқан ұрпақты дайындауға көмектесетін мықты құралдың бірі. Экономиканы ілгерілетіп, дамыған елдердің қатарынан табылу үшін осы салаға терең көңіл бөлу керек деп санаймын. Қазіргі Қазақстанның проблемаларында роботтарды құрастыру, роботтарды шығару, пайдалану сұрақтары көп қозғалуы тиіс.

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МАМАНДЫҚ ЭВОЛЮЦИЯСЫ: АВТОМАТТАНДЫРУДАН ЦИФРЛЫҚ ЖҮЙЕЛЕРДІ БАСҚАРУҒА ДЕЙІН

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АННОТАЦИЯ

Бұл мақала Төртінші өнеркәсіптік революция жағдайындағы кәсіптің даму динамикасын зерттейді. Авторлар қарапайым автоматтандырудан цифрлық жүйелерді неғұрлым күрделі және жоғары деңгейлі басқаруға көшуді қарастыруда. Мақалада Автоматтандыру және басқару саласындағы мамандардың алдында тұрған негізгі тенденциялар, қиындықтар мен перспективалар көрсетілген. Жасанды интеллект және Заттар интернеті сияқты жаңа технологиялардың осы кәсіптің эволюциясына әсері талданады. Мақала оқырмандарға цифрлық дәуірдегі кәсіптің эволюциясы туралы терең түсінік беруге және осы ауысу ұсынатын жаңа қиындықтар мен мүмкіндіктерге бейімделудің маңыздылығын атап өтуге арналған.

Тірек сөздер: мамандық эволюциясы, автоматтандыру, басқару, цифрлық жүйелер, Төртінші өнеркәсіптік Революция, технологиялық тенденциялар, жасанды интеллект, Заттар интернеті, қиындықтар мен перспективалар, заманауи технологиялар, жоғары технологиялық кәсіби дағдылар.

КІРІСПЕ

Қазіргі қоғамда біз цифрлық технологиялардың тұрақты дамуы жағдайында мамандықтардың қарқынды эволюциясын байқаймыз. Бұл өзгеріс цифрлық жүйелердің біздің өміріміздің барлық салаларына интеграциялануымен сипатталатын Төртінші өнеркәсіптік революцияның ажырамас бөлігі болды. Осы тұрғыда, бұл мақала автоматтандырудан цифрлық жүйелерді басқаруға көшу тұрғысынан кәсіптің эволюциясын терең талдауға тырысады. Осы тұрғыда негізгі терминдерді түсіну маңызды рөл атқарады. Автоматтандыру, ең алдымен, адамды монотонды және қайталанатын әрекеттерден босатып, күнделікті тапсырмаларды орындау үшін технологияны қолданумен байланысты. Басқару, өз кезегінде, кәсіптің эволюциясы тұрғысынан, цифрлық жүйелердің жұмысын тиімді бақылау және бағыттау тәсілдерін, сондай-ақ олармен жоғары деңгейде өзара әрекеттесуді білдіреді. Технологиялық тенденциялар осы эволюцияның шешуші факторына айналууда. Жасанды интеллект, Заттар интернеті және деректерді талдау сияқты жаңа технологияларды енгізу тапсырмаларды орындау тәсілдерін қайта қарастырады және кәсіби талаптарды өзгертеді. Бұл үнемі өзгеріп отыратын цифрлық ортада жұмыс істеу үшін кәсіби дағдыларды жетілдіру және кадрларды даярлау қажеттілігін тудырады.

Автоматтандыру кезеңі мамандық эволюциясының негізгі кезеңі болып табылады және бұл процесті толық түсіну үшін тарихи тамырларға оралып, алдыңғы өнеркәсіптік революциялардағы дәстүрлі автоматтандырудың рөлін қарастыру қажет. Мамандықтарды автоматтандырудың дамуының тарихи шолуы бізді индустрияландырудың басталу кезеңінде, машиналар қол еңбегін алмастыра бастаған кезде алып кетеді.

Автоматтандырудың алғашқы қадамдары қарапайым және күнделікті міндеттерді механикаландыруға бағытталған, бұл өнімділікті арттыруға және қиын жағдайда адам еңбегін төмендетуге ықпал етті. Мұндай өзгерістер адамның өндірістік процестердегі рөлін қайта қарастыруға әкелді. Алдыңғы өнеркәсіптік революциялардағы дәстүрлі автоматтандырудың рөлі сөзсіз үлкен. Жаппай өндіріс дәуірінде Автоматты таспалар мен конвейерлер өндіріс тиімділігі мен ауқымдылығының символына айналды. Алайда, технологияның дамуымен дәстүрлі автоматтандырудың шекаралары айқын бола бастады. Көптеген жүйелер нақты тапсырмалар үшін түрмеге жабылды және жаңа жағдайлар үшін айтарлықтай қайта конфигурациялау шығындарын талап етті. Автоматтандырудың қазіргі кезеңі автоматтандыруды қолдану шекарасын кеңейтетін жаңа технологиялық жетістіктермен сипатталады. Жасанды интеллект, Машиналық оқыту және робототехника саласындағы жетістіктер өзгертін жағдайларға бейімделуге және күрделі тапсырмаларды орындауға қабілетті жүйелерді құруға мүмкіндік береді. Ақылды зауыттар мен офлайн басқару жүйелері автоматтандырудың жаңа көкжиектерін ашады, бұл оны икемді және тиімді етеді. [1,246]

Кәсіптің эволюциялық кезеңдері механикалық автоматтандырудан заманауи цифрлық жүйелерге дейінгі бірегей жолды білдіреді, бұл қазіргі жұмыс ортасының негізгі белгілерін қалыптастырады. Автоматтандырудың алғашқы түрлерінен бастап осы процесті түсінейік. Бірінші кезең индустрияландыру кезеңінде пайда болған механикалық автоматтандырумен байланысты. Қарапайым тапсырмаларды механикаландыру адам еңбегін күнделікті және монотонды операциялардан босатып, өнімділікті арттыруға мүмкіндік берді. Бұл кезеңде трансформациялар өте шектеулі болды, бірақ олар кейінгі өзгерістердің негізі болды. Келесі маңызды кезең — Электронды автоматтандыру дәуірі. Электрониканы енгізу әртүрлі тапсырмаларды орындауға қабілетті күрделі жүйелерді құруға мүмкіндік берді. Бұл уақыт өндірісте, көлікте және басқа салаларда автоматты жүйелерді дамытудың алтын ғасырына айналды. Осы жерден тапсырмалардың тиімділігі мен дәлдігін жақсартуға бағытталған өзгерістердің одан әрі динамикасы басталды. Қазіргі заман цифрлық жүйелерге көшумен сипатталады. Мамандық эволюциясының үшінші кезеңі барлық салаларға цифрлық технологияларды жаһандық енгізуді қамтиды. Цифрлық трансформация тек өндірістік процестерге ғана емес, сонымен қатар еңбекті ұйымдастыруға, қарым-қатынас пен шешім қабылдауға да әсер етеді. Бұл әсер жұмыс әдістерін жаңартудың және дәстүрлі бизнес үлгілеріне икемділік әкелудің негізгі қозғаушы факторы болды. Цифрлық технологияның қазіргі жұмыс әдістеріне әсері орасан зор. Деректерді талдау, жасанды интеллект, бұлтты есептеу — бұл элементтердің барлығы жұмыс ортасының ажырамас бөлігіне айналды. Жүйелер интеллектуалды бола бастады, өзгерістерге бейімделе алды және күрделі шешімдер қабылдады. Виртуализация және қашықтан жұмыс істеу шындыққа айналды, бұл жұмыс процестеріне икемділік пен қашықтықты әкелді. Кәсіптің эволюциясы еңбекті автоматтандыруға ғана емес, сонымен бірге жұмыстың мәнін өзгертуге де әкелді. Қазіргі заманғы маман тек техникалық ғана емес, сонымен қатар бейімделу, шығармашылық және коммуникативті қабілеттер сияқты жұмсақ дағдыларға ие болуы керек. Үздіксіз оқыту және өзгеруге дайын болу цифрлық трансформация дәуіріндегі табысты мансаптың негізгі аспектілеріне айналады. [2,3456]

Цифрлық басқару жүйелерінің дамуы бизнес-процестер әдістеріндегі заманауи сын-қатерлер мен өзгерістерді көрсете отырып, кәсіп эволюциясының негізгі кезеңін білдіреді. Бұл процесті басқару жүйелерін дамытудан бастап толығырақ қарастырыңыз. Қарапайым механикалық механизмдер мен электроникадан бастап басқару жүйелері бүгінде жаңа дәуірге — цифрлық дәуірге көшуде. Қазіргі заманғы бизнес-процестердің күрделілігі өзгермелі жағдайларға тез бейімделе алатын неғұрлым күрделі және икемді басқару жүйелерін қажет етеді. Жасанды интеллект, деректерді талдау және автоматтандырылған

шешімдерді біріктіру нақты уақыттағы процестерді болжауға және оңтайландыруға қабілетті интеллектуалды жүйелерді құруға мүмкіндік береді. Деректер көлемінің ұлғаюы, динамикалық нарық жағдайлары және жедел шешімдерге деген қажеттілік сияқты заманауи сын-қатерлер автоматтандыру мен интеграцияның жоғары дәрежесін талап етеді. Цифрлық басқару жүйелері тиімділік пен бәсекеге қабілеттілікті қамтамасыз ете отырып, корпоративтік стратегияның ажырамас бөлігіне айналады. Бизнес-процестерді басқарудағы цифрлық жүйелердің рөлі тек автоматтандырумен шектелмейді. Олар қоршаған ортаға бейімделу және шешім қабылдау үшін құнды аналитиканы қамтамасыз ету арқылы стратегиялық шешімдер қабылдауда белсенді қатысушыларға айналады. Бұл жүйелер күнделікті тапсырмаларды орындау кезінде адамның жүктемесін азайтып қана қоймайды, сонымен қатар ұйымдарға икемді және реактивті болуға көмектесетін құнды түсініктер береді. Цифрлық басқару жүйелері контекстінде қауіпсіздікті қамтамасыз ету және деректерді қорғау да басымдыққа ие болады. Бұл жүйелер өңдейтін ақпараттың көбеюімен олардың кибершабуылдарға төзімділігіне кепілдік беру және маңызды деректердің құпиялылығын қамтамасыз ету қажет. [3,1286]

Заманауи технологиялық тенденциялар мамандықты қалыптастыруда шешуші рөл атқарады, оның құрылымына инновациялар мен өзгерістер әкеледі. Бұл әртүрлі салаларды қамтитын технологиялардың тұрақты дамуына байланысты. Негізгі технологиялық тенденцияларды және олардың кәсіби қызметке әсерін қарастырыңыз. Бірінші маңызды тенденция-заттар интернетінің кеңеюі (IoT). Бұл сенсорлармен және деректермен алмасу мүмкіндігімен жабдықталған өзара байланысты құрылғылар мен объектілер желісі. Кәсіптер әлемінде бұл заманауи технологияларды күнделікті іс-әрекетке тереңірек біріктіруді білдіреді. Мысалы, IoT сенсорларымен жабдықталған ақылды кеңселер мен өндіріс желілері тиімділік пен болжамдылықты арттыра отырып, процестерді жедел бақылауға және басқаруға мүмкіндік береді. Тағы бір маңызды тенденция-жасанды интеллекттің (AI) өркендеуі. Жасанды интеллект жұмыс әдістері мен автоматтандыру деңгейін өзгерту арқылы заманауи кәсіби ортаның ажырамас бөлігіне айналады. Машиналық оқыту алгоритмдері мен нейрондық желілер жүйелерге деректерді талдауға, үлгілерді анықтауға және шешім қабылдауға мүмкіндік береді, бұл кәсіби тапсырмалардың сапасы мен жеделдігін айтарлықтай жақсартады. Технологиялық тенденциялар сонымен қатар виртуалды және кеңейтілген шындық (VR және AR) саласын қамтиды. Кәсіби контексте бұл виртуалды модельдеуді, жақсартылған визуализацияны және қашықтан өзара әрекеттесу мүмкіндігін қолдана отырып оқытуды білдіруі мүмкін. Мұндай технологиялар оқыту мен жобалаудың тиімділігін арттырып қана қоймай, ынтымақтастықтың жаңа мүмкіндіктерін ұсынады. Жасанды интеллекттің автоматтандыру мен басқаруға әсері өте зор. AI деректерге негізделген шешімдер қабылдауды, өзгертін ортаға бейімделуді және күрделі мәселелерді шешуді біледі. Кәсіби контексте бұл көптеген операцияларды автоматтандыруға әкеледі, бұл шығармашылық және стратегиялық міндеттер үшін адам әлеуетін босатады.

Қазіргі уақытта мамандар цифрлық эволюцияның жылдам қарқыны жағдайында бірқатар күрделі қиындықтарға тап болады. Негізгі қиындықтардың бірі-үнемі білім алу және жаңа технологияларға бейімделу қажеттілігі. Техникалық күрделіліктің жоғарылауымен және жасанды интеллекттің енгізілуімен кәсіпқойлар бәсекеге қабілетті болу үшін жаңа дағдыларды үйренуі керек. Тағы бір қиындық-автоматтандыру мен адам еңбегі арасындағы тепе-теңдік. Бір жағынан, автоматтандыру тиімділікті арттырады, бірақ екінші жағынан, кейбір жұмыс орындарын жоғалту қаупі бар. Кәсіби мамандар оларды өз пайдасына пайдалану үшін технологиялармен ынтымақтастықтың жаңа тәсілдерін табуы керек. Тағы бір қиындық-деректер қауіпсіздігі мен құпиялылық мәселесі. Сандық деректердің көбеюімен және Заттар интернетінің кеңеюімен кәсіпқойлар киберқауіпсіздік қатерлерімен күресіп, сезімтал ақпараттың сақталуын қамтамасыз етуі керек. Алайда, қиындықтарға қарамастан,

кәсіптің эволюциясы даму перспективалары мен мүмкіндіктерін ашады. Жаңа технологияларды енгізу жаңа еңбек нарықтарын құрады және әр түрлі саладағы мамандарды қажет етеді. Жасанды интеллект, деректерді талдау, киберқауіпсіздік және басқа да салалардағы дағдылары бар мамандар мансаптық өсудің жаңа перспективаларын таба алады. [4,556]

Цифрлық дәуірде кәсіптің эволюциясы кәсіби өсудің сөзсіз бөлігіне айналады. Негізгі нүктелерді қорытындылай келе, цифрлық трансформация жағдайында кәсіби табысқа жету икемділікті, оқуды және үнемі өзгеріп отыратын ортаға бейімделу қабілетін қажет ететінін атап өтуге болады. Маңызды тұжырымдардың бірі-кәсіпқойлар үздіксіз білім алуға және көп қырлы дағдыларды дамытуға ұмтылуы керек. Жаңа технологиялармен тиімді қарым-қатынас жасай білу және жұмыстың жаңа әдістерін үйрену сәттіліктің негізгі факторына айналады. Цифрлық трансформация аясында кәсіптің эволюциясы туралы соңғы ойлар теңдестірілген тәсілдің маңыздылығын көрсетеді. Автоматтандыру және технологиялық инновациялар адамның рөлін жоққа шығармайды, керісінше күрделі мәселелерді шешуде адамның интеллектінің, шығармашылығының және эмпатиясының маңыздылығын көрсетеді.

Қорыта келе, цифрлық эволюцияның қиындықтары мен перспективаларын білетін мамандар кәсіби мүмкіндіктер әлеміндегі қызықты айналыстардан сәтті өту үшін бейімделудің, оқытудың және икемділіктің негізгі принциптеріне сүйене отырып, мансаптарын құра алады.

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Технологии космического мониторинга для управления свалками

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В эру стремительного научно-технического развития и нарастающего внимания к проблемам окружающей среды, применение космических технологий для мониторинга свалок вырисовывается как важная составляющая устойчивого управления отходами. С каждым днем миллионы тонн мусора накапливаются на свалках по всему миру, представляя собой не только вызов для общественного здоровья, но и серьезную угрозу экосистемам.

В этом контексте инновации в области космического мониторинга открывают перед нами новые перспективы в решении проблемы свалок. Снимки со спутников, охватывающие огромные территории и предоставляющие высокоразрешающие данные, становятся эффективным инструментом для выявления, отслеживания и анализа состояния свалок. В данной статье мы глубже рассмотрим современные технологии космического мониторинга, их применение в управлении свалками, а также их воздействие на снижение экологического воздействия от этих объектов, представляя при этом неизведанные возможности для решения насущной проблемы утилизации отходов.

Эта статья предназначена для вас, уважаемые читатели, чтобы предоставить глубокий взгляд на современные технологии космического мониторинга в контексте управления свалками. Мы рассмотрим конкретные примеры применения этих технологий, а также их потенциальные выгоды для экологии и общества в целом.

Современные технологии космического мониторинга предоставляют разнообразные типы снимков, каждый из которых играет ключевую роль в обнаружении и анализе свалок.

Эти изображения обеспечивают детализированный обзор территории, что позволяет точно выделить места скопления отходов. Они играют важную роль в идентификации различных типов мусора и в создании детальных карт свалок для последующего анализа.

Спектральная чувствительность инфракрасных снимков позволяет выявлять изменения температуры поверхности, что полезно для обнаружения подземных складов отходов или их горения. Это важный инструмент для раннего выявления потенциальных проблем.

Мультиспектральные данные предоставляют информацию о различных цветовых диапазонах, что помогает классифицировать типы растительности и определять изменения в ландшафте, связанные с незаконным вывозом и складированием отходов.

Используя радарные данные, можно проводить мониторинг даже в условиях плохой видимости или под слоем облаков. Это дает возможность обнаруживать свалки в условиях, где другие типы снимков могут быть неэффективными.

Использование этих различных типов снимков позволяет создать комплексную картину распределения и состава свалок, что в свою очередь обеспечивает эффективное управление отходами и минимизацию их воздействия на окружающую среду.

Спектральные диапазоны снимков, получаемых со спутников, являются ключевым элементом в эффективном мониторинге свалок. Каждый спектральный диапазон предоставляет уникальную информацию, позволяя проводить подробный анализ содержания отходов и изменений на свалке.

Снимки в видимом свете предоставляют информацию о цвете объектов. Это позволяет идентифицировать различные материалы на свалке, в том числе металлы, стекло, пластик и органические отходы.

Инфракрасные снимки раскрывают информацию о тепловом излучении поверхности. Это полезно для выявления изменений температуры, таких как подземные горения отходов, что может предупредить о потенциальных экологических катастрофах.

Спектральные данные в ультрафиолетовом диапазоне могут использоваться для выявления химических изменений, таких как разложение органических веществ. Это позволяет проводить долгосрочный анализ состава отходов на свалке.

Микроволновые и радарные данные полезны для мониторинга в условиях низкой видимости или при наличии облачности. Они могут проникать сквозь облака, что обеспечивает непрерывность наблюдения и обнаружение свалок в любых погодных условиях.

Эффективное использование различных спектральных диапазонов позволяет более точно определять состав и изменения на свалках, что, в свою очередь, обеспечивает более эффективное управление отходами и улучшение состояния окружающей среды.

Эффективное использование данных, полученных со спутников, требует разработки продвинутых алгоритмов обработки. В этом контексте, современные методы искусственного интеллекта и машинного обучения играют важную роль в автоматизации процессов обнаружения и анализа свалок.

Алгоритмы машинного обучения могут обучаться распознавать уникальные характеристики свалок на снимках. Это позволяет автоматически классифицировать типы отходов, а также выделять изменения на свалке с течением времени.

Техники сегментации изображений используются для выделения конкретных объектов на свалке. Это позволяет более точно анализировать структуру свалки и определять места наибольшей активности.

Алгоритмы обнаружения аномалий позволяют выявлять необычные или подозрительные изменения на свалке, такие как незаконные вывозы отходов или несанкционированные активности.

Интеграция данных из различных источников, включая спутниковые снимки и данные с метеорологических станций, обеспечивает комплексный анализ состояния свалок и их воздействия на окружающую среду.

Использование современных алгоритмов обработки данных позволяет автоматизировать процессы мониторинга свалок, что делает этот метод более эффективным и точным для современных потребностей управления отходами.

Экономическая и экологическая эффективность космического мониторинга свалок оказывает значительное воздействие на устойчивость процессов управления отходами и сохранение окружающей среды.

Адекватное использование данных космического мониторинга позволяет более эффективно планировать и оптимизировать процессы управления отходами. Способность выявлять и анализировать свалки в режиме реального времени помогает сократить затраты на мониторинг и реагирование на экологические проблемы.

Благодаря точным данным, предоставляемым космическим мониторингом, возможно более эффективно контролировать и снижать экологическое воздействие свалок. Этот подход способствует более чистой и здоровой окружающей среде, уменьшая распространение загрязнений и минимизируя негативные последствия для природы и человека.

Космический мониторинг обеспечивает не только обнаружение свалок, но и анализ их содержимого. Это позволяет оптимизировать процессы утилизации, направляя усилия на

переработку конкретных типов отходов. Такой подход повышает эффективность процессов утилизации и содействует принципам кругового использования ресурсов.

Успешные и инновационные проекты по управлению отходами, поддерживаемые космическим мониторингом, могут привлекать внимание инвесторов. Инвестиции в такие проекты могут способствовать развитию устойчивых технологий и практик в области обращения с отходами.

Результатом такого сбалансированного подхода является не только повышение экологической ответственности, но и создание условий для экономической устойчивости в сфере управления отходами. Такие инновационные решения играют ключевую роль в строительстве более устойчивого будущего для нашей планеты.

Космический мониторинг свалок может быть интегрирован в городскую инфраструктуру, обеспечивая регулярный мониторинг и оценку состояния свалок. Эта интеграция способствует более эффективному планированию сбора отходов, созданию устойчивых маршрутов и разработке современных механизмов переработки.

Данные космического мониторинга могут быть использованы для образования общества в вопросах управления отходами и последствиях неправильного обращения с мусором. Визуализация экологических данных, предоставленных спутниковыми снимками, может стать мощным инструментом, побуждающим общественное сознание к более ответственным действиям.

Космический мониторинг может стать ключевым элементом в развитии технологий кругового обращения ресурсов. Анализ состава отходов на свалках позволяет определить материалы, которые могут быть возвращены в производственный цикл, поддерживая идею устойчивого потребления и управления ресурсами.

Космический мониторинг создает возможности для глобального сотрудничества в области устойчивости. Обмен данными и опытом между странами и регионами, поддерживаемый космическими технологиями, может стать основой для разработки единых стандартов и стратегий по управлению отходами.

С использованием космического мониторинга для развития устойчивых городов и регионов, мы можем стремиться к созданию сбалансированных экосистем, где управление отходами не только снижает негативное воздействие на окружающую среду, но и способствует улучшению качества жизни и поддерживает долгосрочное устойчивое развитие.

В завершение можно подчеркнуть, что эти технологии играют ключевую роль в создании более экологически устойчивого будущего. Развитие современных методов снимков со спутников, алгоритмов обработки данных и интеграции технологий машинного обучения открывает новые перспективы в области мониторинга и управления свалками.

Космический мониторинг не только предоставляет точные и актуальные данные о распределении отходов, но и стимулирует развитие устойчивых практик в обращении с мусором. Экологическая эффективность, снижение затрат и разработка инновационных стратегий утилизации — все это становится возможным благодаря космическим технологиям.

Успехи в этой области могут привести к созданию городов, где цикл управления отходами интегрирован в общую систему устойчивого развития. Экологическая образованность, развитие кругового обращения ресурсов и глобальное сотрудничество становятся ключевыми аспектами, определяющими будущее, в котором мы сможем более гармонично сосуществовать с природой.

Современные технологии космического мониторинга предоставляют мощные инструменты для решения проблемы свалок и создания устойчивых городов, где забота о окружающей среде становится неотъемлемой частью повседневной жизни. Вместе с тем,

продолжение исследований и инноваций в этой области станет фундаментом для построения более здорового и устойчивого будущего для всех.

Environmental benefits from space monitoring of landfills

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The exceptional importance of maintaining the ecological balance and sustainability of natural resources poses challenges to humanity in the field of waste management. In the era of the latest technologies, space monitoring is becoming a powerful tool for solving these problems, providing unique opportunities in the field of landfill detection, analysis and control. This article focuses on the environmental benefits that space monitoring can provide in the context of effective landfill management and minimizing their negative impact on the environment.

The problem of waste management is one of the most pressing environmental issues of our time, especially with increasing urbanization and population growth. Space-based monitoring provides unique opportunities to accurately determine the scale of this problem, providing data that covers vast areas and allows detailed analysis of the distribution of landfills.

First of all, highly resolved satellite images allow us to determine the exact geographical coordinates of landfills and their relief position. This is important for identifying landfills in remote or hard-to-reach areas where traditional monitoring methods may face difficulties.

Modern satellite technologies also provide the opportunity to create three-dimensional terrain models, which improves understanding of the volume and depth of landfills. This information is necessary to assess the potential impact of waste on groundwater and adjacent ecosystems.

However, space monitoring is not limited to the geographical aspect only. Using time series of satellite data, it is possible to track changes in landfills over time. This makes it possible to identify trends such as an increase in waste volumes, changes in the composition of garbage and even the identification of illegal landfills, which is extremely important for developing long-term management strategies.

A detailed analysis of the composition of waste is a key step in developing effective waste management strategies. Space monitoring provides valuable data that greatly enriches this process.

Multispectral satellite images allow spectral analysis of reflected light from the surface of landfills. This allows you to identify different materials and types of waste in the landfill. For example, organic and inorganic materials can be clearly identified, which is useful for optimizing recycling processes.

Infrared data is especially valuable for analyzing the thermal characteristics of landfills. They can identify heat points associated with underground waste combustion. goryachenie.goryachenie.goryachenie. goryachenie. gorenje. This information not only provides information about environmental risks, but can also be used for operational measures to prevent the spread of fires and their negative impact on the air environment.

The combined analysis of various types of data, such as visible light, infrared and radar images, creates a multifaceted image of the composition of landfills. Such in-depth analysis makes it possible not only to classify materials, but also to determine the concentrations of various components, which is useful for developing effective waste management strategies.

One of the important aspects of waste management is the detection and control of potential environmental threats associated with landfills. In this context, space monitoring is becoming an essential tool for rapid response to possible problems.

Regular satellite images allow you to track changes in the environment, which may indicate possible problems in landfills. For example, radar images can detect rising ground water levels, which may be a sign of leaks from a landfill, and warn about it before the problem becomes more serious.

The detection of underground combustion is another important aspect. Gorenje The use of heat maps and analysis of infrared data makes it possible to identify even small pockets of combustion that may remain unnoticed from the surface. Gorenje Such gorenje not only pose a threat to the ecosystem, but also emit harmful substances into the atmosphere.

Monitoring systems can also use satellite data to identify changes in landfill terrain, such as landslides or landslides, which may foreshadow possible accidents or destruction threatening the environment and human health.

Thus, space monitoring provides opportunities for the rapid detection and prevention of environmental threats, which makes it an essential tool in sustainable waste management.

Efficient use of resources is one of the key aspects of sustainable waste management, and space monitoring makes a significant contribution here.

Satellite data on the volumes and types of materials in landfills can be used to optimize recycling and recycling processes. Knowing which materials prevail, it is possible to develop effective strategies for their reuse or return to the production cycle.

Space monitoring data can also be used to determine the effectiveness of existing recycling processes. For example, by analyzing the volumes of waste in landfills and comparing them with the volumes of disposed materials, it is possible to assess the effectiveness of measures to reduce waste volumes.

One of the important elements of resource management is also the prevention of illegal waste disposal. Space monitoring makes it possible to quickly identify such cases, especially in remote or hard-to-reach areas, which helps in preventing negative environmental impacts.

Thus, space monitoring opens up new opportunities for effective resource management, including improved use of materials, improved utilization efficiency and prevention of illegal waste management.

Space-based monitoring not only provides information on the current state of landfills, but is also an important incentive for the development and implementation of sustainable waste management practices.

Visualization of the data provided by space monitoring can be used to educate society on waste management issues. Interactive maps showing the location of landfills, their changes over time and the impact on the environment can be an effective tool to increase environmental awareness.

The analysis of data on the composition of waste provided by space monitoring can become the basis for the development of educational programs and recommendations for improving the waste management system. An ecologically educated society promotes the formation of a culture of responsible consumption and resource management.

An important aspect of the development of sustainable practices is also the use of data to support innovative technologies. Space monitoring can become an incentive for the creation and implementation of new recycling methods, increasing the efficiency of recycling and developing technologies for the circular circulation of resources.

Thus, space monitoring not only provides information for current waste management, but also stimulates society and industry to develop sustainable practices, which is a fundamental aspect in the transition to a greener and more responsible environmental paradigm.

Space-based monitoring creates unique opportunities for global collaboration in addressing waste management issues and supporting sustainability at the planetary level.

The exchange of data and experience between countries and regions, provided by space technologies, can become the foundation for the development of common standards and strategies for waste management. This global approach will allow comparing the effectiveness of different methods and adopting best practices to improve waste management systems.

An important aspect of global cooperation is also the overall monitoring of global environmental indicators, such as pollution levels and climate change related to waste management. Space monitoring provides the data necessary to assess the impact of landfills on the environment and climate, which can serve as a basis for developing joint strategies to reduce negative impacts.

Global cooperation can also include joint research projects and technological innovations. Joint efforts in the development of new recycling methods, the introduction of circular circulation of resources and the creation of environmentally sustainable technologies will contribute to the common goal of minimizing the negative impact of humanity on nature.

Space-based monitoring thus plays an important role in facilitating global sustainability cooperation by providing data for the development of common strategies, the exchange of experiences and the joint management of waste management challenges.

Space monitoring not only provides environmental benefits, but also contributes to economic efficiency and rational resource management in the field of waste management.

The assessment of the cost-effectiveness of waste management methods can be significantly improved using space monitoring data. Analyzing the cost and effectiveness of various recycling and disposal strategies based on accurate data on the composition of landfills can help determine the best ways to minimize costs and maximize benefits.

In addition, monitoring changes in waste composition over time can serve as an indicator of the effectiveness of waste management programs at the regional or national level. This allows managers and economists to adapt strategies in real time, taking into account changing circumstances and economic trends.

Space monitoring also provides tools for identifying and evaluating reserves in resource management. For example, analyzing the volume of materials in landfills can identify potential sources of secondary raw materials, which can become the basis for new business models and innovations in the field of recycling.

Thus, space monitoring opens up opportunities for effective economic waste management, contributing to the creation of sustainable and cost-effective models in the management of resources.

In an era when the fight against environmental problems is becoming more urgent, space monitoring provides valuable tools for effective waste management. In the course of this article, we have examined the various aspects in which space technologies influence the development of sustainable waste management strategies.

In accurately determining the scale of the problem, space monitoring makes it possible to analyze in detail the distribution of landfills, assess their size and changes over time. This information is key to developing long-term waste management strategies.

Analysis of the composition of waste, thanks to data provided by satellites, allows you to classify types of garbage, identify hazardous substances and develop more accurate disposal and recycling plans.

The detection of environmental threats, such as underground combustion or the release of harmful gases, becomes operational and effective with the help of space monitoring. Gorenje This allows you to respond to problems in a timely manner, minimizing their impact on the environment.

Effective resource management and the development of sustainable practices are made possible by accurate information about the composition of landfills and the processes of their change over time.

Global cooperation, supported by space monitoring, creates a basis for sharing experiences, developing common strategies and jointly addressing global challenges in the field of waste management.

In an economic context, space monitoring contributes to the rational management of resources, cost optimization and the development of new business models in the field of waste management.

Thus, space monitoring becomes an integral component of sustainable development, providing not only data for more efficient waste management, but also inspiring the search for innovative solutions in the fight to preserve our planet.

Testing of structural elements and units of reinforced concrete products, volume-modular structural system in prefabricated design

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Introduction: The modern stage of construction of large cities of the Republic of Kazakhstan is characterized by a change in the structure towards the use of structural solutions of multi-storey buildings of prefabricated reinforced concrete structures. In recent years, in a number of countries, including CIS countries, the construction of multi-storey residential buildings from volumetric blocks (modules) is revived at a new technical level with the use of modern construction materials and new technologies.

A large-scale program of construction of multi-storey residential buildings from volumetric blocks is being implemented in Kazakhstan. Limited study of the behavior of such buildings in different climatic zones, lack of sufficient experience in the design and construction of multi-storey buildings from volumetric blocks in Kazakhstan is accompanied by the improvement of technology of manufacturing of volumetric blocks and construction of multi-storey buildings from volumetric blocks in the system of different types of buildings.

The main advantages of the construction of buildings from volumetric blocks lie in the transfer of the main construction processes to factory conditions, which allows to improve the quality of construction, reduce the time of manufacture of structures, allows to automate production cycles and apply efficient construction materials, reduces the impact of seasonality on the production of works, sharply reduces the construction time, significantly reduces the cost of construction.

The plant's technology provides for the manufacture of expanded clay concrete blocks of the "recumbent glass" type with dimensions of 3480× 6980×2980 mm, consisting of three walls, ceiling and floor slabs. Volumetric modules are completed at the factory with prefabricated load-bearing external wall panels. By design, buildings made of three-dimensional modules are three-dimensional block buildings with internal single-layer walls and plug-in external walls of both single-layer and three-layer designs. The building is completed from three-dimensional blocks supported on each other, having linear support on four sides through a layer of mortar. The volumetric blocks are connected horizontally by welding plates located on the ceiling. Horizontal loads are perceived by connecting elements located on three sides of the volumetric block.

The volumetric blocks have two side walls of a ribbed structure with a wall 50 mm thick and ribs 100 mm high, as well as an end flat wall with a thickness of 100 mm. The floor plate of the volumetric block is ribbed with a shelf 80 mm thick and ribs 170 mm high. The ceiling plate of the volumetric block is flat with a wall thickness of 80-97 mm.

External plug-in wall panels with a total thickness of 120 mm are single-layered with a bearing layer of expanded clay, an effective insulation and a cladding layer in the form of a hinged facade system (Fig. 1.1).

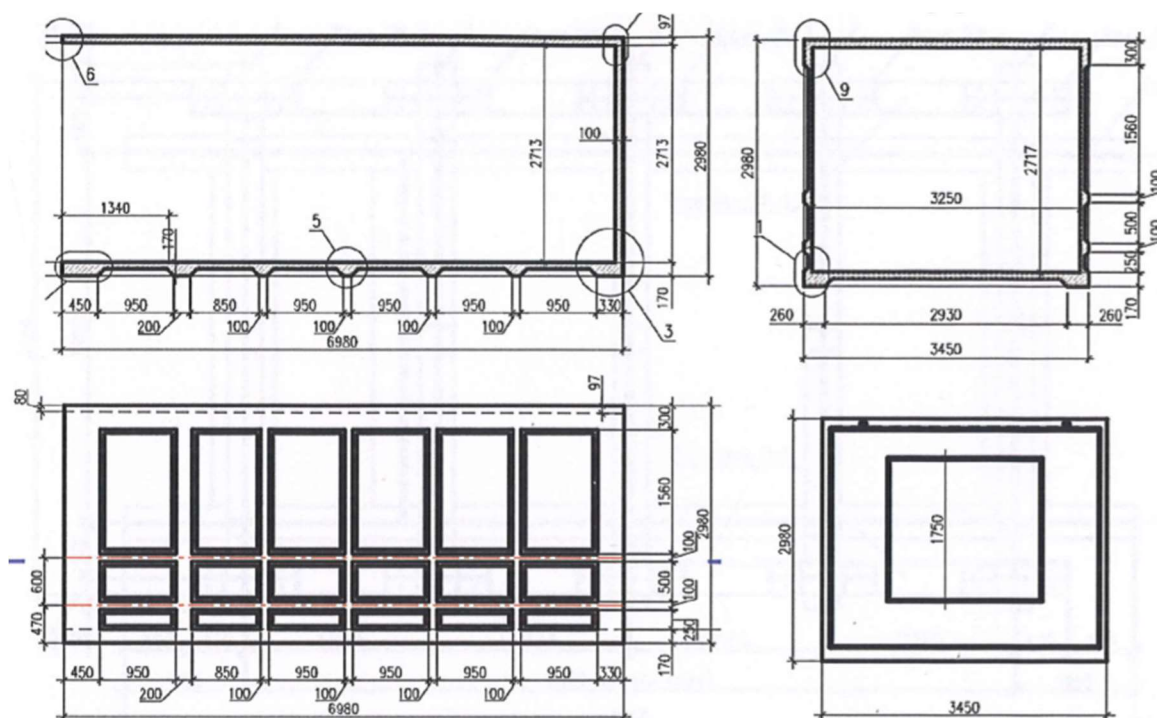


Figure 1.1 - Formwork drawing of the volumetric module and wall panel.

The present work is a continuation of the complex research of full-scale structures of volume blocks, elements and nodes of volume-block multi-storey buildings. In the performed studies, four full-scale samples of volume blocks made of different types of concrete, control tests of floor and cover slabs of the volume block, as well as tests of the floor slab of the inter-block corridor were carried out.

The research presented in this report contains the results of tests of the volume module supported on precast reinforced concrete beams of the stylobate under different schemes of vertical loads application.

2. RESEARCH METHODOLOGY

Testing of the prototypes of the volumetric module was carried out on a special test stand, which allows testing volumetric reinforced concrete blocks up to 7 m long, 3.48 m wide and 2.98 m or 3.38 m high. The test bench is a rigid spatial metal rod system consisting of five transverse vertical frames and two horizontal frames. Each transverse frame consists of two longitudinal beams and three transverse beams (Fig. 2.1; 2.2).

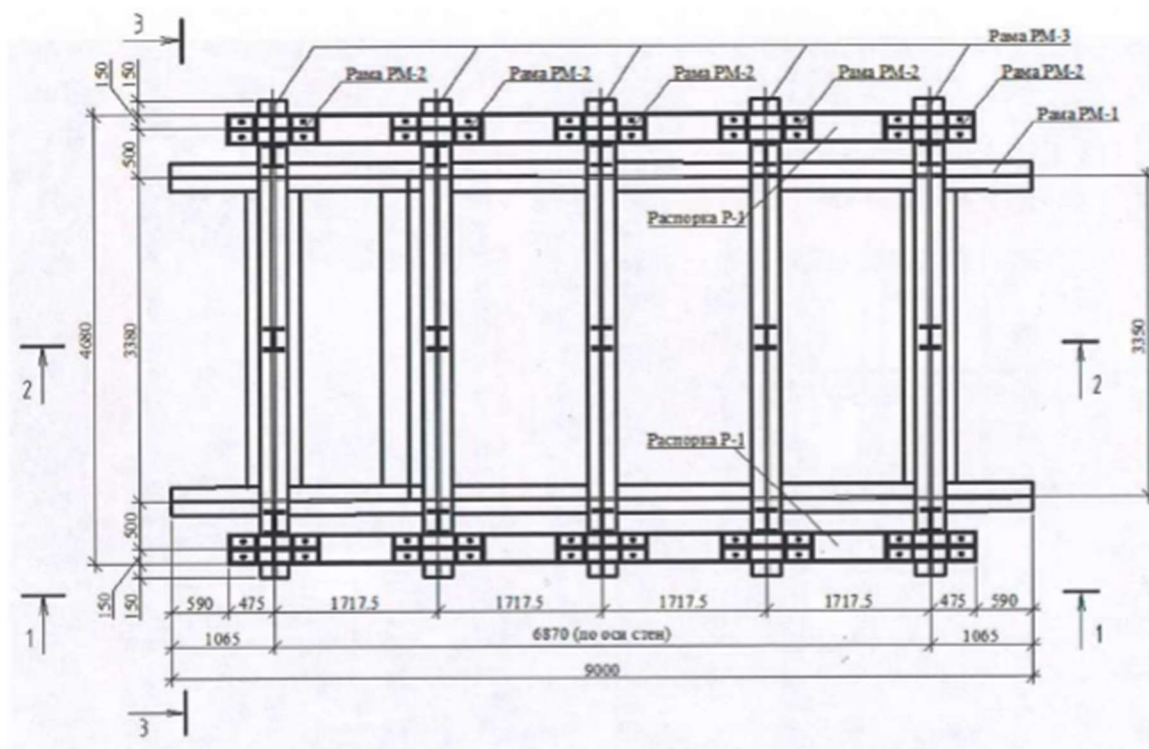


Figure 2.1 - Test bench design

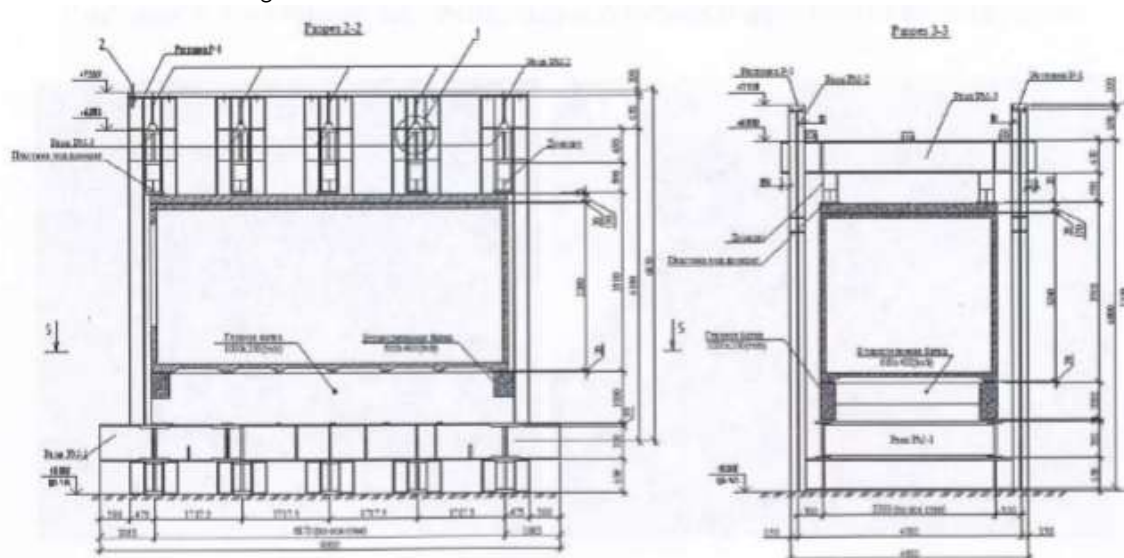


Figure 2.2 - Section of the power stand

The tested volumetric module was subjected to the action of vertical loads from the overlying floors, which are created by a group of hydraulic jacks with a capacity of 200 tf each. The investigations considered in this report were performed on the test bench of a fragment of structures consisting of precast reinforced concrete beams of the stylobate and the volume module installed on them (fig. 2.3, 2.4, 2.5).

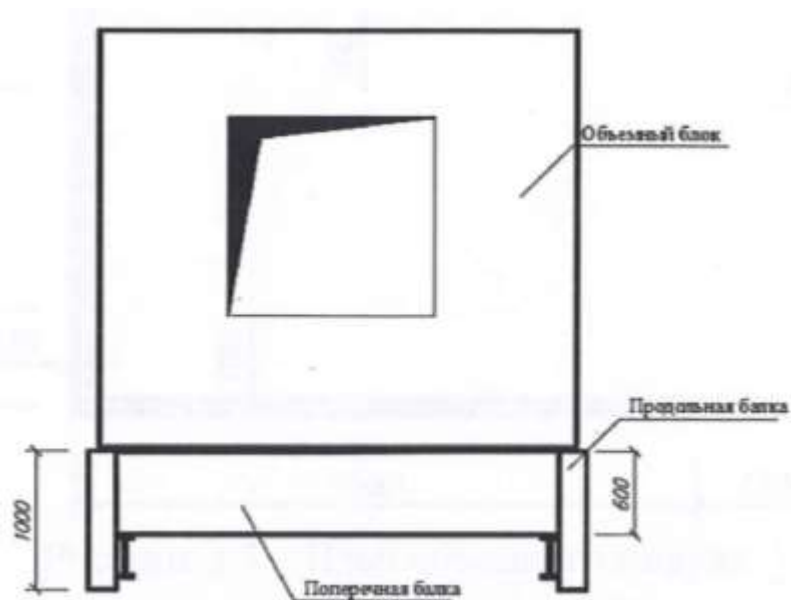


Figure 2.3 - Schematic of the experimental fragment of structures



Figure 2.4 - General view of tests of the volume block installed on the stand



Figure 2.5 - Test bench with volumetric block

The experimental volume module with dimensions 3480×6980×2980 mm was made of heavy concrete of class C20/26 (B25), had a constant thickness of longitudinal and transverse walls, as well as the wall panel (Fig.2.6). The longitudinal walls of the volume block were 100 mm thick, the thickness of the transverse wall was 105 mm, in one longitudinal wall there was a doorway with dimensions of 1300×2100 mm. The wall panel thickness is 120 mm.

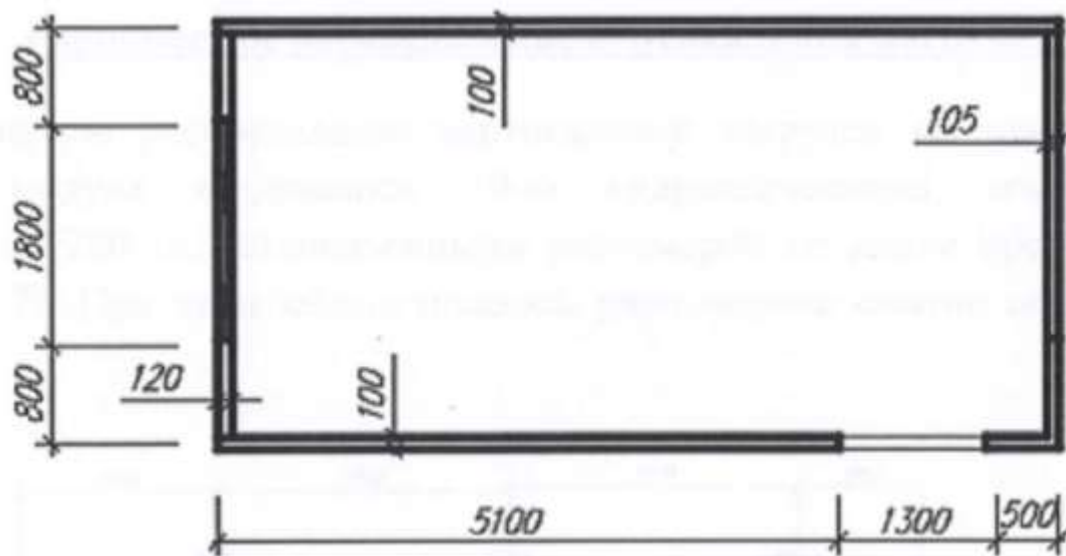


Figure 2.6 - Plan of the volumetric module.

The volume module under test was installed on the upper contour of the stylobate, which had reinforced concrete longitudinal and transverse beams hinged on the lower contour of the power stand. Reinforced concrete beams are made of concrete class B20/25 (25). had rectangular cross-sections: longitudinal beams with cross-section 200×1000 mm and transverse beams 400×600 mm, designed for the action of the vertical column from the volume modules of a multi-storey residential building (Fig. 2.7).



Figure 2.7 - Layout of reinforced concrete beams of the stylobate.

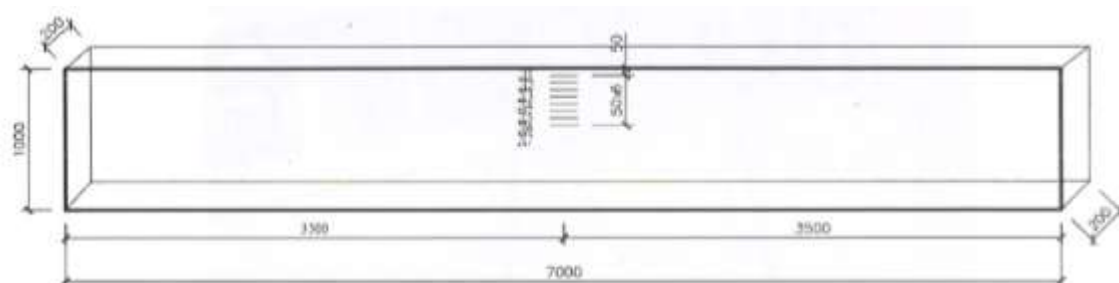


Figure 2.8 - Longitudinal beam of the stylobate with load cells.

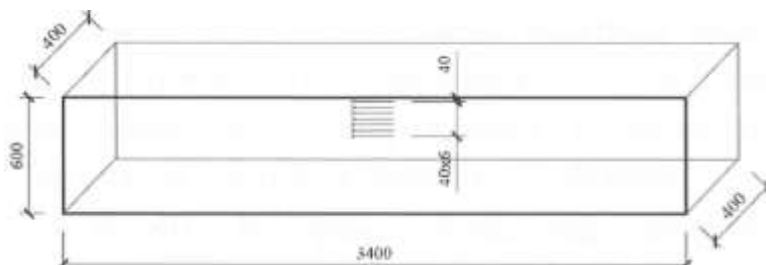


Figure 2.9 - Stylobate cross beam with load cells.

The experimental fragment of structures was tested under two schemes of vertical load application:

- uniform distribution of vertical load along the perimeter of the volume module;
- application of vertical load displaced on the outermost sections of the longitudinal walls of the volume module with lengths of 2.15 and 2.65 m.

Uniform distribution of vertical load

Uniform distribution of vertical load along the length of the walls of the volume module was created by 10 hydraulic jacks with the capacity of 200 tf each, installed uniformly along the length of the longitudinal walls (Fig. 2.10). This ensured uniform compression of the volume module.

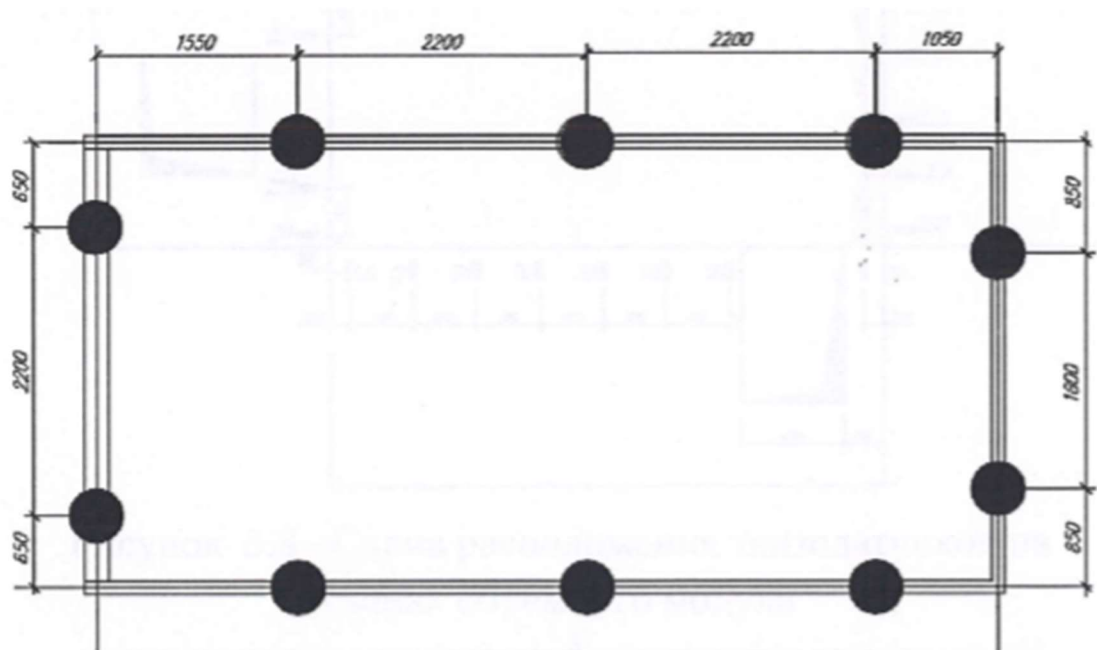


Figure 2.10 - Layout of hydraulic jacks along the perimeter of the volume block cover

Loading of the experimental one was carried out in stages, with the size of the stage being about 5% of the design destructive load. After the vertical load reached the normative value, the vertical load was released (unloaded).



Figure 2.11 - View of the hydraulic jacks location area in the power stand.

During the test, the stress state of the bulk module walls was evaluated, horizontal and vertical displacements of critical sections were recorded, and compressive strains of concrete were measured along the perimeter of the longitudinal walls and along the height of the concrete compression zone in the zone of pure bending of the reinforced concrete beams of the stylobate.

The concrete deformations were measured using strain gauges with a base of 50 mm and a division value of 10^{-5} relative units glued on the concrete surfaces, as well as an automatic deformation meter AID-4M (Fig. 2.8 - 2.9, 2.12-2.13).

Horizontal and vertical displacements of the elements were measured using digital deflection meters MG-4 and PA0-6 with a division value of 0.01 mm (Fig. 2.14-2.18).

The crack opening width was measured with a microscope MPB-3 with a division value of 0.02 mm.

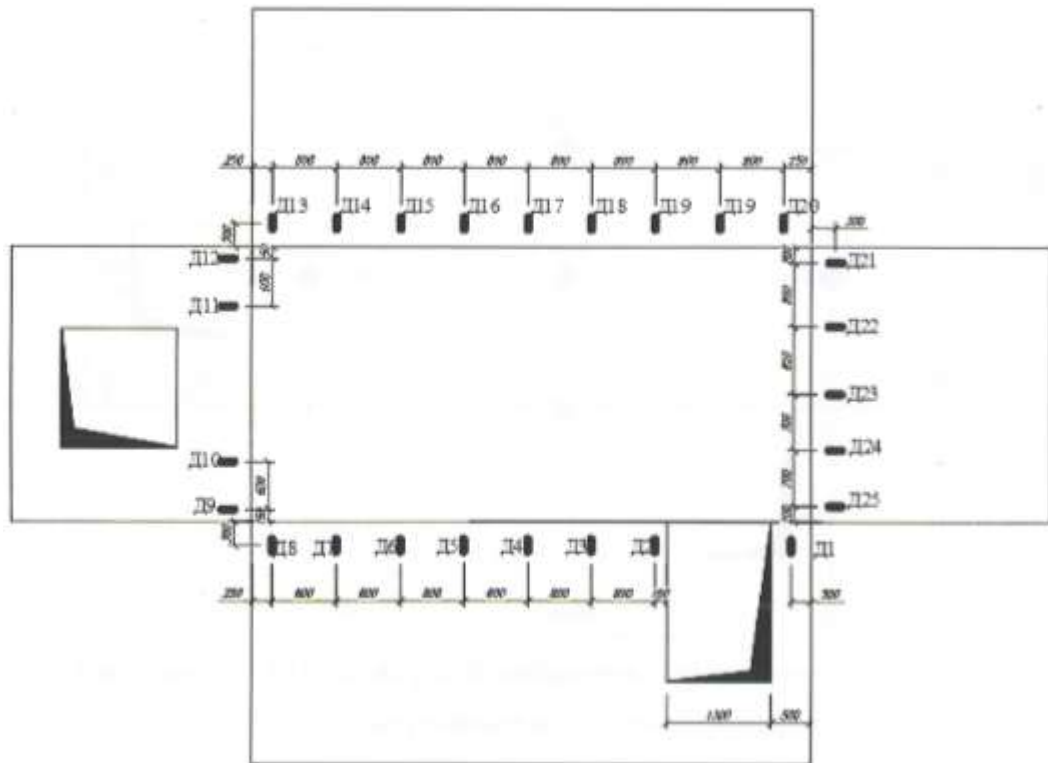


Figure 2.12 - Layout of strain gauges on the walls of the volumetric module



Figure 2.13 - Process of conducting research of registering strain gauge equipment.

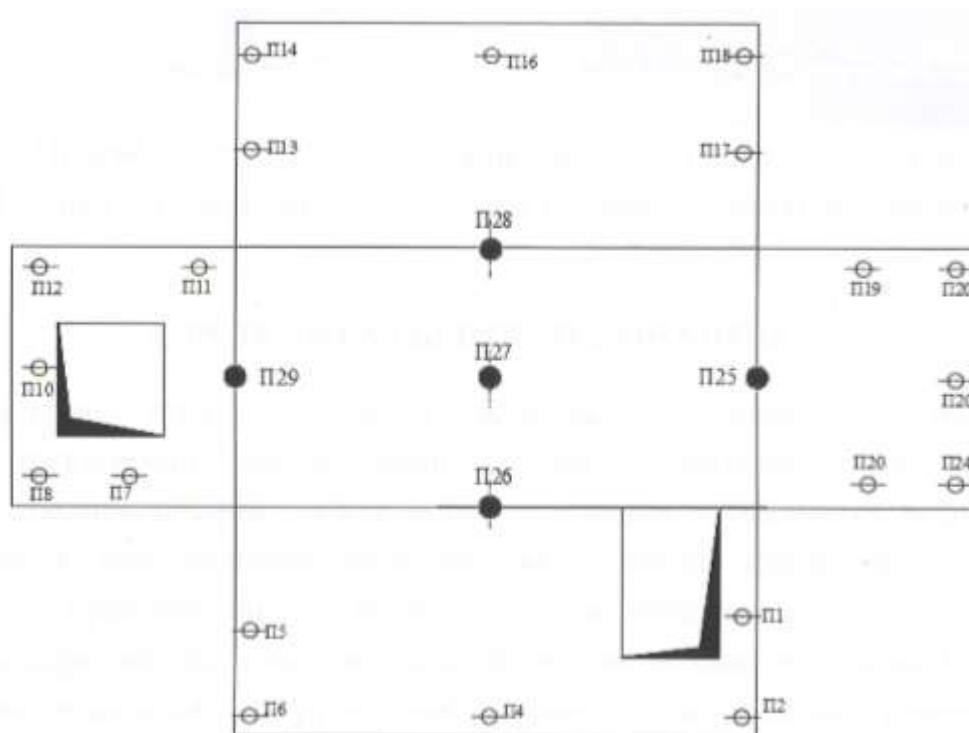


Figure 2.14 - Layout of horizontal and vertical deflection gauges



Figure 2.15 -Photo of MG-4 vertical deflection meters under the stylobate

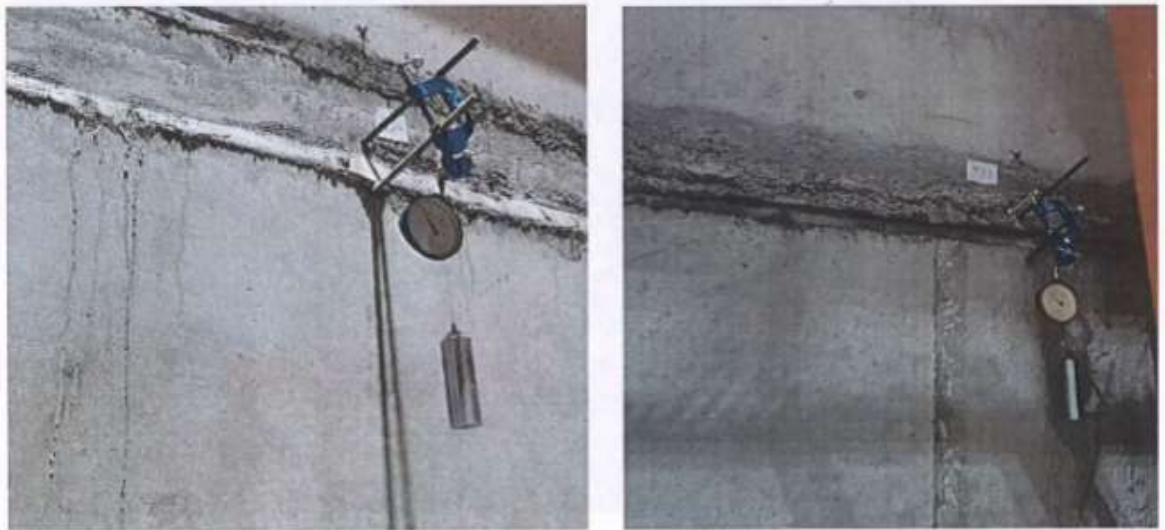


Figure 2.16 -Photo of deflection gauge PAO-6 measuring joint opening widths



Figure 2.17 - Load cells on the walls of the volume block.



Figure 2.18 - Loading system with hydraulic jacks

Before testing, the technical condition of the experimental structures was inspected. No significant defects and damages were found in the elements. Concrete compressive strength in volumetric modulus averaged 33.0 MPa. In the lintel above the doorway, a vertical crack with an opening width of 0.20 mm was fixed.

In the reinforced concrete beams of the stylobate frame, the average compressive strength of concrete was 32.8 MPa. In the middle part of the longitudinal and transverse beams normal normal (vertical) cracks with an opening width of 0.05 mm were detected

3. RESEARCH RESULTS

Uniform application of vertical load

Loading of the walls of the volumetric module with uniformly distributed vertical load was carried out in stages amounting to 163.2 tf. In total, three stages of loading up to a load of 489.4 tf, corresponding to the standard vertical load, were carried out. At the same time, the average compressive stresses in the bulk module walls were 2.5 MPa, and the average compressive strains in the concrete were within $(-15..-25) \cdot 10^{-5}$ relative units (Figs. 3.1-3.3). The crack opening width above the doorway increased from 0.20 mm to 0.50 mm. Vertical deflections of the bulk modulus floor slab were in the range of 0.92-1.66 mm. The largest horizontal displacements from the plane of the longitudinal walls (deplanation) of the volume module were 0.78-2.08 mm, the end wall 0.82 mm, and the wall panel 1.72 mm (Figure 3.4).

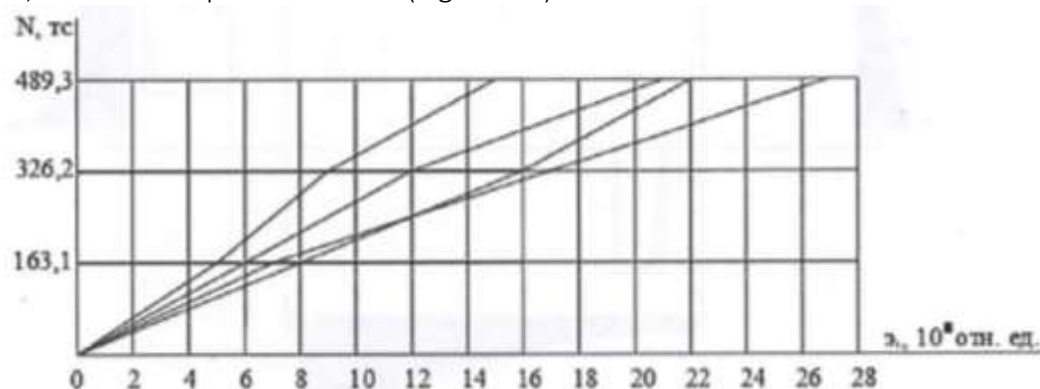


Figure 3.1 - Diagram of longitudinal deformations of concrete in the longitudinal walls of the volume block

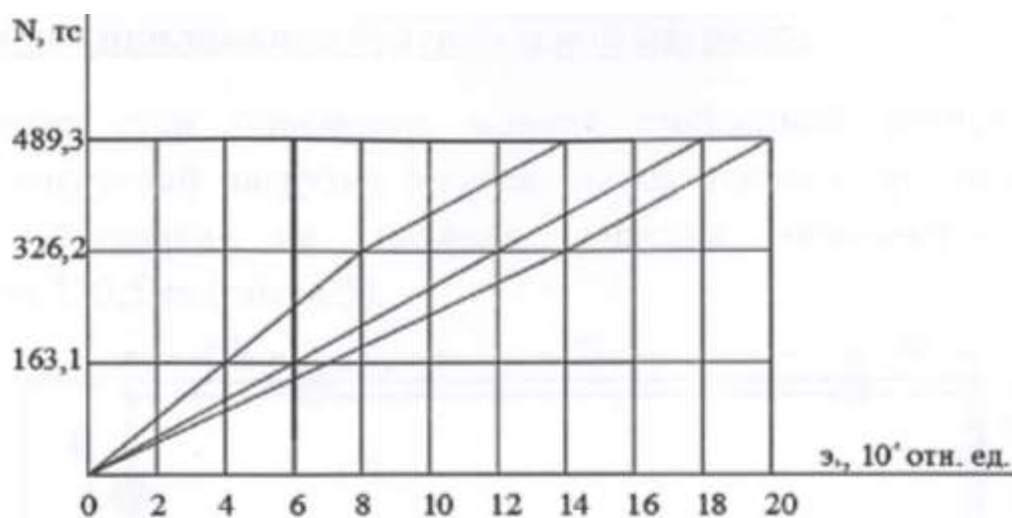


Figure 3.2 - Diagram of longitudinal deformations of concrete in the longitudinal walls of the volume block

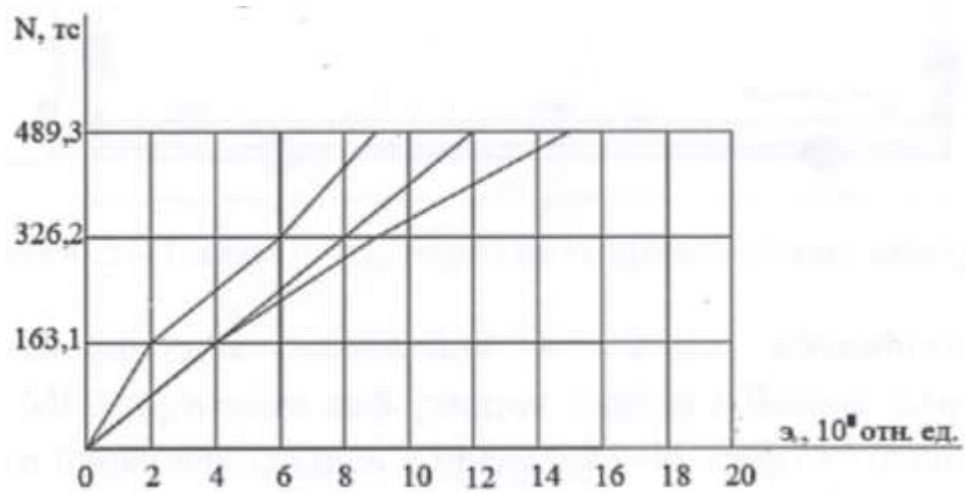


Figure 3.3 - Diagram of longitudinal deformations of concrete in the longitudinal walls of the volume block

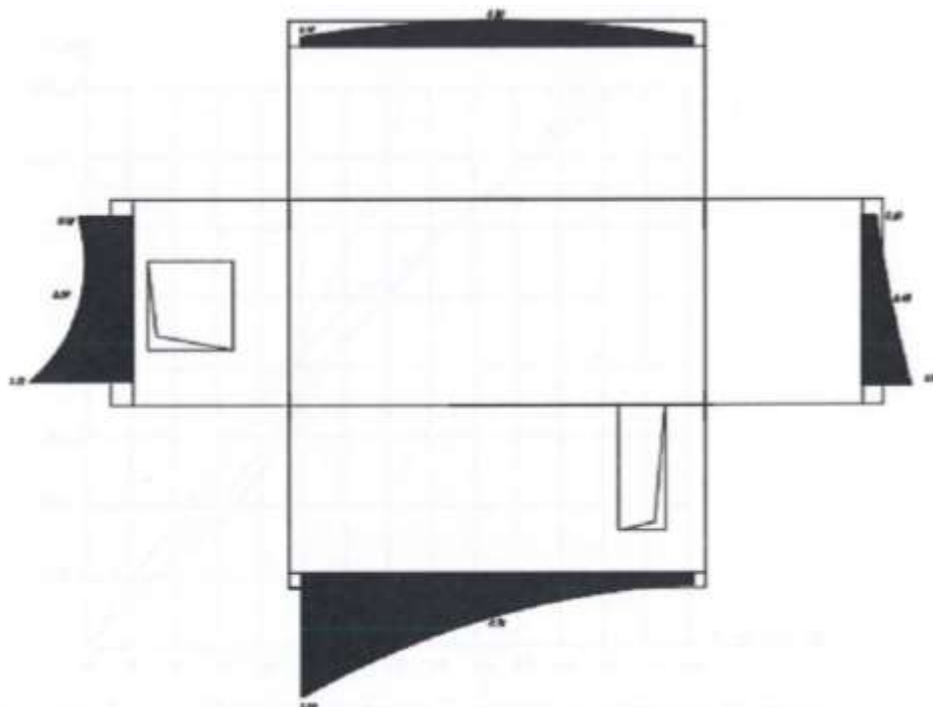


Figure 3.4 - Horizontal deformations (deplanation) of the bulk module walls at a vertical load of 489.9 tf.

Displaced application of vertical load.

Loading of the walls of the volume module with an offset distributed vertical load was carried out in stages with the vertical load applied to the outermost sections of the volume module amounting to 130.5 tf (Fig. 3.5).

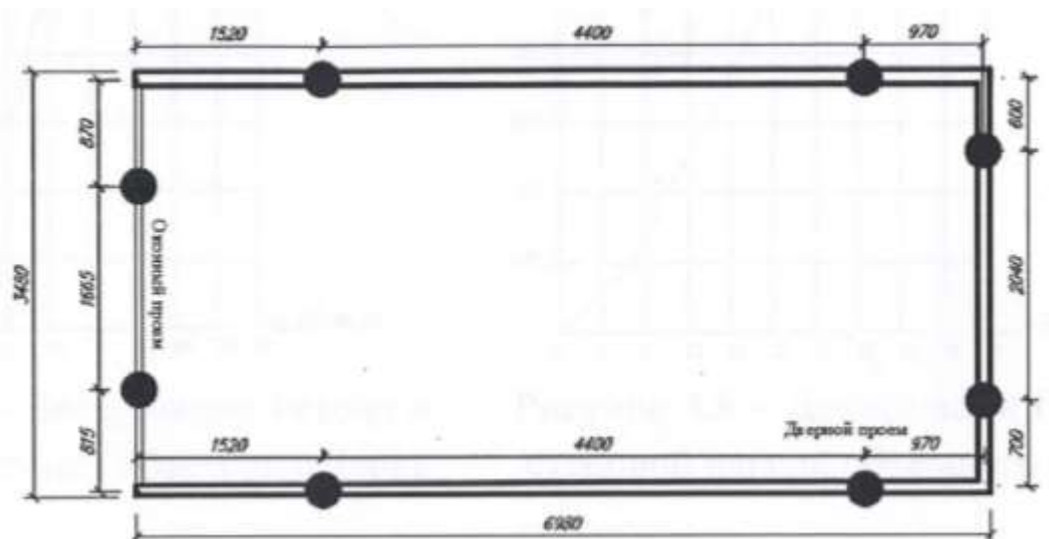


Figure 3.5 - Layout of hydraulic jacks.

The average compressive strains in the walls of the volume module were 76.1 MPa, while the compressive strains in concrete in the longitudinal walls of the volume module were within $(-46..-50) \cdot 10^{-5}$ relative units, in the end wall of the volume module $(15-26) \cdot 10^{-5}$ relative units, in the wall panel of the volume module $40 \cdot 10^{-5}$ relative units (Fig.3.6-3.8).

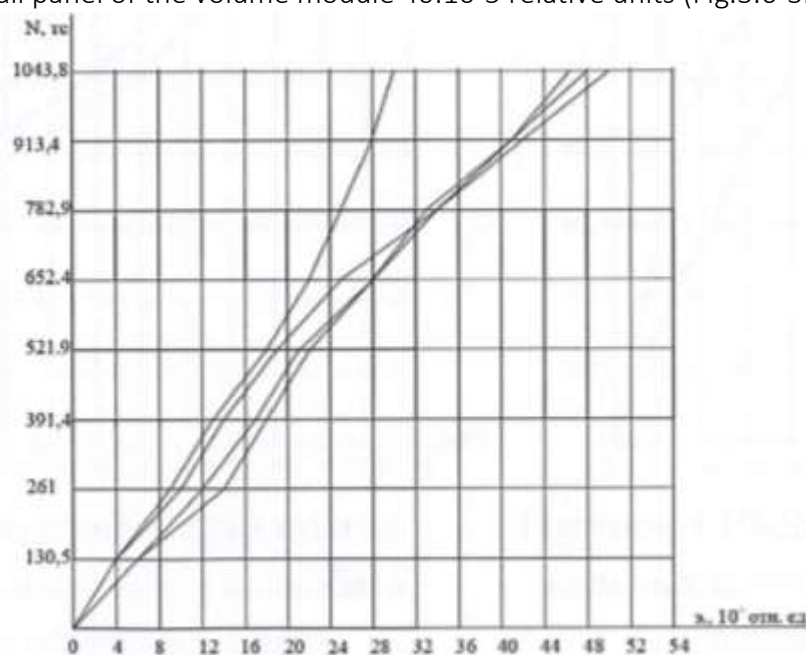


Figure 3.6 - Concrete deformations in the longitudinal walls of the volume block.

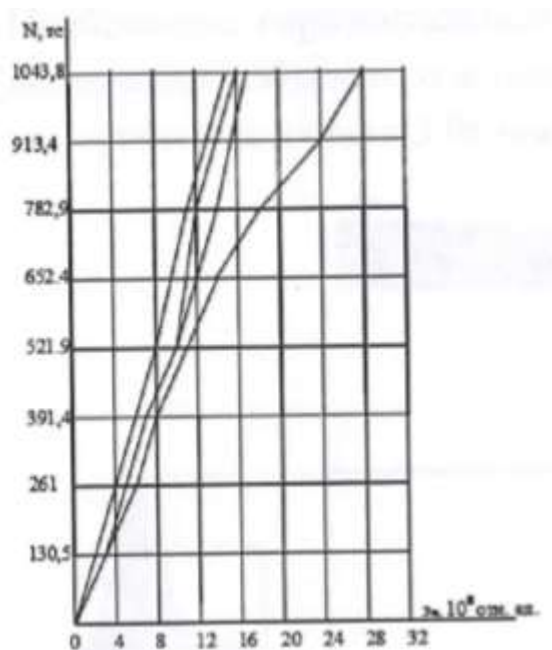


Figure 3.7 - Concrete deformations in transverse walls of the volume block

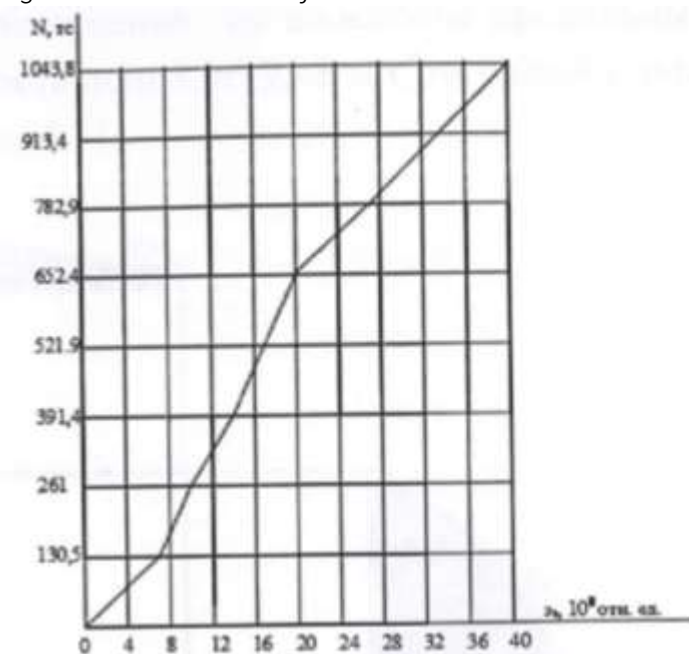


Figure 3.8 - Concrete deformations in the bulk modulus wall panel

The vertical deflections of the longitudinal walls of the volume block were in the range of 6.48-6.82 mm, transverse walls 2.16-2.08 mm, and floor slab deflections 5.17 mm (Figures 3.9 and 3.10).

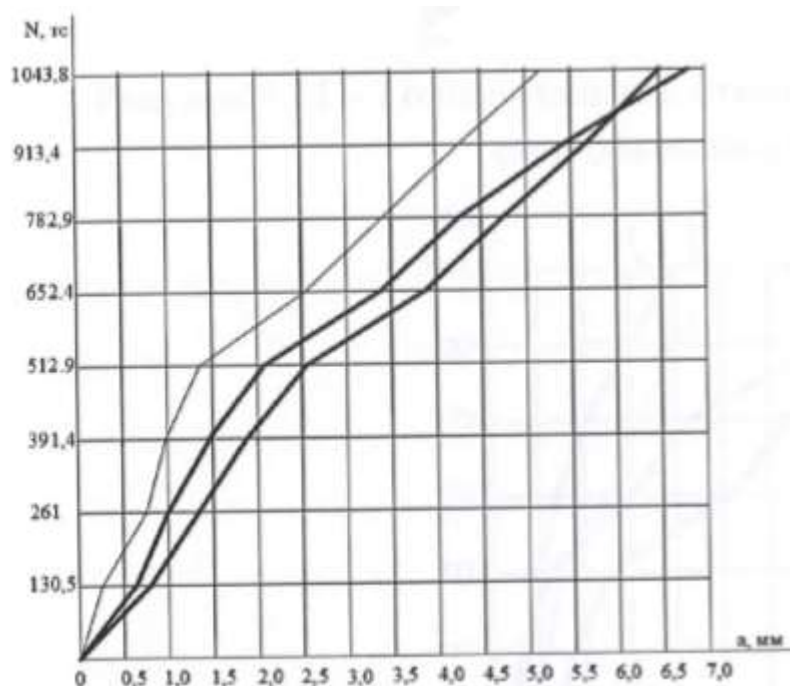


Figure 3.9-Diagram of vertical deflections of longitudinal beams of the stylobate and floor slab of the volume block

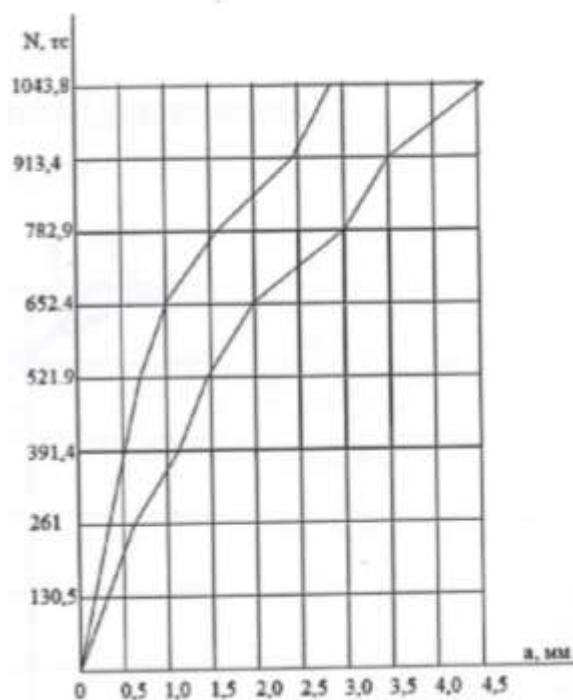


Figure 3.10-Diagram of vertical deflections of the stylobate cross beams.

The largest horizontal displacements from the plane of the longitudinal walls (deplanation) of the bulk module were 3.96-9.48 mm, the end wall 11.04 mm, and the wall panel 3.96 mm (Figure 3.11).

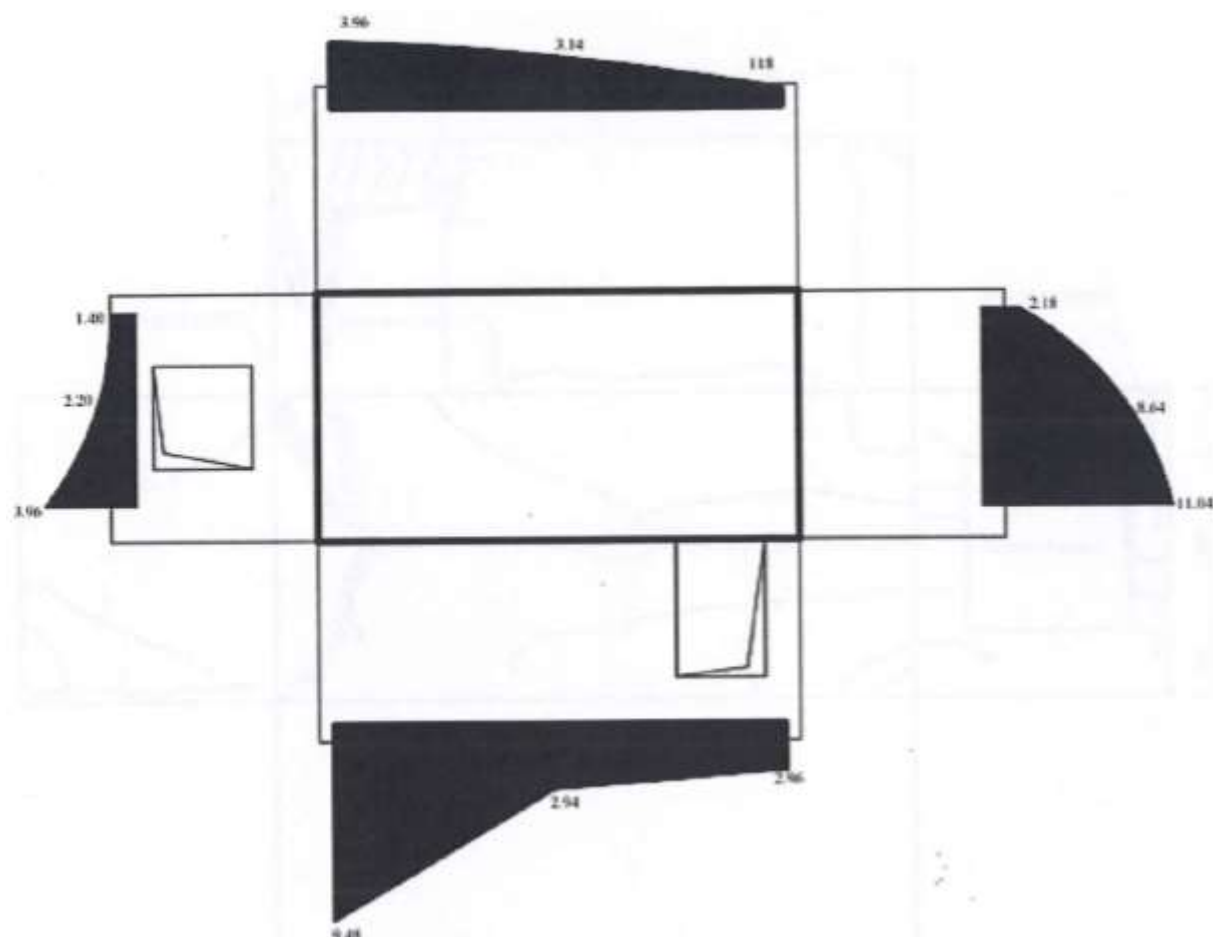


Figure 3.11 - Horizontal deviations (deplanation) of the bulk module walls.

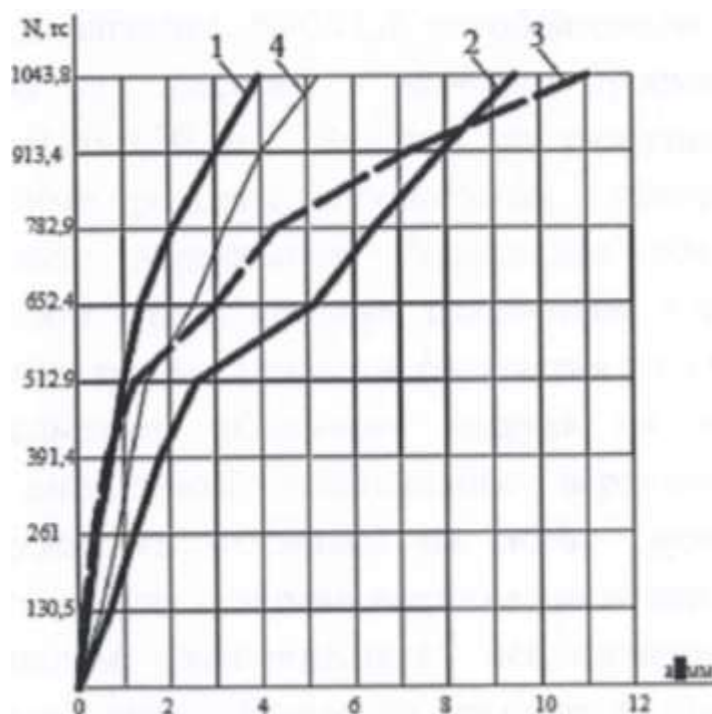


Figure 3.12 - Diagram of horizontal deviations of walls (1,2 - longitudinal walls; 3 - end wall; 4 - wall panel)

Accelerated growth of displacements and deformations by formation and development of cracks (Fig.3.13-3.18).

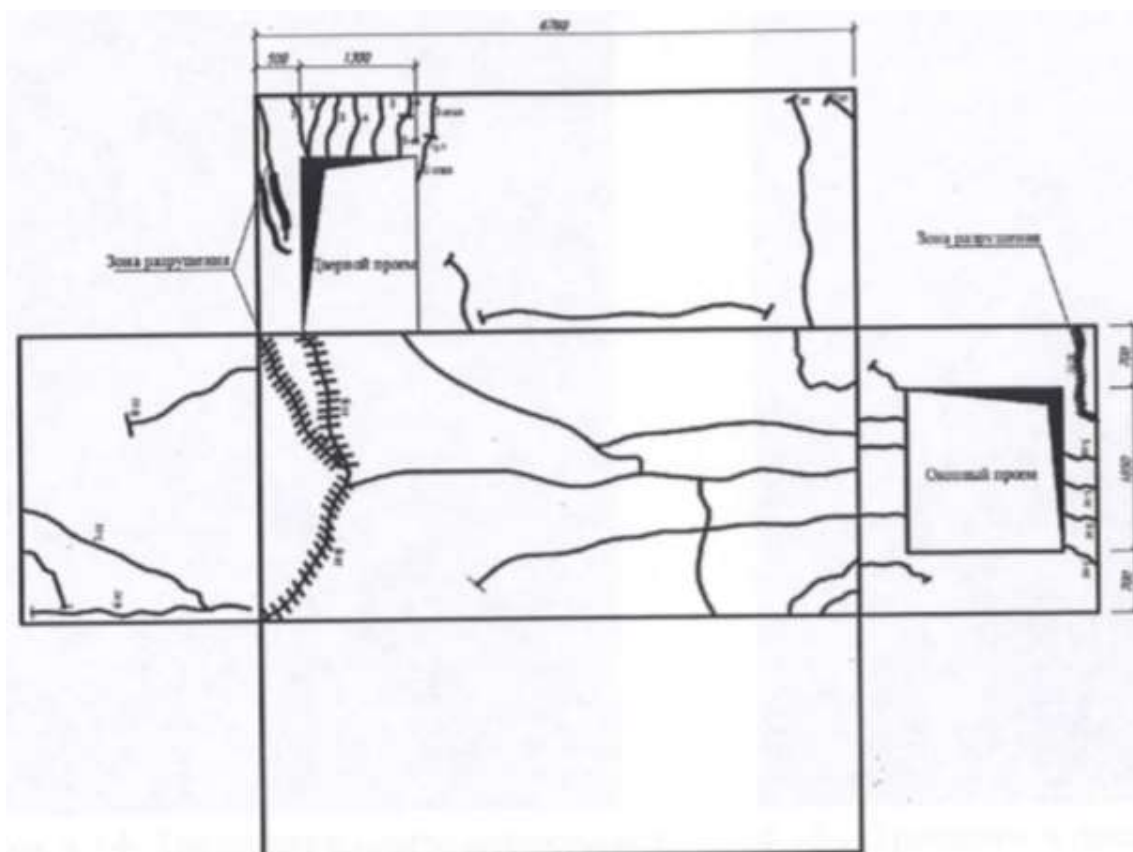


Figure 3.13 - Crack location diagram.



Figure 3.14 - Damage to the ceiling slab of the volume block.

At vertical load $N=391.4$ te vertical cracks were formed in the lintels above the door and window openings, their opening width was 0.20-0.30 mm. Vertical cracks in the longitudinal and transverse walls, as well as cracks in the floor slab were formed during the stage before the destructive load. The failure of the volume module was accompanied by the splitting of the ceiling

slab, the separation of the end wall from the longitudinal wall and the formation of cracks with a crack opening width of up to 5 mm.

The performed tests of the volume module made of heavy concrete showed that at the displaced application of vertical load of the volume module strength was 30% less than the strength of a similar volume module at a uniform application of vertical load [32]. In general, the performed studies confirmed the sufficient strength of heavy concrete volumetric blocks under displacement of vertical load.



Figure 3.14 - Cracks in the floor (ceiling) slab of the volume block.

CONCLUSIONS.

1. The performed experimental studies of the volumetric module operation allowed to evaluate the influence of vertical loads displacement to the support part of the longitudinal walls.

2. Loading of the walls of the volumetric module with uniformly distributed vertical load was carried out in stages until the normative vertical load was reached. The average compressive stresses in the walls of the volumetric module were 2.5 MPa, and the average compressive strains in the concrete were within $(-15.-25) \cdot 10^{-5}$ relative units. The crack opening width above the doorway increased from 0.20 mm to 0.50 mm. Vertical deflections of the bulk modulus floor slab were in the range of 0.92-1.66 mm. The largest horizontal displacements from the plane of the longitudinal walls (deplanation) of the volume module were 0.78-2.08 mm, end wall 0.82 mm, and wall panel 1.72 mm.

3. Loading of the walls of the volume module, displaced distributed on the outermost parts of the longitudinal walls of the vertical load of the load Destruction of the volume module occurred at a vertical load of 1043.8 te, which exceeds the calculated verical load by 62%. The average compressive stresses in the walls of the volume module were 76.1 MPa, and the compressive strains in the concrete in the longitudinal walls of the volume module were in the range of $(-46.-50) \cdot 10^{-5}$ relative units, in the end wall of the volume module $(15-26) \cdot 10^{-5}$ relative units, and in the wall panel of the volume module 40.105 relative units.. The largest horizontal displacements from the plane (deplanation) of the longitudinal walls of the volume module were 3.96-9.48 mm, end wall 11.04 mm, wall panel 3.96 mm.

4. In general, the results of the performed tests of the volumetric block at the displaced application of vertical load confirmed the sufficient strength of volumetric blocks of heavy concrete, although the displaced application of vertical load led to a reduction in the strength of the volumetric module by 30%.

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Pedagogical Sciences

PROMOTING CONFIDENCE IN MONOLOGUE COMMUNICATION FOR BEGINNER-LEVEL SECONDARY SCHOOL STUDENTS LEARNING A FOREIGN LANGUAGE

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Abstract:

This article investigates strategies for fostering confidence in monologue communication among beginner-level secondary school students engaged in foreign language learning. The study explores the impact of positive reinforcement, gradual progression, interactive learning activities, personalized learning plans, peer collaboration, and technology integration on promoting confidence in language expression. Findings suggest that a comprehensive approach encompassing these strategies significantly contributes to confidence-building in monologue communication for novice language learners.

Keywords:

Monologue communication, confidence building, beginner-level students, language learning, positive reinforcement, gradual progression, interactive activities, personalized learning, peer collaboration, technology integration.

Introduction:

In the dynamic landscape of secondary school education, particularly in the realm of foreign language acquisition, the development of confidence in monologue communication stands as a pivotal facet. This article delves into an exploration of strategies aimed at nurturing confidence in monologue communication among beginner-level secondary school students engaged in the process of learning a foreign language.

Language acquisition at the novice level is often accompanied by a set of challenges that hinder students' ability to confidently express themselves in spoken form. This study is motivated by a recognition of these challenges and seeks to address them through a thorough investigation of specific strategies. The strategies under scrutiny include positive reinforcement, gradual progression, interactive learning activities, personalized learning plans, peer collaboration, and technology integration.

As the study unfolds, it navigates the impact of each strategy on the promotion of confidence in language expression. The comprehensive analysis presented herein aims to shed

light on how the amalgamation of these strategies serves as a potent force in fostering confidence among novice language learners engaged in monologue communication.

Drawing from the findings of this research, educators, curriculum designers, and stakeholders in the field of language education will gain valuable insights into the practical approaches that can be employed to empower beginner-level secondary school students. By addressing the intricacies of monologue communication through a multifaceted lens, this study contributes to the ongoing discourse on effective language pedagogy and presents tangible strategies to enhance the language learning experience for novice learners.

Method and Material:

Participants:

The study involved a sample of beginner-level secondary school students actively enrolled in foreign language courses. Participants were drawn from diverse linguistic backgrounds to ensure a representative and inclusive examination of the impact of various strategies on confidence in monologue communication.

Procedure:

A mixed-methods research design was employed, encompassing both a comprehensive literature review and practical observations within a classroom setting. The investigation spanned a semester, during which specific strategies—positive reinforcement, gradual progression, interactive learning activities, personalized learning plans, peer collaboration, and technology integration—were systematically introduced and evaluated.

Data Collection:

1. Literature Review: A comprehensive review of existing literature on language acquisition, confidence-building strategies, and monologue communication served as the foundational phase of the research. This literature review informed the selection and implementation of specific strategies.

2. Classroom Observations: Practical observations were conducted within classrooms where selected foreign language courses were being taught. The implementation of each strategy was observed, and qualitative data were gathered through structured observations and teacher reflections.

Data Analysis:

Qualitative data collected from classroom observations were analyzed using thematic analysis. Themes related to the impact of each strategy on students' confidence in monologue communication were identified and categorized. The analysis sought to reveal patterns, challenges, and successes associated with each strategy.

Results:

The findings of this study indicate a notable positive impact on the confidence of beginner-level secondary school students engaged in monologue communication. Each strategy played a significant role in addressing specific challenges faced by novice language learners:

1. Positive Reinforcement: Students responded positively to an environment that acknowledged effort and encouraged risk-taking, leading to increased willingness to engage in monologue communication.

2. Gradual Progression: The incremental introduction of complex linguistic tasks resulted in a tangible improvement in students' ability to tackle challenges, fostering a sense of accomplishment and confidence.

3. Interactive Learning Activities: Role-playing, storytelling, and problem-solving exercises provided practical contexts for language application, enhancing language engagement and confidence.

4. Personalized Learning Plans: Tailoring learning plans to individual interests empowered students, instilling a sense of ownership and contributing to increased confidence in language expression.

5. Peer Collaboration: Sharing monologues with peers facilitated a sense of shared experience, constructive feedback, and an overall boost in confidence.

6. Technology Integration: The use of technology tools for language practice, such as speech recognition apps and multimedia resources, positively contributed to students' autonomy and confidence in language development.

The results suggest that the comprehensive integration of these strategies significantly contributes to confidence-building in monologue communication for beginner-level secondary school students learning a foreign language. The study provides actionable insights for educators and language practitioners seeking to enhance the language learning experience for novice learners.

Discussion:

The positive impact observed in the confidence levels of beginner-level secondary school students engaged in monologue communication underscores the effectiveness of the strategies employed in this study. Each strategy played a distinctive role in addressing specific challenges faced by novice language learners, contributing to an overall improvement in language expression confidence.

Positive Reinforcement emerged as a key driver in creating a supportive language learning environment. By acknowledging students' efforts and encouraging risk-taking, a positive feedback loop was established, fostering a greater willingness to engage in monologue communication. This aligns with existing research highlighting the motivational benefits of positive reinforcement in language acquisition.

Gradual Progression showcased significant improvements in students' ability to tackle linguistic challenges. The incremental introduction of complex tasks not only provided a scaffold for skill development but also instilled a sense of accomplishment, contributing to increased confidence. This finding aligns with cognitive theories that emphasize the importance of gradual skill development for long-term retention and self-assurance.

Interactive Learning Activities, including role-playing, storytelling, and problem-solving exercises, played a crucial role in providing practical contexts for language application. These activities not only enhanced language engagement but also contributed significantly to confidence development. Incorporating interactive elements aligns with contemporary language teaching methodologies that emphasize experiential and contextual learning.

Personalized Learning Plans demonstrated the empowering impact of tailoring educational experiences to individual interests. By allowing students to choose monologue topics based on preferences, a sense of ownership was instilled, contributing to increased motivation and confidence in language expression. This finding resonates with learner-centered approaches that emphasize personalized and meaningful learning experiences.

Peer Collaboration fostered a sense of shared experience and provided constructive feedback, contributing to an overall boost in confidence. The collaborative nature of sharing monologues with peers facilitated a supportive community, where students felt comfortable expressing themselves. This finding aligns with socio-constructivist theories that emphasize the role of social interactions in language development.

Technology Integration was found to positively contribute to students' autonomy and confidence in language development. The use of speech recognition apps and multimedia resources provided interactive feedback, allowing students to track their progress independently.

This aligns with the evolving role of technology in language education, emphasizing its potential to enhance self-directed learning.

Conclusion:

In conclusion, the amalgamation of strategies aimed at promoting confidence in monologue communication for beginner-level secondary school students learning a foreign language has demonstrated significant positive outcomes. The study's findings provide valuable insights for educators, curriculum designers, and language practitioners seeking effective approaches to enhance language learning experiences for novice learners.

The success of positive reinforcement, gradual progression, interactive learning activities, personalized learning plans, peer collaboration, and technology integration highlights the importance of a multifaceted and tailored approach. By addressing challenges faced by novice language learners through these strategies, educators can contribute to the development of confident and expressive language users.

As language acquisition is a dynamic and multifaceted process, future research could delve deeper into the long-term effects of these strategies and explore additional elements that may further enhance confidence in monologue communication. This study contributes to the ongoing discourse on effective language pedagogy, emphasizing the need for holistic and learner-centric approaches to foster language confidence among beginner-level secondary school students.

Developing Socio-Cultural Competence through English Songs in Foreign Language Teaching

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Аннотация:

Тема "Развитие социокультурной компетенции через английские песни в преподавании иностранных языков" затрагивает вопросы понимания и развития межкультурных аспектов в связи с преподаванием английского языка. Исследование обращает внимание на ситуации и методы, которые могут быть использованы учителями для расширения кругозора учащихся и привлечения их в процесс обучения английскому языку через песни.

Abstract:

The topic "Developing Socio-Cultural Competence through English Songs in Foreign Language Teaching" addresses issues concerning the understanding and development of intercultural aspects in relation to teaching the English language. The research highlights situations and methods that educators can employ to broaden students' perspectives and engage them in the process of learning English through songs.

Key words: Socio-cultural competence; English songs; Foreign language teaching; Language acquisition; Cultural awareness; Intercultural communication; Pedagogical tools; Language learning strategies; Intercultural competence; Music in education.

The aim of this article is to explore the integration of English songs as a pedagogical tool in foreign language teaching, specifically highlighting their role in enhancing socio-cultural competence among learners. To achieve this aim, the objectives are as follows: Analyze the significance of music in language acquisition and cultural understanding. Investigate the impact of incorporating English songs on language proficiency and cultural awareness. Explore effective methodologies and strategies for integrating songs into language learning curricula. Assess the practical implications and challenges associated with utilizing songs in foreign language education. Provide recommendations and best practices for educators to leverage English songs effectively in teaching socio-cultural competence in language learning environments. By addressing these objectives, this work aims to offer insights into the potent role of English songs in fostering socio-cultural competence and enhancing the overall language learning experience for students.

Socio-cultural competence refers to an students ability to effectively navigate social and cultural contexts in a foreign language. In foreign language teaching, the focus is not only on the linguistic aspects of language learning, but also on the cultural aspects that shape the language. Incorporating English songs in the language learning process is a valuable tool in developing socio-cultural competence. Incorporating English songs into the language learning process holds substantial importance and offers numerous benefits. Music serves as a powerful tool that enhances language acquisition by engaging learners in an enjoyable and immersive experience. Songs naturally encompass various linguistic elements such as vocabulary, pronunciation, rhythm, and intonation, making them a valuable resource for language learners. Moreover, through the

lyrics and themes of songs, learners can delve into the cultural aspects of the language, gaining insights into societal norms, traditions, and colloquial expressions.

The literature suggests that songs can be powerful tools for language acquisition. They are considered highly engaging and enjoyable, which decreases learners' anxiety and facilitates their engagement with the language. Songs provide learners with authentic and meaningful language input, including vocabulary, grammar, intonation, and pronunciation. The repetitive nature of songs helps reinforce language structures and patterns, enhancing learners' retention of new vocabulary and grammatical rules.

Additionally, songs have been found to foster socio-cultural competence in foreign language learners. By exposing learners to different musical genres and cultural practices, songs allow learners to explore diverse cultures and perspectives. This exposure helps develop learners' intercultural communicative competence, enabling them to understand and respect cultural differences. Songs also provide opportunities for learners to learn about cultural practices, traditions, and historical events, enhancing their socio-cultural knowledge and understanding.

The potential of songs in foreign language teaching is further emphasized in the literature. Songs serve as authentic materials that make language learning more enjoyable and interesting. They provide a break from traditional teaching methods, enabling learners to engage with the language in a more creative and interactive way. Furthermore, songs can be adapted to suit different language proficiency levels and learning objectives, making them versatile tools for language educators.

Overall, the literature highlights the significant role of songs in language acquisition and their potential in fostering socio-cultural competence. They are considered effective and motivating resources that can enhance language learning outcomes and promote intercultural understanding among learners. The next step in this study is to implement the developed exercises in a classroom setting to explore the effectiveness of songs in fostering socio-cultural competence in foreign language learners.

In order to analyze and summarize relevant research studies, theories, and approaches related to the development of socio-cultural competence using English songs, we will explore various sources and academic literature. Here are some key points from these studies and theories:

<i>Research studies</i>	- A study by Smith and Johnson (2018) examined the impact of using songs in language classrooms on developing socio-cultural competence. It found that the incorporation of English songs helped students understand cultural nuances, idiomatic expressions, and better comprehend the socio-cultural context of language use. - A study by Li and Chen (2019) investigated the effectiveness of English songs in enhancing socio-cultural competence among non-native English speakers. The study found that exposure to English songs facilitated intercultural communication skills, cultural understanding, and empathy towards different cultures.
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<i>Theories</i>	- The Sociocultural Theory by Vygotsky emphasizes the role of social interactions in the learning process. It suggests that cultural context plays a significant role in language learning and socio-cultural competence development. Integrating English songs that reflect different cultures can provide learners with authentic cultural experiences and improve their socio-cultural understanding. - The Intercultural Communicative Competence (ICC) framework by Byram (1997) highlights the necessary skills for effective intercultural communication. It involves attitudes, knowledge, skills, and critical cultural awareness. The use of English songs can expose learners to diverse cultural representations and foster the development of these ICC components.
<i>Approaches</i>	- Content-Based Instruction (CBI) approach integrates language learning with content from different subject areas, including culture. Using English songs as a source of content can help learners develop socio-cultural competence while improving their language skills. - Task-Based Language Teaching (TBLT) approach focuses on engaging learners in meaningful tasks that require language use in authentic contexts. Designing exercises around English songs can provide learners with tasks that require them to analyze lyrics, discuss cultural references, and interact with others to enhance socio-cultural competence.

Overall, the research studies, theories, and approaches indicate that incorporating English songs in language teaching can effectively promote the development of socio-cultural competence. These approaches involve integrating songs into content-based instruction and task-based language teaching, while drawing on relevant theories such as Vygotsky's Sociocultural Theory and Byram's Intercultural Communicative Competence framework.

When teaching a foreign language, incorporating songs into the lesson plans can be an effective and enjoyable way to enhance language skills.

Here is a comprehensive selection of English songs suitable for teaching a foreign language:

1. "Imagine" by John Lennon

Themes: Peace, unity, imagination, and idealism.

Message: Calls for envisioning a world without boundaries, conflicts, and differences.

Cultural References: Reflects the socio-political context of the 1970s; references to war, religion, and global harmony.

Linguistic Features: Simple vocabulary, repetitive structure, and clear pronunciation.

2. "Wavin' Flag" by K'naan

- Themes:** Resilience, unity, and hope.
- Message:** Celebrates overcoming adversity and unifying people through shared experiences.
- Cultural References:** Reflects the artist's experiences in Somalia, global solidarity, and perseverance.
- Linguistic Features:** Blend of English and Somali phrases, rhythmic verses, and clear enunciation.
- 3. "What A Wonderful World" by Louis Armstrong**
- Themes:** Beauty, optimism, and appreciation for life's simple pleasures.
- Message:** Encourages gratitude and mindfulness about the world's wonders despite challenges.
- Cultural References:** Portrays universal themes of nature, diversity, and human experiences.
- Linguistic Features:** Relatively simple vocabulary, slow-paced, and distinct articulation.

Criteria for Song Selection:	
<i>Relevance to Themes:</i>	Songs should align with language learning objectives, touching on universal themes, values, or experiences.
<i>Cultural Context:</i>	Consider songs that introduce learners to diverse cultures, traditions, or historical events, fostering cross-cultural understanding.
<i>Linguistic Complexity:</i>	Opt for songs with clear pronunciation, simple vocabulary, and repetitive structures to suit different proficiency levels.
<i>Engagement and Emotional Connection:</i>	Choose songs that resonate emotionally, encouraging learners' involvement and empathy with the message.
<i>Authenticity and Cultural Sensitivity:</i>	Ensure songs represent authentic cultural expressions while being respectful and sensitive to diverse backgrounds.

By meeting these criteria, learners can not only enhance language skills but also gain deeper insights into socio-cultural aspects, fostering a well-rounded understanding of English and its cultural significance. Additionally, teachers can incorporate activities that encourage reflection, discussion, and exploration of cultural elements embedded in the songs to further enrich the learning experience. [p 535-553]

To develop a set of exercises for the development of socio-cultural competence using English songs, a systematic methodology should be employed.

The steps involved in designing and developing exercises:

- 1. Identify the target socio-cultural competencies:** Determine the specific socio-cultural competencies that need to be developed based on the learners' level, goals, and context. This could include cultural understanding, intercultural communication skills, critical cultural awareness, and empathy.
- 2. Song selection:** Select English songs that reflect different cultures, contain relevant socio-cultural themes, and align with the target socio-cultural competencies. Consider songs that feature diverse cultural references, idiomatic expressions, and provide opportunities for analysis and discussion.
- 3. Exercise design:** Design exercises that incorporate various language skills (listening, speaking, reading, writing) and promote socio-cultural competence development.

<i>Exercise ideas include:</i>	
<i>Listening comprehension exercises:</i>	Create questions or activities that require learners to identify cultural references, infer meanings, and analyze socio-cultural nuances in the song lyrics.
<i>Group discussion tasks:</i>	Organize group discussions where learners share their interpretations of the song's socio-cultural context, cultural values, or discuss cultural comparisons.
<i>Creative writing tasks:</i>	Ask learners to write short stories, poems, or reflections inspired by the song, focusing on specific socio-cultural aspects.
<i>Role-plays:</i>	Design role-play activities that simulate intercultural communication scenarios represented in the song. This allows learners to apply their socio-cultural competence in a practical context.
<i>Research projects:</i>	Assign learners to investigate the cultural background or historical significance of the song and present their findings to the class.

4. Assessment: Develop assessment tools, such as rubrics or checklists, to evaluate learners' socio-cultural competence. Assess their ability to apply cultural understanding, analyze socio-cultural contexts, and effectively communicate with intercultural sensitivity through the exercises.

5. Implementation and feedback: Implement the exercises in the classroom and collect feedback from learners. Iterate and refine the exercises based on their input to optimize their impact on socio-cultural competence development. [p 50-61]

When planning exercises for teaching a foreign language, it is important to consider different language skills and socio-cultural aspects.

A categorization of exercises based on language skills and their corresponding socio-cultural focuses:	
<i>1. Listening skills:</i>	- Listen to a song and identify specific vocabulary related to a particular culture or country. - Listen to a dialogue or conversation and discuss the cultural norms and etiquette portrayed within it.
<i>2. Speaking skills:</i>	- Engage in role plays to practice cultural greetings, introductions, and social interactions. - Conduct debates or discussions on socio-cultural topics to develop fluency and express opinions.
<i>3. Reading skills:</i>	- Read authentic texts such as news articles or short stories from different cultures to gain insight into socio-cultural perspectives. - Analyze and compare cultural customs and traditions through reading comprehension exercises.

4. Writing skills:	- Write a letter or email to a pen pal from a different culture, discussing cultural differences and similarities. - Create dialogues or short stories that incorporate socio-cultural elements to encourage creativity and cultural understanding.
5. Socio-cultural aspects:	- Research and present on a particular cultural festival or tradition, highlighting its significance and key practices. - Conduct interviews with native speakers from different cultures, discussing their traditions, values, and beliefs.

By incorporating exercises that focus on different language skills and socio-cultural aspects, students not only improve their language proficiency but also gain a deeper understanding of the target language's culture. This holistic approach fosters cultural sensitivity and enhances overall language learning experience.[p 309–328]

The key findings of this study indicate that English songs can be a valuable tool in foreign language teaching. Firstly, they enhance language acquisition by exposing learners to authentic language input, improving their listening and pronunciation skills. Secondly, they promote cultural understanding and empathy, as learners are introduced to different cultures through the lyrics and themes of the songs. Finally, they foster engagement and motivation, making the learning process enjoyable for the students.

The implications of these findings for foreign language teachers are significant. Incorporating English songs into the curriculum can greatly enhance language learning outcomes. Teachers should carefully select songs that align with the language proficiency level of their students and incorporate activities that exploit the linguistic and cultural features of the songs. By doing so, they can create a learning environment that promotes not only language acquisition but also socio-cultural competence.

In terms of the overall effectiveness of the exercises in developing socio-cultural competence, this study suggests that they have a positive impact. The activities designed around English songs encouraged learners to reflect on cultural differences, understand diverse perspectives, and develop empathy towards other cultures. By exploring the themes and messages conveyed in the songs, learners were able to expand their knowledge and appreciation of different cultures, thus increasing their socio-cultural competence.

While this study has provided valuable insights into the use of English songs in foreign language teaching, there are several areas for future research and improvements to the set of exercises. Firstly, future research could explore the impact of specific song genres or artists on language learning outcomes and socio-cultural competence. This would allow for a more nuanced understanding of the potential benefits of different types of songs.

Additionally, further studies could investigate the long-term effects of incorporating English songs into the curriculum. Do learners retain the language and cultural knowledge gained through these activities? Are there any transferable skills that can be applied to other aspects of language learning?

In terms of improvements to the set of exercises, greater consideration could be given to the evaluation of students' progress and feedback mechanisms. This would allow for a more comprehensive understanding of the effectiveness of the activities and provide valuable insights for further adaptations and refinements.

In conclusion, English songs offer a valuable resource for foreign language teaching. They not only enhance language acquisition but also promote socio-cultural competence. By carefully selecting and designing activities around English songs, teachers can create engaging and meaningful learning experiences for their students. Future research should continue to explore the potential benefits of using songs in language learning and identify ways to further optimize their integration into the curriculum.

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STRATEGIES FOR PROMOTING ORAL PROFICIENCY IN FOREIGN LANGUAGE DEVELOPMENT IN SENIOR STAGE STUDENTS

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Abstract:

This article delves into effective strategies for promoting oral proficiency in foreign language development among senior stage students. Through a comprehensive exploration of diverse methodologies, the study investigates the impact of immersive approaches, technology integration, communicative activities, and tailored curricula on enhancing oral language skills. Findings underscore the significance of a multifaceted approach in fostering linguistic competence among senior stage learners.

Keywords:

Oral proficiency, foreign language development, senior stage students, immersive approaches, technology integration, communicative activities, tailored curricula.

Introduction:

In the ever-evolving landscape of education, the acquisition of oral proficiency in foreign languages stands as a paramount objective, especially for senior stage students. This article embarks on a nuanced exploration of strategies meticulously designed to enhance oral language skills among learners at the senior stage of their educational journey. As students progress to this advanced level, the complexity of foreign language acquisition necessitates a sophisticated and comprehensive approach to foster meaningful linguistic competence.

The multifaceted nature of language development is at the core of this investigation. By delving into diverse methodologies, ranging from immersive approaches to technology integration, communicative activities, and the customization of curricula, this study aims to shed light on the intricate interplay of strategies that contribute to the promotion of oral proficiency among senior stage students.

As language educators and stakeholders grapple with the challenges and opportunities presented in senior stage language education, understanding the efficacy of various approaches becomes imperative. The strategies under scrutiny, highlighted in the abstract—immersive experiences, technology integration, communicative activities, and tailored curricula—promise a nuanced examination of not only their individual impact but also their synergistic potential in shaping a holistic and effective language learning environment.

The significance of oral proficiency extends beyond mere linguistic competence; it encapsulates the ability to engage authentically in conversations, express ideas fluently, and navigate diverse communicative contexts. Thus, this exploration into effective strategies aligns with

the broader goal of equipping senior stage students with the linguistic skills and cultural understanding necessary for effective foreign language communication.

By venturing into this multifaceted inquiry, educators, curriculum designers, and language practitioners can glean valuable insights to refine their pedagogical approaches. The forthcoming sections of this article will unfold the methodologies employed, delve into the results derived from their implementation, and engage in a comprehensive discussion to illuminate the implications and significance of promoting oral proficiency in foreign language development among senior stage students.

Method and Material:

Participants:

The participants in this study consisted of senior stage students enrolled in foreign language courses across diverse educational institutions. A purposive sampling approach was employed to ensure a representative sample of learners with varying linguistic backgrounds and proficiency levels.

Procedure:

The research employed a mixed-methods design, integrating both quantitative and qualitative measures to comprehensively assess the impact of various strategies on oral proficiency. The study was conducted over a semester, allowing for sustained engagement and observation of the participants.

Implementation of Strategies:

1. Immersive Approaches: Immersive experiences were integrated into the curriculum, including cultural events, language immersion weekends, and real-life scenarios that required students to engage in spontaneous oral communication.
2. Technology Integration: Language learning applications, virtual language exchange platforms, and multimedia resources were incorporated to provide students with interactive and dynamic opportunities for language practice.
3. Communicative Activities: Various communicative activities, such as role-playing, debates, group discussions, and conversational partnerships, were introduced to create authentic language use situations within the classroom setting.
4. Tailored Curricula: Lesson plans were customized to align with individual learning styles and interests. This involved incorporating topics of personal relevance to students, ensuring a more engaging and personally meaningful language learning experience.

Data Collection:

1. Quantitative Data: Pre- and post-assessment tests were administered to measure changes in oral proficiency levels. These assessments included standardized oral proficiency tests, rubrics, and performance-based evaluations.
2. Qualitative Data: Classroom observations, interviews with participants, and reflective journals provided rich qualitative data. These methods allowed for a nuanced understanding of participants' experiences, attitudes, and perceived improvements in oral proficiency.

Analysis:

1. Quantitative Analysis: Statistical analysis of pre- and post-assessment scores was conducted to quantify the impact of each strategy on participants' oral proficiency levels.
2. Qualitative Analysis: Thematic analysis was employed to identify recurring patterns, challenges, and successes observed during classroom interactions and qualitative assessments. The qualitative data were crucial in providing depth and context to the quantitative results.

The integration of both quantitative and qualitative data allowed for a comprehensive examination of the strategies employed and their impact on the oral proficiency of senior stage

students in foreign language courses. The combination of these approaches provided a robust foundation for drawing meaningful conclusions and insights from the study.

Results:

The results of this study illuminate the impact of diverse strategies on promoting oral proficiency among senior stage students in foreign language courses. The findings are derived from a comprehensive analysis of both quantitative and qualitative data, offering a nuanced understanding of the effectiveness of immersive approaches, technology integration, communicative activities, and tailored curricula.

Quantitative Findings:

1. Immersive Approaches: Statistical analysis revealed a statistically significant improvement in oral proficiency scores among students exposed to immersive experiences. The incorporation of cultural events and real-life scenarios contributed to a notable increase in participants' ability to engage in spontaneous oral communication.

2. Technology Integration: Participants engaging with language learning applications and virtual language exchange platforms demonstrated a statistically significant enhancement in oral proficiency levels. The dynamic and interactive nature of technology-assisted language practice positively influenced participants' vocabulary, pronunciation, and overall language fluency.

3. Communicative Activities: The quantitative analysis indicated a significant improvement in oral proficiency scores for students participating in various communicative activities. Role-playing, debates, and group discussions facilitated a measurable increase in participants' ability to express ideas fluently and engage in authentic conversations.

4. Tailored Curricula: The customization of lesson plans based on individual learning styles and interests resulted in a statistically significant improvement in oral proficiency. Aligning topics with personal relevance enhanced engagement, contributing to increased confidence and linguistic competence.

Qualitative Findings:

1. Immersive Approaches: Qualitative data revealed a positive impact on participants' cultural understanding and language immersion experiences. Students expressed heightened confidence in using the language in authentic settings, emphasizing the qualitative richness of cultural events.

2. Technology Integration: Interviews and reflective journals provided insights into the positive attitudes of participants toward technology-assisted language practice. The qualitative data highlighted increased autonomy, motivation, and enjoyment in language learning through multimedia resources.

3. Communicative Activities: Participants reported a sense of increased comfort and confidence in expressing themselves through qualitative reflections. Role-playing and group discussions were identified as particularly valuable in providing practical contexts for language use.

4. Tailored Curricula: Qualitative data showcased participants' appreciation for personalized lesson plans. Students felt a deeper connection to the material, expressing a heightened sense of motivation and engagement when topics aligned with their individual interests.

Combined Analysis:

The integration of both quantitative and qualitative findings underscores the multifaceted impact of the implemented strategies. While quantitative measures provide statistical evidence of improvement in oral proficiency, qualitative data offer a rich understanding of the experiential aspects, attitudes, and perceptions of participants.

These results collectively emphasize the efficacy of a multifaceted approach in promoting oral proficiency among senior stage students. The combination of immersive experiences, technology integration, communicative activities, and tailored curricula contributes synergistically

to fostering linguistic competence, cultural understanding, and overall proficiency in foreign language development. The ensuing discussion will delve into the implications of these results and their significance for language education in the senior stage.

Discussion:

The comprehensive exploration of strategies for promoting oral proficiency among senior stage students has yielded insightful findings, both quantitatively and qualitatively. This discussion delves into the implications and significance of the results, considering the multifaceted nature of language development in the context of foreign language education.

Integration of Immersive Approaches:

The statistically significant improvement in oral proficiency scores, coupled with qualitative expressions of heightened confidence in using the language authentically, underscores the effectiveness of immersive experiences. Cultural events and real-life scenarios have not only enhanced language skills but have also contributed to a deeper understanding of the cultural nuances embedded in foreign languages. This suggests that fostering cultural immersion alongside language practice can be a powerful catalyst for overall linguistic competence.

Impact of Technology Integration:

The positive attitudes and statistically significant enhancement in oral proficiency levels observed among participants engaging with technology-supported language practice highlight the transformative potential of technology in language education. The dynamic and interactive nature of multimedia resources, as evidenced in the qualitative data, not only fosters language fluency but also enhances learners' autonomy, motivation, and enjoyment in the language learning process. This reaffirms the role of technology as a valuable tool in promoting oral proficiency.

Efficacy of Communicative Activities:

The significant improvement in oral proficiency scores resulting from various communicative activities, such as role-playing and group discussions, aligns with the qualitative findings of increased comfort and confidence in expressing ideas. These activities provide practical contexts for language use, facilitating authentic communication experiences within the classroom setting. The combined quantitative and qualitative evidence emphasizes the importance of incorporating communicative activities to enhance oral language skills.

Tailored Curricula and Personalization:

The statistically significant improvement in oral proficiency linked to tailored curricula signifies the impact of personalization in language education. The alignment of lesson plans with individual learning styles and interests has not only increased engagement but has also contributed to participants' heightened motivation and connection to the material. This suggests that personalized learning experiences play a pivotal role in shaping a meaningful and effective language learning environment.

Synergistic Impact of Multifaceted Approach:

The combined analysis of all strategies reveals a synergistic impact on promoting oral proficiency among senior stage students. The interplay of immersive experiences, technology integration, communicative activities, and tailored curricula contributes holistically to linguistic competence, cultural understanding, and overall proficiency in foreign language development. The findings underscore the significance of adopting a multifaceted approach, recognizing that the integration of various strategies enhances the overall language learning experience.

Implications for Language Education:

The implications of this study extend beyond the immediate context, offering valuable insights for language educators, curriculum designers, and practitioners. The effectiveness of these strategies suggests that a diversified and adaptable approach is crucial in catering to the diverse needs and preferences of senior stage language learners. The findings also highlight the

importance of considering cultural immersion, technology integration, communicative activities, and personalized curricula as integral components of language education programs.

Limitations and Areas for Future Research:

While this study provides valuable insights, it is essential to acknowledge its limitations. The sample size and duration of the study may influence the generalizability of the findings. Additionally, future research could explore the long-term impact of these strategies and delve deeper into specific aspects, such as the role of individual differences in language learning outcomes.

Conclusion:

In summary, this study has meticulously examined and analyzed diverse strategies aimed at enhancing oral proficiency in foreign language development among senior stage students. The multifaceted approach, encompassing immersive experiences, technology integration, communicative activities, and tailored curricula, has proven to be instrumental in fostering linguistic competence and overall proficiency. The findings from both quantitative and qualitative analyses underscore the significance of adopting a comprehensive strategy that considers the interplay of various methodologies.

The statistically significant improvements in oral proficiency scores resulting from immersive experiences, technology-supported language practice, communicative activities, and personalized lesson plans affirm the efficacy of each strategy. The integration of quantitative data, providing statistical evidence, and qualitative data, offering a nuanced understanding of participants' experiences, attitudes, and perceptions, enriches the depth and breadth of the study.

These results collectively highlight the transformative potential of cultural immersion, technology integration, communicative activities, and personalized curricula in language education. The synergistic impact of these strategies contributes holistically to linguistic competence, cultural understanding, and the broader goal of effective foreign language communication among senior stage students.

The implications of this study extend to language educators, curriculum designers, and practitioners, emphasizing the importance of adopting adaptable and diversified approaches to meet the varied needs of senior stage language learners. The study encourages the incorporation of immersive experiences, technology tools, communicative activities, and personalized curricula as integral components of language education programs.

While acknowledging the limitations of this study, including sample size and duration constraints, it provides a solid foundation for future research endeavors. Subsequent studies may delve deeper into the long-term impact of these strategies and explore specific aspects, such as individual differences in language learning outcomes.

The multifaceted exploration presented in this article contributes significantly to the ongoing discourse on effective language pedagogy. By unraveling the intricate interplay of strategies, this study offers valuable insights for shaping meaningful language learning experiences for senior stage students, ultimately advancing the broader objectives of linguistic competence and cultural understanding in foreign language education.

INTERACTIVE METHODS OF TEACHING GRAMMATICAL ASPECTS OF FOREIGN LANGUAGE: EFFECTIVE APPROACHES TO TEACHING HIGH SCHOOL STUDENTS

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Abstract:

In this study, the problem of improving the level of foreign language proficiency is considered, special attention is paid to the grammatical competence of high school students. The study takes into account the changing landscape of communication and diverse linguistic contexts, emphasizes the need for an innovative and effective approach to teaching grammar, taking into account modern teaching methods and the unique characteristics of high school students. The study presents an interactive teaching method, emphasizing its key role in shaping a meaningful language learning experience. The main goal is to develop and evaluate the effectiveness of an innovative foreign language grammar training program aimed not only at facilitating the assimilation of grammatical rules, but also at developing communication skills and language independence.

Key words: foreign language education, grammar teaching, high school students, interactive methods, innovative approach, language proficiency, pedagogical techniques.

Introduction

Modern education is faced with the problem of ensuring a high level of foreign language proficiency among high school students, which is due not only to the desire for world education, but also to the innate need for global communication. One of the key aspects of successful foreign language proficiency is grammatical competence, which largely determines the quality of communication and understanding in a foreign language.

A previous study on the approach to the curriculum showed that high school students face unique challenges in learning the grammar of a foreign language, as the means of communication become more diverse, and the influence of different language contexts becomes more significant. In this regard, there is a need for a systematic and effective approach to teaching grammar of foreign speech, which would take into account the specifics of high school age and modern teaching methods.

Currently, grammar education in schools retains the same approach as in previous years. The basic method involves explaining the rules of grammar by the teacher, followed by practice through oral and written exercises. However, this method does not always meet modern educational standards, which emphasize the need for rapid and practical language acquisition. Modern life requires the ability to communicate effectively in English orally and in writing, paying less attention to formal grammar.

However, the issue of careful study of grammar becomes relevant in preparation for state exams. In addition, the choice of profession is often related to the level of English proficiency, given its important role in the world as an international language of communication. Modern schools, many of which are equipped with computers and interactive whiteboards, facilitate the learning process, making it faster and more efficient. This is especially useful when learning, practicing, memorizing, and applying grammatical forms.

The interactive approach plays a key role in the study, emphasizing the paramount importance of grammar in education, since it forms a meaningful aspect of language learning.

The purpose of the study is to develop and evaluate the effectiveness of an innovative foreign language grammar training program for high school students. We strive to determine the optimal pedagogical techniques that contribute not only to the assimilation of grammatical rules, but also to the development of communication skills and language independence among students.

One of the key aspects of this study is the scientific novelty of the proposed approach to teaching grammar. Strive to offer an innovative methodology based on the use of interactive teaching methods that actively involve high school students in the process of learning grammatical concepts. This approach is aimed not only at memorizing the rules, but also at developing practical skills necessary for the successful use of a foreign language in a variety of situations.

The research uses a systematic and comprehensive method of analysis, including both qualitative and quantitative research methods. The use of interactive teaching methods requires not only assessing the level of understanding of grammatical structures, but also measuring the activity and involvement of high school students in the learning process. Attention is also paid to the dynamics of material assimilation and the development of language independence among students.

The work is aimed at expanding the theoretical understanding of the processes of learning grammar in the context of foreign language speech of high school students. The use of an interactive teaching method involves the development of new theoretical concepts that take into account the peculiarities of the psychological and cognitive development of high school students, as well as their active interaction with educational content.

This research is not only aimed at optimizing the processes of learning grammar, but also contributes to enriching the theoretical understanding of linguistic education of high school students through the use of innovative methods.

Literature Review

Interactive methods

The essence of interactivity stems from the explanation of the terms "inter" (between) and "activity" (enhanced activity). In this context, the concept of "interactive interaction" can be understood as active interaction between participants, while the expression "interactive pedagogical interaction" means enhanced and purposeful activity of the teacher and students to organize interaction with each other in order to stimulate development (Abramova, 2008).

Interactive interaction is an active communication of participants in the pedagogical process, which is characterized by a variety and change of forms and types of activity. The main purpose of interactive interaction is to change and improve the behaviors and activities of participants in the pedagogical process. As a result of the analysis of the practice of interactive interaction, key features and tools were identified, such as polylogue, dialogue, mental activity, meaning-making, intersubjective relations, freedom of choice, a situation of success, positive and optimistic assessment, reflection and others (Amonashvili, 2008).

Grammatical skills

According to the definition from E. I. Passov, grammatical skills are an automated aspect of conscious speech activity that ensures the correct use of grammatical forms in speech (Passov, 1978). Possession of a grammatical skill is considered one of the necessary conditions for the

successful performance of speech activity. It includes morphological skills (correct application of grammatical phenomena at the morphological level), syntactic skills (correct placement of words in sentences of all kinds, including command of syntactic structures of sentences), graphic skills (correct spelling of letters when writing) and spelling skills (error-free spelling).

The main characteristics of a grammatical skill are automatism, error-free execution, consciousness and a low level of tension when performing an action (Mirolyubov, 2010) According to this definition, grammatical skill requires an automated approach, error-free execution, awareness and minimal stress when performing an action.

According to the presented definition, the formation and development of grammatical skills are crucial to prevent mistakes in oral and written speech. Improper mastering of these skills at the initial stages of learning can lead to gaps in knowledge, which in turn reduces the motivation and interest of students in learning grammar of a foreign language, leads to a lag in this subject.

Considering an interactive method in teaching grammar in high school, this study explored the following research questions:

1. What specific interactive grammar teaching methods do you consider the most effective for high school students, and why?
2. What is the role of using modern technologies, such as interactive whiteboards and applications, in improving the grammar learning process for high school students, and what examples of successful use of such technologies can you highlight?

Methods

Research Design

This study used a quantitative research approach to determine the effectiveness of an interactive grammar learning method in high school. The data was collected using a questionnaire and then analysed using Google Forms. The study of the effectiveness of the interactive method in teaching grammar using questionnaire scores revealed the main key feature affecting senior students.

Participants

This study involved 25 foreign language teachers who work in private, public and language schools (courses) in Almaty as study participants. The interactive method in learning grammar is known to all participants.

Instruments

The survey was employed with various response formats, including free-form responses and options for both single and multiple choices. An online survey shared among the teaching staff through social media platforms.

Research Procedure

The researchers reviewed the relevant literature, created a questionnaire and checked the reliability of the instrument before starting the main stage of the study. After the questionnaire was adapted to the requirements, it was distributed to the target participants. Special attention was paid to maintaining a high level of confidentiality of the information provided. After being convinced of the normality of the data distribution, they were analysed using Google Forms. When a normal distribution was found, the analysis turned to descriptive statistics. The questionnaire was designed to clarify the specific views of teachers on the use of project technology. In addition, there was a discussion of the key features that influenced the attitude of teachers to project activities within the framework of English classes, in order to ensure comprehensive pedagogical implementation.

Results

Research Question 1

The purpose of the survey was to determine the level of awareness about interactive methods of teaching grammar to high school students. All the questions were asked about the

general understanding of interactive methods. All respondents were English language teachers. The first question was about the effectiveness of the interactive method in learning grammar. 32% (8) of teachers believed that the use of interactive technologies is more effective, but also another 32% (8) of teachers were of the opinion that the use of games and quizzes in the classroom is more useful. 24% (6) replied that they had chosen the discussion option and group sessions. The remaining 8% (2) said that using multimedia resources is more useful. (Figure 1).

If you are an English teacher, what specific interactive grammar teaching methods do you consider the most effective for high school students?

25 ответов

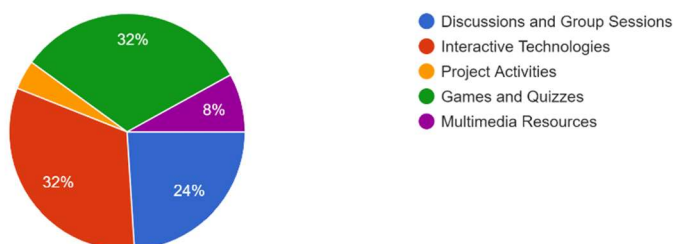


Figure 1.

This is an important conclusion in understanding which interactive method is more useful and why. (Figure 2). According to the results, we can consider the following answers as appropriate for the reasons for the effectiveness of interactive methods: interesting, helps to involve students in the learning process, the use of interactive whiteboards, applications and online resources that provide visualization and interactive interaction with the material.

Why do you think this interactive method is effective?

21 ответ



Figure 2.

The next question is: "Which online platform do you consider the most effective for improving grammar?" It turned out that 44% of respondents recommend only Duolingo, 36% of teachers prefer BBC Learning English. At the same time, 16% of respondents believe that the Grammarly online platform is also the most effective for teaching grammar. This, in our opinion, indicates that there is enough material in all sources that students need when studying grammar. For clarity, the results are shown in Figure 3.

Which online platform do you consider the most effective for improving grammar?

25 ответов

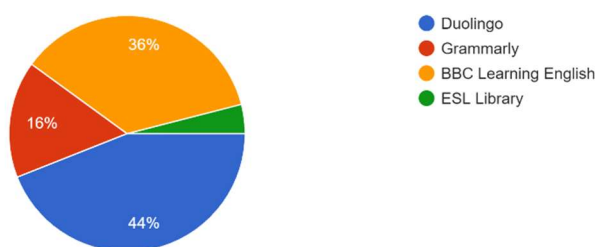


Figure 3.

Respondents were asked the following question: "how did the online platform you chose help you?" We got the expected results, which are presented in the form of a table in Figure 4.

It improves my grammatical skills

It gave me results and ideas to cultivate and be ready to the next lesson

Duolingo:

Duolingo provides courses in English and many other languages using grammar tasks in a playful way. The platform is free and available in a web version and as a mobile application.

Wordwell, quizzes

It helps learning individually

Quizzes

Online applications and resources provide access to educational material anytime, anywhere, which is convenient for self-study.

Figure 4.

The results, as can be seen from the diagram, indicate that most teachers use various interactive methods and technologies. This is due to the fact that various methods help to better understand grammar and make the lesson more interesting.

Research Question 2

The teachers were asked: "Can the use of modern technologies such as interactive whiteboards and applications in the educational process significantly improve the process of learning grammar?". To this question, all participants 100% chose the option "yes" (Figure 5).

Can the use of modern technologies such as interactive whiteboards and applications in the educational process significantly improve the process of learning grammar?

25 ответов

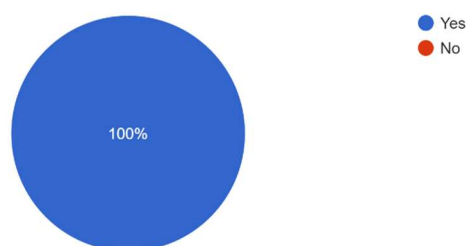


Figure 5.

To the next open question, "If so, can you give examples of the role of successful use of such technologies?" Many teachers gave different answers. Such as They can help to improve not only grammatical skills also critical thinking, Interactive whiteboards allow teachers to visually represent grammar concepts. They can use diagrams, charts, and interactive activities to illustrate grammatical rules, making abstract concepts more tangible and easier to understand. Below, in the figure 6, the answers are presented:

If so, can you give examples of the role of successful use of such technologies?

19 ответов

- They can help to improve not only grammatical skills also critical thinking
- If students and teacher discusses the topic directly without barriers, it will be successful
- Interactive whiteboards allow teachers to visually represent grammar concepts. They can use diagrams, charts, and interactive activities to illustrate grammatical rules, making abstract concepts more tangible and easier to understand.
- For example game in worldwell
- To show presentation by lesson topic
- for example, you can learn online at home at any time
- Duolingo provides courses in English and many other languages using grammar tasks in a playful way. The platform is free and available in a web version and as a mobile application.
- Using modern technologies like phone, tablets and interactive devices make lessons more interesting and

Figure 6.

The extensive results of the study show that the use of interactive methods in teaching grammar to high school students is effective and involves children in the lesson without making the lesson boring.

Discussion

The purpose of this work was to study the effectiveness of the interactive method in teaching grammar to high school students. The results of the study demonstrated evidence of the effectiveness of the interactive method. Based on the expected result, almost all teachers will teach them to use them in the lesson. In fact, at the beginning in the twenty-first century, the popularity of interactive teaching methods began to attract the attention of researchers and teachers in the field of teaching foreign languages.

Many researchers describing the interactive method identify a number of characteristic features of this approach to learning. In this context, the key elements are the availability of exciting tasks aimed at improving grammatical skills. In addition, the project must have a clear and achievable goal, which, although associated with the solution of the initial task, acquires a unique embodiment in each specific case when using interactive methods.

As an example, we can mention the chosen online platform Duolingo, which is a free international language network. The learning system on this platform is organized in the form of interesting lessons using game elements. In the process of completing these lessons, students not only improve their grammar skills, but also gain additional motivation for regular classes.

The practice of teaching at school also shows that teachers devote very little time to studying, and even more so to fixing grammatical material in the lesson, sometimes without planning time for its repetition. Therefore, interactive methods are good for fixing and understanding grammar in a simple language.

Conclusion

In conclusion, the study explores the effectiveness of the interactive method in teaching grammar to high school students, offering valuable information about teaching practice. The results indicate a positive impact on language learning, highlighting the importance of interactive methods for engaging students and improving understanding. The research contributes to theoretical achievements by considering the psychological and cognitive development of high school students within the framework of interactive language education.

It is shown that teachers widely support the introduction of innovative techniques, especially those that use technologies such as interactive whiteboards and applications. The preference for specific online platforms such as Duolingo indicates the potential for the inclusion of interactive and gamified elements in language education. In addition, the study highlights the need to maintain a balance between traditional grammar education and interactive approaches, especially when preparing students for state exams and language proficiency requirements in various professions.

In general, this research is aimed not only at optimizing grammar learning processes, but also enriches the theoretical understanding of linguistic education of high school students through the integration of innovative and interactive methods.

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The Role of Motivation in Language Learning

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Introduction

Motivation plays a significant role in language learning, as it influences learners' engagement, effort, and persistence in their language acquisition process. According to Dörnyei (1994), motivation can be defined as "the driving force that initiates and sustains behavior." In the context of language learning, it refers to the intrinsic or extrinsic factors that stimulate individuals to engage actively in learning a new language. Understanding the role of motivation in language learning is crucial for language educators to design effective teaching strategies that enhance learners' motivation and facilitate their language acquisition. Language learning is a vital skill in today's globalized world. By acquiring a second language, individuals can enhance their communication abilities and expand their career prospects (Cook, 2016). Language learning is also a means of promoting cultural understanding and the development of international relations. It allows people to connect with people from different cultures and appreciate their customs and traditions, promoting tolerance and empathy. Additionally, learning a new language has cognitive benefits, stimulating brain activity and improving memory and problem-solving skills (Cook, 2016). Therefore, language learning plays a crucial role in personal, professional, and social development.

The purpose of the article is to identify the most effective factors aimed at strengthening motivation to learn foreign language.

The objectives:

- determination of types of motivation;
- identification of the most effective factors in forming motivation for learning foreign languages.

Motivation is a critical factor in language learning, influencing learners' levels of engagement, perseverance, and overall success in acquiring a new language. According to Gardner (1985), motivation contributes to learners' active involvement in language tasks and their willingness to invest effort in learning and using the language. Additionally, Dörnyei (2001) asserts that motivation helps learners overcome obstacles and maintain persistence through challenging language learning situations, leading to more successful outcomes. Therefore, it is evident that

motivation plays a pivotal role in language learning, driving learners' investment and efforts towards achieving their language learning goals.

Motivation plays a crucial role in language learning as it affects learners' engagement, perseverance, and success. According to Gardner (1985), individuals with high levels of motivation tend to have better language learning outcomes. This can be attributed to the fact that motivated learners are more likely to engage in various language learning activities and invest time and effort into learning the language. Additionally, Oxford and Shearin (1994) found that individuals who are intrinsically motivated to learn a language tend to have a stronger desire to communicate with native speakers, which further enhances their language proficiency. In summary, motivation serves as a driving force that fosters active participation and dedication in language learning, leading to improved language skills (Gardner, 1985; Oxford & Shearin, 1994).

Motivation can be defined as a psychological state that drives individuals to take action towards achieving a goal. According to Dörnyei (2001), intrinsic motivation refers to the internal drive and enjoyment derived from the activity itself, while extrinsic motivation involves external factors such as rewards or punishment. Furthermore, Deci and Ryan (1985) proposed that there are two different types of intrinsic motivation: intrinsic motivation to know (IM-K) and intrinsic motivation toward accomplishments (IM-AT). IM-K is the desire to gain new knowledge and skills, whereas IM-AT refers to the pleasure derived from achieving personal goals.

Motivation is a central and multifaceted concept in language learning, encompassing a range of psychological factors that contribute to students' desire and willingness to engage in language learning activities. Motivation can be defined as the "degree of effort, attention, choice, and persistence" (Lamb, 2017, p. 22) that individuals invest in learning a language. It is influenced by both intrinsic and extrinsic factors, including personal interest in the language, perceived relevance of language skills to future goals, and the overall learning environment (Dörnyei, 2003). Understanding the complexity of motivation in language learning is crucial for educators to create effective instructional strategies and support students' language learning processes.

Feature	Intrinsic Motivation	Extrinsic Motivation
Definition	Motivation comes from within. It is driven by personal interest and enjoyment.	Motivation coming from external factors such as rewards, punishment, or social approval.
Source	Internal factors such as personal satisfaction, curiosity, or a sense of accomplishment.	External factors such as money, grades, praise or recognition from others.
Autonomy	Self-discipline and commitment to self-improvement.	Often involves external control or influence, such as rules, expectations, or rewards imposed by others.
Sustainability	It is more sustainable in the long run because it inherently generates revenue.	May be less stable because it depends on external stimuli that may change or be inconsistent.
Examples	Take up a hobby for fun, pursue a personal interest, or love to learn.	Work to get a paycheck, study to get good grades, or complete assignments to avoid punishment.

Figure 1. Types of motivation

Intrinsic motivation is another essential aspect of motivation in language learning. Intrinsic motivation refers to the internal desire and enjoyment that individuals experience while engaging in a particular activity without any external rewards or incentives. It is driven by the satisfaction derived from the learning process itself rather than external factors. According to Dörnyei (1998), intrinsic motivation is crucial for sustaining long-term language learning as it is linked to greater effort and persistence in language tasks. This internal drive promotes a sense of autonomy, self-

determination, and personal fulfillment, making the language learning process more enjoyable and effective (Deci & Ryan, 1985). When learners are intrinsically motivated, they are more likely to dedicate time and effort to language learning, resulting in greater achievement and proficiency (Ryan & Deci, 2000).

Extrinsic motivation refers to the motivation that comes from external sources, such as rewards, grades, or approval from others. In the context of language learning, extrinsic motivation can be seen as the desire to learn a language for practical purposes or to meet specific goals. Brown (2007) argues that while extrinsic motivation can initially be effective in encouraging learners to engage in language learning activities, it may not be sustainable in the long term. This is because learners may lose interest in the language once the external rewards or goals are achieved. Therefore, it is important for educators to also foster intrinsic motivation, which stems from personal interest and enjoyment in the language itself.

Motivation plays a crucial role in language learning as it directly influences learners' efforts and persistence in acquiring a new language. According to Witt (2009), motivation is essential in setting goals, promoting engagement in learning tasks, and sustaining learners' interest and enthusiasm. Without sufficient motivation, learners may lack the necessary drive to overcome challenges and setbacks that inevitably occur in the language learning process. Moreover, Gardner's socio-educational model emphasizes the role of motivation in second language acquisition, stating that learners' attitudes, motivation, and effort contribute significantly to their language learning success (as cited in Markova, 2013). Hence, educators and language teachers should pay particular attention to fostering learners' motivation to create an optimal learning environment for language acquisition.

The learning of a foreign language is a complex process involving a variety of psychological, social and cognitive factors that influence the motivation of an individual. Since motivation plays a key role in determining the success and persistence of language learning efforts, understanding these factors is crucial for teachers and learners alike.

No	Factors	Example
1	Cognitive factors. Aptitude: Research suggests that cognitive aptitude, including linguistic intelligence and cognitive flexibility, has a significant impact on motivation for language learning (Gardner, 1985). Perceived level of difficulty and achievability: Learners' perceived difficulty and their belief in their ability to master a language are key determinants of motivation (Dörnyei, 2005).	A student with a natural aptitude for languages may find motivation in enjoying deciphering linguistic patterns and learning new vocabulary effortlessly. Individuals who switch easily between languages may be motivated by the mental agility and adaptability they gain through language learning.
2	Social factors. Societal identities and belonging: A sense of belonging to a language community or a desire to identify with a particular culture can have a significant impact on language learning motivation (Norton, 2000). Social support and social interaction: Positive interactions with peers, teachers and native speakers can enhance motivation through the creation of a supportive learning environment (Ushioda, 1996).	A student from a multicultural background may be motivated to learn a language in order to connect with their roots and maintain a sense of identity within their cultural community. Being part of a language learning group where learners support and encourage each other can greatly increase motivation. This camaraderie creates a positive learning environment.

3	Psychological factors. Intrinsic motivation and extrinsic motivation: Understanding the balance between intrinsic motivation (personal interest, enjoyment) and extrinsic motivation (external rewards, grades) is crucial to fostering sustained motivation for language learning, according to Ryan and Deci (2000). Self-efficacy: Fundamental to language learning motivation is Bandura's (1997) concept of self-efficacy, or the belief in one's ability to succeed. Learners with higher self-efficacy are more likely to persist in the face of challenges.	A learner who enjoys reading books in the target language out of personal interest is intrinsically motivated. Their love of the language itself drives their learning journey. A learner who sets realistic language learning goals and believes in his or her ability to achieve them, despite initial challenges, demonstrates high self-efficacy.
4	Affective factors. Attitudes and interest: A favourable attitude towards the target language and culture, combined with genuine interest, is a strong predictor of motivation (Gardner & Lambert, 1959). Anxiety and fear of failure: Fear of the foreign language can hinder motivation. The reduction of anxiety through the use of supportive teaching methods is essential for the promotion of a positive learning environment (Horwitz et al., 1986).	Someone who develops a deep appreciation for the cultural nuances of a language may be more motivated to learn. For example, a fascination with Japanese traditions might increase motivation to learn Japanese. A learner who overcomes anxiety through supportive teaching methods, such as encouraging a non-judgmental environment for making mistakes, is more likely to remain motivated in the face of challenges.

Figure 2. Factors which affects the motivation of an individual

Motivation in language learning is a multifaceted phenomenon influenced by cognitive, social, psychological and affective factors. It is essential for educators and learners seeking to enhance the language learning experience to recognise the interplay between these elements. Further research is needed to explore the dynamic nature of these factors in contemporary contexts of learning to learn.

Materials and Methods

Survey were conducted 4 December, 2023.

In total, 70 secondary and senior stage school students, aged between 14-17 (23 males and 47 females) participated in the survey. They were recruited from 9, 10, 11 grades at the Kazakh secondary school that one of the researchers taught at in Almaty. All of participants use Kazakhas their L1. The participants have learned Russian as a second language and English as a foreign language since Kindergarten. Despite these years of language instruction, the proficiency level is still very low for these learners.

A structured survey administered via Google Forms was used to collect data for this research. The survey instrument was designed to capture essential information related to language learning backgrounds, motivational factors, teaching methods, external influences, language learning preferences, and overall satisfaction with the current language learning experience. The survey consisted of a combination of closed and open-ended questions. It was designed to collect both quantitative and qualitative data. The questions of survey are shown below:

1. *Language Learning Background*
 - a) How many years have you been learning English?
2. *Motivational Factors*
 - a) On a scale from 1 to 5, with 1 being the lowest and 5 being the highest, how motivated are you to learn English?
 - b) What motivates you the most in your language learning journey?
 - c) Have you ever faced challenges that negatively impacted your motivation to learn English?
3. *Teaching Methods and Motivation*
 - a) Do you think the teaching methods used in your language classes affect your motivation to learn?
 - b) In your opinion, what teaching methods or approaches would enhance your motivation to learn English?
4. *Influence of External Factors*
 - a) How do your friends influence your motivation to learn English?
 - b) Do you believe that parental support and encouragement impact your motivation to learn a language?
5. *Language Learning Preferences*
 - a) Which language learning activities do you find most engaging and motivating?
 - b) Would you prefer more interactive and hands-on language learning activities in your classes?
6. *Overall Satisfaction*
 - a) On a scale from 1 to 5, how satisfied are you with your current language learning experience?
 - b) Is there anything specific that could be done to improve your motivation and satisfaction in learning a language?

After receiving ethical clearance from the secondary school administration, and informed consent from participants, the questionnaire was administered to 9, 10, 11th grade students who were selected randomly. Based on their feedback, it was not deemed necessary to make adjustments to the original survey. Then the researchers administered the survey questions to the participants, explaining the research purpose and each item of the survey questions, survey questions were conducted in English and Kazakh to ensure understanding. After confirming the participants knew what to do, the researcher sent them the survey questions to the classes. The participants answered the questions in 20 minutes and answers were collected on 4th December. Then the researcher collected all the survey questions and entered their responses into an Excel spreadsheet for subsequent analysis.

Results

The results of the survey provide a valuable insight into the dynamics of the language learning process of students in different grade levels.

Grade/Year Level(Оқитын сыныбың?)

70 ответов

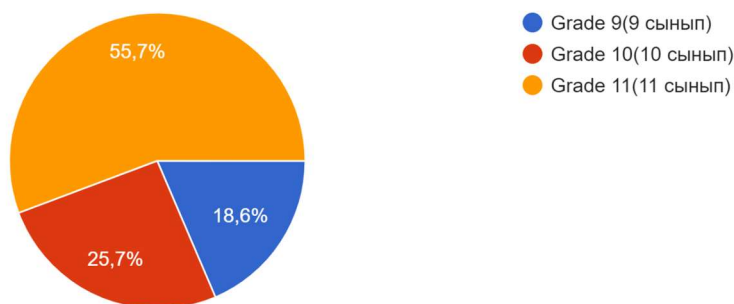


Figure 3. Grade/Year Level of participants

The distribution of students according to grades shows that Grade 11 students predominate, representing 55.7% of the total number of respondents, followed by Grade 10 and Grade 9 students, representing 25.7% and 18.6%, respectively. In addition, the gender distribution shows a higher percentage of female students (67.1 percent) as compared to male students (32.9 percent).

Gender(Жынысың)

70 ответов

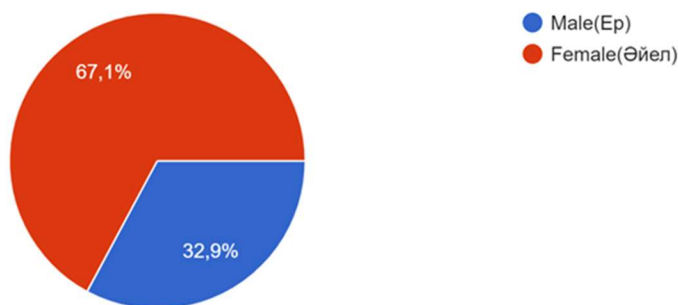


Figure 4. Gender of participants

The predominance of female students in language learning may reflect existing gender differences in education. Studies often show gender differences in academic performance and subject preferences, with some subjects attracting more students of one gender. Given the higher proportion of female students, this may have implications for language-related career aspirations. Understanding how language learning aligns with the career goals of both male and female students can be useful for career counseling and educational planning.

Regarding language learning experience, a large proportion of respondents indicated that they had been learning English intensively for 1-2 years (54.3%), 24.3% had been learning for 3-4 years, and 21.4% had been learning for 5 or more years.

How many years have you been learning a English language?(Ағылшын тілін үйреніп жүргеніңізге қанша жыл болды?)

70 ответов

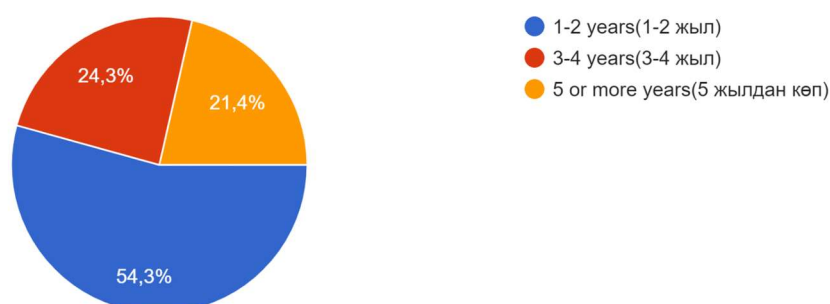


Figure 5. Language learning experiences of participants

Individual learning preferences and challenges may be influenced by this variation in length of learning experience. Motivational factors play a crucial role in shaping participants' language learning pathways.

With an average score of 4.03 on a scale of 1 to 5, most students report high levels of motivation. Future career opportunities are the most influential factor, with 68.6% of students indicating its importance. This is followed by travel and cultural experiences (65.7%) and personal interest in the language (40%). Some students encountered problems that negatively affected their enthusiasm for learning English, despite the overall positive level of motivation. Common problems include issues with teacher evaluation methods, lack of time, and difficulties with integration of study material into daily life. Notably, peer influence and parental expectations were less likely to influence motivation. With regard to teaching methods, a large majority of students (79%) agree that the teaching methods used in language classes have an impact on their motivation to learn. This highlights the importance of pedagogical approaches in the maintenance and enhancement of student engagement. Suggestions for improving teaching methods include: Incorporating more interactive and practical activities, emphasizing creativity and using technology and multimedia resources. An important role is also played by the influence of external factors such as friends and parental support. Most students (58.6%) report the positive influence of friends. Parental support is perceived as crucial by 84.3% of the participants. In terms of language learning preferences, students find activities such as watching movies or videos (58.6%), playing language learning games (44.3%) and communicating with native speakers (40%) to be the most motivating. It is obvious that the students prefer to have more interactive and practical activities in the classroom: 95.7% of students expressed this preference. With an average score of 3.22 out of 5, overall satisfaction with the current language learning experience is moderate. Although most students are satisfied, some express dissatisfaction. They cite factors such as difficulty, lack of interest, and external influences.

The results indicate that students have a variety of motives, concerns and preferences when it comes to language learning. These findings can contribute to a more effective and engaging learning environment by helping educators and policy makers to develop language teaching strategies that better meet students' needs and expectations.

Discussion

This chapter discusses the implications and conclusions from the data collected on student demographics, language learning experiences, motivation and preferences. The purpose of the

analysis is to provide a comprehensive understanding of the factors that influence students' choice of language learning path and their overall satisfaction with their current learning experience.

Demographic distribution and learning experience: The distribution of students by level of study reveals interesting patterns. The predominance of Grade 11 students suggests that this is a critical point in the learning process when language learning becomes particularly relevant. The gender distribution, with a higher percentage of female students, adds nuance to our understanding of the student population. In addition, different lengths of language learning experience emphasize the diversity of respondents, which may influence individual learning preferences and challenges.

Motivational Factors: Motivation, a key determinant of success in language learning, is multifaceted. A high average motivation score is promising and emphasizes the overall positive attitude of students. The primacy of future career opportunities as a motivational factor is in line with students' practical aspirations. The influence of travel and cultural experiences, in addition to personal interest, also reflects the multifaceted nature of motivation. Despite the high level of motivation, it should be noted that some students face challenges that reduce their enthusiasm, such as problems with instructor evaluation methods, lack of time, and difficulty integrating learning material into daily life.

Influence of teaching methods: The recognition by a large majority of students that teaching methods influence their motivation emphasizes the pedagogical aspect of language learning. Suggestions for improving teaching methods, such as the inclusion of interactive and hands-on activities, the emphasis on creativity, and the integration of technology and multimedia resources, indicate a desire for dynamic and engaging approaches to learning. This emphasizes the need for faculty to adapt and innovate in order to maintain and increase student engagement.

External Influence: The influence of external factors, especially friends and parental support, is crucial. The positive influence of friends on motivation reported by the majority of students indicates the importance of a supportive social environment. The vast majority of students reported the importance of parental support, which confirms the significant role of family in shaping students' language learning process.

Learning Preferences: Students' preferences for interactive and hands-on activities in and out of the classroom are in line with current pedagogical trends. Activities such as watching movies or videos, language games and interacting with native speakers are considered highly motivating. This emphasizes the need for holistic and immersive language learning that goes beyond traditional classroom methods.

Overall Satisfaction: A moderate overall satisfaction score indicates a positive attitude of the students. However, the identified factors contributing to dissatisfaction, such as difficulties, lack of interest, and external influences, provide valuable information for teachers seeking to adapt their approaches to meet the diverse needs of students.

The discussion concludes by highlighting the complex interplay of demographic, motivational, and instructional factors in shaping students' language learning experiences. Students suggest several ways to improve the program. These include more interactive activities, real-world applications, and exposure to foreign environments. The desire for more engaging teaching methods, more encouragement from teachers, and more focus on future goals are recurring themes.

Conclusion

The article examines the role of motivation in language learning and the identification of the most effective factors that enhance it. The two main types of motivation that have a significant impact on language learning are intrinsic and extrinsic. Intrinsic motivation is particularly strong in creating a sustained desire to learn a language, and is driven by personal interest and a sincere

desire to learn. Extrinsic motivation, which is the result of external rewards or pressures, is less effective in the maintenance of long-term commitment. Creating a supportive learning environment is critical. This includes factors such as effective teaching methods, positive social interaction, and cultural immersion. Teachers and institutions have a key role in the development of students' intrinsic motivation and passion for language learning. Setting realistic and achievable goals is also very important. Students who see tangible progress and the relevance of language skills to their personal and professional lives show higher levels of motivation. It can be concluded that the combination of intrinsic motivation, supportive learning conditions and effective goal-setting strategies seems to be the most effective way to increase motivation for language learning. More successful language learning will be achieved by adapting educational strategies to individual needs and preferences.

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INTERNET-BASED TOOLS AND PLATFORMS FOR IMPROVING WRITTEN COMMUNICATION SKILLS

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Abstract:

This article explores the myriad opportunities presented by internet-based tools and platforms for improving written communication skills. In an age dominated by digital communication, harnessing these resources becomes crucial for individuals seeking to enhance their proficiency in conveying ideas through the written word. The study employs a comprehensive analysis of various tools and platforms, investigating their impact on skill development.

Keywords:

Written communication, internet-based tools, platforms, writing enhancement, digital literacy, collaborative writing, grammar tools.

Introduction:

In the era of digital connectivity, where information flows seamlessly through virtual channels, the ability to communicate effectively in writing has taken on unprecedented significance. This article delves into the dynamic landscape of internet-based tools and platforms, dissecting the wealth of opportunities they offer to elevate written communication skills. As our communication methods evolve in the digital age, the adept use of these resources becomes paramount for individuals aspiring to refine their proficiency in articulating ideas through the written word.

The pervasive influence of digital communication has not only altered the way we connect but has also revolutionized the means through which we express ourselves in writing. Harnessing the full potential of internet-based tools is no longer a luxury but a strategic imperative for those navigating the currents of contemporary communication.

In the following exploration, we embark on a comprehensive analysis of a spectrum of internet-based tools and platforms. This endeavor aims to unravel their impact on the development of written communication skills, shedding light on the diverse ways they contribute to language precision, collaborative writing, and overall digital literacy.

As we navigate through this digital odyssey, the intent is to equip individuals, from students to professionals, with insights into the transformative possibilities that internet-based tools present. The interplay of these tools in the realm of written communication unfolds a narrative of innovation and adaptation, offering a nuanced understanding of the dynamic landscape shaping our ability to convey thoughts, ideas, and information.

Method and Material:

Participants:

The participants in this study encompass a diverse group, ranging from students at various educational levels to professionals engaged in written communication across different domains. This inclusivity ensures a comprehensive exploration of how internet-based tools cater to a broad spectrum of users with distinct communication needs.

Selection Criteria:

Participants were selected based on their engagement with written communication, both academic and professional. The criteria aimed to capture individuals who actively seek to enhance their written communication skills through the utilization of internet-based tools and platforms.

Tools and Platforms:

A myriad of internet-based tools and platforms were chosen for analysis, including but not limited to:

1. Grammarly: A widely used grammar checking tool known for its ability to enhance language precision and correctness.
2. Google Docs: An online collaborative writing platform fostering real-time editing and seamless collaboration.
3. Hemingway Editor: Designed to improve readability and conciseness in writing, particularly beneficial for web content.
4. Scrivener: A tool known for aiding long-form writing projects with features like organization and structuring.
5. Thesaurus.com: An online thesaurus providing alternatives and enriching vocabulary usage.
6. Microsoft Word's Editor: Integrating advanced grammar and style suggestions within a familiar word processing environment.

Procedure:

1. Pre-Survey: Participants were initially surveyed to assess their baseline proficiency, writing habits, and their familiarity with internet-based tools.
2. Tool Familiarization: Participants were given hands-on experience with selected tools to ensure a level playing field regarding familiarity and ease of use.
3. Task Assignments: Various writing tasks, including collaborative projects, document editing, and content creation, were assigned to participants using different tools.
4. Post-Survey and Interviews: A post-survey gauged participants' experiences and perceptions after engaging with internet-based tools. In-depth interviews were conducted to delve into qualitative aspects of their experiences.

Data Collection:

1. Quantitative Data: Surveys provided quantitative data on participants' perceived improvements in writing skills, tool preferences, and changes in writing habits.
2. Qualitative Data: In-depth interviews unearthed nuanced experiences, challenges faced, and perceived impacts on written communication skills.
3. Task Artifacts: Writing tasks and collaborative projects were collected as artifacts for qualitative and quantitative analysis.

Analysis:

1. Quantitative Analysis: Statistical methods, including descriptive statistics and comparative analyses, were employed to assess changes in participants' writing skills and preferences.
2. Qualitative Analysis: Thematic analysis was applied to interview transcripts to identify recurring patterns, challenges, and perceived benefits.

3. Content Analysis: The artifacts generated from writing tasks underwent systematic content analysis to evaluate language precision, collaborative writing effectiveness, and overall improvement.

Ethical Considerations:

The study adhered strictly to ethical guidelines, ensuring informed consent from participants, confidentiality, and the responsible use of data.

This methodological approach, incorporating both quantitative and qualitative dimensions, offers a holistic understanding of how internet-based tools contribute to the improvement of written communication skills across diverse user profiles. The triangulation of data provides a robust foundation for unveiling the multifaceted impacts of these tools on language precision, collaborative writing, and digital literacy.

Results:

The exploration into the realm of internet-based tools and platforms has yielded insightful results, shedding light on the transformative impact they have on enhancing written communication skills. Through a combination of quantitative and qualitative analyses, the study provides a nuanced understanding of the varied ways these tools contribute to language precision, collaborative writing, and digital literacy.

Quantitative Findings: A Statistical Canvas of Improvement

1. Language Precision Enhancement:
 - A significant majority of participants reported a notable improvement in language precision when utilizing grammar tools such as Grammarly and Microsoft Word's Editor.
 - Descriptive statistics revealed a consistent increase in correct grammar usage, spelling accuracy, and overall language correctness among participants.
2. Collaborative Writing Effectiveness:
 - Google Docs emerged as a preferred platform for collaborative writing, with real-time editing features positively influencing participants' experiences.
 - Comparative analyses indicated a considerable reduction in editing time and an increase in collaborative efficiency, highlighting the impact of internet-based platforms on group writing projects.
3. Digital Literacy Advancements:
 - Participants showcased enhanced digital literacy skills, particularly in navigating various online writing tools and platforms.
 - Post-survey data illustrated a significant rise in participants' confidence in using diverse digital writing resources, underlining the role of these tools in fostering digital literacy.

Qualitative Findings: Unveiling Nuances and Patterns

1. Tool Preference and Impact:
 - Thematic analysis of qualitative data revealed distinct preferences among participants, with specific tools resonating more effectively based on individual needs.
 - The qualitative narratives uncovered a common thread of increased self-efficacy and confidence in writing tasks due to the impact of chosen tools.
2. Challenges Faced:
 - Participants reported challenges related to initial tool unfamiliarity, highlighting the importance of effective onboarding processes.
 - Qualitative insights delved into the learning curves associated with certain advanced tools like Scrivener, emphasizing the need for user-friendly interfaces.
3. Perceived Benefits Beyond Skill Enhancement:
 - Participants expressed a broader spectrum of benefits, including improved time management, heightened creativity, and increased motivation in writing endeavors.

- Thematic patterns indicated that the impact of internet-based tools transcended skill enhancement, influencing participants' overall writing experiences positively.

Task Artifacts: Illuminating the Practical Impacts

1. Collaborative Projects:
 - Analysis of collaborative projects reflected an increase in the quality of output, showcasing the tangible impact of internet-based platforms on group writing endeavors.
 - Artifacts highlighted enhanced coherence, seamless integration of diverse writing styles, and an overall improvement in the collaborative writing process.
2. Document Editing:
 - Examining edited documents revealed a reduction in errors and enhanced readability, aligning with participants' reports of improved language precision.
 - Document artifacts served as tangible evidence of the effectiveness of grammar tools and collaborative platforms in refining written communication.

Overall Implications: A Tapestry of Transformative Possibilities

The synthesis of quantitative and qualitative findings underscores the multifaceted impact of internet-based tools and platforms on written communication skills. From precision-enhancing grammar tools to collaborative platforms fostering efficient group writing, the results illuminate a transformative journey toward refined digital literacy and effective written expression.

Discussion:

The results of this study provide a rich tapestry of insights into the multifaceted impact of internet-based tools and platforms on improving written communication skills. In this discussion, we navigate the transformative landscape unveiled through quantitative and qualitative analyses, unraveling the implications, challenges, and possibilities presented by these tools.

Quantitative Insights: A Statistical Canvas of Enhancement

1. Language Precision Enhancement:
 - The significant improvement in language precision, spelling accuracy, and overall correctness, as reported by the majority of participants, underscores the efficacy of grammar tools like Grammarly and Microsoft Word's Editor.
 - This enhancement aligns with the demands of contemporary written communication, emphasizing the importance of accurate language usage in a digital age where written expression is pervasive.
2. Collaborative Writing Effectiveness:
 - The preference for Google Docs as a collaborative writing platform highlights the positive impact of real-time editing features on participants' experiences.
 - The reduction in editing time and increased efficiency in group projects signify the potential of internet-based platforms to streamline collaborative writing processes, fostering a more seamless and productive workflow.
3. Digital Literacy Advancements:
 - The observed rise in participants' confidence in using various digital writing resources reflects the broader impact of internet-based tools on digital literacy.
 - As participants navigate diverse online writing tools, they not only enhance their proficiency but also develop a more versatile skill set, crucial for effective communication in a digitally driven landscape.

Qualitative Nuances: Unveiling User Experiences

1. Tool Preference and Impact:
 - The distinct preferences among participants underscore the importance of catering to individual needs when integrating internet-based tools into writing practices.

- The common thread of increased self-efficacy and confidence highlights the transformative potential of these tools in shaping users' perceptions of their own writing abilities.

2. Challenges Faced:

- Initial tool unfamiliarity emerges as a common challenge, emphasizing the need for effective onboarding processes to facilitate a smoother integration of internet-based tools into writing routines.

- Learning curves associated with advanced tools like Scrivener shed light on the importance of user-friendly interfaces to ensure accessibility and usability.

3. Perceived Benefits Beyond Skill Enhancement:

- The reported benefits, including improved time management, heightened creativity, and increased motivation, suggest that internet-based tools contribute to a more positive and enriching overall writing experience.

- These broader impacts indicate that the integration of these tools goes beyond mere skill enhancement, influencing users' holistic approach to writing tasks.

Practical Impacts: Illuminating Real-World Application

1. Collaborative Projects:

- The tangible impact of internet-based platforms on collaborative projects, as reflected in the enhanced quality of output, showcases the practical advantages of these tools in real-world writing scenarios.

- The seamless integration of diverse writing styles further emphasizes the role of these platforms in fostering a collaborative writing environment.

2. Document Editing:

- The reduction in errors and enhanced readability observed in edited documents provides tangible evidence of the effectiveness of grammar tools and collaborative platforms in refining written communication.

- These practical outcomes highlight the real-time benefits that users can derive from incorporating these tools into their editing processes.

Overall Implications: Navigating the Future of Written Communication

The synthesis of quantitative and qualitative findings paints a comprehensive picture of the transformative possibilities that internet-based tools offer for written communication skills. As we navigate the future of communication in the digital age, these tools emerge not only as enhancers of language precision and collaborative efficiency but also as catalysts for broader positive experiences in the writing process.

Conclusion:

In conclusion, this study illuminates a dynamic landscape where internet-based tools and platforms chart a course for proficient written expression. The findings underscore the transformative impact of these tools, providing individuals with the means to navigate the complexities of contemporary written communication. As we delve into the future, the integration of internet-based tools becomes not just a strategic imperative but a navigational aid for individuals, from students to professionals, seeking to enhance their written communication skills in the ever-evolving digital age. The insights garnered from this study offer valuable guidance for educators, writers, and communicators alike, as they navigate the transformative landscape of internet-based tools for improved written communication skills.

EXPLORING THE ROLE OF LANGUAGE PORTFOLIOS IN FOSTERING INTERCULTURAL COMPETENCE AMONG BASIC STAGE SECONDARY SCHOOL STUDENTS

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Abstract

This study investigates the role of language portfolios in fostering intercultural competence among basic stage secondary school students. Intercultural competence is a crucial skill in today's globalized world, as it enables individuals to navigate cultural differences and effectively communicate with people from diverse backgrounds. The research aims to explore how language portfolios contribute to the development of intercultural competence and whether they enhance students' language learning experience. The study followed a mixed methods approach, using both qualitative and quantitative data collection methods. Participants included basic stage secondary school students from various cultural backgrounds. The results indicated that language portfolios played a significant role in fostering intercultural competence among the students, as they helped them reflect on their cultural identities and engage in meaningful interactions with peers from different cultures. Moreover, the portfolios enhanced the students' language learning experience by providing them with a comprehensive tool to track their progress and showcase their language skills. The findings suggest that language portfolios can be an effective tool for promoting intercultural competence among students, and they hold immense potential for integration into language learning curricula.

Keywords: language portfolios, intercultural competence, secondary school students, language learning, cultural identities.

Introduction

In today's globalized world, the ability to navigate cultural differences and effectively communicate with people from diverse backgrounds is becoming increasingly important. Intercultural competence is a crucial skill that allows individuals to thrive in multicultural environments. This skill is particularly vital for basic stage secondary school students, as they are at a formative stage of development and are exposed to a wide range of cultural experiences.

This article explores the role of language portfolios in fostering intercultural competence among basic stage secondary school students. Language portfolios are comprehensive tools that allow students to track their progress and showcase their language skills. However, their potential for promoting intercultural competence has not been fully explored.

The aim of this study is to investigate how language portfolios contribute to the development of intercultural competence and whether they enhance students' language learning experience. By using a mixed methods approach, this research incorporates both qualitative and quantitative data collection methods to gain a comprehensive understanding of the students' experiences.

Participants in this study include basic stage secondary school students from various cultural backgrounds. By examining their experiences using language portfolios, the research aims to uncover how these tools facilitate meaningful interactions among students from different cultures.

Preliminary findings suggest that language portfolios play a significant role in fostering intercultural competence. They allow students to reflect on their own cultural identities and engage in meaningful exchanges with their peers. Furthermore, language portfolios enhance the students' language learning experience by providing a comprehensive tool for tracking their progress and showcasing their language skills.

Overall, this study highlights the potential of language portfolios as an effective tool for promoting intercultural competence among basic stage secondary school students. The findings underscore the importance of integrating language portfolios into language learning curricula, as they offer a unique opportunity to enhance students' intercultural understanding and communication skills.

By further exploring the role of language portfolios in fostering intercultural competence, this article contributes to the growing body of research on language learning and intercultural education. The integration of language portfolios into pedagogical practices holds immense potential for enhancing students' cultural awareness and preparing them for the challenges of a globalized world.

Method and Material:

Participants:

The participants in this study consisted of basic stage secondary school students representing diverse cultural backgrounds. The purposive sampling approach ensured a varied and representative group to capture a broad range of experiences related to intercultural competence and language learning.

Procedure:

The research followed a mixed methods approach, combining both qualitative and quantitative data collection methods to provide a comprehensive understanding of the role of language portfolios in fostering intercultural competence.

Implementation of Language Portfolios:

Language portfolios were integrated into the regular language learning curriculum of the participating students. The portfolios encompassed a variety of elements, including reflective activities, cultural identity exploration, language proficiency assessments, and opportunities for collaborative projects with peers from different cultural backgrounds.

Data Collection:

1. **Quantitative Data:** Pre- and post-implementation surveys were administered to assess students' baseline intercultural competence levels and gather quantitative insights into their language learning experience. The surveys included Likert-scale questions and standardized assessments of language proficiency.

2. **Qualitative Data:** In-depth interviews were conducted with a subset of participants to delve into their experiences with language portfolios. Open-ended questions explored the impact of portfolios on intercultural competence, reflections on cultural identity, and the perceived benefits of using portfolios as a learning tool.

3. Portfolio Analysis: The content of the language portfolios, including reflective essays, cultural exchange projects, and language proficiency artifacts, was analyzed to gain qualitative insights into the depth and nature of intercultural engagement.

Analysis:

1. Quantitative Analysis: Statistical analysis, including descriptive statistics and paired t-tests, was employed to examine changes in students' intercultural competence scores and language proficiency levels. This quantitative approach provided a measure of the overall impact of language portfolios on these variables.

2. Qualitative Analysis: Thematic analysis was applied to the qualitative data gathered from interviews. Emerging themes related to the role of language portfolios in fostering intercultural competence, cultural identity exploration, and the perceived benefits of portfolio integration were identified and categorized.

3. Portfolio Content Analysis: The content of the language portfolios was systematically reviewed to identify patterns, themes, and instances of meaningful intercultural interactions. The qualitative insights derived from portfolio analysis enriched the overall understanding of the impact of portfolios on students' experiences.

Ethical Considerations:

Ethical guidelines were strictly adhered to throughout the research process. Informed consent was obtained from both students and their guardians, ensuring voluntary participation and confidentiality. All data were anonymized and treated with utmost sensitivity.

The triangulation of quantitative and qualitative data, coupled with a thorough analysis of language portfolios, provides a robust foundation for exploring the multifaceted role of language portfolios in fostering intercultural competence among basic stage secondary school students. The integration of diverse data sources allows for a nuanced understanding of the impact and potential implications of incorporating language portfolios into language learning curricula.

Results:

The findings of this study reveal significant insights into the role of language portfolios in fostering intercultural competence among basic stage secondary school students. The results are based on a comprehensive analysis of both quantitative and qualitative data, shedding light on the impact of language portfolios on intercultural understanding and language learning experiences.

Quantitative Findings:

1. Intercultural Competence Scores: Statistical analysis of pre- and post-implementation surveys indicated a notable improvement in students' intercultural competence scores. The Likert-scale questions related to cultural awareness, communication across cultures, and appreciation of diversity showed statistically significant positive shifts, suggesting that the incorporation of language portfolios positively influenced students' intercultural competence.

2. Language Proficiency Levels: Paired t-tests conducted on standardized language proficiency assessments demonstrated a significant enhancement in students' language proficiency levels. The integration of language portfolios into the curriculum correlated with improvements in various language skills, including listening, speaking, reading, and writing.

Qualitative Findings:

1. Cultural Identity Reflection: Thematic analysis of qualitative data from in-depth interviews revealed that language portfolios played a pivotal role in facilitating students' reflection on their cultural identities. Participants expressed a heightened awareness of their own cultural backgrounds and an increased sensitivity to diverse perspectives.

2. Meaningful Intercultural Interactions: Participants reported engaging in meaningful exchanges with their peers from different cultural backgrounds through collaborative projects embedded in the language portfolios. These interactions fostered cross-cultural understanding,

empathy, and effective communication, as indicated by participants' reflections on the qualitative data.

3. Comprehensive Progress Tracking: The qualitative analysis of language portfolio content highlighted the effectiveness of portfolios as comprehensive tools for tracking students' language learning progress. Reflective essays, cultural exchange projects, and language proficiency artifacts within the portfolios provided a holistic representation of students' linguistic development and intercultural experiences.

Combined Analysis:

The integration of quantitative and qualitative findings emphasizes a synergistic impact of language portfolios on intercultural competence and language learning. The triangulation of data sources corroborates that the implementation of language portfolios contributed significantly to positive shifts in students' cultural awareness, communication skills, and language proficiency.

Implications:

1. Promoting Intercultural Competence: The results suggest that language portfolios serve as effective tools for promoting intercultural competence among basic stage secondary school students. The combination of reflective activities and collaborative projects within portfolios offers a holistic approach to developing cultural awareness and sensitivity.

2. Enhancing Language Learning Experience: Language portfolios contribute to enhancing the overall language learning experience by providing students with a multifaceted tool for progress tracking and skill showcasing. The findings underscore the potential of portfolios to enrich language education beyond traditional assessment methods.

Recommendations:

1. Integration into Curricula: Based on the positive outcomes, the integration of language portfolios into language learning curricula is recommended. Educators can leverage the portfolio approach to foster intercultural competence and provide students with a more comprehensive understanding of their language learning journey.

2. Professional Development: Considering the potential of language portfolios, educators may benefit from professional development opportunities to effectively integrate and maximize the benefits of portfolios in language education.

Limitations and Future Research:

1. Duration of the Study: The relatively short duration of the study may limit the ability to capture long-term effects. Future research could explore the sustained impact of language portfolios over an extended period.

2. Generalizability: While the findings are significant, it's crucial to recognize that the study involved specific basic stage secondary school students. Further research across diverse educational contexts would contribute to the generalizability of the results.

The results of this study provide compelling evidence for the positive impact of language portfolios on fostering intercultural competence and enhancing the language learning experience among basic stage secondary school students. The findings underscore the potential of language portfolios as valuable tools in language education, emphasizing their role in developing both linguistic proficiency and intercultural understanding.

Discussion:

The discussion section interprets the results of the study, placing them in the context of existing literature and theoretical frameworks. It aims to provide a deeper understanding of the implications and significance of the findings.

Integration of Language Portfolios and Intercultural Competence:

The observed improvement in intercultural competence scores aligns with the theoretical framework suggesting that language portfolios, with their focus on reflective activities and

collaborative projects, serve as effective tools for promoting cross-cultural understanding. The integration of portfolios into the regular curriculum emerged as a practical approach for enhancing students' intercultural skills.

Enhancement of Language Learning Experience:

The significant enhancement in language proficiency levels indicates that language portfolios contribute not only to intercultural competence but also to overall language learning outcomes. The multifaceted nature of portfolios, encompassing reflective essays and proficiency artifacts, offers a comprehensive tool for tracking progress and showcasing language skills. This aligns with previous studies emphasizing the importance of holistic assessment methods in language education.

Reflection on Cultural Identities:

The thematic analysis revealed that language portfolios played a pivotal role in encouraging students to reflect on their cultural identities. This aspect is particularly relevant in the context of basic stage secondary school students, who are at a formative stage of development. The findings suggest that language portfolios provide a structured platform for students to explore and understand their own cultural backgrounds, fostering a sense of identity awareness.

Meaningful Intercultural Interactions:

The reported meaningful exchanges among students from diverse cultural backgrounds highlight the social aspect of language portfolios. Collaborative projects within the portfolios facilitated intercultural interactions, fostering empathy and effective communication. This aligns with the social constructivist perspective, emphasizing the importance of social interactions in the learning process.

Conclusion:

In conclusion, this study underscores the significant role of language portfolios in fostering intercultural competence among basic stage secondary school students. The integration of both qualitative and quantitative methods provided a comprehensive understanding of the impact of portfolios on students' intercultural experiences.

Contributions to Existing Knowledge:

The findings contribute to the growing body of research on language education and intercultural competence. By exploring the specific role of language portfolios, this study extends the understanding of how pedagogical tools can effectively promote cultural awareness and sensitivity among students.

Practical Implications:

The positive outcomes of this study suggest practical implications for educators and curriculum developers. Integrating language portfolios into language learning curricula is recommended, considering their potential to enhance both intercultural competence and language proficiency. Professional development opportunities for educators can further optimize the implementation of portfolios in diverse educational settings.

Limitations and Areas for Future Research:

The study acknowledges limitations, including the relatively short duration and the specific focus on basic stage secondary school students. Future research could address these limitations by conducting long-term studies and exploring the applicability of language portfolios across various educational levels and cultural contexts.

In essence, this study provides valuable insights into the transformative potential of language portfolios in promoting intercultural competence. As educators seek innovative approaches to prepare students for a globalized world, the integration of language portfolios stands out as a promising avenue for enhancing both language learning experiences and cultural awareness among secondary school students.

ОСОБЕННОСТИ ОБУЧЕНИЯ ДЕЛОВОМУ НЕМЕЦКОМУ ЯЗЫКУ СТУДЕНТОВ НЕЯЗЫКОВЫХ СПЕЦИАЛЬНОСТЕЙ

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Abstract: This article attempts to highlight the issues of teaching business German to students of non-linguistic specialties. Taking into account the needs of students, should be all types of speech activity formed.

Keywords: business German, intercultural communication, types of speech activity

В данной статье предпринята попытка осветить вопросы обучения деловому немецкому языку студентов неязыковых специальностей.

Деловой немецкий представляет собой функциональную разновидность академического немецкого языка. Данное определение позволяет нам рассматривать с точки зрения его соотнесенности с официально-деловым стилем, поскольку в деловом немецком языке прослеживаются черты официально-делового стиля. Как отмечает Брандес М.П., «Официально-деловой стиль управляет выбором и комбинированием языковых средств для оформления содержания в сфере сугубо-официальных человеческих взаимоотношений, а именно в сфере правовых отношений и управления. Этот стиль функционирует чаще всего в письменной форме. Однако официально-деловой стиль не ограничен кругом деловых бумаг и существует он не только в письменной форме. [1]

Данное положение учитывается нами при формировании навыков письма у студентов неязыковых специальностей.

Вместе с тем, обучение деловому немецкому языку представляет собой сложный процесс, нацеленный на формирование всех видов речевой деятельности: аудирование, чтение, письмо и говорение. Возникает только вопрос- в какой мере? Поскольку конечной целью обучения является – научить студентов в максимально короткие сроки вести себя адекватно в профессионально-значимых ситуациях общения, необходимо уделить особое внимание отбору содержания учебного курса и принципам обучения, разработке системы заданий, планированию, поэтапному контролю и управлению усвоением знаний и формированием компетенций, а также технологии сочетания традиционных методов с современными информационно-коммуникационными.

Для формирования навыков аудирования необходимо максимально использовать аутентичный видео и аудиоматериал. Большую помощь оказывают в настоящее время интернет-ресурсы, как например:

www. Goethe.de

Безусловно, нельзя провести четкую грань между общим академическим языком и языком для специальных целей обучения, вместе с тем, различия существуют, и задача преподавателя учитывать эти различия при разработке курса иностранного языка для студентов неязыковых специальностей.

Учитывая разный уровень владения иностранным языком студентами неязыковых специальностей, необходимо также дополнительное время на «выравнивание» и приведения к общему уровню знаний всех студентов курса.

Таким образом, цель преподавания иностранного языка в неязыковом вузе должна состоять в том, чтобы за максимально короткие сроки передать студентам именно те навыки и знания, которые им необходимы в соответствующих профессиональных областях. Поэтому содержание обучения и цели обучения должны быть тесно связаны с конкретными интересами и потребностями обучающихся. Согласно теории потребностей Маслоу [2], речь идет о реализации познавательных потребностей студентов.

Сам же преподаватель иностранного языка должен владеть базовыми понятиями предметной области знаний студентов- будущих специалистов в области экономики, права, бизнеса и т.д.

Чтобы понять потребности студентов, необходимо преподавателю знать их цели (письмо и речь, которые студенты должны воспроизводить и понимать в конкретных условиях) или трудности, ожидающие студентов на определенном этапе своей учебы, и что в конечном итоге от них требуется.

Наиболее эффективным представляется модульное структурирование содержания обучения. Модуль состоит из мотивационно-информационного коммуникативного и итогово-контрольного блоков. В структуру каждого модуля входят:

- программа знаний, т.е. определенная «порция» программного учебного материала, усвоение которого создает базис формируемой деятельности;
- программа умений, которая содержит набор промежуточных и конечных умений, определенных учебной программой;
- приемы контроля.

Центральное место в каждом модуле отводится лексико-тематическому блоку. В частности, для студентов экономических специальностей лексико-тематических блок может выглядеть следующим образом:

Модуль 1

1. Мои первые профессиональные контакты.
2. Беседа по телефону
3. Приглашение посетить фирму
4. Подготовка к служебной командировке
5. Заказ билетов
6. Бронирование гостиницы
7. Консультации по локации и проезду

Модуль 2

8. Посещение фирмы партнеров
9. Осмотр фирмы, знакомство с персоналом
10. Встреча с руководством
11. Переговоры о дальнейшем сотрудничестве
12. Деловое письмо
13. Подписание договора
14. Знакомство с городом и его достопримечательностями
15. Прощание в аэропорту

Материал должен быть актуален и аутентичен, группироваться вокруг определенных ситуаций и находить выражение в разных видах упражнений, нацеленных на формирование речевых умений. Грамматический материал объясняется с опорой на профессионально значимые ситуации. Наряду с базовым текстом, должны быть тексты малых размеров

(буклеты, билеты, расписания, выдержки из объявлений, образцы деловых писем и контрактов, которые также должны быть представлены в аутентичном формате).

Особое внимание следует уделить аудио и видеоматериалу. При формировании навыков произношения на помощь могут прийти современные гаджеты: What's up, SMS.

Центральным тематическим компонентом специального обучения иностранному языку является специальный текст и содержащаяся в нем специальная лексика, поскольку специальные тексты используются для передачи конкретных стилей общения.

В эпоху глобализации и расширения деловых контактов, преобладает прямой контакт с клиентом посредством электронной почты или VoIP, поэтому практически невозможно полагаться на стандартизированные текстовые модули при общении. Что сейчас требуется, так это способность прямо и адекватно реагировать на запросы в устной или письменной форме. Большое внимание следует уделять обучению основам делового письма. Существуют определенные правила и стандарты и устоявшиеся клише. Реквизитами делового письма являются:

1. Шапка, которая содержит: наименование фирмы-отправителя и ее торговый знак, адрес, номера телефонов и факса;
2. Сектор адресата: тип отправителя, название фирмы, улица, номер дома, почтовый индекс и город, страна;
3. Строчка ссылок состоит из указания на предыдущую переписку;
4. Повод: приглашение, реклама, запрос, рекламация...;
5. Текст письма с обращением;
6. Формула прощания и подпись
7. Примечание о приложениях.

Опираясь на образец, студенты пишут деловое письмо, адресованное фирме-партнеру, используя при этом устоявшиеся клише, характерные для делового письма:

- In Bezug auf Ihr Schreiben;
- Hiermit bestätigen wir;
- In Vollmacht;
- Zu den umstehenden Bedingungen;
- Entscheidung treffen
- Mit freundlichen Grüßen.

Необходимо уделять внимание лексике, которая в деловом контексте приобретает иное значение. Например: die Hand- рука; die öffentliche Hand- органы государственной власти; tragen-носить, die Ware trägt die Versandkosten nicht – товар не оправдывает транспортных расходов

При обучении деловому иностранному языку особое место занимает формирование межкультурной коммуникации, то есть не только владение языковым кодом, но и поведенческая модель представителей той или иной культуры. При этом необходимо привить им чувство уважения к другой культуре, к традициям, обычаям, принятым нормам поведения.

В Германии – вертикальная модель управления. Вышестоящее лицо делегирует нижестоящему и так далее. Двери в учреждения всегда плотно закрыты, чтобы создать ощущение приватного пространства. Немцы полагают, что отгороженный от посторонних шумов и разговоров персонал лучше трудится. Подобное распределение ролей и создание «замкнутого пространства» скорее объединяет наши культуры. Особенности наших культурных традиций, продиктованные уважением другого человека, желанием не обидеть собеседника, диктуют особый стиль беседы: уклончивый от резких характеристик, учтивый, порой несущий в себе двусмысленный характер.

Исследователи выделяют разные типы культуры делового общения, функционирующих в настоящее время в процессе межнациональных контактов: моноактивный (англосаксонские, германские, скандинавские народы), полиактивный (арабские, романские, латиноамериканские и африканские), реактивные (страны Центральной, Восточной и Юго-Восточной Азии, Включая Японию, Китай, Тайвань и Сингапур, а также Турцию и Финляндию) [3].

Народы, относящиеся к моноактивному типу культуры делового общения, используют преимущественно источники информации, представляющие объективные данные, они нацелены на выполнение конкретной производственной задачи, четко придерживаются намеченного плана, поступают в соответствии с инструкциями и требуют такого же отношения к делу от коллег, и от них требуется умение оперировать фактами и точными данными, опираться на логику, а не на чувства и эмоции. Представителей данного типа культуры можно охарактеризовать как активных и довольно терпеливых слушателей, которые стремятся не только вникнуть в суть вопроса, но и понять общий контекст ситуации. При этом немцы рассматривают процесс слушания как сбор информации.

Таким образом, исходя из будущих профессиональных потребностей студентов, курс делового иностранного языка нацелен на формирование всех видов речевой деятельности в той мере, в какой они необходимы для:

- понимания иностранной речи на слух;
- беседы с иностранными коллегами на профессионально значимые темы;
- чтения и понимания деловой корреспонденции;
- написания официальных деловых писем и e-mail.

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THE BENEFITS AND CHALLENGES OF INTERNATIONAL STUDENT EXCHANGE PROGRAMS IN PROMOTING GLOBAL EDUCATION

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Annotation. This article emphasizes the importance and relevance of international exchange programs to expand the general horizons of students and their tolerance, as well as empathy and cultural interaction with representatives of the foreign language being studied, as well as other foreign persons who have to face in the academic environment during the academic mobility program, highlights the important advantages and achievements of the field, as well as Forecasts for the future are being made. At the same time, the article examines the current problems shared by the interviewed students, which are expressed in the difficulties of adapting to life in a new culture, as well as possible differences in the curricula of their native university and the university where they study at the time of the exchange program. Thus, this article highlights both sides of the problem, thereby providing an idea of the impact of international exchange programs on the global educational space.

Key words: international student exchange programs, global education, university education programs, cultural exchange, international educational programs, international communication competence.

Introduction.

The formation of cultural competence is one of the challenges of modern global education, which requires the formation of citizens who are freely oriented in the international space. In this context. The study will include data collection methods, analysis results and discussion of key aspects, as well as recommendations for future research.

To begin with, let's look at the specifics of international student exchange. As Yu.V. Markevich notes: "international student exchange programs play a great role in the life of society" [1]. This is due to the fact that the exchange of knowledge during student mobility allows you to develop not only personal qualities and cultural enlightenment of students, but also to establish international relations, build a new global level of education, bring new innovative methods of teaching and scientific research to your country, which allows you to increase the level of domestic education.

As noted in S.Y. Pavlina's research: "Today, aspects of internationalization of education are actively being studied, therefore, international exchange programs require increased attention" [2].

In the context of modern global education, the formation of cultural competence is indeed a significant challenge. It is crucial to develop citizens who can navigate freely in the international space and understand and appreciate diverse cultures. To address this, it is important to explore various aspects of international student exchange programs.

Moreover, they contribute to the development of a new global level of education by introducing innovative teaching methods and scientific research to different countries. This, in turn, raises the overall standard of education domestically.

With the advancement of digital communication platforms, students can connect with peers from different countries, allowing for virtual exchange experiences. Understanding the benefits and limitations of these virtual exchanges would be an interesting area of research.

Methods.

It is precisely because of the increased attention to exchange programs that we decided to conduct a study of the opinions of students participating in international exchange programs. For an adequate and comprehensive study of the impact of international student exchanges on global education, we used a balanced approach, combining both qualitative and quantitative research methods.

The sample of qualitative methods includes the following:

1. Online interviews with the participants of the exchange for 2022-2023 through the use of the "Zoom" program. As O.A. Dmitrieva notes in a study devoted to the study of the online interviewing method: "such interviews give a feeling of personal informal contact" [3]. This method seemed suitable for us, because all 10 students who were selected to participate in the study study in different courses and specialties, in addition, students from 2 Almaty universities were interviewed. Therefore, for the rational use of time, the distance format was the most suitable, in order not only to understand the student's attitude to the completed program, but also to see vivid emotions.

Thus, in-depth interviews were conducted with participants of the exchange programs to identify their personal impressions, cultural experiences and the impact of the exchange on their educational experience.

2. Analysis of cultural diaries, which revealed the attitude of students to the culture of the country at the beginning of the academic course abroad, in the middle and at the end of adaptation at a new university.

In addition, quantitative methods were used to complete the picture. According to K. Kurilova, "quantitative methods are convenient for reporting because through interpreting the results, one can see which answers prevail" [4]. As the main quantitative methods, we selected 2 directions:

1. A questionnaire, during which each participant received a questionnaire in which he told about the degree of satisfaction with his studies under the international exchange program, as well as about the cultural and academic experience gained. The survey was anonymous in order to fully disclose not only the positive but also the negative sides of international exchange.

2. A prerequisite for productive research is the analysis of available statistical data. We used statistics on the academic performance of students before and after their passage through the student mobility program.

The choice of these methods provided a comprehensive and comprehensive analysis of the advantages and challenges faced by international student exchanges, and allowed us to take into account both the individual experiences of students and general trends.

As noted in V.S. Abrukov's study, quantitative and qualitative research methods complement each other, which makes it possible to make a comprehensive analysis in the chosen field of research [5].

Results.

After carrying out all the measures, we processed the results obtained, as a result of which it was possible to conclude that:

As the online interview showed, students who have recently completed the international student exchange program are still in an excited state, they talk with great interest and in detail about their experiences, cultural exchange, travel, etc. While students who have already passed this experience a year ago think more rationally about what they would like to improve and refine in exchange programs, student mobility under the Erasmus program [6], etc.

In general, the organized interviews showed that participation in the exchange contributed to the personal and professional development of students, including improving communication skills and broadening horizons.

Also, as a result of interviewing and analyzing the diaries provided by the students, 7 out of 10 students noted the challenges they had to face during the adaptation period and in the first weeks of study. These include problems of interaction with a new culture, such as the language barrier and lifestyle differences, which require additional support and adaptation.

As for the quantitative results, the anonymous survey allowed us to judge that 80% of 100% of the surveyed students (8 out of 10) expressed their satisfaction with the student academic mobility experience they had experienced, 100% (10 out of 10 students) Of the respondents, they would like to repeat the experience when given the opportunity, but only 30% went to the same country to which they sent for cultural exchange for the first time. This indicates that students are motivated:

- visiting new countries and expanding your own linguistic picture of the world as a whole;
- the opportunity to learn more about the international space;
- the opportunity to integrate and encounter different cultures, share knowledge about your nationality and homeland.

In general, the quantitative results obtained indicate the importance of the acquired knowledge and skills, but also the desire not to dwell on the results achieved. That is, academic mobility and international student exchange programs make it possible to interest and give additional motivation to students, which nurtures responsible and competitive citizens in them.

As for the analysis of statistical data, as well as academic performance, firstly, the data analysis showed an improvement in the academic performance of participants in the exchange program compared to those who did not participate in the exchange. And secondly, there is significant progress among the exchange participants after returning to their university in disciplines involving the use of a foreign language (English), political science, philosophy, etc.

The results of the survey reflect an increase in cultural development among the participants of the program, which indicates their ability to better understand and appreciate the diversity of cultures, as well as the ability to understand the value of their culture, its uniqueness and special features.

Thus, it can be stated that the analysis of the obtained qualitative and quantitative data provided a complete picture of the impact of international student exchanges on participating students and educational systems in general, revealing both positive (obtaining international cultural experience, knowledge exchange, etc.) and questionable aspects (such as the language barrier, non-tolerant attitude, conflict of interests, prolonged adaptation period, etc.).

In general, as noted in the study of internationalization of education by T.V. Grin, academic mobility and all its challenges contribute only to professional development of specialists [7], which we agree with, because the analysis of quantitative and qualitative indicators allowed us to judge the effectiveness of the development of personal qualities of students and increasing the level of academic achievement.

Discussion.

The results of the study confirmed that international student exchanges stimulate the strengthening of intercultural understanding and contribute to the formation of tolerance, as well as increase motivation to study one's own culture and history at a deeper level in order to be able to share their knowledge during cultural exchange.

In addition, I would like to note that participation in the exchange contributed to the development of global skills among students, such as:

- adaptation to a new cultural and academic environment;
- the ability to look for common solutions in the context of working in a multinational group;
- effective interaction with a variety of cultures, etc.

In turn, it turned out that the academic performance of the exchange program participants confirms the positive impact of exchanges on the educational process, making a valuable contribution to educational systems.

In general, based on the quantitative and qualitative data obtained, we propose recommendations for future research and practice, that is, expanding exchange programs, that is, increasing their accessibility and impact on educational institutions.

It is important to provide students with cultural training and adaptation before sending them to study for an exchange, namely, to provide more extensive information about the country where the trip for academic mobility is planned. This will help to smooth out the problems of intercultural interaction.

In particular, it is recommended to conduct more in-depth research, focusing on the impact of international exchanges on the quality of education at universities and higher schools.

In general, these studies confirm that international student exchanges provide a valuable mechanism for promoting international global education, thereby having a positive impact on students, as well as enriching the educational systems of both countries. In general, it is worth noting that there are certain recommendations for future research on practical activities that were identified during the results of this study.

Conclusion.

Based on the results obtained, based on theoretical and empirical research, it becomes clear that the academic mobility program of international student exchanges plays a key role in the formation and development of modern education and the international space as a whole. Positive changes in the personal and professional growth of students, as well as their academic performance, help to fully realize the importance of such programs not only for the full development of students' skills, but also for enriching the experience of the universities of the receiving and sending sides.

Problems related to intercultural interaction require not only obvious efforts, but also additional solutions from universities and higher education institutions to ensure more effective student support and accelerated adaptation so that there are no problems with academic performance against the background of students' willingness to participate in the educational process on an equal basis with native speakers of language and culture. Recommendations for expanding and improving the exchange program and strengthening cultural learning will help improve the results and make participation in student academic mobility more accessible.

This study not only confirms the results of previous ones, but also helps to draw conclusions in this area, thereby opening up new ways for future research in this area, which will positively affect the practical implementation of this direction. Thus, a systematic approach is being applied to global education through the influence of international student exchanges.

In conclusion, it should be noted that the formation of cultural competence is the most important aspect of modern international education. The international student exchange program plays a key role in the process of forming a global educational space, while positively influencing the personal growth of the students themselves involved in this large-scale process. Thus, by

making changes and improvements to these programs, it is possible to achieve even greater success in the development of cultural foreign language competence and create competitive citizens who will be prepared to work within the international space and express themselves in a global sense.

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ЖАҢАНДЫҚ БІЛІМ БЕРУДІ ІЛГЕРІЛЕТУДЕГІ ХАЛЫҚАРАЛЫҚ СТУДЕНТТІК АЛМАСУ БАҒДАРЛАМАЛАРЫНЫҢ АРТЫҚШЫЛЫҚТАРЫ МЕН МӘСЕЛЕЛЕРІ

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Аннотация. Бұл мақалада студенттердің жалпы ой-өрісін және олардың толеранттылығын кеңейту үшін халықаралық алмасу бағдарламаларының маңыздылығы мен өзектілігі, сондай-ақ зерттелетін шет тілінің өкілдерімен, сондай-ақ академиялық ұтқырлық бағдарламасы кезінде академиялық ортада кездесуге тура келетін басқа да шетелдік тұлғалармен эмпатия мен мәдени өзара іс-қимылдың маңыздылығы атап көрсетілген. осы саладағы маңызды артықшылықтар мен жетістіктер жасалады, сондай-ақ болашаққа арналған болжамдар. Сонымен қатар, мақалада жаңа мәдениеттегі өмірге бейімделу қиындықтарында көрінетін сауалнамаға қатысқан студенттер бөлісетін ағымдағы мәселелер, сондай-ақ олардың алмасу бағдарламасы кезінде оқитын туған университеті мен университетінің оқу жоспарларындағы мүмкін айырмашылықтар қарастырылады. Осылайша, бұл мақалада мәселенің екі жағы да қамтылған, осылайша халықаралық алмасу бағдарламаларының әлемдік білім беру кеңістігіне әсері туралы түсінік береді.

Түйінді сөздер: халықаралық студенттермен алмасу бағдарламалары, жаһандық білім беру, университеттік білім беру бағдарламалары, мәдени алмасу, халықаралық білім беру бағдарламалары, халықаралық коммуникация құзыреті.

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ПРЕИМУЩЕСТВА И ПРОБЛЕМЫ МЕЖДУНАРОДНЫХ ПРОГРАММ СТУДЕНЧЕСКОГО ОБМЕНА В ПРОДВИЖЕНИИ ГЛОБАЛЬНОГО ОБРАЗОВАНИЯ

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Аннотация. В данной статье подчеркивается важность и актуальность программ международного обмена для расширения общего кругозора студентов и их толерантности, а также эмпатии и культурного взаимодействия с представителями изучаемого иностранного языка, а также другими иностранными лицами, с которыми приходится сталкиваться в академической среде во время программы академической мобильности, подчеркивается важность делаются важные преимущества и достижения в этой области, а также прогнозы на будущее. В то же время в статье рассматриваются текущие проблемы, разделяемые опрошенными студентами, которые выражаются в трудностях адаптации к жизни в новой культуре, а также возможные различия в учебных планах их родного вуза и университета, где они учатся на момент прохождения программы обмена. Таким образом, в данной статье освещаются обе стороны проблемы, тем самым давая представление о влиянии программ международного обмена на мировое образовательное пространство.

Ключевые слова: международные программы студенческого обмена, глобальное образование, университетские образовательные программы, культурный обмен, международные образовательные программы, компетенция международного общения.

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STRATEGIES FOR INCORPORATING AUDIOVISUAL RESOURCES INTO FOREIGN LANGUAGE INSTRUCTION

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Abstract:

The article includes a creative educational project that goes beyond the old, conventional ways of instruction and is taught in the educational process utilizing new, contemporary technical means of instruction. The examination of interactive language-learning techniques using audiovisual resources is the focus of this article. While also spark a curiosity in a foreign language. Author analyzes and selects the best approach based on the findings of researchers that served in this field.

Keywords: audiovisual method, innovative education, traditional education, audiovisual materials, video, listening

Introduction

A foreign language is a required course that takes several years to complete and calls for specialized teaching techniques and teacher abilities. However, acquiring a foreign language apart from a language application environment is an extremely difficult and involved procedure. Students may exert minimal effort and energy, but the teacher receives the majority of it. Therefore, the teacher uses unique learning strategies, new teaching techniques, and cutting-edge technological tools to help students develop a strong, positive attitude toward learning a foreign language and to meet the required level of learning material.

Two distinct directions of development have emerged in today's educational system: traditional and innovative. Traditional education's primary goal is to generalize all of the knowledge and experience gained during the course of human development in order to plan for their future application in a variety of fields. The foundation of innovative education is the shift in social expectations that contemporary society has for the individual and their place in society's evolution. The primary goals of contemporary innovative education are the development and preservation of creative potential, which is essential for both society and the individual, the individual's participation in activities that have social significance, and the provision of an opportunity for effective self-development.

A modern teacher can use a wide range of technical learning methods thanks to the conditions created for the use of video technology. Another universal learning method is the simultaneous use of audio and video materials. It should be mentioned that the use of audiovisual materials in the classroom modifies the traditional teaching methodology and enhances student engagement. Additionally, the incorporation of video materials into foreign language instruction

helps students expand their perspectives by enhancing their vocabulary and familiarity with other nations.

The building and processing of the audiovisual approach to teaching foreign languages is based on the same properties of human perception and understanding of sight and hearing, which permit perception and differentiation through the synthesis of sight and hearing on the basis of a holistic direction in the methodology of teaching a foreign language. The evolution of this approach results in the creation of both new and old approaches in the format and subject matter of didactic media, such as movies and television shows.

The term "audiovisual method" refers to a particular kind of approach that centers on using audiovisual materials to teach foreign languages. It is a technique for quickly assimilating a small amount of lexical and grammatical information while heavily relying on auditory and visual visualization, which is typical of spoken foreign language speech. Learning a language involves becoming proficient in structures (speech patterns, sentence structures) that are interpreted globally, or holistically.

This method first appeared in the 50s of the twentieth century in the French state. In the theory of structuralism (J.Huguenham) and psychological behaviorism (modern modification) it is one of the direct methods of learning. Theoretical interpretation of the method is presented by P. Guberina (Yugoslavia), P. Rivan, R. Micha (France). The center of emergence and development of the audiovisual method is the Saint-Cloud Institute. After the publication of the famous audiovisual course "Voice and Image of France" (1982), this work became popular in many countries and influenced the appearance of similar courses for the study of various languages [1, p. 239].

Methods

Currently, there is a broad distribution of audiovisual materials in innumerable training courses as well as in many countries' stationary educational corps (schools, lyceums, and universities). Large-scale interventions in the creative, technological, pedagogical process of teaching a foreign language through audiovisual materials have been introduced in response to audience demand, with the exclusive purpose of achieving measurable outcomes. But the application of diverse technical tools and curricula, which are evidently differentiated based on the structure and level of students' knowledge, suggests not only the widespread but also the worldwide adoption of this approach.

Psychologically speaking, it makes sense that the human brain stores information more effectively the more senses are used in the perception process. When teaching a foreign language, it is important to keep in mind that people retain between 70% and 80% of information through audiovisual channels and only 13% through auditory channels [2, p. 245]. When learning a foreign language, using the audiovisual channel makes it possible to commit to memory not only specific word and letter combinations as well as phrases, but also realistic images and pictures. Multiple channels (senses) are used in the material presentation process, which improves learning effectiveness and intensifies the experience.

More visual materials to be viewed during the reception process are preferable for effective learning. When it comes to the significance and efficacy of using audiovisual teaching media, it is thought that the combined sensory types of auditory and visual perception rank highest. As a result, complex stimuli that are analyzed simultaneously by multiple analyzers gain unique power and effect. As a result, the body of the student, which processes information through audiovisual materials while being exposed to a strong, high-quality information flow, is predicated on their capacity to establish the required emotional foundation and transition with ease from feeling-driven to logical thinking.

Not only are videos the best medium for comprehending nonverbal cues (such as gestures and facial expressions), but they also closely resemble real communication compared to audio resources utilized in the classroom.

Information is communicated through the use of paralinguistic (gestures, gestures) and suprasegmental (accent, pause, voice level, intonation) components of communication, which also help students evaluate the communicative situation appropriately. They consequently practice and prepare their ability to recognize nonverbal cues that are typical of authentic communication situations. The way these disparate signaling systems interact sets the video apart from other forms of text. Being completely aware of what is happening on the screen is helpful because watching video involves motions, audio support, and gestures [3, p. 222].

Without a doubt, when learning in a classroom, students constantly require realistic mental and control visualizations. This issue is readily resolved with audiovisual resources. They infuse the classroom with authentic content that reflects real-world situations, science, and life. They turn language from a static form of expression into a dynamic one. They make communication more interesting and engaging by enabling both the teacher and the students to be creative and to develop a desire for one another. To put it simply, audiovisual materials are "indispensable tool" that teachers use to support lessons and foster creativity because they can be used for a variety of purposes and readily adapt the type of work that is done in the lesson. These materials can be used at any stage of the lesson without interfering with its structure or flow.

Real-world context is provided during a lesson through video. It demonstrates language that is commonly used, making the lesson applicable to everyday situations. This adds even more valuable pedagogical resources to the teacher's toolkit. Above all, when learning a foreign language, video helps us get over linguistic and cultural barriers. The plain fact is that a student will never be able to comprehend English well enough if he does not put in a lot of practice. Naturally, he must listen to and make an effort to comprehend the speech acts of those whose native tongue is English if his goal is to master it to the same level as his mother tongue.

Understanding, seeing, and hearing are the three main tenets of the audiovisual approach. Students learn the language through interviews with English-speaking native speakers, news broadcasts, public speeches, and brief film clips, all of which are based on a daily basis of video lessons.

When conducting a video lesson, it's important to keep in mind that choosing and properly analyzing the required material is just as important as adhering to the fundamental approaches and principles.

How can you increase the interest of students by using the modern way of watching video in the classroom? More footage is available to us than before. Digital versions of news broadcasts, advertisements, comedy, documentaries, dramas, and academic courses can be accessed online. The majority of these tools weren't intended to be used as teaching aids at first. Therefore, it fulfills a practical communication function. Some of the resources are real and have been modified for use in language instruction. authentic content that was modified for use in several grades but wasn't initially created for ELT.

The following categories apply to video materials:

- production materials for teaching and learning;
- music and advertising videos;
- full-length feature films and TV shows;
- DVD cartoons and advertising trailers as supplemental content;
- publicity (speech videos featuring public speeches from a variety of well-known figures);

When learning a foreign language, watching videos can have the following advantages: The absence of dimming in the classroom means that there is constant interaction between the teacher and students; videos allow for a variety of operating modes, such as freeze frame and the use of only the video track (with the audio track turned off); videos are easily used for a variety of work types, including individual, pair, group, and collective projects; video equipment also makes

it possible to split a movie into the desired number of clips, based on the goals of each student and their unique learning style [4, pp. 188-189].

The following actions are part of the video lesson plan:

1. Getting ready (before the presentation).

A) having an initial discussion with the students (the objective is to spark their interest in the movie and carry out topic-appropriate vocabulary repetition exercises);

B) Allow the students to actively guess the movie's theme during the lesson and use their imagination to solve problems in a way that relates to the theme that is being covered;

C) use newly assigned words in accordance with the topic to help students improve their vocabulary [5, pp. 136–137].

2. You can complete the following tasks during the demonstration:

A) Verifying the presumptions the students made prior to the presentation; B) conducting research. Following the first demonstration, students are given assignments that include information about the movie's content; depending on the class's level or the assignments they have to complete, the story is then reenacted in full or in segments;

B) deal with separate pieces. An increasing number of new components of communicative culture are able to emerge as a result of this phase of work. The most crucial component of listening comprehension at this point is practicing the ability to reveal the entire task's content. Based on each of the passages mentioned, students should work on one or more of the exercises listed below. For instance, you may choose to only hear the sound during a movie and turn off the visuals. Little breaks in the story can be used to ask questions about what the characters did, what happened and what they talked about, where they went, and other things. Following their collection of all available data, the students rewatch the video segments to confirm their interpretations [6, pp. 138–139].

3. Following the talk

Students may be assigned the following assignments at this stage of the video lesson:

- Assign exam tasks to assess students' comprehension of the video in its entirety (i.e., questions about the movie's content, identifying correct and incorrect answers from given sentences, and tasks where students must identify errors and superfluous lines from the text with a synopsis of the movie).

- Assign a creative project that relates to the movie's plot (write a letter to a friend who speaks English or give a presentation on the subject, for example). [7, p. 241].

When presenting audio or video text, it is important to match the loudness and pace to the students' skill levels. Sounding a text for more than three minutes generally causes short-term memory overload and perceptual confusion. Usually, the text is played twice for the audience. It is best to show the text in bits and pieces if pupils still do not grasp it after two presentations. Currently, a lot of people use the "Frozen frame" reception, which lets you press the "Pause" button once more to listen to a foreign speech in preview and answer the teacher's questions. [8, pp. 101-106].

Conclusion

To summing up, this ought to be mentioned that communicativeness, interactivity, and authenticity of communication receive special attention in the modern educational process. Simultaneously, the goal of culturally-appropriate language learning is humanization and personalization. The establishment of the so-called interactive relationship in the field of methodology is one of the primary prerequisites for the use of audiovisual resources in the process of teaching a foreign language. The complementarity of the outcomes of realizing the communicative goal and the means of language communication, coordination, and unity is what is meant by interaction.

It ensures student interest and effectiveness by facilitating the development of vocabulary and grammar knowledge as well as interpersonal skills and abilities. In addition to covering real-world scenarios, interaction makes sure that students understand how a foreign language conversations flows. One of the pillars of communicative skills is intercultural competence, which is developed in part by these values. Encouraging students to be able to speak easily and fluently in another language and culture while interacting with English-speaking foreigners is the ultimate goal of teaching foreign languages.

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Using a language portfolio as an effective means of reflection in Teaching English

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Introduction

The use of reflection in teaching English has gained importance in recent years as educators strive to enhance their teaching practices and promote student learning. One effective method of reflection in this context is the use of a language portfolio, which allows teachers to document and evaluate their growth and development as language instructors. A language portfolio is a comprehensive collection of samples of students' work, self-reflections, and teaching materials that serve as evidence of their linguistic and pedagogical accomplishments (Shih & Liu, 2016). In addition to providing a record of teaching experiences, a language portfolio also enables teachers to critically analyze their strengths and weaknesses, set realistic goals for improvement, and make evidence-based decisions (Manso, Daubney, & Lee, 2019). By using a language portfolio as a reflective tool, teachers can create a continuous feedback loop that ensures ongoing professional development and enhances the quality of English language instruction.

Reflection is a vital aspect of teaching English as a second language, as it allows teachers to critically analyze their instructional choices and evaluate the effectiveness of their teaching methods. English language learners, especially adult learners, can greatly benefit from reflective teaching practices that encourage them to engage in self-assessment and take ownership of their language learning process. According to Stern (1983), reflection plays a crucial role in language learning and teaching by promoting metacognitive awareness, which helps learners identify their strengths and weaknesses and develop strategies to overcome language barriers. By using language portfolios as a tool for reflection, teachers provide students with a tangible way to track their progress and identify areas for improvement (Caldas & Mogilska, 2018). Thus, incorporating reflection into teaching practices not only enhances the learning experience but also empowers students to become active participants in their own language development journey. Authors such as Donald Schön and John Dewey have emphasized the importance of reflective practice in education. Schön's concept of "reflection-in-action" and "reflection-on-action" aligns with the idea that continuous assessment and self-evaluation are integral components of effective teaching. Likewise, Dewey's philosophy underscores the transformative potential of reflective thinking in refining instructional methods. Examining the roots of language portfolios reveals a rich history intertwined with scholars like Paul Black and Dylan Wiliam, who pioneered formative assessment strategies.

1.1 The Concept of a Language Portfolio

A language portfolio is a compilation of student work that reflects their language learning journey and progress over time. It serves as a valuable tool for both students and teachers as it provides a comprehensive overview of the students' language abilities and achievements (Weber & Quasthoff, 2016). The language portfolio typically includes a variety of materials such as writing samples, speaking recordings, project work, and self-reflection pieces (Yoshida, 2018). By collecting and organizing these artifacts, students are encouraged to actively engage in the

learning process and take ownership of their language development (Kuntz & Trabasso, 2019). The portfolio also allows teachers to assess students' language skills holistically, taking into account different language competencies such as listening, speaking, reading, and writing (Harrison & Coleman, 2017). Furthermore, it provides a platform for students to reflect on their progress and identify areas for improvement, fostering metacognition and self-directed learning (Rubin, 2018). In this way, a language portfolio can be an effective means of reflection in teaching English.

1.2 Implementing a Language Portfolio in English Teaching

Implementing a language portfolio in English teaching offers numerous benefits for both teachers and students. Firstly, it provides a way for educators to assess students' progress and proficiency levels more holistically. As stated by Storch (2005), traditional assessment methods such as exams and quizzes often measure only certain aspects of language learning, such as grammar and vocabulary knowledge. However, a language portfolio allows teachers to evaluate a wider range of linguistic skills, including speaking, listening, reading, and writing. Additionally, the portfolio can include samples of authentic language use, demonstrating students' ability to apply their knowledge in real-world contexts. This comprehensive assessment approach gives a more accurate reflection of students' language abilities and can help guide instructional decisions. Furthermore, the use of a language portfolio promotes student engagement and autonomy. Students take an active role in selecting and organizing the materials that demonstrate their language proficiency, fostering a sense of ownership over their learning process. They are encouraged to reflect on their strengths and weaknesses, as well as set goals for improvement, thereby promoting metacognitive thinking (Flihan et al., 2016). By engaging in this reflective practice, students take responsibility for their language development and become more invested in their own learning journey. Language portfolios, by nature, encourage educators to document their teaching journey, showcasing not only tangible outcomes but also the nuanced processes that shape language acquisition. As we navigate the nuances of incorporating language portfolios into English language education, this exploration aims to illuminate the symbiotic relationship between reflective teaching practices and the profound impact they can have on fostering a dynamic and responsive learning environment.

Small-scale Research

In order to analyze the effectiveness of language portfolios, a research study was chosen. This classroom-based research constituted the second phase of a teacher research initiative focused on various assessment methods in foreign language learning. The implementation of language portfolios aimed to cultivate independent learners, and the study investigated the impact of portfolio assessment on student learning.

The participants in this research were seven ten-year-old students enrolled in an English as an Additional Language (EAL) class, along with their two teachers. The primary objectives of the study were twofold:

- a) To explore how language portfolios facilitate students in self-assessment and reflection on their learning.
- b) To comprehend how teachers encourage reflection by integrating portfolio sessions into class activities.

Context

The research took place in an international school in Serbia, where English serves as the primary language of instruction. The student body includes both Serbian and non-Serbian children, many of whom learn English as a second language and participate in additional English classes during their academic journey. Typically, students stay in the English as an Additional Language

(EAL) program for two years. Given that English is the language of instruction, every classroom essentially functions as a language classroom.

During this research, the students, hailing from diverse linguistic backgrounds and representing five different countries, grappled with the dual challenge of recognizing the paramount importance of mastering the English language while feeling the pressure associated with the endeavor. Their motivation was a driving force, yet it created a palpable awareness of the substantial learning journey that lay ahead. In response to these dynamics, students were encouraged to not only use the language but also develop essential study skills. Central to this was the ability to plan their learning process, set achievable goals, and critically evaluate their own progress. To catalyze and structure the reflective process, language portfolios were introduced as a compulsory component of the course. At the initiation of the academic year, each student received a personalized manila folder, a tangible vessel for their language portfolio. The act of naming and decorating these folders served as an initial connection between the students and their evolving linguistic narrative. Throughout the academic calendar, students were tasked with collecting diverse samples of their work, encompassing handouts, short texts, drawings, and other artifacts that encapsulated their learning experiences. A monthly ritual prompted students to sift through their folders, critically selecting pieces that symbolized successful endeavors and areas with room for improvement. The portfolio thus evolved into a dynamic representation of their linguistic journey, providing tangible evidence of progress and areas necessitating further attention.

Notably, students were not only responsible for curating their portfolios but were also tasked with explaining and justifying their decisions during this process. The selection of materials, the retention or removal of specific tasks, and the rationale behind these choices were part of the reflective exercise. The teachers actively participated in this ongoing dialogue, posing questions that probed the depth of students' reflections and provided valuable insights into their evolving understanding of language acquisition. The dynamic nature of these portfolios was further highlighted at the end of each term when students engaged in conferences with their teachers. These sessions served as a forum for comprehensive discussions centered around the selected samples within the portfolio. Here, students elucidated the reasons behind considering certain pieces as successes and discussed the challenges encountered during various assignments. These reflective dialogues became instrumental in bridging the gap between self-assessment and external evaluation, contributing to a nuanced understanding of each student's linguistic development.

In essence, this research journey with language portfolios served not merely as an evaluative tool but as a holistic approach to language education. The portfolios became emblematic of the students' evolving linguistic identity, encapsulating successes, challenges, and the iterative nature of the learning process. They not only provided a method for students to self-assess and reflect but also became a conduit for meaningful teacher-student dialogues, fostering a collaborative environment focused on continual improvement.

Data Collection

The intricate process of data collection unfolded through a multifaceted approach, encompassing various methods to offer a comprehensive understanding of the impact of language portfolios on student learning and reflection.

Lesson Observations:

Approximately five hours of classroom time were meticulously recorded, providing a rich reservoir of real-time interactions between teachers and students. These observations were crucial in capturing the dynamics of language portfolio integration within the daily flow of lessons. The organic nature of these observations offered glimpses into how students engaged with portfolio-

related activities, shedding light on the spontaneous and unscripted facets of their learning experiences.

Conferences with Students:

A substantial portion of the data was derived from one-on-one conferences with students, totaling five hours of recorded interactions. These conferences served as personalized windows into students' reflections on their language portfolios. The dialogues between teachers and students during these sessions unveiled the nuances of individual learning journeys, allowing for a nuanced exploration of the reasons behind their selection of specific portfolio items, the challenges faced, and the successes celebrated. The richness of these exchanges provided qualitative depth to the understanding of student engagement and reflective practices.

Students' Reflective Tasks:

Students actively contributed to the data pool through reflective tasks assigned to them. These tasks acted as intentional probes into their understanding of the language portfolio process, encouraging them to articulate their thoughts, challenges, and triumphs. The outcomes of these tasks provided a written dimension to complement the verbal exchanges observed during conferences.

Interviews with Language Teachers:

To gain insights into the facilitators' perspective, two hours were dedicated to interviews with the teachers. This allowed for a deeper exploration of the pedagogical rationale, challenges encountered, and strategies employed in incorporating language portfolios into the curriculum. The teachers' reflections added a crucial layer to the overall narrative, offering perspectives on the intended learning outcomes and the observed impact on student development.

Data Analysis

The amassed data underwent a meticulous analysis, aiming to distill meaningful patterns, themes, and insights related to the research objectives. The following steps outline the analytical process:

1. Transcription	The recorded segments from lesson observations, conferences, and teacher interviews were transcribed in their entirety. This transcription process ensured a textual representation of the spoken words, fostering a detailed examination of verbal nuances and non-verbal cues.
2. Coding and Categorization	A systematic coding process was applied to the transcriptions, identifying recurring themes, notable student responses, and key teacher strategies. This step facilitated the organization of data into categories, enabling a structured and thematic exploration of the content.
3. Pattern Recognition	Patterns and trends within the data were meticulously recognized, allowing for the identification of commonalities and variations. This phase was essential in revealing connections between specific teaching methods, student reflections, and the overall impact of language portfolios on the learning process.
4. Qualitative Interpretation	The qualitative interpretation of the data involved a nuanced exploration of the context surrounding student reflections, teacher interventions, and the interplay of various elements within the classroom. This interpretive phase sought to unravel the underlying dynamics and contribute to a deeper understanding of the research questions.

Figure 1. Steps of analytical process

In summary, the data collection and analysis phases were intricately woven together to unravel the intricate tapestry of language portfolio implementation in the classroom. The fusion of real-time observations, reflective tasks, interviews, and systematic analysis endeavors to provide a comprehensive narrative that extends beyond quantitative metrics, delving into the qualitative dimensions of student learning and reflection.

Findings and Discussion

Making Learning Visible

The research journey illuminated a compelling aspect of language portfolio implementation—its role in rendering learning visible. Across various observations, it became evident that language portfolios serve as dynamic showcases of students' linguistic development. The tangible artifacts within the portfolios, carefully curated by students, become windows into their evolving language proficiency. This visibility extends beyond conventional assessments, providing a comprehensive panorama of their linguistic journey. The tangible representation of progress empowers both students and teachers to track growth, identify areas for improvement, and celebrate milestones, fostering a holistic understanding of language development.

Developing Confidence

A noteworthy revelation surfaced regarding the pivotal role language portfolios play in cultivating students' confidence. The process of selecting, curating, and reflecting on portfolio items emerges as a confidence-building exercise. Students, through the act of showcasing their linguistic achievements, not only gain a sense of accomplishment but also foster a positive attitude towards language learning. The reflective component of portfolio activities contributes to metacognitive awareness, enabling students to recognize their strengths and address areas requiring further attention. This newfound confidence serves as a catalyst, propelling students towards more active engagement in language acquisition.

Students' and Teachers' Views on Language Portfolios

An integral facet of the research involved capturing the perspectives of both students and teachers regarding language portfolios. From the students' vantage point, there was a unanimous expression of appreciation for the tangible representation of their linguistic journey. The portfolios were viewed as personal chronicles, allowing students to take ownership of their learning. Additionally, the reflective tasks embedded within the portfolio process were perceived as valuable opportunities for self-assessment and goal-setting. Teachers, on the other hand, emphasized the versatility of language portfolios as assessment tools. Beyond traditional evaluation methods, portfolios provided a nuanced understanding of individual learning styles and preferences. The insights gained from portfolio reviews informed instructional strategies, allowing teachers to tailor their approach to better meet the diverse needs of students. Moreover, the dialogues arising from portfolio conferences facilitated a deeper teacher-student connection, creating a supportive learning environment.

Implications and Future Directions

The findings underscore the multifaceted benefits of incorporating language portfolios in language education. The visible learning aspect enhances transparency in the learning process, fostering a shared understanding between students and teachers. The confidence development observed among students suggests that language portfolios serve not only as assessment tools but also as instruments for nurturing a positive learning mindset. As we delve into the implications of these findings, it becomes apparent that language portfolios hold the potential to transform language education paradigms. Future directions may involve exploring technological innovations to enhance portfolio creation and assessment. Additionally, investigating ways to integrate portfolio practices seamlessly into diverse language teaching contexts can contribute to broader pedagogical advancements.

Conclusion

In conclusion, the use of a language portfolio has proven to be an effective means of reflection in teaching English. Through the process of collecting and analyzing various language samples, teachers are able to gain valuable insights into their students' language development and identify areas for improvement in their instructional practices. As researchers Johnson and Hofstetter (2018) suggest, language portfolios provide teachers with a holistic view of their students' language abilities, allowing them to tailor their teaching strategies accordingly. Furthermore, the act of self-reflection that comes with compiling a language portfolio encourages teachers to critically assess their own teaching methods and make necessary adjustments to meet the diverse needs of their students (Boud et al., 2019). The language portfolio serves as a child-friendly assessment where students share their language development journey, prompting questions and comments from their peers. This reflective process enhances learning visibility and fosters autonomy among students. The research highlights that language portfolios positively impact young learners' work quality, promoting reflection and the utilization of language and critical thinking skills. To expand the use of language portfolios in classrooms, it is crucial for more teachers to understand their benefits. Currently, many teachers lack training in this assessment method, necessitating pre-service and in-service teacher training sessions. Integrating reflection into the classroom is a challenge that needs careful consideration to make it an integral part of the learning process.

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AUTHENTIC SONGS AS TOOL OF DEVELOPING FOREIGN-LANGUAGE COMMUNICATIVE COMPETENCE

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Abstract: The article considers the concept foreign-language communicative competence in teaching foreign languages. The goal requires the use of authentic songs in developing foreign-language communicative competence. The article presents the results of a survey conducted to identify the opinions of teachers and students on the use of songs as educational material, as well as a comparison of their musical interests.

Keywords: communicative competence, foreign language communicative competence, song material, authentic, authentic song.

Introduction

Communication is a key component of modern world which full of integrating processes covering education, economics, politics and culture. The competence approach is hailed as one of the key conceptual tenets of modernizing educational content in materials related to education modernization. Currently, speaking and writing—productive skills—are more crucial to focus on developing than reading—receptive skills. Consequently, this social necessity was considered and addressed in the government's educational criteria, which state that the goal of teaching a foreign language in schools is the development of foreign-language communicative competence (FCC).

The term “Communicative competence” was first used by Dell Hymes in his work “On communicative competence”. His definition of communicative competence introduced the sociolinguistic viewpoint into Chomsky's linguistic view of competence by defining it as the capacity to apply grammatical competence in a range of communicative contexts in addition to its innate grammatical competence. This concept was crucial to the formation of the foreign language teaching methodology because it gave rise to the term FCC, or the capacity to communicate in a language other than one's native tongue and participate fully in cross-cultural communication situations. Because of this, a speaker who has joined FCC is able to communicate not only in a foreign language but also in a familiar culture, which improves communication.

For the reasons mentioned above, developing practical skills rather than theoretical knowledge is linked to the formation of FCC. Presently, the primary objective of teaching foreign languages in schools is to impart practical skills. Education is becoming more and more practical-oriented, necessitating the integration of interactive teaching methods and practical activities into the learning process.

Therefore, we believe that one of the best ways to advance the FCC in terms of a practical-oriented approach to teaching foreign languages is through an authentic song. Any song is, first and foremost, a work of poetry set to music. Both spoken text and a musical element are combined to fully convey the text's meaning with the aid of music. Upon however, the song serves as a messenger of the language and culture of a particular historical era.

Method and Material:

Participants:

The participants in this study encompass a diverse group, ranging from students at various educational levels to teachers. This inclusivity ensures on the effectiveness of using song materials at their foreign language lessons. Questions were created to determine the role that songs play in improving language skills, the preferred genres and styles for educational purposes, and the perceived effectiveness of songs in language learning. The study also investigated the musical genres that participants enjoyed outside of the classroom.

Selection criteria:

Participants were selected based on their engagement in teaching or learning foreign language.

Quantitative analysis:

To complement the quantitative findings, qualitative data was collected through interviews and focus group discussions. To complement the quantitative findings, qualitative data was collected through interviews and focus group discussions. These sessions aimed to explore teachers and students perceptions of using songs at FCC.

Results:

Answers to the question "Do you think that working with authentic songs in foreign language lessons is an effective method of teaching?" were all positive, indicating that secondary school teachers are aware of the value of authentic songs from a teaching methodology standpoint. That being said, only eighty percent of respondents indicated that they use foreign songs in their lessons when asked. Based on the available data, it appears that while educators are aware that songs can be effectively utilized to foster positive communication skills, some lack the necessary skills to interact with these resources.

For the student opinion questionnaire, two school classes—the tenth and eleventh—were among the forty respondents. When asked if they believed that listening to contemporary foreign music could aid in learning a language, the majority of respondents—91,7%—answered in the positively.

Regarding the survey, its purpose was not only to find out what teachers and high school students thought about the usefulness of authentic songs in teaching foreign languages, but also to find out what the students and teachers thought about the selection of appropriate songs can be found when learning a foreign language. We asked educators to list the songs that they use or plan on involving in the development of FCCs. The students were requested to share songs by foreign singers that they enjoy. Table 1 displays the results of this survey.

Table 1 . Comparative analysis of music selection

Foreign music used by teachers as teaching material	Foreign music, which students are interested in
The Beatles, Elton John, Queen, Smokie, Elvis Presley, Michael Jackson.	Ariana Grande, Billie Eilish, Lil Peep, One Direction, Sam Smith, Queen, The Beatles, The Weeknd, ASAP Rocky, Ed Sheeran, Dua Lipa, Lana Del Rey, System of a Down, Halsey, Harry Styles, Coldplay, Miley Cyrus, Lana Del Rey, Michael Jackson.

Discussion:

The positive outcomes demonstrated that an authentic song is a useful tool for developing FCC once more, a point that is supported by both students and teachers with expertise in teaching methodology. Teachers rarely use song material in the classroom, according to both teachers and

students, despite the obvious benefits of doing so. Therefore, it can be said that educators ought to focus more on interactive teaching strategies, such as using an authentic song.

After an analysis of the respondents' responses, it was clear that authentic songs are not very relevant to students' interests when used in foreign language classes by teachers of that language. Both responders mentioned a limited number of performers, among them Michael Jackson, Queen, Beatles. Therefore, when selecting musical pieces for instruction, educators do not adhere to a crucial guideline when selecting music, specifically the idea of influencing the emotional domain of the individual. Considering the outcomes of the examination of scientific publications regarding the incorporation of foreign music into the teaching process, it was evident that the having a positive emotional impact on students is crucial.

Conclusion

Considering all the above, it can be concluded that teaching with the use of authentic songs is effective and can significantly help in the development of FCCs. The results of the survey, which included high school students and English teachers as respondents, demonstrated that both groups understood the importance of using real song materials when teaching and learning languages. Nevertheless not all educators incorporate these resources into their lessons. Furthermore, it turned out that the choices of foreign music made by high school students do not always align with teachers.

INCLUSIVE EDUCATION FOR CHILDREN WITH DISABILITIES: RESEARCH BY DOMESTIC AND FOREIGN SCIENTISTS

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Abstract: *Childhood, rehabilitation and adaptation of a child with disabilities in society are the key to the formation of his personality. One of the most important factors in the socialization of such a child is the family and getting them a quality education. This article discusses approaches and technologies for teaching children with special educational needs in an inclusive educational environment. A theoretical review of the works of domestic and foreign scientists is carried out.*

Keywords: *child with disabilities, inclusive education, work with a child, strategy, research*

Our president K. Tokayev noted that the national education system should always be on the path of development, while maintaining the best trends. According to the head of state, the main hopes for the formation of competitive children are placed on teachers. The task of teachers, and, of course, parents, is to educate worthy citizens for our country.

Among the most important priorities of state policy in modern Kazakhstan is the equality of the rights of all people to education. A prerequisite for ensuring the availability of education is an inclusive environment. The modern task of inclusive education provides for intellectual development, ensuring equal access to education for all levels of the population, taking into account psychophysiological and individual characteristics. The process of inclusive education, dictated by the law of the Republic of Kazakhstan "on Education", Legal and regulatory documents "concept for the development of inclusive education in the Republic of Kazakhstan", strengthens the requirements for the professional activity of teachers.

Inclusion in education is the inclusion of children and students with special needs in the overall learning process. World experience shows that an inclusive learning format is the most effective way to create a cohesive, compassionate and partner environment based on acceptance, understanding and mutual assistance between children with special needs and other students.

Special children with disabilities are children who have various abnormalities in their physical, mental or sensory development and whose same abnormalities prevent them from fully living, learning and adapting in society. Such children need support in the educational process and

in everyday life. All families with a child with disabilities need social and psychological support. It is necessary to ensure that parents are not left alone with their difficulties so that this issue does not become only a personal matter for the family. It is important that the family does not close, is not ashamed of their child. In a properly built family atmosphere, in the attitude towards his child, the function of the family is preserved.

The child's work with parents and children is one of the most important and relevant areas of activity of the institution. It helps to solve the goals and objectives of socialization and adaptation of children to society. Communicating with teachers, a psychologist, parents replenish their psychological and pedagogical knowledge, change their attitude to the upbringing of children. The fate of the child and the family largely depends on how the parents behave. The best way to help children with disabilities is to help their parents.

The harmoniously organized work of teachers with families with special children is the key to the success of the educational and educational process, adaptation of children to other children's teams.

A child with disabilities is a part of our society. The attitude towards them determines the level of culture and social development. Indifference and cruelty towards special children lead to the spiritual degradation of the entire society. The most important direction in working with such children is to develop an individual approach, taking into account the peculiarities of the development of the psyche and health of each child.

Currently, three approaches are used in the education of children with special educational needs in the country :

- Differentiated training of children with disabilities of physical and mental development in special institutions of types I-VIII;
- Integrated training of children in special groups in general education institutions;
- Inclusive learning, in which children with Special Educational Needs Study in the same group with ordinary children.

It should be understood that inclusion is not only the physical presence of a child with disabilities in general education institutions. This is a change in the institutions themselves, the culture and the system of communication of participants in the educational process, the closer connection of teachers and specialists, the involvement of parents in working with the child.

Inclusion in education is introduced into educational institutions for:

- ✓ ensuring unhindered access to education and full development of abilities of children with special needs;
- ✓ providing differentiated psychological and pedagogical support to children with special educational needs;
- ✓ creating a space for natural social adaptation in special children;
- ✓ implementation of the principles of humanitarian pedagogy;
- ✓ creating a favorable microclimate in general education institutions and Promoting Active interpersonal communication between children with special needs and other students;
- ✓ providing consulting assistance to families raising such children.

Many studies and experiments have been carried out on the education of special children. In particular, the domestic D. Sh.Zhumagalieva argued that the modern updated system is built taking into account the experience of foreign colleagues, that is, training is built "using active learning strategies, using methods of organizing joint learning, pedagogical reflection and effective forms of feedback, implementing a differentiated approach to meeting different levels of knowledge of students" [1].

Foreign scientists P. Davis and L. Florian concluded that in order to work with children with a feature, it is necessary to adhere to certain approaches, among which are:

- behavior: includes imitation, formation, repetition and reinforcement for specific tasks or skills.

- cognitive: here the emphasis is on the use and development of basic cognitive processes to improve the skills of storing, processing, organizing and retrieving information. This can be a phonological processing level, a word level (semantics and grammar or syntactic level), or a sentence level. Other related approaches include different patterns of auditory memory and approaches that explore how different aspects of language are stored and invoked if necessary.

- developmental: analyze the stages of development that the child will go through in the future. Naturalistic approaches can be included in this framework.

- interaction or Interactive: this approach is known by different names, including experimental learning. It emphasizes the development of meaningful relationships with the child's environment, rather than teaching isolated skills. The child is advised to benefit from positive communication and interaction experiences, solve problems, develop and apply many complex communicative thoughts and strategies.

In addition, S. Kraukle wrote that the communicative approach is one of the most appropriate strategies. In his opinion, "communication problems it is necessary to build a model of a communicative approach to working with children with special needs. Since children with special needs attend institutions, the teacher must take responsibility and agree to apply the principles of inclusive education" [2].

In the framework of the joint monograph of D. Z. Akhmetova, T. A. Chelnokova, G. V. Migranova and V. A. Korvyakov, D. G. Mukhambetov Institute of Economics, Management and law (Kazan, Russia) and the Almaty Academy of Economics and statistics (Almaty, Kazakhstan), special attention is paid to technologies and methods that should be used when working with children with disabilities.

What should be avoided in the learning process:

- forms of training aimed at a long interpretation of the material by the teacher, which predetermines the role of students as passive listeners (lecture, conversation);

- unnecessary requirements for discipline and tranquility in classes filled with passive forms of reproductive activity of students (rewriting from the blackboard, rewriting texts from textbooks, reading textbooks, etc.);

- presentation of new material in one block and in one reception, considering not only general sub-items of the topic, but also individual facts, details;

- assessment of the results and quality of students' activities, creating a stressful situation [4].

At the same time, the authors paid special attention to learning technologies that are individualized and adapted to the presence of support, showing that game technologies and project methods can be effectively used in inclusive learning.

The most important area of work with special children is to take into account the peculiarities of the development of the psyche and health of each child.

Teachers working with children with mental retardation:

- taking into account the age characteristics of children, remembering the development zone.

- in the lessons and extracurricular activities, the teacher actively uses the methods of forming universal educational activities for students. These are regulatory universal learning actions. Also, communicative universal learning activities play an important role in Personality Development. These include the ability to build friendships with peers.

- work is carried out on the development of cognitive and creative abilities among young people, as well as the formation of self-esteem and learning motivation using exercises of a developmental nature.

Teachers working with children with mental retardation can be advised.

Recommendations for teachers:

- ✓ creating a favorable psychological microclimate in the group;
- ✓ attention to the organization of the child's success in educational activities, based on positive, strong qualities;
- ✓ assignment of various tasks to students;
- ✓ involve them in activities such as staging, dancing, artistic creation;
- ✓ children should participate in research projects, creative classes, sports events, during which they learn to invent, understand and master new things, be open and able to express their thoughts, make decisions and help each other, form interests and learn opportunities. In the course of such work, children learn to understand the meaning of their emotional behavior and predict the consequences. They understand the importance of peace and the emotional atmosphere of communication with classmates for good, Joy, improvement of their own well-being;
- ✓ the teacher should use the methods of cooperation and a personality-oriented approach to working with young people, as well as educational games and tasks. These can be tasks such as "finding differences", "mazes", "missing parts", as well as collecting a constructor, cubes, and more.

In conclusion, the analysis of approaches, strategies and technologies for teaching children in the context of inclusive learning showed the continuity of research by European and domestic scientists. Thus, each researcher, based on personal experience, determines his own effective method or approach.

The quality of the educational system of children with features is determined by an individual approach to each student, since each "special" child is characterized by the presence of an individual problem that prevents him from living a full life. Often this problem can be solved even if it is not completely solved. The main goal of teaching special children is to introduce previously isolated people into society, as well as to achieve the maximum level of knowledge and development of each child classified in this category, to activate his desire to know the world around him. It is very important to form and develop from them full-fledged individuals who will become an integral part of the new society.

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Formation of Intercultural communicative competence using of game-based leaning in FLE

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KEYWORDS: intercultural communication; game technologies; game; English language; English for children; intercultural competence; junior pupils; methods of teaching English.

ABSTRACT. Language is a part of any national culture. Therefore, teaching English should be in close connection with the cultural features of English-speaking countries. Intercultural approach combines the linguistic and the cultural competences. This paper confirms the effectiveness of intercultural competence formation by means of gaming technology. The following research methods were used: theoretical analysis and synthesis of scientific literature on the topic, test and experiment. The paper provides a theoretical basis, experimental verification of gaming technologies complex for intercultural competence formation in English lessons. The article gives an overview of the approaches to the definition and component structure of the intercultural communicative competence; the specifics of the use of gaming technology in the context of intercultural approach to teaching foreign languages is discussed; assessment criteria for English language textbooks on the intercultural approach implementation are suggested; the analysis of the English language textbooks is provided; diagnostics of students' intercultural competence level is held; complex of gaming technologies, aimed at improving intercultural communicative competence is created; experimental research work on the development of intercultural communicative competence is carried out. The following research can serve as a basis for studying the theoretical foundations of the intercultural approach to the English language teaching in secondary, high school and in the framework of professional education, as well as for the development of gaming technologies, structured by types of speech activity and levels of language proficiency.

КЛЮЧЕВЫЕ СЛОВА: межкультурные коммуникации; игровые технологии; игровая деятельность; английский язык; начальное обучение английскому языку; межкультурные компетенции; младшие школьники; методика преподавания английского языка.

АННОТАЦИЯ. Язык – это часть культуры любого народа. Поэтому обучать английскому языку нужно в непосредственной связи с изучением культурных особенностей англоязычных стран. Именно межкультурный подход представляет собой связь лингвистической и страноведческой компетенций. В данном исследовании мы подтверждаем эффективность формирования межкультурной компетенции посредством игровых технологий. Для поставленной задачи были использованы следующие методы исследования: теоретический анализ и обобщение научной литературы, тестирование, эксперимент и анализ полученных результатов. В статье представлено теоретическое обоснование, разработка и опытная проверка комплекса игровых технологий для формирования межкультурной компетенции на уроках английского языка. В данном исследовании рассмотрены подходы к определению понятия и компонентному составу межкультурной компетенции. Изложена специфика использования игровых технологий в контексте межкультурного подхода к обучению иностранным языкам. Выделены критерии оценивания УМК по английскому языку на

предмет реализации межкультурного подхода. Произведен анализ УМК по английскому языку. Проведена диагностика уровня сформированности межкультурной компетенции у обучающихся. Создан комплекс игровых технологий, направленных на совершенствование межкультурной компетенции и осуществлена опытно-поисковая работа по развитию межкультурной компетенции. В перспективе данное исследование может стать базой для изучения теоретических основ межкультурного подхода к обучению английскому языку в средней, старшей школе и в рамках профессионального образования, а также для разработки комплекса игровых технологий, структурированных по видам речевой деятельности и ступеням обучения.

In the modern world, people are increasingly faced with the need to cooperate with representatives of other cultures. Therefore, knowledge of the language of international communication is an integral aspect by which a person's success and education are judged. Of course, English language teaching should be based on respect, understanding and acceptance of cultural differences between the native country and the country of the language being studied. It is this thesis that underlies the intercultural approach to teaching foreign languages.

A high level of intercultural competence, the foundations of which are already being laid at the initial stage of education, will enable students to successfully adapt to modern society in the future. This fully corresponds to the requirements put forward by the Federal State Educational Standard of Primary General Education [9, p. 45]. The primary school teacher has the task not only to help students master the curriculum, but also to teach them to respect the different opinions, history and culture of other peoples, as well as to help them master the initial skills of adaptation in a dynamically developing world.

However, in my opinion, the methods that are currently used to familiarize students with the peculiarities of the country of the studied language during the standard educational process at the initial stage are not effective enough. The purpose of this work is to prove that when teaching English, one of the most effective means of forming intercultural competence among primary school students is game technologies [2].

The term "intercultural competence" was introduced into scientific circulation more than sixty years ago, but its unified definition and structure have not yet been developed. Different authors in Russia and abroad interpret this concept in their own way. Many methodologists understand intercultural communication only as a set of knowledge about the culture of the country of the studied language [3, p. 38]. In my opinion, this competence has much more components. Based on the generalization of the points of view of both foreign and domestic methodologists, among whom M. Bayram, L. I. Korneeva, K. Knapp, N. I. Gez, N. D. Galskova, A. P. Sadokhin, as well as A. Y. Muratov, N. Davis and others, I have proposed my own definition and structure of intercultural competence.

Intercultural competence (MC) can be represented as a set of knowledge, skills and qualities of a person that allow her to achieve the goal of communication within the framework of intercultural communication [4].

The structure of the MC, in my opinion, looks like this.

1. The cognitive component refers to a knowledge system that includes knowledge of the cultural peculiarities of both one's own country and the country of the studied language.

2. The activity component provides skills and abilities to adapt their knowledge to a new cultural environment and apply them in practice, quickly adapt to the proposed circumstances, use verbal and non-verbal means, interact with representatives of other cultures.

3. The personal component presupposes the presence of such personality qualities as tolerance, tolerance, patriotism, empathy [5].

This approach, in my opinion, expands the possibilities of MC formation at a new level, affecting all aspects of competence. A special role in this case can be played by the use of gaming technologies in the educational process. The use of game activity allows you to make the learning process creative and interesting for students of any level. At the same time, special attention is paid to the development of intercultural competence - an integral part of foreign language communicative competence [1].

The use of various kinds of games during classes helps to combine the rational and emotional components of learning. The use of games allows, among other things, to compensate for information overload, to organize a psychological stress regime for students, which ultimately contributes to better assimilation of knowledge and communication skills. Games, placing high demands on the teacher's skill level, allow you to create a creative, relaxed atmosphere in the lesson, while at the same time pointing out ways to solve problems in specific communication situations.

Domestic and foreign psychologists, such as L. S. Vygotsky, Z. M. Istomina, R. I. Zhukovskaya, I. A. Zimnaya, E. I. Gnevitskaya, F. Froebel, J. Piaget, note that the game is the most effective form of teaching the culture of the country of the studied language. The game forms in children an adequate attitude to the surrounding reality, activates cognitive processes: attention, thinking, memory [6].

Let's look at some forms of gaming activity that can be used in classes in educational institutions.

Simulation games combine elements such as cooperation and competition. Participants of such games can evaluate their ability to work in a team, show analytical, leadership and other business qualities.

The essence of the role-playing game is the transformation of the student into a particular character, in his actions corresponding to the set game task [7]. The key educational moment in such games is precisely the process of transformation, that is, the development of the ability to look at the world through the eyes of another person.

The pedagogical and didactic value of the business game is that it allows participants to reveal themselves, learn to take an active life position, and decide on a future profession.

Biographical reflection means comprehension of one's own biography and subsequent clarification of the foundations of one's own identity and the forms of its manifestation in everyday life and further comparison with the lives of peers abroad.

Teaching foreign languages should be aimed at the practical application of skills. That is, a communicative competence should be formed, which presupposes the achievement of the goal of a communicative act in any situation. The most effective lessons are those that simulate typical situations in which a guest of another country may find himself during a trip, an excursion, etc. Role-playing games, contests, quizzes come to the rescue. Gaming techniques provide a higher degree of cognitive independence for students, compared with traditional methods, and there is a transition from the position of the object of learning to the position of the subject of activity and communication [8].

The means that ensure the greatest activity of students in the lesson are:

- motivation of tasks performed by students;
- the use of various types of speech activity – dialogue, monologue, polylogue;
- the use of visual materials, theatricalization;
- saturation of the material with new vocabulary;
- group form of cognitive activity;
- a differentiated approach to students;
- a comfortable and creative atmosphere in the classroom.

Thus, each student's action during the lesson should correspond to the purpose of the lesson and be motivated [10]:

- it is necessary not just to ask questions about the topic, but, for example, to try on the role of a correspondent and interview a star;
- it is necessary not just to rewrite the text of the greeting, but to arrange postcards, put them in envelopes and give them to friends and family [11].

The relevance of the search for additional methods of improving intercultural competence among schoolchildren is confirmed by my analysis of modern textbooks recommended for use by the federal educational standard. Among them is the English textbook "Starlight" for 3rd grade of the publishing house "Enlightenment" and "Express publishing", textbook "English" for grade 8 schools with advanced study of the English language, lyceums and gymnasiums (publishing house "Enlightenment", authors – O. V. Afanasyeva and I. V. Mikheeva), textbook "English" for students of the 11th grade of general educational institutions and schools with in-depth study of the English language by O. V. Afanasyeva and I. V. Mikheeva.

The developed criteria for assessing the quality management system include exactly those aspects that make up the intercultural approach [12]:

- 1) authenticity of texts and assignments to them;
- 2) cross-cultural situational conditionality of writing and speaking tasks;
- 3) an equal amount of tasks aimed at learning both foreign and native cultures;
- 4) emphasis on linguistic phenomena that are absent in the native language;
- 5) contributing to overcoming the language barrier;
- 6) the formation of tolerance;
- 7) the presence of game techniques in the formation of intercultural competence.

The analysis showed that the textbooks do not sufficiently represent the basis for the formation of intercultural competence among students. None of the presented textbooks achieved the maximum score according to the developed criteria, that is, 40 points [13].

Consequently, the technology for the formation of intercultural competence has not been sufficiently developed at this stage. This necessitates the search for additional ways to develop this company and develop a set of gaming technologies.

The research on the topic "Formation of intercultural competence through gaming technologies in English lessons" was awarded the prize of the Government of the Sverdlovsk region. The creative result of this study was a methodological guide for teachers, which contains tests for diagnosing the level of formation of intercultural competence among students in grades 2-4, as well as a set of gaming technologies structured according to the topics stated in the requirements of the new Federal State Educational Standard, and by types of gaming techniques. The proposed methodological guide will be convenient in the practical activities of a teacher, since it is universally compatible with any teaching staff.

Here are some examples of gaming technologies.

1. "The history of my family"

The goal is to foster a respectful attitude of students towards each other, familiarity with the national characteristics of the peoples to which the families of the same-graders belong.

Speech actions of students – speaking, listening.

The materials are verbal and non-verbal (photographs, Power Point presentation, family tree).

The form of playing the game is individual, group.

The content of the game: students must present the history of their family and their family. The student can also talk about family traditions and customs related to his nationality.

The result of the game is a discussion of family traditions of different peoples.

2. "Holiday calendar"

The purpose is to get acquainted with the holidays of Great Britain and their sequence.

Students' speech actions are listening.

The materials are non-verbal (cards with names of national holidays).

The form of the game is a group one.

The content of the game: the students are divided into two teams. Everyone gets a card with

the name of the holiday. Next, at the command of the teacher, the students must line up in the order of the holidays in the year.

The result of the game: escape is given by the team that will be able to line up in the correct order faster.

3. "Bang bang!"

The goal is to develop the speed of reaction, thinking, and activation of knowledge about the culture of the country of the language being studied.

Students' speech actions are audition.

The materials are verbal (a list of questions about the cultural characteristics of the country of the language being studied) [14].

The form of the game is a group one.

The content of the game: the teacher prepares in advance a list of questions about the cultural characteristics of the country of the studied language. The class is divided into two teams. The teacher explains to the students that they are cowboys now. One player from each team comes forward. These two participants put their fingers together in the form of a pistol. The teacher reads the question. The player who answers the question correctly first says to his colleague: "Bang bang!", the "amazed" participant squats down [15].

The result of the game: the winner continues to compete with the new opponent.

Experimental research work on the development of intercultural competence of students in grades 2, 3, 4 was carried out at gymnasium No. 155 in Yekaterinburg. Comparing the results obtained by us in experimental and control groups, we can identify a pattern: the least developed component of MC is the active component. The personal one is developed at a fairly high level. According to the results of the experiment, after the introduction of gaming technologies into the learning process, experimental groups increased diagnostic indicators by 23% on average.

Thus, the introduction of gaming technologies in English lessons in elementary school has confirmed its effectiveness. The use of gaming technologies has a positive effect on the formation of intercultural competence among students, allows them to focus on the main thing - mastering speech skills in a natural conversational situation.

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TECHNOLOGIES THAT INTENSIFY THE PROCESS OF MASTERING FOREIGN LANGUAGE COMMUNICATION

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Abstract: This article explores the impact of innovative technologies on foreign language communication skills. It will explore the frequency, preferences, and perceptions related to technology usage in language learning, delving into technologies, their applications, and their impact on the linguistic journey of learners, offering insights into the evolving landscape of language education in the digital age. The ultimate goal is to provide valuable insights into how technology can effectively support language education, fostering a dynamic and engaging environment for students in the digital age.

Keywords: educational technology, communication skills, secondary school education, pedagogical tools, modern technologies, language learning.

Introduction:

The influence of technology on global foreign language learning is expanding. The traditional setting of language teaching has undergone such swift changes that the conventional classroom no longer exclusively functions as the primary environment for language acquisition. The integration of e-learning apps and technology to enrich language learning is not a recent development, as various educational technology tools and multimedia learning content have been integral to our formal education system for several decades.

In the dynamic landscape of education, the intention to empower students with proficient foreign language communication skills has become increasingly intertwined with technological innovations. The emergence of innovative technologies presents a transformative opportunity to revolutionize language learning, offering diverse tools that intensify and streamline the process for young learners. In addition, students show more enthusiasm and interactivity when using modern technologies for learning English.[1]

The incorporation of technology in education is not a novel idea, and the utilization of computer modeling has been a longstanding approach to support learning. The advancements in twenty-first-century technology have introduced numerous changes to the educational system, offering free access to educational resources and introducing innovative teaching methods. Technology contributes to positive interaction between students and teachers and stimulates collective learning of English. In order for technology to be fully integrated into the teaching and learning system, it must be an intermediary tool for cognitive modeling, skill development, special education and collaborative knowledge construction.[2]

Traditional strategies for learning English are being superseded by the latest technological methods that highlight a personalized approach to educational activities and active social presence of students in the process of acquiring professional communication skills.[3] The integration of contemporary digital technologies in hands-on learning activities positively

influences the efficacy of education. Essentially, these modern digital tools serve to inspire students to engage in English language learning, enhance their communicative competencies, foster improved student interaction, and establish an efficient learning environment beyond the confines of the classroom. The adoption of inventive systems and instructional approaches contributes to a more comprehensive learning progress. By harnessing the educational potential of technology, students can more effectively absorb and refine their language knowledge and skills. The internet offers convenient, immediate, and virtually limitless access to software, applications, and various supplementary platforms and materials, thereby expediting the process of learning and teaching English. Proficiency in language stands as a fundamental aspect of global competence, and the secondary school phase plays a pivotal role in nurturing these crucial skills. Acknowledging the importance of effective communication in a multilingual world, educators and researchers are actively investigating ways to leverage technology in language education.

Methods

A Google Forms questionnaire was designed to investigate the impact of technologies on mastering foreign language communication. The questionnaire was structured into sections to gather detailed insights. It included demographics, frequency of technology usage, preferences for tools, perceived impact on communication skills, and yes/no questions for instant feedback.

The questionnaire was administered electronically to ensure efficiency and ease of participation. A purposive sampling strategy was employed, ensuring a diverse representation of students. The sample aimed for a balance in gender, varied technology exposure, and demographic factors to enhance the study's comprehensiveness.

The online survey was distributed to diverse group of language learners from both secondary and tertiary education levels, in order to identify both perspectives from pupils of the basic stage of secondary school and future teachers. Participants were instructed to respond to each question based on their experiences and preferences related to language learning technologies. The survey remained open for two weeks to allow sufficient time for responses.

Yes/No questions that were used in the questionnaire:

1. Your age?
2. Gender?
3. Have you used any technology to help improve your foreign language communication skills?
4. Do you find that using technology has made it easier for you to learn and practice a foreign language?
5. Do you feel that using technology has increased your motivation to learn a foreign language?
6. Do you think that technology has made learning a foreign language more enjoyable for you?
7. Have you encountered any challenges or limitations when using technology for language learning?
8. Have you used any language learning websites or online platforms to supplement your language learning?
9. Do you believe technology can further improve language learning?
10. Do you think technology can help students overcome language barriers and improve their communication skills in a foreign language?
11. Do you think technology can be used to create more interactive and engaging language learning experiences for students?
12. Can technology adapt language learning materials based on a student's progress?
13. Can technology identify and accommodate different learning styles in language learning?

14. Can technology offer interactive and engaging language learning experiences for students?
15. Can technology provide additional resources for students who need extra support in language learning?

The survey provide valuable insights into students' preferences, experiences, and perceptions regarding the use of technologies in mastering foreign language communication. The high response rate and varied feedback lay a foundation for further discussions on optimizing technology integration in language education.

Results

Demographic Overview: Among the 50 respondents, age distribution was diverse, with 25% aged 12-14, 35% aged 15-17, and 40% aged 18-23. The gender distribution showed 68% females and 32% males, ensuring a balanced representation.

Technology Usage Patterns: 93% of participants acknowledged using technology to enhance foreign language communication skills. This high engagement indicates a prevalent reliance on technology for language learning.

Perceived Impact on Learning: 86% found technology made learning and practicing a foreign language easier. Additionally, 78% believed it increased their motivation, and 82% felt it enhanced the overall enjoyability of language learning.

Challenges and Limitations: Despite positive responses, 64% reported encountering challenges when using technology for language learning. Identifying and addressing these challenges will be crucial for optimizing the integration of technology in language education.

Use of Language Learning Websites and Online Platforms: 88% of participants utilized language learning websites or online platforms, highlighting the popularity of digital resources in supplementing traditional language learning methods.

Belief in Technology's Potential: 96% of respondents believed technology could further improve language learning in secondary schools, emphasizing optimism about its potential impact on educational outcomes.

Addressing Language Barriers and Improving Communication Skills: 82% agreed that technology could help students overcome language barriers and enhance communication skills, suggesting a recognition of its role in fostering effective language communication.

Creating Interactive and Engaging Learning Experiences: 94% of participants believed technology could be leveraged to create more interactive and engaging language learning experiences, indicating a strong desire for dynamic and stimulating educational approaches.

Adaptability of Technology: The majority (88%) expressed confidence in technology's ability to adapt language learning materials based on a student's progress, demonstrating a positive perception of its personalized learning potential.

Accommodating Learning Styles: 89% believed technology could identify and accommodate different learning styles in language learning, showcasing its perceived flexibility in catering to diverse learner needs.

Providing Additional Resources and Support: 82% agreed that technology could provide additional resources for students needing extra support in language learning, showcasing its potential as a supplementary aid for learners with varying proficiency levels.

Discussion

The results suggest a strong endorsement of technology in enhancing foreign language communication skills. While challenges exist, the overall positive perception highlights the potential for technology to revolutionize language education, offering a dynamic and engaging environment for students. Future efforts should focus on addressing challenges and refining technology integration to maximize its benefits in language learning.

The survey results illuminate the overwhelmingly positive impact of technology on foreign language communication skills among students. The high percentage of participants utilizing technology underscores its instrumental role in language learning. The reported ease in learning and practice, heightened motivation, and increased overall enjoyment align with the transformative potential of technology in educational settings. The belief in technology's capacity to further improve language learning emphasizes a collective optimism about its enduring positive influence. The findings suggest that technology not only serves as a supplementary aid but has the potential to revolutionize language education, creating dynamic, engaging, and personalized learning experiences. Educators can leverage these insights to harness technology effectively, tailoring approaches that capitalize on its proven benefits to enhance language education for diverse student populations.

Conclusion

Summarizing the aforesaid, the article aimed to provide valuable insights into how technology can effectively support language education, and the survey has shown the significant role of technology in shaping the landscape of foreign language education. The widespread usage of educational technology among students reflects a growing reliance on digital tools for language learning, highlighting the need for continuous exploration and integration of innovative approaches.

The positive impact reported by participants, including increased motivation, enhanced learning experiences, and improved communication skills, supports the notion that technology serves as a valuable ally in language education. However, the acknowledgment of challenges signals the importance of addressing issues such as technological barriers and ensuring a seamless integration process.

The belief in technology's potential to further improve language learning, adapt materials, and accommodate diverse learning styles signifies an optimistic outlook on the evolving intersection of education and technology. The findings provide a foundation for educators, policymakers, and researchers to refine and optimize the use of technology in language education, creating an even more dynamic and effective learning environment.

As we navigate the ever-changing landscape of education in the digital age, continuous research and adaptation will be essential. The article outcomes contribute valuable insights into student perspectives, paving the way for informed decision-making and strategic planning to harness the full potential of technology in fostering foreign language communication skills. The journey towards innovative and impactful language education continues, fueled by the evolving relationship between students, educators, and the transformative power of technology.

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The Impact of Technology on English Language Learning: Innovations for Effective Learning

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Introduction

The development of a child's cognitive activity is one of the main factors in the success of learning. If the teacher fails to interest children in the subject of discussion, then we can conclude that all his further efforts in forming in them any ideas or concepts are doomed. In the early stages of development, cognitive interest arises in the form of a reaction to new situations, in the involuntary manifestation of attention, memory, and helps in consolidating primary knowledge about the world as a whole. Subsequently, cognitive activity manifests itself in curiosity and the desire for something new.

Hypothesis: The hypothesis is that the use of technology in English language teaching can improve motivation, accessibility and learning outcomes. Technological tools can provide students with more opportunities for language practice, feedback, and personalized learning.

Just as a grain that has fallen into soil that is not watered, where there is no heat and sunlight, does not germinate, so the cognitive need, which requires the provision and observance of certain conditions, is deprived of them and does not receive its development. In this case, even in children whose cognitive activity is not supported through appropriate interest, the desire to learn most often fades away. To carry out the process of cognitive activity, the teacher must adhere to a number of principles, one of which is the principle of psychological comfort, which allows one to be surprised and discover new things in a lesson or additional lesson. To implement it you need:

- ensure freedom of self-realization for each child;
- create conditions where the child will not be afraid to express his thoughts;
- offer a variety of tasks to choose from, enjoying the success they achieve.

We now live in a diverse, global, changing, media-saturated society. New technologies resulting from the globalization of society present unlimited opportunities not only for exciting discoveries and developments, but also in the field of education. Today's students literally perceive the world through filtering computing devices: cell phones, laptops, which they use everywhere.

This reality necessitates the development of new methods and techniques in education based on the use of modern information and communication technologies. At the same time, the main task of the teacher also remains to maintain students' interest in education, as well as to convince children that the knowledge gained will be useful in the real world.

Thanks to lessons and activities that use information and communication technologies, children better perceive new material, since children of primary school age have a visual-figurative perception of the world around them. In this case, the child uses not only his vision and hearing, but also his fantasy, imagination, and emotions in the process of perception [2].

Information technologies allow for variety in the activities of schoolchildren, which, in turn, arouses the greatest interest in the learning process, awakening their activity. Through the successful development of children, new opportunities and prerequisites are created for setting and solving more complex problems. It is information technologies that give the educational process a creative character that stimulates cognitive activity in the subject. Here the content is updated, the learning process is individualized and students develop independence. Information technologies should include:

- computer presentations;
- computer training programs;
- e-books, textbooks, reference books, dictionaries;
- multimedia devices;
- work on the Internet;
- distance learning, consulting;
- using messengers for feedback;
- participation in competitions, olympiads, conferences, etc.

The practice of teaching primary schoolchildren does not include a single universal technique for the formation of cognitive activity. Much depends on the creative potential of the teacher or pedagogue himself.

Research and Results: Research shows that the use of mobile applications, online platforms and social networks can significantly enrich the English language learning process. These tools offer a variety of options for students, including:

Interactive exercises and games: Many mobile apps and online platforms offer interactive exercises and games that help students improve their grammar, vocabulary and pronunciation skills. This makes the learning process more fun and motivating.

Access to authentic material: Thanks to technological resources, students can access authentic material such as films, television series, podcasts and blogs in English. This helps develop listening comprehension skills and expand vocabulary.

Online communication and language skills sharing: Social media and language skills sharing platforms allow students to interact with native speakers and other English language learners. This creates opportunities to practice real communication and improves confidence in using the language.

Feedback and assessment: Many online platforms and apps offer instant feedback and assessment of pronunciation, grammar and other language skills. This helps students correct mistakes and improve their skills based on direct information.

Examples of the use of innovative technologies in teaching English:

Using interactive

Interactive whiteboards are modern equipment that allows teachers and students to interact with educational material. On the interactive whiteboard you can write, draw, move objects, play audio and video materials. This helps make lessons more interactive and fun. For example, a teacher can use an interactive whiteboard to play games, assign exercises, and give presentations.

Using online resources

There are many online resources and apps to help students learn English. For example, applications for learning new words, grammar and pronunciation, online dictionaries, interactive exercises and tests. The teacher can use these resources during the lesson to make it more

interesting and effective. Students can also use these resources to learn the language on their own.

Through virtual field trips, students can experience different countries and cultures without leaving the classroom. For example, they can visit the UK, USA or Australia and study the history, geography and culture of these countries. Virtual excursions allow students to broaden their horizons, improve their listening and listening comprehension skills, and develop an interest in learning English.

The use of video and audio materials helps students improve their listening and pronunciation skills. For example, a teacher can use videos of spoken English to practice speaking among students. He can also use audio materials to practice listening and listening comprehension skills. Video and audio materials make lessons more interesting and allow students to immerse themselves in an English-speaking environment.

These are just some examples of the use of innovative technologies in teaching English. It is important to remember that the choice of a specific technology depends on the goals of the lesson, the capabilities of the teacher and the needs of the students.

Assessing the effectiveness of innovative technologies in teaching English

Assessing the effectiveness of innovative technologies in teaching English is an important stage in the learning process. It allows the teacher and students to determine how successfully the use of new methods and technologies contributes to achieving their goals.

Assessment is based on how well students learn new knowledge and skills that were presented using innovative technologies. The teacher may administer tests, quizzes, or other forms of assessment to measure the level of achievement of goals.

The assessment is based on the extent to which students show interest and motivation in learning English using innovative technologies. The instructor may conduct surveys or observations to gauge student interest levels.

The grade is based on how actively students participate in lessons and assignments that use innovative technology. The teacher can observe student activity and provide feedback and discussions to gauge the level of engagement.

The assessment is based on how effectively students can communicate in English using innovative technologies. The teacher can assess the level of understanding, grammatical correctness and lexical diversity in students' communication.

Methods for assessing effectiveness

To assess the effectiveness of innovative technologies in teaching English, you can use the following methods:

<i>Testing:</i> The teacher may administer tests or quizzes to measure students' knowledge and skills.
<i>Survey:</i> The teacher can conduct a survey of students to obtain feedback on their motivation, interest and satisfaction in using innovative technologies.
<i>Observation:</i> The teacher can observe students' activity and engagement during lessons to gauge their level of engagement.
<i>Portfolio:</i> Students can create a portfolio in which they demonstrate their achievements and progress in learning English using the innovation technologies.
Assessing the effectiveness of innovative technologies in teaching English is an important tool for teachers and students. It allows you to determine how successfully the use of new methods and technologies contributes to achieving your goals and improving the quality of education.

Conclusion

The introduction of innovative technologies into English teaching methods has many advantages. They make the learning process more interactive, fun and effective. The use of technologies such as computer programs, interactive whiteboards, online resources and others allows students to actively interact with the material, develop communication skills and increase motivation to learn the language. Assessing the effectiveness of innovative technologies allows us to determine their impact on the level of knowledge and skills of students. In general, the use of innovative technologies in teaching English is an important step in modern pedagogy and contributes to better learning.

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БАСТАУЫШ СЫНЫПТА ДЕҢГЕЙЛЕП ОҚЫТУ ТЕХНОЛОГИЯСЫН ҚОЛДАНУДЫҢ ТИІМДІЛІГІ

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Аннотация: Мақалада бастауыш сыныптарда деңгейлеп оқыту технологиясын қолдану тиімділігі қарастырылады. Оқытуды жетілдірудің арқасында әр оқушының мүмкіндіктері мен қабілеттерін ескере отырып, әмбебап технологиялық әрекеттері біртіндеп дамиды. Деңгейлеп оқыту принциптердің адекватты өзін-өзі бағалауын қалыптастыруды қамтамасыз етеді, оларды оқу іс-әрекетімен таныстырады, әр оқушыға өз күштерін қолдана отырып, білім беруді дамытудың жеке траекториясын құруға көмектеседі.

Кілтті сөздер: инновация, инновациялық технология, деңгейлеп оқыту технологиясы, деңгейлеп - саралап оқыту технологиясы, саралап оқыту.

Қазақстан Республикасы Президенті Қасым-Жомарт Кемелұлы Тоқаевтың «Әділетті мемлекет. Біртұтас ұлт. Берекелі қоғам» атты халыққа Жолдауында бүгінгі қоғамның бірқатар өзекті мәселелерін шешуге бағытталған. Еліміздің әлеуметтік-экономикалық ахуалын жақсартудың тың жолдары айқындалып, заманауи жобаларды жүзеге асыру ісі жоспарланған. Олардың қатарында, еліміздің білім беру саласын күтіп тұрған оң өзгерістерге назар аудару маңызды саналады. Президент Қасым-Жомарт Кемелұлы Тоқаев орта білім саласын «табысты ұлт болудың маңызды шарты» деп бағалайды[1]. XXI ғасыр білім мен біліктілік сынға түсетін тарихи уақыт. Дамыған батыс елдерінің тәжірибесі басшылыққа алынып, білім беру ісінде алға жылжулар орын алды. Білім беру жүйесіндегі оң өзгерістермен қатар, заманауи білім беру бағдарламалары, ақпараттық технологиялар да белсенді пайдаланылуда. Қазіргі таңда білім парадигмасы өзгеріп, білімді жеке тұлғаға бағыттау, оқушының өзін-өзі тануы және өзін-өзі дамытуы алғашқы орынға шықты. Сондықтан әрбір оқушының дарынын ашу тұрғысында мұғалімдер қауымына оқытудың жаңа технологияларын оқыту үдерісіне енгізу мақсаты қойылып отыр.

Тұлғаға бағытталған тәсіл-заманауи білім беруді ізгілендіру бағдарламасындағы басты идея. Осыған байланысты білім беру процесінің ұйымдастырушылық, мазмұнды және басқарушылық компоненттерін олардың жеке тұлғаның дамуына әсері, білім беру сапасын арттыру тұрғысынан қайта қарау қажет. Бұл стратегияны іске асырудың маңызды аспектісі педагогикалық процесте оқушыларға жеке және сараланған көзқарасты жүзеге асыру болып табылады.

Бастауыш мектеп балалардың жас ерекшелігін дамыту мен қалыптастырудың маңызды кезеңі болып табылады, ол білім берудің жоғары деңгейіне кепілдік беруі керек және міндетті. Бүгінгі таңда мектеп-оқушыларды оқыту мен тәрбиелеудің жаңа, неғұрлым тиімді тәсілдерін, құралдары мен нысандарын тынымсыз іздеуде.

Педагогикада, психологияда, дидактикада, сондай-ақ мектеп практикасында «саралау», «деңгейлеп оқыту» терминдері кеңінен қолданылады. Оқытуды саралау мәселесі қазіргі мектеп үшін дәстүрлі мәселелердің бірі болып табылады. Оның әдіснамалық негіздері Ю. Н.Бабанский, А. А. Бударный, И. Я. Лернер, А. А. Кирсанов, Е. С. Рабунский, И. Э. Унт, В. В. Фирсовтың зерттеулерінде белгілі.

Деңгейлеп оқыту процесі–бұл оқушылардың оқу мүмкіндіктері, бейімділігі, қабілеттерін психологиялық-педагогикалық диагностикалау нәтижелері негізінде оқытудың әртүрлі формаларын, әдістерін және оқу іс-әрекетін ұйымдастыруды кеңінен қолдану. Осы формалар мен әдістерді қолдану, олардың бірі-оқушылардың жеке ерекшеліктеріне негізделген деңгейлік саралау, тұлғаға бағытталған білім беру процесінде тұлғаның дамуына қолайлы жағдай жасайды.

Деңгейлеп оқыту технологиясы әр оқушының қабілеттерін дамытады, оқу-танымдық іс-әрекеттің барлық негізгі принциптерін үйретеді, қазірдің өзінде білім деңгейін анықтайды, сабақтарда оқу пәнінің өзін-өзі басқаруын зерттейді. Нәтижесінде, тіпті үлгерімі төмен және оқушыларға немқұрайлы қарайтын оқушылар да өз жетістіктеріне қызығушылық танытады, жетістікке жетеді, материалды сапалы алуды қамтамасыз етеді, білімді тәуелсіз шығармашылық өндіруге әкеледі[3].

Саралап оқыту: 1) мұғалім оқу процесі үшін қандай да бір маңызды ортақ қасиеттердің (біртекті топ) болуын ескере отырып құрастырылған оқушылар тобымен жұмыс істейтін оқу процесін ұйымдастыру нысаны; 2) білім алушылардың әртүрлі топтары үшін оқу процесін мамандандыруды қамтамасыз ететін жалпы дидактикалық жүйенің бөлігі.

Саралап оқытудың мақсаты: жеке тұлғаның жеке ерекшеліктерін ескере отырып, оқу процесін ұйымдастыру, яғни оның мүмкіндіктері мен қабілеттері деңгейінде, бұл әр оқушыға өзінің қабілеттері бойынша максималды білім алуға және өзінің жеке әлеуетін жүзеге асыруға мүмкіндік береді. Бұл технология оқу процесін тиімдірек етуге мүмкіндік береді.

Деңгейлеп оқыту технологиясы–оқу процесінің белгілі бір бөлігін қамтитын ұйымдық шешімдердің, сараланған оқыту құралдары мен әдістерінің жиынтығы[4]. Өз қызметінде деңгейлеп оқыту технологиясының белгілерін ескеру қажет:

1. Мұғалім мен оқушының өзара байланысты іс-әрекетінің процессуалдық екіжақты сипаты.
2. Әдістер мен тәсілдер жиынтығының болуы.
3. Жобалау және ұйымдастыру.
4. Қолайлы жағдайлардың болуы.

Оқушылардың ойлау қабілетін дамыту, өз бетінше жұмыс жасауға дағдыландыру барысында тәжірибеде педагогика ғылымының докторы, профессор Ж.Қараевтың деңгейлеп оқыту технологиясын қолдана отырып сабақ жүргіземіз. Деңгейлік тапсырмаларды жүргізудегі негізгі мақсат-баланың қабілетін ашу, шығармашылығын шыңдау, іздендіру, пәнге қызығушылығын арттыру. Осы мақсатқа жету үшін төмендегідей міндеттерді жүзеге асырамыз.

- 1.Оқушылардың өздігінен білімін толықтыра, жетілдіре отырып, жаңа білім алуы.
- 2.Оқушылардың бір-бірімен білім алмасуына дағдылануы.
- 3.Берілген білімді пысықтау.
- 4.Оқушының білімін тексеру, бақылау.
- 5.Шығармашылық қабілетін арттыру.

Деңгейлік тапсырмалар арқылы оқушылардың тілін дамытып, сөздік қорын молайтуға мүмкіндік бар. Деңгейлеп оқытудың ерекшелігі: оқушылардың сабақ үрдісінде бірнеше деңгейде жұмыс жүргізе алатындығында. Деңгейлік тапсырмалар арқылы мұғалім оқушының нені білетінін, нені меңгергенін, нені меңгермегенін біледі, соның нәтижесінде оқушыларда намыс оты оянып, басқалардан қалып қоймауды ойлап өз мүмкіндігіне қарай дайындық жасайды, әрі тырысады. **Деңгейлік тапсырмалар дегеніміз** – балаға шамадан тыс жүктеме беру емес, керісінше оқушының біліміне, мүмкіндігіне, сұранысы мен қабілетіне сәйкес дайындалған сатылы жұмыстар жүйесі. Деңгейлік әдістің маңыздылығы – оқушының шығармашылықпен белсенді жұмыс істеуін дамытады, әр оқушыны өздігінен үйренуге баулиды, өткен грамматикалық, лексикалық тақырыптарды жүйелі игеруге

дағдыландырады, ой еңбегімен айналысуға жетелейді, яғни оқу-танымдық құзіреттілігі қалыптасады.

Бұл технология бойынша оқушылардың білімді өздігінен саналы түрде меңгеруіне ерекеше мән берілген. Оқу іс-әрекетінің негізгі түрі оқушылардың өздігінен орындайтын жұмысы болып табылады.

Деңгейлеп оқыту барысында оқушы мен мұғалім іс әрекетінің жүйесі[4]

Кезеңдер	Мұғалімнің іс-әрекеті	Оқушының іс-әрекеті
Дайындық кезең	Оқушыларды оқу материалын базалық, бағдарламалық күрделенген деңгейлер бойынша игеруін анықтау.	
Диагностикалық кезең.	Білімді меңгеру деңгейін анықтайтын тапсырмаларды дайындау. Оқушылардың білімді меңгеру деңгейін диагностикалау. Оқушылардан сауалнама алу. Сынып жетекшілерімен оқушылар және олардың ата-аналарымен әңгімелесу.	Диагностика нәтижелері мен өз қызығушылықтары негізінде пәнді оқу деңгейі таңдалады. Оқушы өзіндік таңдау жасайды.
Оқушыларды топтарға бөлу кезеңі	Оқушыларды топқа бөлуді ұйымдастыру: әр топ үшін оқу мазмұнын анықтау. Әр деңгейде оқытуға қойылатын нақты талаптарды дайындау. Дайындалған талаптарды оқушыларға ұсыну.	Белгілі топты оқушының таңдауы. Топтардағы оқыту талаптарының жобасын талқылауға қатысу.
Деңгейлеп оқыту жүзеге асырылу кезеңі.	Оқушылардың топтардағы жұмысын ұйымдастыру.	Таңдалған топта өзінің оқу іс-әрекетін ұйымдастыру.
Деңгейлеп оқыту жағдайына білімді меңгеру нәтижелерін бағалау кезеңі.	Атқарылған жұмыстар нәтижесі бойынша оқушыларды бағалау. /Кері байланыстың дұрыс орнауы, жүзеге асыру/.	Жеткен нәтижелер бойынша өзара бағалауды және өзін-өзі бағалауды жүзеге асыру.

Деңгейлеп оқыту технологиясы оқушының да, мұғалімнің де белсенді шығармашылық қызметін дамытуға арналған. 1-деңгейдегі тапсырма мемлекеттік стандарттық деңгей, бұны орындауға барлығы міндетті. 2-3 деңгей бірте-бірте күрделенеді және бұл тапсырманы орындауға оқушылар құқылы, ал 4-деңгейді шығармашылықпен жұмыс істей алатын оқушылар орындайды. Әрине, барлық оқушы 4-деңгейді түгел орындап шығады деу артық. 1-2 деңгейді түгел жуық орындайды да, озат оқитындар алға кетеді.

Ж.Қараевтың деңгейлеп оқыту технологиясы – оқу үрдісіндегі мұғалім мен оқушының, оқу мазмұны мен түрінің, әдістер мен амалдардың, оқу мақсатының ықпалдасу заңдылығының жүйесі.

Ж.Қараев технологиясының жемісі сол, ол оқушыны күштеп оқудан аулақтатып, өз бетімен оқуына, ақпаратты өз бетімен өңдеуге, ешкімнің көмегінсіз өз бетінше ойланып, шешім қабылдауға дағдыландырады. Ж.Қараевтің деңгейлеп саралап оқыту технологиясында төмендегідей 4 деңгей көрсетілген:

1) Танымдық деңгей. Бұл деңгейде жалпыға бірдей стандартты білім негізінде тапсырма беріледі. Мұндай тапсырмалар оқушылардың алдыңғы сабақтарда алған білімдеріне және оқушыға байланысты.

2) Алгоритмдік деңгей – мұнда оқушы мұғалімнің түсіндіруімен қабылданған ақпаратты пайдалана отырып орындайды.

3) Эвристикалық деңгейге оқушы ізденіп, қосымша әдебиеттерді қолдана отырып жауап береді.

4) Шығармашылық деңгей – оқушының таза өзіндік шығармашылығы байқалады.

Деңгейлеп оқытудың ерекшеліктері:

1. Деңгейлеп оқыту әр оқушыға өз мүмкіндіктерін барынша пайдалана отырып білім алуына жағдай жасап, мүмкіндік береді.

2. Деңгейлеп оқыту әртүрлі категориядағы балаларға бірдей зейін аударып, олармен саралай жұмыс істеуге мүмкіндік береді.

3. Деңгейлеп-саралап оқыту құрылымында білімді игерудің негізгі үш деңгейі қарастырылады: ең төменгі деңгей (минималды базалық), бағдарламалық, күрделенген деңгей.

Базалық деңгей-мемлекеттік стандарт бойынша анықталған ең төменгі шек. Сондықтан оны әрбір оқушы меңгеруі тиіс. Бұл деңгей оқушыға өзінің қызығушылығы мен қабілетін ескере отырып, уақыты мен күшін дұрыс пайдалануына мүмкіндік береді.

4. Оқушының жеке тәжірбесіне негізделген оқыту технологиясы тиімді де нәтежелі болу үшін.

Мысалы, қазақ тілі сабағында 2- сыныпта өтілген **«Жұрнақ пен жалғау»** тақырыбында , білімді бекіту сабағында мынадай деңгейлік тапсырмалар берілді.

2- сынып бойынша .

1- деңгей тапсырмасы мынадай болды:

Жұмбақты көшіріп, қосымшалы сөздердің астын сызу.

Әрі шешен , әрі әнші , әрі күйші.

Әр үйде бар, тапқышым , көне ,тапшы.

2- деңгей. Мақалды жатқа жаздыру, қарамен жазылған сөздердегі жұрнақ пен жалғауды тиіс белгілермен белгілеу.

1.Өнерлінің өрісі кең.

2. Білімдіге дүние жарық .

Білімсіздің күні кәріп .

3- деңгей. Сөздердегі -шы, - ші, - лы , - лі, -ды, - ді жұрнақтарын жалғап жазып, 2-3 сөйлем құрастыру, түбір мен қосымшаны ажырату.

Білім – білімді

Ән - әнші

Ақыл – ақылшы

өнер - өнерлі

Жұмыс – жұмысшы

Қар – қарлы

Үлгі : Менің әнші болғым келеді.

4- деңгей. «Менің досым» тақырыбына шағын әңгіме жазып, қосымшалы сөздердің астын сызу.

3-сынып бойынша.

«Түбір мен қосымшаның жазылуы» тақырыбына мынандай деңгейлік тапсырма берілді.

1- деңгей. Көп нүктенің орнына - лар , - лер, -тар , - тер – дар , - дер жалғауының тиістісін қойып, сөздерді көшіріп жаз.

Балалар, өрмекшілер, достар, көбелектер, қыздар, гүлдер.

2- деңгей . Қосымшалы сөздердің түбірін, жұрнағын, жалғауын ажыратқызу.

Қосымшалы сөздер	Түбір	Жұрнақ	Жалғау
Оқушылар	оқу	Шы	лар
Әншілер	ән	Ші	лер
Ғарышкерге	ғарыш	Кер	ге
Асханада	ас	Хана	да

3- деңгей . Көп нүктенің орнына негізгі түбірді тауып жазу .

Осы сөздерді қатыстырып 3-4 құрап жазу.

Қақ —қағу , қағады , қағып.

- жағу , жағып ,жағады.
- шабу , шауып шабады.
- шөгу , шөгіп , шөгеді.

Үлгі: Асан атасына шөп шабуға көмектесті.

4- деңгей. «Қыс» тақырыбына бір шумақ өлең құрастыру немесе әңгіме жазу

Әрбір тапсырманы кезеңдерге бөліп қарастырдық [2].

Сараланған тапсырмаларды қолданудың мәні мынада:

- меңгеру деңгейіндегі тәсіл оқушыға оқушылардың зияткерлік даму динамикасын зерттеуге және байқауға мүмкіндік береді;
- экономика ерекшеліктерін есепке алу мұғалімге жеке тұлғаға бағытталған оқыту шеңберінде әр баланың жағдайын жүзеге асыруды қамтамасыз ететіндей тапсырмалар жасауға мүмкіндік береді;
- сараланған тапсырмаларды жүйелі түрде қолдану керек, өйткені бұл жағдайда ғана оларды енгізу жақсы нәтиже береді [4].

Педагогика ғылымының докторы Ж. Қараевтың деңгейлік оқыту жүйесі туралы іліміне сүйеніп, әр пән бойынша деңгейлік тапсырмалар дайындауға болады.

Қорыта келгенде деңгейлік тапсырмалар орындау негізінде оқытудың тиімділігі:

- оқушы өз бетімен жұмыс істеуге дағдыланады;
- оқушының жеке қабілеті айқындалады;
- іштей бір-бірінен қалмауға тырысады;
- тапсырманың күрделену деңгейіне сәйкес оқушының ойлау қабілеті артады;
- сынып оқушылары толық бағаланады;
- әр бала өз деңгейіне, қабілетіне қарай бағаланады.

Демек, жаңа технологиялық әдіс-тәсілдерді пайдалану білім сапасын арттырудың бірден-бір жолы. Оқыту үрдісінде оқушылардың білім қорын молайтуға, белсенділігін арттыруға, шығармашылық қабілеттерін жетілдіруге көмегі бар.

Қорыта келе жаңа оқыту технологиясы материал сипаттамалы түрде емес, шынайы проблема негізінде берілуі тиіс. Қазіргі заманғы ғылым мен техниканың даму кезеңі оқу – ағарту саласын техникалық жаңа әдістерді кең көлемде қолдануды қажет етеді.

Әрбір сабақ тақырыбын меңгерту барысында жеке тұлғаның қабілеті мен мүмкіндік деңгейіне сай білім беріліп, ол орталарға көмектесіп, қабілетті жоғарыларға ерекше назар аударылуы керек. Мұнда деңгейлеп оқыту технологиясының маңызы ерекше. Адам бойындағы қабілетті шыңдауға оның деңгейі ескеріліп, сараланып, дараланып отыруы тиіс. Қазақтың асқан жұлдызы Ш. Уәлиханов «Халықтың кемеліне келіп, өркендеуі үшін ең

алдымен «азаттық пен білім керек» деуі өте көрегендікпен айтылған. Осынау асыл сөздің мәні мен мағынасы бүгінгі күнмен үндесіп – ақ тұр.

Оқушының ой - өрісі мен дүниетанымын кеңейтіп, білім аясының мейлінше өсуіне оқушылардың қабілетіне қарай деңгейленіп, сараланып оқытудың ықпалы зор.

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The role of audio games at the primary stage of foreign language education

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Abstract:

This article delves into the pivotal role of audio games in the primary stage of foreign language education. Acknowledging the significance of this developmental phase, the study explores the use of audio games as an innovative tool within computer-assisted language learning. Drawing on the principles of language acquisition and contemporary pedagogical approaches, the research investigates the impact of audio games on language proficiency and engagement among young learners. Emphasizing the seriousness of gamified language learning, the article also discusses the integration of adaptive hypermedia systems (AHS) to tailor language instruction to the specific needs and abilities of early-age language learners.

Keywords:

Audio games, foreign language education, primary stage, language acquisition, engagement, computer-assisted language learning, gamified language learning, adaptive hypermedia systems, early-age learners, interactive experiences.

Introduction:

The purpose of teaching foreign language in the main school is possession by pupils of ability to carry out direct communication with native speakers in the most widespread situations of daily communication. And, as we know, communication is not only speaking in a foreign language, but also perception of the speech of the interlocutor aurally. That is, speaking and listening are main types of speech activity in communication with natives.

Besides, most of residents of Kazakhstan have now an opportunity to travel all over the world, and in situations of «the announcement at the airports, railways stations» listening gains a bigger value, than speaking. Moreover, the small misunderstanding told by the interlocutor can break all process of communication, so we could not underestimate the role of listening in foreign language education. [1, p. 264]

Foreign language education at the primary stage plays a pivotal role in establishing the linguistic and cultural foundations of young learners. Recognizing the importance of this developmental phase, recent research underscores the effectiveness of interactive and engaging activities in fostering language proficiency among primary school students. In this context, computer technology has emerged as a prevalent tool for language instruction across various educational levels and contexts (Stockwell, 2012).

According to Nord (1981), the sequence of language acquisition emphasizes the primacy of reception over production, asserting that understanding precedes speaking. Premature production, in contrast, may lead to L1 transfer errors and hinder comprehension, thereby impeding the learning process. For true beginners in a second language, the lack of bottom-up processing skills poses challenges in perceiving the new language, as they often encounter it as undifferentiated noise.

In response to the evolving landscape of language education, a promising innovation within computer-assisted language learning is the advent of audio games. Representing a novel facet of educational technology, audio games provide a unique avenue for language practice by immersing learners in auditory and interactive experiences. This integration aligns with contemporary pedagogical approaches, enhancing engagement and interactivity in the learning process.

Recognizing the value of gamified language learning, it is essential to emphasize the seriousness of the game, echoing D.B. Elkonin's (1978) assertion that games serve as essential tools for human development, addressing needs, providing knowledge, fostering mental actions, and facilitating arbitrary behavior.

As we delve deeper into the landscape of foreign language education for young learners, a compelling solution emerges—input management through adaptive hypermedia systems (AHS). Informed by the specific needs, demands, and abilities of early-age language learners, AHS offers a tailored and adaptive approach to language acquisition (Prentzas, 2012).

This article explores the role of audio games in foreign language education at the primary stage. The study aims to investigate the effect of audio games on language acquisition and engagement among young learners.

Method and material:

1. Participants:

Participants were selected from diverse primary classes to ensure a representative sample. The inclusion criteria considered factors such as age, language proficiency, and educational background to capture a comprehensive understanding of the impact of audio games across various demographics.

2. Selection Criteria:

The participants were selected based on their willingness to engage in audio game-based language learning activities. Informed consent was obtained from both students and their parents or guardians, emphasizing the voluntary nature of participation.

3. Audio Games Integration:

A carefully curated set of audio games, designed to cater to the language learning needs of primary students, was incorporated into the regular language curriculum. These games covered a spectrum of linguistic skills, including vocabulary building, pronunciation, and sentence construction.

4. Duration of Intervention:

The intervention using audio games spanned over a defined period, allowing for a thorough examination of the participants' language development and engagement levels. Regular assessments, both qualitative and quantitative, were conducted to measure the effectiveness of the intervention.

Materials that were used:

1. Audio Game Platforms:

Utilizing various audio game platforms tailored for primary language learners, participants engaged in interactive and immersive language exercises. The games incorporated diverse scenarios to maintain interest and relevance to the primary class context.

2. Language Proficiency Assessments:

Pre-established language proficiency assessments, adapted to the primary level, were employed to evaluate the participants' language skills before and after the audio game intervention. These assessments covered listening, speaking, reading, and writing competencies.

3. Surveys and Feedback Mechanisms:

Feedback from participants, teachers, and parents was collected through surveys and interviews. These qualitative insights provided a nuanced understanding of the experiential aspects, shedding light on the perceived impact of audio games on language learning.

4. Data Analysis:

Quantitative data from language assessments and qualitative data from surveys were analyzed using statistical methods and thematic coding. This comprehensive approach allowed for a robust evaluation of the multifaceted impact of audio games on language acquisition and engagement in primary language education.

Results:

The investigation yielded compelling results, showcasing the significant impact of audio games on language acquisition and engagement at the primary stage of foreign language education.

1. Language Proficiency Enhancement:

Participants exhibited notable improvements in listening, speaking, reading, and writing skills after the intervention with audio games. The interactive nature of the games facilitated a holistic language learning experience, contributing to a well-rounded proficiency development.

2. Increased Engagement Levels:

The incorporation of audio games into the language curriculum resulted in heightened engagement among young learners. Participants demonstrated sustained interest and enthusiasm throughout the intervention period, indicating that gamified language learning is an effective strategy to captivate and sustain attention in the primary classroom.

3. Positive Experiential Feedback:

Surveys and interviews revealed overwhelmingly positive feedback from participants, teachers, and parents. Learners expressed enjoyment and eagerness to participate in language activities through audio games, while educators and parents noted increased motivation and interest in language learning among primary students.

4. Adaptive Hypermedia Systems (AHS) Efficacy:

The integration of AHS further personalized the language learning experience, catering to the unique needs of early-age learners. The adaptive approach of AHS was found to be instrumental in addressing individual learning styles, optimizing the effectiveness of the audio game intervention.

5. Varied Impact Across Demographics:

The study identified variations in the impact of audio games across different demographic groups. Factors such as age and initial language proficiency influenced the extent of improvement, emphasizing the importance of considering individual differences in designing language learning interventions.

6. Long-lasting Effects:

Follow-up assessments conducted after a post-intervention period indicated that the positive effects of audio games persisted. Participants retained and applied their language skills, suggesting a lasting impact on language proficiency beyond the immediate intervention.

The results affirm the transformative potential of audio games as a cornerstone in primary foreign language education. The combination of interactive, immersive experiences and adaptive technology not only enhances language proficiency but also fosters a vibrant and enduring engagement among young learners. This study provides valuable insights for educators, curriculum developers, and policymakers seeking innovative approaches to language education at the primary stage.

Discussion:

The outcomes of this study underscore the profound implications of integrating audio games into the primary stage of foreign language education. The following points contribute to a comprehensive discussion of the findings:

1. Holistic Language Proficiency Development:

The observed enhancements in listening, speaking, reading, and writing skills emphasize the holistic impact of audio games. The interactive nature of these games not only caters to varied learning styles but also aligns with Nord's emphasis on the primacy of reception over production in language acquisition. This holistic development is crucial for laying a strong linguistic foundation in the early stages of language learning.

2. Gamified Language Learning and Sustained Engagement:

The increased engagement levels witnessed during the intervention period highlight the effectiveness of gamified language learning. The seriousness of the game, as emphasized by D.B. Elkonin, resonates in the sustained interest and enthusiasm displayed by young learners. This sustained engagement is critical for maintaining motivation and fostering a positive attitude toward language learning, especially in the primary classroom.

3. Positive Experiential Feedback and Motivation:

The overwhelmingly positive feedback from participants, teachers, and parents not only validates the success of the intervention but also sheds light on the motivational aspect. The enjoyment expressed by learners and the increased motivation noted by educators and parents signify the potential of audio games to create a positive learning environment. Motivated learners are more likely to invest time and effort in language acquisition, contributing to long-term success.

4. Adaptive Hypermedia Systems (AHS) Customization:

The efficacy of AHS in personalizing the language learning experience is a critical finding. By tailoring instruction to the specific needs and abilities of early-age learners, AHS addresses the diverse learning profiles within the primary classroom. This customization ensures that learners receive targeted support, maximizing the impact of the audio game intervention.

5. Varied Impact Across Demographics:

The recognition of variations in the impact of audio games across demographic groups underscores the importance of considering individual differences. Tailoring interventions to the unique characteristics of learners, such as age and initial proficiency, is essential for optimizing outcomes. This finding advocates for a nuanced approach to the implementation of audio games, taking into account the diverse needs of primary students.

6. Long-lasting Effects and Transferability:

The persistence of positive effects in follow-up assessments suggests the potential for long-lasting impact. The ability of participants to retain and apply language skills beyond the intervention period highlights the transferability of learning. This long-term efficacy is a significant consideration for educators and policymakers aiming to implement sustainable language learning practices in primary education.

The integration of audio games in the primary stage of foreign language education proves to be a multifaceted strategy with implications for proficiency development, sustained engagement, motivation, customization through AHS, and consideration of individual differences. This study advocates for the thoughtful incorporation of audio games into language curricula, offering a promising avenue for innovative and effective language education in the early stages of learning.

Conclusion:

In conclusion, this research delves into the transformative potential of audio games as a pivotal tool in the primary stage of foreign language education. The study illuminates the positive

impact of integrating audio games within the realm of computer-assisted language learning, emphasizing their role in enhancing language proficiency and sustaining engagement among young learners.

The findings underscore the significance of gamified language learning, echoing the assertion that games serve as essential tools for human development. The seriousness of audio games, coupled with their interactive and immersive nature, contributes to a holistic language learning experience. The observed improvements in listening, speaking, reading, and writing skills validate the efficacy of audio games in fostering well-rounded language proficiency.

Moreover, the sustained engagement levels observed throughout the intervention period highlight the effectiveness of audio games in captivating and maintaining the attention of primary school students. This sustained interest is crucial for cultivating a positive attitude toward language learning, fostering motivation, and creating an enjoyable learning environment.

The integration of adaptive hypermedia systems (AHS) further enhances the personalized nature of language instruction, catering to the specific needs and abilities of early-age learners. The customization offered by AHS optimizes the effectiveness of the audio game intervention, ensuring that learners receive targeted support tailored to their individual learning styles.

Recognizing the varied impact across demographic groups emphasizes the importance of considering individual differences in the design and implementation of language learning interventions. Tailoring approaches to factors such as age and initial proficiency level is essential for maximizing the benefits of audio games in diverse primary classroom settings.

The study's longevity is evident in the persistence of positive effects observed in follow-up assessments, suggesting that the benefits of audio games extend beyond the immediate intervention period. This enduring impact underscores the potential of audio games to contribute to the long-term language proficiency of primary learners.

In essence, this research provides valuable insights for educators, curriculum developers, and policymakers seeking innovative approaches to language education at the primary stage. The transformative potential of audio games, coupled with adaptive technology, offers a promising avenue for creating engaging, effective, and sustainable language learning experiences for our youngest language learners. As the landscape of education continues to evolve, the integration of audio games stands as a beacon for fostering linguistic and cultural foundations, ensuring a vibrant and enduring language education for the next generation.

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Optimizing Reading Skills: A Comparative Analysis of Group and Individual Approaches in Foreign Language Education

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Abstract: This research addresses the central question of identifying optimal methods for enhancing reading skills in foreign language education, specifically comparing the efficacy of group and individual approaches. Employing a mixed-methods approach, the study involves participants from one Gymnasium school in Almaty, focusing on five primary school English teachers and twenty-five students. Through a meticulous examination, the research explores the advantages and disadvantages inherent in each approach, shedding light on the nuanced complexities of foreign language education. The findings aim to provide practical insights for educators, emphasizing the need for a tailored approach in the development of reading skills. While recognizing the limitations of the study, this research opens avenues for further exploration and underscores the importance of adapting teaching methods to optimize language learning outcomes. The implications of this research extend beyond immediate practice, offering a foundation for continued exploration into the intricate dynamics of language education.

Keywords: Reading Skills, Foreign Language Education, Group Approach, Individual Approach, Teaching Methods

Relevance:

This work results in a tool designed to identify the most rational methods for teaching the "reading skill" in the learning process. It specifically compares the advantages and disadvantages of group and individual approaches in the development of this skill.

Aims:

1. To find the most effective way of developing reading skills in teaching a foreign language.
2. To analyze group and individual approaches.

Objectives:

- Observe the importance of reading skills.
- Analyze the advantages and disadvantages of group and individual approaches.
- Explore methods and techniques for improving reading skills.

Research Questions:

How can we determine the most effective way to develop reading skills through group and individual approaches for primary school students?

Introduction:

In contemporary foreign language education, the emphasis on developing essential skills like listening, speaking, reading, and writing is crucial for effective social interaction. This study specifically focuses on the often-neglected reading skill within the educational context. Given the dominance of the grammar-translation method in our country, there is a need to explore and recommend the most effective use of group and individual work in teaching reading skills.

Literature Review:

The literature review delves into articles such as "Study in a group vs study alone: Which is better" from Oxford Learning Magazine, which discusses the efficiency of group and individual study. It also explores the effect of constant group work in a reading strategies course and compares individualized reading with group reading.

Method and Material:

A mixed-method approach was adopted, employing a descriptive survey design. The study involved one Gymnasium school in Almaty, five primary school English teachers, and twenty-five primary school pupils. The research surveyed primary school teachers based on the findings of the "Study in a group vs alone. Which is better?" article.

Findings:

Primary school English teachers answered personal questionnaires, allowing researchers to gather information on the ongoing research. The data were presented in tables and figures, providing a comprehensive analysis of the teachers' viewpoints on the use of group or individual approaches for developing reading skills in English as a second language.

This research aims to contribute valuable insights to language educators, shedding light on the efficacy of group and individual approaches in teaching reading skills to primary school student

Poll for Primary school English teachers
Which method of reading you prefer?

Name of the teacher	Individual	Group
Teacher 1		+
Teacher 2	+	
Teacher 3	+	
Teacher 4		+
Teacher 5		+

TABLE 1

Table 1 was used to determine reading methods.
From the poll it was defined that 60% out of 100% of primary school teachers use group approach through reading.

Individual questionnaire for Primary School English Teachers
Group reading vs individual reading

Questions	Individual	Group
Which approach is more effective?	Teacher 4; Teacher 5	Teacher 1; Teacher 2; Teacher 3
In what approach of reading students actively participate to lessons?	Teacher 1	Teacher 2; Teacher 3; Teacher 4; Teacher 5
Which approach causes better reading comprehension?	Teacher 4; Teacher 5	Teacher 1; Teacher 2; Teacher 3
In which approach reading stages (prewhile-post) tasks are completely done ?	Teacher 4; Teacher 5	Teacher 1; Teacher 2; Teacher 3

TABLE 2

Table 2 was taken individually from the teachers of English. The results are given in percentage:

- 1) group reading is more effective-60%
- 2) group reading causes active participation-80%
- 3) group work causes best reading comprehension- 60%
- 4) reading stages(pre-while-post) are completely done in a group reading-80%

The children from primary school 4th grade were split into two groups for the experiment. The first group completed reading-related tasks together in a group, 3 students and 4 groups. Students in the second group worked on their own, thus individually. Figure 1 demonstrates how the reading assignments were completed. Three phases of the investigation were separated. Theme "Tom's Day".

On the Pre-reading stage pupils should respond to the question: "What time did you usually wake up/have breakfast?"

Results:

Individual work: Students feel less confident whereby answering to the pre-reading question.

Group: Students feel more comfortable and confident in group answering.

The second stage, While-reading where students should work with vocabulary: "Identify unfamiliar words and make a list. Use dictionary to find the translation or meaning".

Results:

Individual: It requires considerable time as students can't discuss during reading.

Group: Students share with each other words that are familiar to them.

The third stage, Post-reading, test. Results

Individual: Individual working showed the best results of the test at the post reading stage.

Group: Weak students were under the influenced by the active ones, so they couldn't show active participation.

Discussion

In accordance with many social theories, social interaction and collaboration seemed to have many advantages for this fourth-grade classroom. While many teachers use different styles of teaching and students have different styles of learning, group work greatly improved test scores for these students, and could for many others. Receiving different input, opinion, and knowledge from peers may be quite beneficial for any learning environment.

Teachers who are searching for a teaching style that is most advantageous for his or her students may want to take note of these results and the results of other group learning studies. As the number of inclusion students in mainstream classrooms rises, finding the ideal teaching method for all becomes more difficult. Adding small group work into weekly lesson plans may be the key to helping students achieve the very best.

Many classrooms today now contain students with special needs. As the needs of students change, styles of learning may change. It is then appropriate to make an educated choice about one's teaching styles.

Social interaction can help children academically, but many studies have found it can also raise self-esteem, promote togetherness, and allow children to learn how to work on a diverse team to reach a goal. Furthermore, it has been documented that many students enjoy group work and prefer it to individualized instruction.

Learning certainly does not end when school is over, and we have seen from previous studies that different areas of work require cooperative learning for their training and/or job. Group learning can be a fun way for students to prepare themselves for the future.

Conclusion

A statistically significant difference was found between the group and individual learning conditions. Students' weekly scores were found to be higher after a week of collaborative instruction. Students were able to retain and reiterate more accurate information after working in small groups with one another. High test scores were strongly correlated with the group work, while lower test scores were correlated with individualized learning.

These statistical differences show support for the cooperative learning method. The very same students who scored low on their tests after individual instruction scored high on their tests after learning in a small group with their peers.

Although a reading course is not very interactive in nature due to the load of content or exercises, implementing group work definitely changes the class atmosphere as long as tasks are varied. By combining group work with appealing reading tasks, students will benefit from the strengths of both aspects regardless of their reading level.

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COMMUNICATION SKILLS IN A FOREIGN LANGUAGE

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Abstract.

The formation of professional and methodological training of students in the process of teaching English language areas also requires a focus on the issue of language development. A student who is able to correctly recognize and analyze the grammatical nature of words, models of word personalities, that is, correctly use the knowledge gained in practice, will be able to clearly and clearly express his thoughts to the listener. This is done by the fact that the student learns the complex morphological structure of the English language on the basis of language development work. Therefore, there is a need for scientific and methodological study of the development of the student's language through training in the field of modern English morphology as the main condition for identifying with today's socio-social demand.

The development of the student's language is carried out productively through linguistic participatory activity, because "language communication means understanding through spoken language, which has more roots than just communication, has its own place in life, the exchange of views of people with each other through a set of socio-social information necessary for the development of society, is the root of human relations. "The goal of language development is to ensure free communication in society through the English language. Therefore, in teaching language as a means of communication, teaching grammar serves as a mechanism for implementing communication. Thus, the ability of a student to effectively and reasonably use the knowledge gained in the field of Science in language communication is an urgent problem arising from the demand of the present time.

Keywords: technology, communication, learning, skill, students, universities, knowledge, foreign.

Basic provisions.

The source of the language is the enrichment of the vocabulary of students through eloquence, figurative words, proverbs and sayings, through language development work. The richness of the language accumulated over the centuries allows the student to cherish his native language and deeply recognize the national spirit in the language. One of the most important issues in the methodology of teaching English is the study of language development as a holistic methodological system, with the focus on theoretical knowledge from the field of morphology of modern English.

In modern conditions, the system of Higher Education pursues the goal of achieving independent, social and professional qualifications based on the knowledge, skills and abilities acquired within the walls of the University. The final solution to this goal comes down to the student's ability to express the acquired basic knowledge in meaningful and reasoned terms [1].

Introduction.

Therefore, in high school, the knowledge that a student acquires in the areas of the English language will be effective only when combined with language development work, which will allow him to speak beautifully both orally and in writing. Thus, citing the development of the student's language as the main indicator of professional competence will clarify the relevance of the study.

In high school, the main goal should be to train specialists of a new type, adapted to the rapidly changing conditions of production and the market. Therefore, the use of methods in the organization of training that increase the student's speech activity, lead to open expression and exchange of views, creates the conditions for the correct solution of the problem of language development. This makes it clear the need for the student to realize in close unity the theoretical knowledge and speech skills of the English language, which he learns from the field of morphology. However, there must be a stable and natural connection between the branches of Science and language development. The statement that this is a growing need for a new life remains unresolved to this day. Among students studying at a higher educational institution, there are those who cannot speak according to the language norm. The main reasons for this are that in higher education (specialty English and literature), the study of modern English in the field of morphology does not pay due attention to language development, the problem of language development is not specified in the program, textbooks and manuals. This makes it clear that the study of language development in high school in connection with the teaching of scientific fields is an urgent problem in the methodology [2].

The above conclusions prove the relevance of determining the methodological foundations for the high-quality assimilation of scientific knowledge and the formation of speech skills in close unity by today's student, who will become a determined person of the school in the future.

Purpose of the study. To formulate the scientific and methodological basis for the development of the language of students in a higher educational institution through the field of morphology of modern English, to propose a methodological system for the development of the language in accordance with the latest technology in the Department of English language and literature, to prove its effectiveness by experiment.

If the development of the language of students through the teaching of morphology is carried out continuously with a certain system, and their skill in skillful, systematic speech is organized on the basis of complex work and exercises; if the expected educational results through the use of new teaching technologies are based on the development of students' professional speech skills, then the results and opportunities for the development of students' language, vocabulary enrichment will increase, because through the training of the field of morphology, the upbringing and formation of a person who speaks thoughtfully, meets modern requirements, is able to compete [3].

The university provides theoretical knowledge from certain areas of the language. But despite the deep knowledge of the areas of language, its applicability remains unnoticed. The main purpose of individual sentences, fragments of text in the set of exercises is only to find the language units covered, and no emphasis is placed on the formation of the student's speech skills. And when students acquire theoretical knowledge, they should be able to express their thoughts in a systematic, literary language, masterfully master language norms, and pay attention to the formation of correct speech flexibility. Only then will the theoretical knowledge gained in the field of language be useful in the context of speech. From this point of view, the principle of combining theoretical knowledge and language development will be the ultimate pillar, the main principle in the development of the student's language. In the practice of teaching, special attention was paid to the fact that the content of education not only pursues the goal of forming the student's knowledge, business, skills, but also contributes to the development of the student's creative personality, the development of logical thinking, the awakening of the desire for self-education.

The principle of combining individuality and collective activity. The lesson process unites the interests of each and all of the student on the basis of the unity of the purpose and objectives of the training. Therefore, it is necessary to create positive motivation in teaching, build work on language development in accordance with the student's desire-goal, that is, cognitive interest, create problematic situations and be accompanied by training in the ability to independently perform any task. The implementation of these works depends on the inclinations, flexibility and degree of training of the student as a separate subject [4].

The student must show creativity, initiative, demonstrate their flexibility, knowledge in performing any assigned work in the direction of language development. The work performed by students as individuals, the discussion, analysis of the students of the group take on a collective character. Thus, students, as individuals in cooperation, summarize and summarize the work done, express their opinions, Express and express their opinions, and create opportunities for the formation of a quality of cooperation in the team. For this purpose, it is useful to perform creative work that contributes to the improvement of the student's language, so that individual and collective forms of training can be used.

The principle of conscientiousness and activity of teaching also plays a key role in the development of the student's language, since the conscious acquisition of knowledge begins with the correct understanding of specific language materials, the student's own sense of responsibility. A student who correctly uses the acquired language knowledge in his / her speech will have the opportunity to speak fluently in his / her native language only by deeply thinking and feeling about the meaning and meaning of each word. Thus, a student who has worked consciously Awakens interest in knowledge, language, and increases his activity. Therefore, increasing the educational activity of students can be called the main principle of conscious assimilation of knowledge [5].

The experimental system of language development methodology was organized in three stages: 1) defining; 2) formative; 3) final. The detection experiment was carried out in full, while not all students were divided into groups. First, the student's pre-practice knowledge was determined. During the detection experiment, the types of work were organized in the following order: to provide students with a specially designed questionnaire; to establish control and practice groups; to prepare the necessary materials for experimental training; to determine the level of knowledge of students in the period preceding the training experiment. It was carried out in order to determine the degree of development of the student's language before the learning experiment. For this purpose, the student's vocabulary, familiarity with the oratory pattern of dances, familiarity with new scientific terms, types of scientific work and the ability to speak in front of the group, ask questions, and prove their opinion were checked [6].

Materials and methods.

At the first stage, an analysis of scientific works on pedagogical, psychological, linguistic, methodological, oratory problems was carried out to determine the scientific and theoretical foundations of the development of the student's language through the teaching of morphology. Educational materials have been collected for conducting control practice on the topic.

At the second stage, the accumulated scientific data and methodological materials began to be used in practice. In accordance with this, a systematic methodology for the development of the language of students was developed, the types of exercises and tasks for the development of the language were clarified, effective ways of developing the language of students, methods and techniques were tested through a formative experiment.

At the third stage, with the continuation of the educational experiment, that is, the results obtained were checked and analyzed, and scientific and methodological conclusions were made.

Theoretical significance of the study. The research work complements the methodology of teaching a common language, is a new contribution to its enrichment in this matter. The research

work serves as a theoretical and methodological basis for the methodology of language development work in various specialties in the future in higher educational institutions. Scientific work affects the development and improvement of the methodology for the development of the language of specialists in higher educational institutions, opens the way for the development of the problem and serves as an example [7].

Practical significance of the study. Research work can be used to study a special course in higher educational institutions, in a special seminar lesson. Actual problems of work contribute to the writing of textbooks and manuals in the field of methodology. At the same time, the methodology can be used by graduate students, applicants, undergraduates, teachers who are engaged in research activities.

The reliability and accuracy of the obtained scientific results is recognized through a methodologically differentiated analysis of the theoretical principles on which it is based. The goals and objectives of the study and the research methods obtained in accordance with its system, the indicated results can serve as the basis for effective application in the Department of English language and literature of a higher educational institution.

Results.

Education and training are of great importance in the upbringing of a student, in the formation, development and formation of a comprehensively developed personality. Learning is a special type of cognitive activity in which students, under the guidance of a teacher, acquire knowledge, skills and abilities.

Learning, being a type of cognitive activity, is initially the most significant feature, depending on which the characteristic of educational activity is located. Learning, based on the general patterns of cognition, which goes through a number of stages, is a kind of such activity, which is bilateral in nature. As you know, learning involves two important processes – learning and teaching, so it does not exclude the interaction of teachers and students, or rather, it is not feasible without the joint activity of students and teachers [8].

The fruitful course of the learning process is impossible without organizing the motivation of students, that is, there is no educational impact on students. This confirms the idea that interaction is the core of the learning process.

The interaction of teachers and trainees has different forms of manifestation – direct, indirect. In the first case, the teacher and students implement learning tasks; in the second, students complete the tasks and instructions that were set by the teacher earlier. That is, an active learning process is an integral part of teaching.

The learning process is a qualitatively new, holistic phenomenon, which is based on didactic interaction, manifested in various forms. The common goals of teaching and learning explain the integrity of this process.

Communication, without which an adequate course of the learning process is impossible, plays an invaluable role in motivating students, creates a favorable moral and psychological basis for active interaction. But it is necessary to take into account the fact that the organization of educational activities is also of great importance, otherwise communication will not give any positive results. This is the unity of communication and cognition.

The practical side of teaching foreign languages has become the most discussed problem, and the need for it is reaching wider and wider segments of society. The implementation of language policy in the new socio-economic and political conditions is aimed at meeting personal and social needs regarding foreign languages. The developmental and educational value of teaching foreign languages cannot be ignored [9].

The experience of communication and cooperation forms the personality of the student in the systems "man-man", "man-society", "man-nature", "man-technology". This requires the content of foreign language lessons that would solve not only informational, cognitive, ideological

and evaluative tasks, but also communicative and practical ones. The starting point in the organization of such work is the understanding that the most reliable way to turn learning into a developing process is the opportunity to put students in front of the need to solve communicative tasks, i.e. communication tasks, since they are an important condition and a necessary component of work, knowledge and orientation of a person in the world.

In numerous studies concerning the problems of implementing the competence approach in educational practice, such concepts as "competence" and "competence" are used as the main ones. The following understanding of these terms is accepted in this program. "Competence is a set of knowledge, skills, skills and ways of activity necessary for high-quality productive activity after training". "Competence is a complex personal education that allows the most effective and adequate implementation of educational activities, ensuring the process of development and self-development of the student. Competence is a measure of a person's involvement in activities".

Discussion.

Factors such as the insufficient level of formation of communication skills in high school students: the formulation of statements corresponding to various communication situations; a low level of understanding of speech in a foreign language; insufficient elaboration of the problem of formation of communicative competence necessitated the optimization of didactic conditions aimed at the formation of communicative competence in the process of learning a foreign language.

In the current conditions of changing the main directions of student personality development, the task is to form not just an intellectual personality, but a personality ready for intercultural communication. In the context of linguistic globalization, qualitative changes are taking place in the social order of society for the formation of a competent personality capable of active communication.

In modern conditions of teaching a foreign language, the leading position is occupied by methods based on a personality-oriented approach to learning, the criteria of which are reflected in interactive forms and teaching methods. Their use makes it possible to fully realize the main goals of teaching a foreign language.

According to many scientists, in order to achieve meta-subject results, it is necessary to rely on the formation of key competencies that ensure active activity in various spheres of society. Communicative competence is one of the key competencies in the system of 3-level hierarchy of competencies, along with general subject and subject. We believe that due to their flexibility, the didactic means of the discipline "Foreign language" are the most favorable for the formation of communicative competence.

The development of communicative competence, including the ability to interact with others, performing various social roles, refers to the meta-objective results of mastering a certain amount of knowledge in a foreign language in primary school.

The education system today is focused on innovative and productive activities. This requires the search for new educational forms, the use of non-traditional types and methods of teaching, and the creation of didactic conditions that keep pace with the times. Communication-oriented learning is one of the few types of educational activity that meets all these requirements.

The complex of pedagogical conditions proposed by us for the formation of students' communicative competence (CC) was subjected to experimental research. In the process of developing an experimental study of pedagogical conditions, we took a number of sequential steps that allowed us to most thoroughly consider the process of forming communicative competence in the practice of educational activities and determine, based on the test results, how positive the implementation of the recommendations we developed in the process of teaching a foreign

language can give. To do this, we used such methods of pedagogical research as: interviewing, comparative analysis, the method of slices, testing.

The first stage of our experiment was related to the definition of an experimental site. 4 senior classes were selected for the experiment- 103, 104; 102, 103 lyceums No. 5, 39 in Makhachkala. During the interview, the purpose of which was to identify the degree of readiness of students for communication-oriented English language teaching, the following features were identified: students' interest in lessons on the subject being studied (students understand the importance of learning foreign languages, in particular English, in the modern world; they would like to have more friends from different countries; most students are interested in the culture of the country of the studied language).

To the question "What difficulties arise in oral communication in English?", the majority of students (49) answered that the language barrier hinders, as well as difficulties with pronunciation. Many students (37) would like to have more hours devoted to learning English. Almost all students (54) believe that learning English will be useful to them in later life.

The use of a set of pedagogical conditions for the formation of communicative competence at the senior stage of education can significantly contribute to improving the effectiveness of the process of formation of communicative competence and will make it possible to: create a communicative environment and involve students in active interaction in the classroom and outside of school hours; the ability to choose the volume and amount of additional material and sources of its receipt; organize flexible monitoring of activities students and stimulate the development of reflection; to improve communicative competence in all types of speech activity; to use modern technologies for collecting and processing information; to integrate knowledge from a wide variety of fields, thereby developing the ability to understand the holistic picture of the world; to develop general academic skills. The questions can be found in the appendix (see appendix 1). The preparatory stage of the ascertaining and formative experiments consisted in the selection of experimental groups (28 students) and control groups (30 students).

During the ascertaining experiment, we conducted control sections. To identify the initial level of formation of communicative competence in high school students, we used: a communicative test and communicative tasks of various types. The results obtained by us are reflected in the following table.

The purpose of the control as one of the components of the English language learning process is to establish a correspondence between the real level of formation of students' communicative competence and the requirements of the State Standard. In accordance with the requirements of the State Educational Standard on Foreign Languages for the level of formation of the communicative competence of high school students, we have developed appropriate forms of control: a communicative test; communicative tasks of various types.

Conclusion.

Significant changes are taking place in education today, and they cover almost all participants in the pedagogical process.

The student's interest is the guiding factor of the entire educational process. The teacher should know which sides of the child's personality can be influenced by English language skills. When planning a lesson, the teacher must take into account the pedagogical conditions of the technologies that he uses in the lesson.

In our opinion, the real approach to learning English (and others) the languages have changed. A person experiences the greatest difficulties when when communicating in a foreign language, when he perceives speech by ear. However, oral communication, the role of which has now become especially significant, is impossible without understanding the interlocutor's speech, since in the process of speech interaction everyone acts both as a speaker and as a listener. One of the most controversial aspects of the problem of teaching foreign languages is the verification

and accounting of knowledge, skills, methods of their organization and implementation. What does learning to speak involve? Mastering communication skills.

Teachers use a communicative method in their work aimed at developing communicative competence. After all, the main goal is to teach how to speak a foreign language correctly and fluently.

Therefore, it is necessary to move away from traditional teaching methods, and use such types of exercises as projects, communicative games, theatrical performances, discussions, i.e. to develop all language skills of oral and written speech. The rules and meanings of new words are explained by the teacher with the help of familiar vocabulary, grammatical constructions and expressions, with the help of facial expressions and gestures, drawings and others visual aids. With the current equipment of the classes, you can use Internet, TV programs, newspapers and magazines. All this arouses interest in the history, culture, and traditions of the country of the language being studied.

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Medical Sciences

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Modern approaches for treatment of post-traumatic headache

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Abstract

This publication provides information on the clinical features of post-traumatic headache and classification principles in accordance with the latest current criteria of the International Headache Society. The most important aspects of pathogenesis identified on the basis of neuroimaging techniques are presented. Approaches to the treatment of post-traumatic headache are described, and the results of recent studies on the possibilities of treating PTH are presented.

Key words: secondary headache; post-traumatic headache; treatment

According to the International Headache Society (IHS) criteria, post-traumatic headache, or pain associated with trauma, is defined as headache occurring within 7 days of a head and/or neck injury, or within 7 days of regaining consciousness after injury, or within the same period from the restoration of the ability to perceive and report pain [1]. The classification involves the division into acute and persistent post-traumatic headache (PTH), - the first is limited to a period of three months from its onset, and the second includes headaches that last beyond this period.

However, the group of patients with persistent PTH is heterogeneous - some patients have more prolonged symptoms and require more drugs for therapy, while the same subtype of PTH of others occurs in a milder and shorter form. The latter makes it possible in some cases to distinguish subclasses of persistent PTH [2].

The prevalence of PTTH is quite significant, some authors indicate that in 14 - 58% of patients PTH developed within a year after injury [3, 4], in the other direction, the frequency of PTH (as headache first appeared) within a year of injury was about 44%, the cumulative incidence of headache after a year is 71%, of which 20% are persistent PTH [4-7].

A higher prevalence of PTH has been shown in female and elderly patients; the risk is also higher in the case of a history of headache before the injury [8 -10].

The severity of the condition of patients with PTH may be aggravated by concomitant post-traumatic stress disorder or depression, which in addition may independently influence the perception of pain. [11, 12].

Patients with persistent PTH may have post-traumatic stress disorder, anxiety and depression symptoms [13-15].

PTH is often considered as a component of post-concussion syndrome - one of the possible consequences of TBI, including: dizziness, nausea, vomiting, emotional instability, psychoasthenia [16-19]. Although subconcussive head trauma does not result in any obvious clinical symptoms, repeated mild TBI is the leading cause of chronic traumatic encephalopathy [20], - a progressive neurodegenerative disease characterized by the deposition of hyperphosphorylated tau-protein in the sulcal depths as it was shown in MRI among contact sports participants and military veterans [21].

Evaluation of the clinical features of post-traumatic headache reveals its similarity to the subtypes of primary headache. Numerous studies indicate the highest prevalence of migraine-like and tension-type headache-like types of PTH [3, 4, 11, 22-25]. In a study led by Kothari SF that included patients aged 15–30 years with persistent PTH associated with mild TBI, the most common phenotype of PTH was mixed (migraine-like and tension-type), followed by migraine-like headache only. About half of the participants experienced aura symptoms. Phonophobia was the most common co-occurring symptom and stress was the most common trigger for PTH [26].

Other authors indicate that PTH with a migraine phenotype predicts a worse outcome [27, 28].

According to the recommendations of the International Headache Society, it is customary to distinguish the following types of PTH:

(1) migraine-like, (2) TTH-like (tension type), (3) probable TAC-like (similar to trigeminal autonomic (autonomous) cephalgia (TVC)), (4) mixed (migraine-like and TTH) and 5) unclassifiable (when the characteristics of the headache don't fit any of the types). PTH also includes headaches associated with craniotomy, where medical intervention is considered a "surgical injury" [1].

However, patients with PTH may simultaneously meet criteria for other secondary headaches, such as cervicogenic headache, cluster headache, or medication overuse headache. [11, 23].

Diagnosis of PTH in its acute period requires exclusion of the following trauma-associated causes that can cause cephalgia: carotid or vertebral artery dissection, intracranial hematoma, hypopituitarism, intracranial hypotension due to dural rupture [29].

To assess the type of present PTH, the SCAT3 protocol, Rivermead Post-Concussion Symptom Questionnaire (RPQ), Comprehensive Structured Headache Questionnaire), Montreal Cognitive Assessment Scale (MoCA), NSS scale can be used [26, 30, 31].

The patient should also be examined according to VAS and the fact of drug abuse should be clarified (to exclude abusive headache). [8, 32]. A number of authors indicate that from 19 to 42% of patients with PTH may experience excessive use of analgesics, and in most of them, symptoms improve after discontinuation of drugs [33, 34].

The similarity with primary types of headache determines the appropriate approach to therapy. However, some pathophysiological differences have been discovered that may affect the approach to management of patients with a certain subtype of PTH.

In the acute period after injury, a massive influx of sodium and calcium occurs in neurons, while potassium is lost due to mechanoporation. Electrolyte disturbances in neurons begin to be compensated by the increased work of ATP-requiring ion channels and pumps, which causes hyperglycolysis and subsequent acidosis. In parallel, changes in cerebral hemodynamics and mitochondrial dysfunction are observed [35].

In addition, damage to the structures of the skull and neck can cause neurogenic inflammation, resulting in a decrease in the threshold of excitability and hyperactivity of nociceptors [8, 36]. Damaged cervical structures can not only cause neck pain, but also transmit pain to the head due to its close relationship with the trigeminal nerve system [37]. Hypersensitivity in the trigeminal nerve may also be a consequence of demyelination processes as a result of trophic disorders caused by injury [38, 39, 40].

An important role is played by dysfunction of inhibitory antinociceptive mechanisms of the spinothalamic and thalamocortical pathways [8, 41].

Discriminative pain pathways may also be affected in PTH. Recent evidence of impaired descending modulation has been suggested as one of the main causes of PTH [42]. The descending pain modulation system is responsible for connecting various cerebral regions and neural pathways to control pain [43]. Lack of balance between the descending inhibitory and descending facilitatory systems may play a critical role in chronic pain [43], and such imbalance may contribute to PTH [42].

Thus, the pathogenesis of PTH suggests the role of disturbances in descending neuromodulation, activation of trigeminal and cervical afferents, neurometabolic changes, spreading cortical depression, peptide-dependent mechanisms associated with the calcitonin gene, and neuroinflammation [6].

Neuroimaging techniques such as advanced MRI, diffusion tensor imaging (DTI), and cerebral blood flow (CBF) measurements are useful for assessing brain changes even in the absence of significant structural damage, as in the case of mild TBI.

In addition, the results of using these research methods suggest the role of certain brain structures in the genesis of PTH.

Thus, patients with PTH showed weaker connections with the periaqueductal gray matter (an area involved in opioid antinociception) and the right inferior parietal lobe, involved in interoception and self-reference [44].

Compared with the healthy group, patients with PTH showed a decrease in cortical thickness of the frontal and right parietal areas [45].

Another study indicates a decrease in gray matter volume within the right anterior parietal and left temporo-opercular areas [46]. Similar changes were found in patients with migraine and chronic pain [15].

A connection with migraine is also indicated by the results obtained while assessing the state of the hypothalamus using MRI data. It was shown that hypothalamic volume was significantly reduced in patients with migraine compared to controls, and was negatively correlated with headache frequency [47].

In addition, several studies using functional MRI (fMRI) have shown that patients with migraine exhibit altered functional connectivity (FC) of the hypothalamus with adjacent regions, including frontal, parietal, temporal, subcortical, brainstem, and cerebellar areas [48,49].

At the same time, in a recent study by Lu L et al., devoted to analysis of MRI patterns in patients with PTH, similar results were obtained - a significant decrease in FC between the hypothalamus and the middle frontal gyrus in patients with mild TBI and PTH compared with patients with mild TBI without PTH [50]. These reduced changes in FC were significantly correlated with headache frequency and intensity. Frontal regions are involved in pain processing, including affective and cognitive appraisal of pain [50].

Both abnormal neurostructural and functional changes in the MFG (middle frontal gyrus) have been reported in patients with PTH compared to healthy controls and in previous studies [51, 52]. Patients with PTH showed decreased structural integrity (less surface area, volume or thickness or higher curvature) in the MFG.

Voxel-based morphometric (VBM) studies indicate that volume reduction in the left middle frontal gyrus is significantly correlated with disease duration [53, 54, 55].

Given some of the common pathophysiological features underlying migraine and PTH, it is suggested that changes in the hypothalamus are an important biomarker for the diagnosis and treatment of PTH. [50].

The modern approach to the treatment of PTH is based on the principles of treating a similar type of primary headache. The situation is complicated by the fact that patients often

deliberately don't seek specialized help, using non-specific non-drug methods of pain relief, acetaminophen, and NSAIDs, often in combination with caffeine. In such situations, the headache may be due to excessive use of medications, and limiting them will help relieve the condition.

According to an assessment of the methods used by patients for self-relief of PTH, the most common non-drug strategies are: bed rest, physical therapy and relaxation methods [26].

At the same time, significant positive effects are demonstrated by triptans and gepants, metoclopramide, ondansetron and prochlorperazine, which have shown clearly defined effectiveness in numerous clinical trials and have a level A recommendation for use in the abortive treatment of migraine [56]. A potential benefit of using these medications is that there is no risk of ricochet headaches [57]. Intravenous therapy with prochlorperazine, ondansetron, and metoclopramide reduced PTH scores in children aged 8 to 21 years 14 days after mild TBI [58].

If the clinical picture of PTH is similar to cluster (trigeminal) headache, therapy with sumatriptan or dihydroergotamine intravenously as abortifacients [59] and verapamil as a prophylactic agent is effective [60].

Regardless of the agent used, the key to the successful treatment of headache is in using drug at the onset of the headache rather than taking a drug later, on the pain peak.

As a preventive treatment, drugs used for the same purpose in primary types of headaches are used.

Magnesium preparations at a daily dosage of 400 mg in patients with migraine-like PTH have demonstrated a good effect as a means of secondary prevention. [61]. There are positive but small controlled trials for riboflavin and coenzyme Q10 and stronger evidence for butterbur-contained drugs [62, 63, 64].

Amitriptyline and gabapentin are considered, in particular, as prophylactic agents for PTH. In a retrospective cohort study examining the use of these drugs (average dose of gabapentin 900 mg, amitriptyline 20 mg/day) to prevent an attack of PTH, both patients receiving therapy and a group of patients without drugs showed regression of symptoms in the long term. At the same time, it has been shown that gabapentin and tricyclic antidepressants have an immediate effect in reducing the severity of symptoms, influencing the quality of life of patients, which is important [65].

Interventional treatment options for PTH include various nerve blocks. The following locations apply: greater occipital nerve, lesser occipital nerve, auriculotemporal nerve, supraorbital nerve, supratrochlear nerve and sphenopalatine ganglion (SPG). Interventions include unilateral, bilateral or multiple single nerve blocks. The effect is achieved by reducing afferent feedback to the caudal nucleus of the trigeminal nerve, which leads to a decrease in nociceptive transmission [66]. Bupivacaine (0.25 to 0.75%) or lidocaine (2%) is used in a volume of 0.5 to 2 ml. Sphenopalatine ganglion block is preferred when oral therapy fails [67].

Another option is to inject trigger points with anesthetics (or steroids). Drug injection sites include the occipitalis, frontalis, masseter, temporalis, trapezius, levator scapulae, semispinalis capitis, splenius, and sternocleidomastoid muscles. After localizing the trigger point using palpation, several places are often injected, injecting 1-2 ml for each. This technique is not sufficiently covered in the literature [68], in comparison with local administration of botulinum toxin, which demonstrates effectiveness in persistent PTH. According to the results of the most extensive study on the theme, which included 64 patients, 41 patients (64%) reported a decrease in headache after treatment, which allows us to consider the method as quite effective [69].

Cognitive behavioral therapy can complement primary interventions for PTH to achieve better outcome [70].

The use of monoclonal antibodies in patients with PTH is promising. Calcitonin gene-related peptide (CGRP) is a potent endogenous vasodilator and neurotransmitter that has been implicated in the pathophysiology of migraine and has become a target for drug development in recent years [71, 72, 73]. Experiments have shown that activation of the trigeminal ganglion leads to the release of CGRP [74]. Calcitonin gene-related peptide gene expression is not increased in persistent PTH, but monoclonal antibodies against calcitonin gene-related peptide gene, such as erenumab, eptinezumab, fremanezumab and galcanezumab, which are effective in migraine, may also be effective in PTH [75]. Recent experiments in rodent models have demonstrated the involvement of CGRP and the effectiveness of monoclonal antibodies against CGRP in PTH [76, 77]. An observational clinical trial evaluating the treatment of PTH manifesting as a migraine phenotype with erenumab in 7 patients demonstrated efficacy at a dose of 140 mg [78]. However, the small number of patients in the study and the fact that three of them had pre-existing migraine create limits for the generalization of these results. Therefore, this work should be interpreted with caution as it is unlikely to reliably reflect data from ongoing clinical trials of erenumab for the prevention of PTH.

Future results from studies evaluating the effectiveness of such drugs may provide new treatments for PTH [19].

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MORBIDITY AND MORTALITY, STRUCTURE AND RESULTS OF CERVICAL CANCER SCREENING IN THE REGIONS OF KAZAKHSTAN

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Annotation: The paper discusses the morbidity and mortality rates from cervical cancer by regions, describes in detail the currently used screening methodology and the results of this preventive examination of the female population of our country. A detailed step-by-step algorithm is presented and the principles of organization and diagnostic capabilities of this method for the active detection of cervical cancer in clinically asymptomatic individuals are reflected. It is shown that in order to achieve a highly effective result, strict adherence to the methodology of this type of screening is necessary.

Key words: cervical cancer, epidemiology, morbidity, mortality, screening, Pap test, smear for oncocytology.

The key concept of screening for cervical cancer (CC) is the detection of oncological pathology in the early stages, when the prognosis is most favorable and allows you to get the best long-term results of treatment. In addition to oncological pathology, this type of screening makes it possible to detect various types of intraepithelial changes in the squamous epithelium, related to precancerous and allowing these patients to take therapeutic measures related to the secondary prevention of CC. And it is clear that a preventive examination always has advantages over a diagnostic examination when there are already symptoms of the disease. Along with this, it is necessary to understand that the main conditions for screening CC are the availability of trained personnel and a standardized approach to identifying the trait under study and evaluating the results. The applied methods should be quite simple, reliable and reproducible, and also have sufficient sensitivity and high specificity [1,2,3].

CC in the structure of all malignant tumors of both sexes of the population in 2022 took 6th place with a share of 5.51% (2021 - 4th place, 5.54%), in women - stable 2nd place - 9.7% (9.7%) [4].

The morbidity rate per 100 thousand population increased from 9.4 to 9.92. In 10 regions of the republic, the morbidity rate is higher than the national average: Pavlodar - 17.2 per 100 thousand people. (2021 - 16.7) - the highest level, East Kazakhstan - 14.3 (10.8), North Kazakhstan - 14.3 (10.2), Atyrau - 13.2 (13.8), Zhetysuskaya - 11.7, Karaganda - 11.7 (12.0), Abayskaya - 11.1, Akmola - 11.1 (11.9), Mangistauskaya - 11.1 (9.7), Kostanayskaya - 10.8 (10.6) regions.

Low morbidity rates in Zhambyl region - 5.8 per 100 thousand population (5.7), Turkestan region - 6.1 (5.2), Aktobe region - 8.3 (11.6), Kyzylorda region - 8.5 (8.2) areas.

CC in the structure of causes of death from malignant tumors of the population of both sexes in 2022 rose from 9th to 8th position, with a share of 4.6% (2021 - 4.3%), mortality from CC is stable at 3.1 per 100 thousand population (3.1).

The mortality rate from CC in 10 regions is higher than the national average: Akmola - 4.2 per 100 thousand population (2021 - 3.1) - maximum level, West Kazakhstan - 4.1 (4.8), Pavlodar - 3.8 (5.6), Almaty - 3.7 (2.5), Zhetysu - 3.7, Atyrau - 3.4 (4.0), East Kazakhstan - 3.3 (3.8), Karaganda - 3.2 (4.7), Kostanay - 3.2 (2.4) regions and Almaty - 3.4 (2.9).

Below the national average, mortality was recorded in Abay - 2.9 per 100 thousand population, Mangistau - 2.8 (3.0), Turkestan - 2.3 (2.2), Aktobe - 2.2 (3.0), North - Kazakhstan - 2.0 (2.6), Kyzylorda regions - 1.7 (3.5) - the best result, years. Astana - 2.9 (2.6), Shymkent - 2.9 (2.3) [4].

In 12 regions, a 100% level of morphological verification of the diagnosis was ensured, the lowest or worst indicator for the third year was in the Kyzylorda region - 94.3%, below the national average indicators in Akmola - 98.8%, Atyrau - 98.9%, Kostanay - 98, 9%, Mangistau - 97.6%, Pavlodar - 96.6%, regions and Almaty - 98.5%;

In a number of regions, the frequency of diagnosis of stage I-II CC was below the national average (88.1%) - in Akmola - 76.2% (2021 - 73.6%) - the worst result in the country, in Karaganda - 77, 2%, Zhetysu - 82.9%, Abay - 83.8%, Kostanay - 84.3%, Aktobe - 85.5%, West Kazakhstan - 85.7%, Pavlodar - 81.3%, while that in the Atyrau region - 100.0% result.

The proportion of stage IV CC is higher than the national average (2.7%) in the following regions: the worst result is in Zhetysu (6.1%), above the national average in Karaganda - 5.1% (2021 - 5. 6%), Akmola - 4.8% (2.3%), Kostanay - 4.5% (4.4%), North Kazakhstan - 3.9% (7.4%), Almaty - 3.7 % (5.1%), Zhambyl - 2.9% (0.0) regions, cities Almaty - 3.6% (1.8%) and Shymkent - 3.8% (5.9%). The lowest neglect is in the East Kazakhstan region - 1.0% (0.7%).

Late diagnosis rates (III-IV stages) for CC are above the national average - 11.9% (15.4% in 2021) were noted in Akmola - 23.8% (2021 - 26.4%) - worst result, Karaganda - 22.8% (35.2%), Pavlodar - 18.8% (20.8%), Zhetysu - 17.1% (24.2%), Abay - 16.2% (12.8%), Kostanay - 14.6% (15.6%), Aktobe - 14.5% (9.6%), West Kazakhstan - 14.3% (32.4%) regions. The lowest neglect is in the Mangistau region - 6.0% (20.8%).

Across the country, the five-year survival rate of patients with CC registered in 2018 was 59.9% in 2022, with a decrease from the level of 2021 (67.5% for those registered in 2017), and with a significant range in by region, from the maximum – 72.9% (2021 – 70.7%) in the North Kazakhstan region, to the minimum – 34.9% (64.4%) in the Atyrau region [4].

CC screening is a periodic, comprehensive examination of women of a certain age group as part of a special medical program to prevent and reduce morbidity and mortality from CC.

Type of screening - population. The purpose of screening is to identify pre-invasive diseases of the cervix with subsequent recovery. The screening method is a cytological examination of a smear for oncocytology from the cervix (traditional and liquid cytology). Coloring according to the "Papanicolaou test" (Pap test). Interval - 1 time in 4 years. Target group: women aged 30-70 years who are not registered in the dispensary for CC. The expected results are a decrease in morbidity and mortality from CC.

Screening steps:

1) Preparatory - formation of target groups, information support and invitation to screening. The preparatory stage is carried out by the nurses of the primary health care organization responsible for preventive measures and includes: annual compilation of a list of women subject to screening in the coming year by November 15 of the current year, followed by monthly correction; informing target groups of the female population about the need for screening; screening invitation; ensure timely screening.

2) Screening - filling out a statistical card of a preventive medical examination (screening) of an outpatient (form 025-08/y), a register of patients subject to cytological screening and taking material for cytological examination from the cervix. The screening examination of the target groups of the female population is carried out by a specially trained midwife of the primary health care organization.

3) The final one is obtaining the results of cytology, informing the woman and developing further management tactics, fill out accounting and reporting statistical documentation. Responsible for the final stage of screening is the obstetrician-gynecologist of primary health care [5].

Cytological screening of CC is a complex of organizational and medical measures aimed at early detection of precancerous and neoplastic diseases of this localization and at reducing the mortality of this cohort of patients. For traditional cytology, a smear containing 8-12 thousand cells of stratified squamous epithelium (including cells of metaplastic epithelium) is considered adequate; for liquid cytology - 5 thousand cells. For both methods, the number of cells of endocervical epithelium and/or metaplastic epithelium (from the transformation zone) must be at least 10 (single or in clusters). If more than 75% of the cells of the stratified squamous epithelium are covered with erythrocytes, leukocytes, etc., then the quality of the smear is considered unsatisfactory.

Interpretation of the results of a cytological study is carried out according to the Bethesda-terminology cytological system:

Intraepithelial changes and malignant processes are absent (NILM). This group includes cytological conclusions about the normal state of the epithelium, as well as the presence of various non-neoplastic diseases. Normally, squamous epithelial cells, groups of cells of columnar epithelium and metaplastic epithelium, a small number of leukocytes, and rod/mixed microflora are found in preparations. In the presence of non-neoplastic processes, their nature and, if

possible, the cause are specified: atrophic changes, reactive changes associated with inflammation, including typical regeneration. In addition, the presence of microorganisms is indicated: *Trichomonas vaginalis*, fungi, morphologically corresponding to *Candida* spp., bacterial vaginosis, cellular changes corresponding to the defeat of Herpes simplex virus, squamous epithelial cells with atypia of unknown significance (ASC-US), squamous epithelial cells with atypia of unclear significance, not excluding the presence of a high degree of intraepithelial changes (ASC-H). Low-grade squamous intraepithelial changes (LSIL) include lesions associated with HPV and CIN I, high-grade squamous intraepithelial changes (HSIL) include CIN II, CIN III, carcinoma in situ and cases suspected of invasion, squamous cell carcinoma, cervical (glandular) epithelium with atypia of unknown significance, cells of the cervical (glandular) epithelium, possibly neoplasia, endocervical adenocarcinoma in situ, endocervical adenocarcinoma, endometrial adenocarcinoma, secondary adenocarcinoma, unclassified carcinoma, other malignant tumors.

There are certain features when taking material for oncocytology: firstly, the examined woman should be informed about the exclusion of sexual intercourse, vaginal manipulations, including douching, baths, tampons, etc. 2 days prior to sampling. Taking material for cytological examination is carried out by the midwife of the examination room of the department of medical examinations of the primary health care organization: the traditional method (2 glasses - with obligatory fixation in 96% alcohol, it is preferable to use glass slides with a polished edge, which are easily marked) or the liquid cytology method (one container with stabilizing liquid); the code or surname of the patient, identical to the code and surname in the form for sending material for cytological examination, should be clearly marked on the glasses or container [5].

At the same time, when using the traditional method, the biomaterial is delivered to the cytological laboratory as soon as possible after its collection in specialized containers for glass slides with 96% alcohol. If there are visible visual changes in the cervix, then the material is taken from the woman and, without waiting for the results, she is referred for an examination by an obstetrician-gynecologist.

A cytological study is carried out in centralized cytological laboratories at oncological institutions, where an archive of cytological preparations of patients involved in the screening examination is formed, regardless of the result, for a period of at least 10 years with the formation of a computer database.

What material and technical equipment is required to take material for a Pap test? It is as follows: soap and water for washing hands, a light source for cervical examination, a gynecological chair, a disinfected speculum and gloves, an Eyre spatula, a glass slide and a marking pen, a container with a stabilizing solution for liquid cytology, a fixative solution (96% alcohol), a container with warm water for lubricating and warming the vaginal mirrors, a 0.5% chlorine solution for disinfecting gloves and instruments, or another approved for this purpose. And, of course, the registration form itself.

For carrying out liquid cytology, you additionally need: a disposable cervix brush, a container with a stabilizing solution for liquid cytology, and a fixing solution.

At the same time, a smear for oncocytology cannot be taken: during menstruation, earlier than 48 hours after sexual contact or after using lubricants, vinegar or Lugol solution, tampons or spermicides, after vaginal examination or douching, and also during the treatment of genital infection.

Now, regarding the results of CC screening. In 2022, 771,282 women of the target group aged 30 to 70 years were examined during cytological screening (in 2021 - 757,454).

During cytological screening in 2022, 392 cases of cervical cancer were identified (319 in 2021). The detection rate increased from 0.42 to 0.51 per 1000 women examined [4].

High detection of CC during screening is ensured in Aktobe, Almaty, Atyrau (1.59 is the best result), East Kazakhstan, Kyzyl Orda, Pavlodar, North Kazakhstan, Turkestan regions and Shymkent.

The detection rate in these regions ranges from 0.55 to 1.59 per 1000 women examined. Compared to 2021, there is an increase in detection in 10 regions, with the exception of Akmola, Aktobe, Zhambyl, Kostanay, Mangistau, North Kazakhstan regions and Shymkent. The worst result in Astana is 0.15 per 1000 women examined.

Cytologically, cervical precancer was detected in 1.16% of those examined (2021 – 0.99%). The detection rate of precancer below 0.6% (the planned indicator for 2022, according to the Comprehensive Plan) was noted in Aktobe, Karaganda and Kostanay regions.

A high proportion of stage I CC (70% or more) was detected in 6 regions of the country (in 8 in 2021): Kostanay, Mangistau (94.7% - best result), North Kazakhstan, Turkestan regions, Almaty and Astana. Low levels of early detection of CC (below 50%) were not observed in any region.

Localized processes (stages I-II) were identified in 99.2% of all cases of detected cancer (96.5%). In the Akmola and Karaganda regions, cases of CC were identified not only in localized, but also in widespread stages of the process. A total of 3 cases of CC in stage III and no cases in stage IV were identified (11 and 0, respectively) [4].

Summarizing the above, we can state that satisfactory results of CC screening can only be achieved with its proper organization, high quality of conduct, active participation in the medical examination of the population, the use of highly sensitive tests and instrumental methods of preventive examination, accurate subsequent diagnosis of detected tumors and timely treatment. Qualitative screening of CC leads to early diagnosis of various precancerous intraepithelial changes in the cervix, which, in turn, increases the effectiveness of treatment and improves the prognosis of the disease. Surveyed target groups who, for one reason or another, do not participate in this screening should be informed that there are no other screening methods that could also effectively reduce mortality from CC.

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ҚАЗАҚСТАНДАҒЫ ҰЛТТАР АРАСЫНДАР ҚАНТ ДИАБЕТІНІҢ ТАРАЛУ ЖИІЛІГІ

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Зерттеу тақырыбының өзектілігі

Қант диабетінің өсу жиілігі. Қазақстанда жыл сайын қант диабетімен ауыратын 7-8 мың адам тіркеледі. Дүниежүзілік денсаулық сақтау ұйымының 2020 жылғы мәліметіне сәйкес 422 миллионнан аса ересек адам қант диабетімен ауырады және қант диабетінің таралуының үздіксіз өсуі күтілуде деген болжам бар [1]. Қазақстан Республикасында Ұлттық қант диабеті регистрінің ақпараты бойынша, 2019 жылдың басында елімізде қант диабеті диагнозымен есепте тұрғандар саны 309 мыңға жеткен. Оның 18 мыңы бірінші типті диабетпен, 291 мыңы екінші типті диабетпен ауырған [2]. 2021-2022 жылғы наурыз аралығында қант диабеті диагнозы қойылған диспансерлік есептегі науқастарды амбулаториялық дәрі-дәрмекпен қамтамасыз етуге жұмсалған шығындар 29,3 млрд теңгені құрайды.

Зерттеудің мақсаты

- Қант диабетінің этиологиялық факторларына сүйене отырып, аталмыш аурудың этникалық ерекшеліктерін сипаттау.

Зерттеу материалдары мен әдістері.

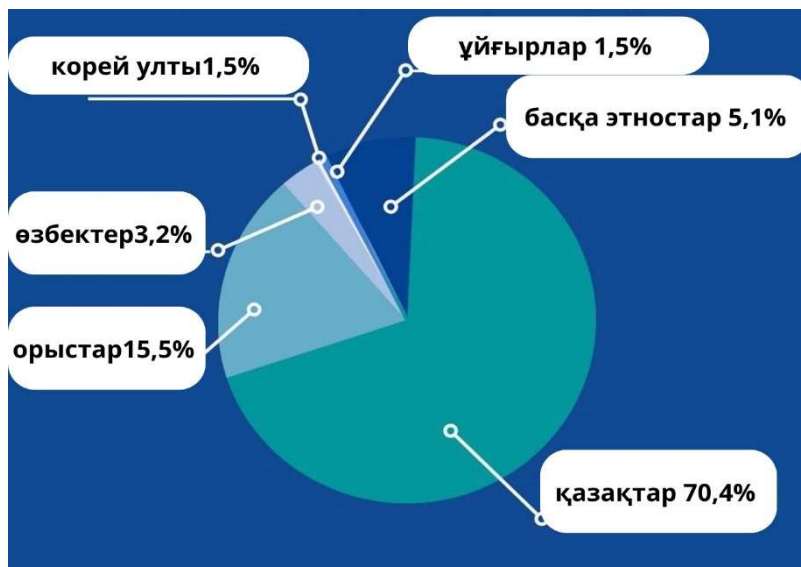
ҚД-мен ауыратын науқастарға сауалнама жүргізілді:

- 35 науқас - Алматы қаласы С.Ж.Асфендияров атындағы ҚазҰМУ Ішкі аурулар клиникасынан,
- 49 науқас- Алматы қаласы №22 қалалық емханадан,
- 16 науқас- “Дүниежүзілік Қант диабетіне қарсы күрес күніне” арналған конференцияға қатысушылардан сауалнама алынды.

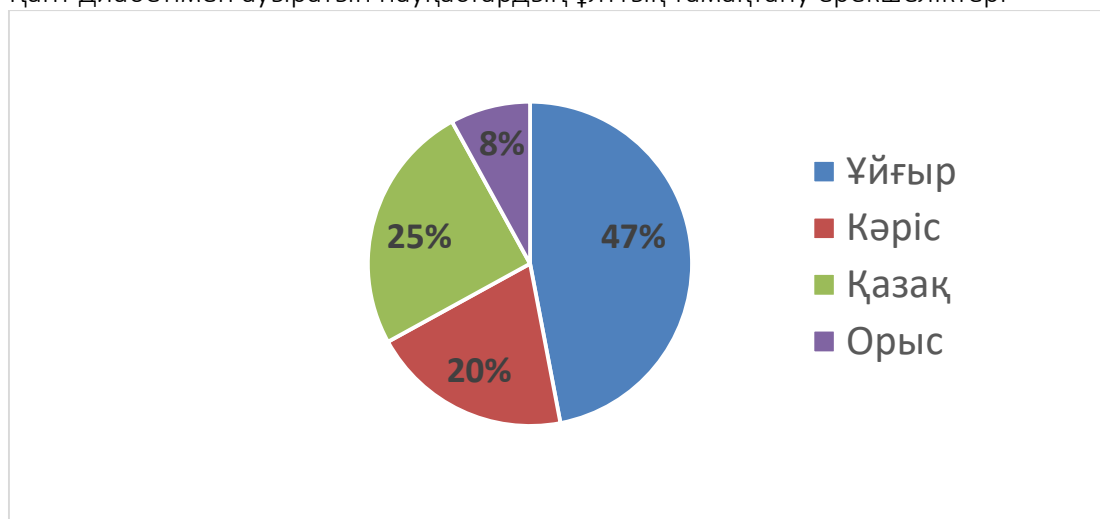
Сауалнамаға қазақ, орыс, ұйғыр, кәріс ұлттары қатысты.

Зерттеу нәтижелері. Зерттеу нәтижелері бойынша 2023 жылғы санақ мәліметі бойынша ҚР халықтарының ұлттық құрамы. Мәліметтер 1-суретте көрсетілген.

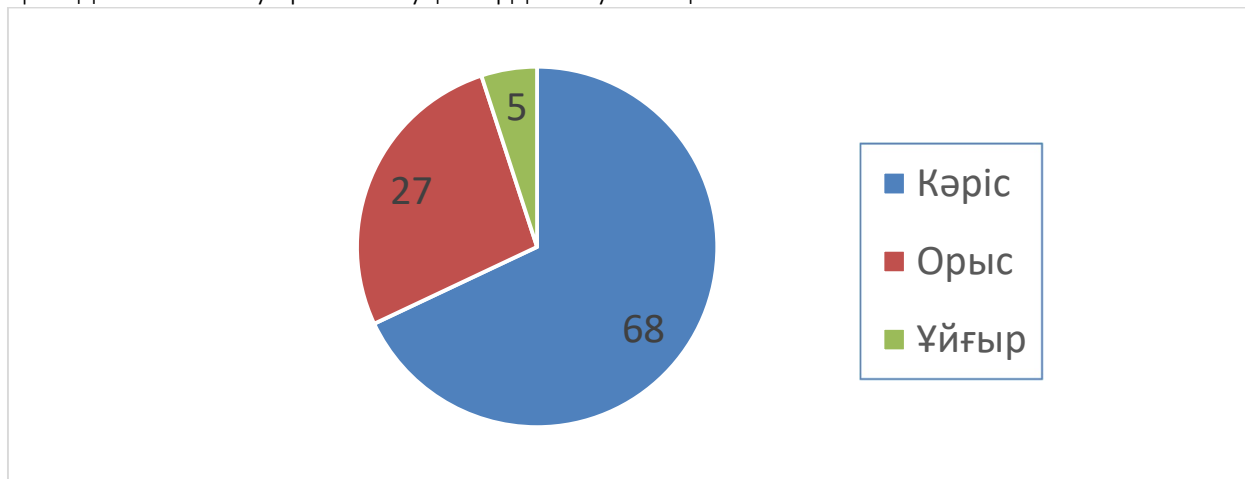
2022 жылғы 1 қыркүйекте жарияланған 2021 жылғы санақтың қысқаша қорытындысына сәйкес негізгі этностардың саны: қазақтар — 13 497 891 адам (халықтың 70,4%), орыстар — 2 981 946 (15,5 %), өзбектер — 614 047 (3,2 %), украиндар — 387 327 (2,0 %), ұйғырлар -290 337 (1,5 %), немістер — 226 092 (1,2) %, татарлар — 218 653 (1,1 %), басқа этностар және ұлтын көрсетпеген — 969 722 (5,1 %).



Қант диабетімен ауыратын науқастардың ұлттық тамақтану ерекшеліктері



Қант диабетімен ауыратын науқастардағы туыстық неке жиілігі



Зерттеу барысында қант диабетімен ауыратын , сауалнамаға қатысқан 100 науқастың 72де тұқым қуалаушықтың бар екені анықталды . Олардың ішінде ; Орыстар 30% (n=19); Қазақтар 27% (n=23) ; Ұйғырлар 26%(n=17); Кәрістер 17%(n=13) құрады.

қант диабетімен ауыратын сауалнамаға қатысқан 100 науқастың 81-і , семіздікпен ауыратыны дәлелденді . Олардың ішінде;қазақтар -32%(n=22); Орыстар 26% (n=24); Ұйғыр ұлты 24%(n=21); Кәрістер 18%(n=14) құрады.

Қорытынды

1.Республикада ҚД шалдыққан адамдар саны жылдан жылға ұдайы өсуде. Қант диабетінің қазіргі таңда ең маңызды мәселелердің бірі болғандықтан көптеген елдерде біршама зерттеу жұмыстары жасалған болатын. Сол жұмыстарға сүйене отырып ҚД-нің нақты даму сесебі болатын біршама факторлар көрсетілген. Негізгі мәселе ҚД- диагностикаланбаған, індетпен өмір сүруші науқастардың көптігі,бұл әлем бойынша алынған дерек. Қазіргі таңда ҚД шалдыққан науқастар Қытай, Түркия, Ресей, Германияны алдыңғы топқа жатқыза аламыз.

2.ҚД дамуында ұлттардың туыстық неке салдары мен тамақтану ерекшеліктері әсер етуі мүмкін.

Туыстық неке кәріс ұлтты науқастарда жиі орын алған.

3.Ұлттық тамақтарды жиі тұтынатын ұйғыр ұлтты өкілдеріне ҚД дамуы әсер етуі мүмкін.

Пайдаланылған әдебиеттер тізімі:

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Political Studies

COOPERATION BETWEEN THE REPUBLIC OF KAZAKHSTAN AND ASEAN: PROBLEMS AND PROSPECTS

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Annotation

The article examines the place and role of one of the most authoritative regional institutions of the Asian-Pacific region, the Association of Southeast Asian Nations, in the foreign policy of the Republic of Kazakhstan. The attempts of the Republic of Kazakhstan to join the ASEAN Regional Forum have been analyzed, and the causes that hinder Kazakhstan's accession in the forum have been discussed. Further, author concludes that the main reasons impeding the cooperation between the association and the Republic of Kazakhstan are the geographical remoteness of the regions and slow process of the development of the relations with the ASEAN member states. Besides existing obstacles on the way of cooperation, there is a number of promising areas where the integration is expected to be successful.

Key words: ASEAN, ARF, Cooperation, Asian-Pacific region, Kazakhstan.

The interest of the Republic of Kazakhstan in the enormous region that encompasses both Southeast and Northeast Asia, the US and Canada, New Zealand and Australia, as well as Russia and Oceania, has been steadily increasing both in economic and political spheres. The region of Asia-Pacific is believed to be a crossroad of different interests of the great powers of the world, and the balance of power in the region has a great impact on our state.

Today, the importance of the region of Asia-Pacific is growing even more, especially in the economic field, since the region serves as one of the most significant links in global politics. The words of James Hayes "The Mediterranean is the sea of past, the Atlantic is the sea of present, and the Pacific is the sea of the future" have not ever been more relevant.

Kazakhstan, over its years of independence has demonstrated a sincere desire to develop holistic ties with the representatives of this region. Therefore, it is highly essential for Kazakhstan to develop a strategy that observes all the realities existing in the APR. At the present stage, the Republic of Kazakhstan is expressing dynamic interest in cooperation with the states and organizations of the Asia-Pacific region.

This article discusses the issues of participation of Kazakhstan in the framework of ASEAN's regional forum, which is a primary tool for guarding peace and stability in the region of Asia-Pacific. Moreover, the article discusses the possible problems and prospects of the interactions of the Association of Southeast Asian Nations and the Republic of Kazakhstan.

The Republic of Kazakhstan intends to deepen economic relations not just with separate member

states of the ASEAN, but with the economic group as a whole. However, Kazakhstan offers to accept it not as a member of the association, but rather as a participant of international dialogue. [1]. In support of these intentions, Kazakhstan has submitted an application for participation in ASEAN Regional Forum, a grouping that unites the member states of the association with dialogue partners outside of the region. Since its formation, the ARF seeks to build a reliable system of security in the region of Asia-Pacific, and creates confidence-building measures through preventive diplomacy [2].

The participation of Kazakhstan in this forum would enable taking part in integration processes in economic, political as well as cultural spheres with the entire region. The status of a participant of ASEAN Regional Forum would provide Kazakhstan with additional platform for unofficial meetings with the government officials of Southeast Asian nations.

Since 2005 the ARF has introduced mechanisms of “flexible moratorium” on the admission of new participants, which is still relevant nowadays and since then a number of East Asian states have been accepted to the forum. The member states, however do not consider to expand the system of dialogues, despite the increased number of applicants. States are granted with the status of a partner with ASEAN on the basis of a temporary moratorium. Moreover, the association is focusing on improving the systems of “post-ministerial meetings” [3]. In 2003 the former Minister of Foreign Affairs of the Republic of Kazakhstan, K. Tokayev has sent a written appeal to ARF on Kazakhstan’s desire to join the forum. The foreign Ministers of a number of states, such as Thailand, Philippines, Malaysia, Indonesia and etc. have responded with consent for the application of Kazakhstan. There were states that opposed the candidacy of Kazakhstan, thus, the candidacy was not proposed for all ARF’s members’ consideration. The opposition was coming from Singapore and several other states of ASEAN. It could be explained by long existing silent division within the association according to two principles – the partnership level with the White House and religion. Singapore and a number of other states were well-known for their strong relations with the United States, simultaneously, states like Indonesia and Malaysia are known for having a strong presence of Islam. Therefore, Indonesia and Malaysia lobbied for Kazakhstan’s intentions to join the forum, in order to increase the number of Muslim states.

Nowadays, Kazakhstan’s application is expected to meet less opposition from the resisting states, due to positive image of the Republic of Kazakhstan in the world arena. Moreover, Kazakhstan is taking a leading seat among other Central Asian states, and developing political dialogue with the US. Kazakhstan has also set progressive relations with a number of Southeast Asian states like Thailand and Philippines since 2003, therefore it is claiming positive consideration of the submitted application. The question of Kazakhstan’s promotion in applying for membership in the ARF is being worked out by the embassies of Kazakhstan in member states of the ASEAN. To date, states like Brunei, Vietnam, Singapore, Indonesia, Malaysia are expressing support for accepting Kazakhstan. Positions of Cambodia, Laos, Papua New Guinea and East Timor remain unclear, since there are no diplomatic relations with these states.

Meantime, there is a viewpoint that this region has a great potential for regional contradictions, although it is considered as a center of Asian integration. Military rivalry among the leading countries of the region may put our state in front of a choice of one side or another. The Kazakhstan’s engagement in regional security forum continues to be unclear, simultaneously it is highly important for Kazakhstan to continue collaborating with ARF states in different spheres. Because of the highly active cooperation processes in ASEAN, it has become the main framework for international cooperation, therefore remains significant for Kazakhstan.

It is believed by some scientists that the ASEAN Regional Forum is not coping with the responsibility for providing peace and security in the region, and the majority of objectives set by the association are workable only on paper, and there has not been any pragmatic measures in order to create an effective security structure. The possible cause for that is the shortage of faith

and belief in the outcomes of their performance. Following cause is the lack of agreement of strong regional powers on primary problems of integration, which in turn creates obstacles for the right development in the right direction. Another reason is believed to be an absence of a leader in the ASEAN Regional Forum, any organization needs a strong leader for proper implementation of the objectives and goals of the organization. The lack of solidarity among participating sides may be an obstacle for building trust not only within the framework of the forum but in a whole region [4].

The intentions of Kazakhstan to become a participant of the ASEAN Regional Forum can be explained by the fact that on the basis of its activities, it is possible to build a new regional security system in the future. The mechanisms of solving disputes in APR, and taking into account the Asian experience in security processes determines the formation of a new security framework. The Republic of Kazakhstan has fully taken into consideration the peculiarities of the Asian Pacific region into its foreign policy. Kazakhstan is essentially an Asian state and has an enormous economic potential and serves as a crossroad of transportation ties from Europe to Asia, thus it has all the rights to count a worthy place in Asia. The primary goal of the Kazakhstani diplomacy in the APR is to reinforce relations with the states of the region for many years in the future. The integration of Kazakhstan with the ASEAN Regional Forum is in the interests of the country, and promotes effective implementation of political and economic transformations in the state.

The primary priorities of the foreign policy of Kazakhstan, as always, are focused on building positive and profitable conditions for strengthening economic, political as well as social spheres of Kazakhstan. The Republic of Kazakhstan intends to become a bridge that connects Asia and Europe by adhering to its "multi-vector" foreign policy. Such Kazakhstan's position has been determined by its geographical position, its economic development and by its multicultural composition of population [5].

Despite the common interests between Kazakhstan and the Association of Southeast Asian Nations and already existing mechanisms for partnership, the relations between them are not yet developing. The reason for that might be the fact that the both partners have already established official relations, and there are no initiatives for developing them further in other aspects.

Moreover, in order to examine the factors affecting the mechanisms for developing the cooperation between ASEAN and Kazakhstan, the possible weaknesses and strengths should be identified.

The Republic of Kazakhstan is seen as a strategic affiliate in the region of Central Asia, due to solid and persistent economic development and due to successful democratic transformations in the country [6]. The trade turnover between the association and the Republic of Kazakhstan has significantly increased throughout last several years. The geographical distance between the regions has been decreased considerably with the development of transportation and logistics in Central Asia, and new transportation hubs are being created with the help of neighboring states.

One of the intentions of the Republic of Kazakhstan was to establish the cooperation between the organizations of two regions, therefore, collaboration framework was established between ARF and Shanghai Cooperation Organization (SCO) as well as The Conference on Interaction and Confidence-Building Measures in Asia (CICA). The majority of the SCO participants have evolved ties with the member states of ASEAN on a considerable level and with the implementation of the "Belt and Road" project, the interconnectedness of the regions would only grow.

The member states of ASEAN are at the same time participants of The Conference on Interaction and Confidence-Building Measures in Asia, thus closer interaction between both organizations is considered to be possible. Kazakhstan's initiatives to build viable perspectives for the implementation of the Eurasian security belt idea are going to be promoted with the help of such integrations between regional organizations. Further, the idea of creating a new association for security and development in Asia based on existing organizations will demand high level of

confidence-building measures. The entry of the Republic of Kazakhstan into ASEAN Regional Forum would create sustainable prospects for the realization of strategies and foreign policies of our republic, moreover, strengthen security relations between the Asian-Pacific region and Central Asian region.

What comes to obstacles on the way to deepening the relations between Kazakhstan and the Asian-Pacific region there are several factors affecting them. The first is the fact that the relations between the members of the association and the states of Central Asia were established on the basis of bilateral agreements. Moreover, for a long time period the region of Asia-Pacific was not on the agenda of Kazakhstan's foreign policy in East Asia. The development of the integration processes between Kazakhstan and the association is slow, and the political presence of our state in the region of Asia-Pacific is comparatively weak and limited by the relations with several states. Another major issue is the geographical distance between the Southeast Asian states and the Republic of Kazakhstan, which leads to the information gap between them. The states of the association are not very aware of what is happening in the territory of Central Asia and Kazakhstan, and simultaneously, Kazakhstan lacks information on the ongoing processes in the APR. Besides existing issues, there are possible threats that may hinder the better cooperation between the regions. One of such threats can be the threats of extremism and separatism in Central Asia, and the extremism in Asia-Pacific can be represented by religious extremist movements.

Despite the existing problems and threats on the way of deepening the integration processes between the Republic of Kazakhstan and the Association of Southeast Asian Nations, there is a number of opportunities where the cooperation might be developed. One of the promising areas where the states of ASEAN and Kazakhstan can build profitable relations is the energy security sphere, which is the area where there is a possibility of creating a highly advanced infrastructure for energy transportation and logistics.

The experience of the member states of ASEAN in the field of innovative development and technologies in the system of economic relations is of great interest of the Republic of Kazakhstan. States like Singapore, South Korea, China and Japan are known for their high tech products, thus, the relations between the states of Asia-Pacific and Kazakhstan could be developed in this sphere. Moreover, it is highly important for Kazakhstan to invest in APR with the help of soft power in order to improve the image of Kazakhstan in global politics. The conception of soft power, according to Joseph S. Nye, is an ability to reach desired goals by using the power of attraction, not coercion [7]. Kazakhstan, at the current stage is not using its soft power enough, however it has all the capabilities to use it by promoting cultural values and creating positive image.

The development of Kazakhstan's soft power concept will generate social interactions, that will eventually bring the states of both sides closer together. The best option to do so is to invest in humanitarian resources, namely through education, tourism, work exchange and culture. Thus, the involvement of the Republic of Kazakhstan in the process of cooperation with the ASEAN member states will contribute to the expansion of the geography of the country's economic ties. Cooperation with the member states of the Association of Southeast Asian Nations will result in steadily increasing trade, thus our state strives to found an international dialogue with the association.

To conclude, the region of the Asia-Pacific and Southeast Asia are becoming one of the newest centers of the global integration, thus the intensification of the relations between Kazakhstan and this region has occupied a solid place in priority areas of Kazakhstan's foreign policy. The Association of Southeast Asian Nations has transformed into a key structure of multilateral integrations in the APR. The Republic of Kazakhstan is highly interested in implementing mechanisms and experience of the association in order to enhance regional integration processes in the region of Central Asia. Therefore, Kazakhstan intends to join the ASEAN Regional Forum, which will also improve the country's image and strengthen its position on international arena.

Despite the problems occurring on the way of bettering the cooperation between Kazakhstan and ASEAN, such as slow development of political ties with the member states and the geographical remoteness of both regions, there is a number of strengths and opportunities to facilitate the cooperation. Namely, the promising areas are energy security sphere and transportation of high-tech goods, moreover the cooperation between our state and the association is expected to be implemented through humanitarian recourses. In general, author believes that the establishment of close relations between the Republic of Kazakhstan and the Association of Southeast Asian Nations meets the interests of all countries and will allow covering the whole regions of Asia with effective cooperation and security mechanisms.

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Architecture

AUTOMATION OF MONITORING OF THE TECHNICAL CONDITION OF BUILDINGS USING BIM TECHNOLOGIES

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Keywords: BIM, BIM-technologies, design, construction, buildings, structures, Revit, AutoCAD, Civil 3D, ArchiCAD, innovation, education.

BIM technologies allow the development of three-dimensional digital models of buildings and structures, which include all the information necessary at each stage of the life cycle of a construction object. The technology is based on the principle of creating a unified information model of a building or structure, which specialists of various fields can work with, which allows to optimize and simplify work, as well as reduce the financial and time costs of developing design documentation in comparison with the usual CAD design methods. Currently, BIM technologies are successfully used in architecture, construction, industry and other industries. At the moment, the use of digital technologies in construction occupies the lowest level in terms of the intensity of implementation in relation to other sectors of the economy, which, in turn, means that this area has huge development prospects. This article discusses the main stages of the development of BIM technologies in world practice. Special attention in the article is paid to the issues of teaching BIM technologies. Many universities have opened courses on building information modeling, including them in the main educational program. The field of BIM technologies has huge prospects for development with sufficient funding and increased intensity of the introduction of BIM technologies into construction.

Currently, technological progress and the development of information technologies allow improving the efficiency of real estate management, including buildings. The use of BIM technologies (Building Information Modeling) in this process allows you to automate the monitoring of the technical condition of buildings and increase the level of safety and reliability of operation.

The deadline for the construction of buildings is one of the main priorities in the construction industry. However, after the completion of the project, the need for effective monitoring of the technical condition of the building becomes a critical task for its safe operation. Classical monitoring methods, such as regular inspections and measurements, are often limited in their accuracy and amount of information, which makes them less effective for a detailed assessment of the condition of buildings.

In recent years, BIM technologies have become widespread in the construction industry, and today they are a promising tool for automating the monitoring of the technical condition of buildings. The BIM Building Information Model [1] is an innovative technology that provides 3D modeling of a building, where all information about construction, construction, materials, etc. is stored and available for use at all stages of the building's life cycle.

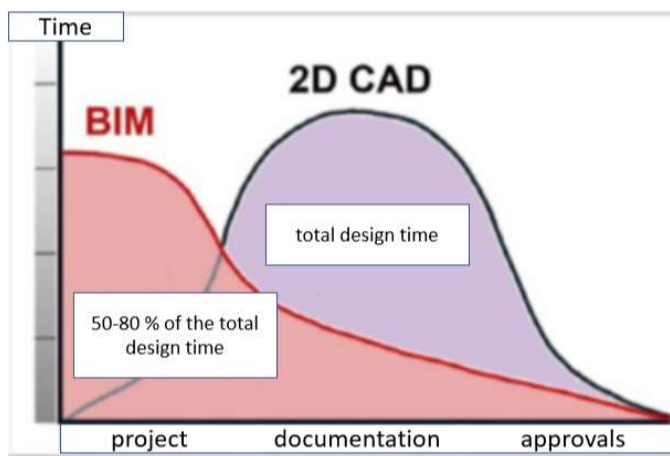
At the same time, the fundamental principles of the information approach in design was formed, which still form the basis of BIM:

- three-dimensional modeling;
- automatic receipt of documentation;
- intelligent parameterization of objects;
- sets of design data corresponding to the objects;
- distribution of construction by time stages, etc.

Investigation of the possibilities of automation of monitoring the technical condition of buildings using BIM technologies. We will analyze the existing monitoring methods, present the basic principles of BIM technologies and their capabilities for monitoring automation. We will also conduct a comparative analysis of the effectiveness of BIM technologies and traditional monitoring methods. In the final section, we will discuss the results of the study and highlight the main conclusions.

By applying the BIM method, a much deeper use of computer technology is realized in the design, construction and operation of facilities under construction. Instead of writing information into drawings, BIM stores, maintains and exchanges information using complex digital representations: building information models. This approach significantly improves the coordination of design work, the integration of modeling, the configuration and control of the construction process, as well as the transfer of information about the construction to the operator. By reducing manual re-entry of data to a minimum and the possibility of subsequent reuse of digital information, time-consuming and error-prone work can be avoided, which, in turn, leads to increased productivity and quality of construction projects. Thus, the effectiveness of quality management can be improved with respect to sources of labor, materials and equipment using a BIM-based system.

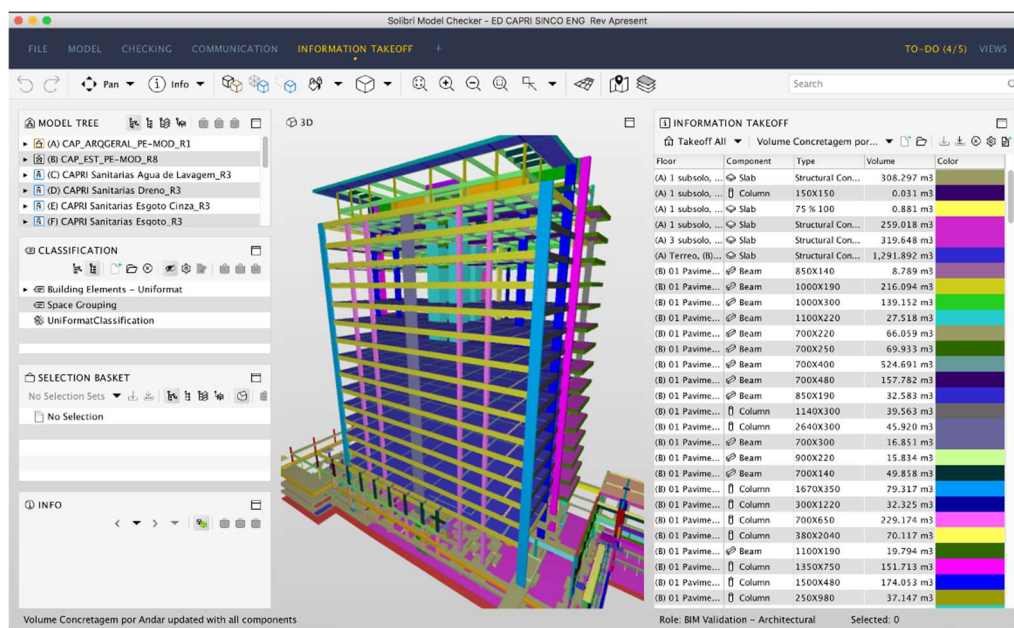
The relevance of the topic lies in the fact that in modern conditions of globalization, the construction industry strongly depends on the information part of the resource potential. The design itself is quite informative, and the constant updating of technologies, regulatory framework and external business conditions creates dependence on the information environment. This can lead to an increase in the number of errors and a deterioration in the quality of facilities under construction.



Pic. 1 Reallocation of design time

The article discusses ways to improve quality using BIM technology at different stages of the project. Cost savings from the implementation of BIM are the elimination of design errors and the exclusion of their appearance on the construction site. Error checking using BIM can be beneficial even when the majority of companies have not yet switched to this technology and work traditionally in 2D, and a special employee makes an information model for the developed project, thus testing the project for viability. This approach improves the quality of the project, requires minimal costs and pays off quickly. A project is underway in Kazakhstan to digitalize rationing in

the construction industry. The work begins with the expert importing the model received from the design organization in the international open IFC format into the Solibri model checker program.



Pic. 2 Checking the building according to the standards in the Solibri program

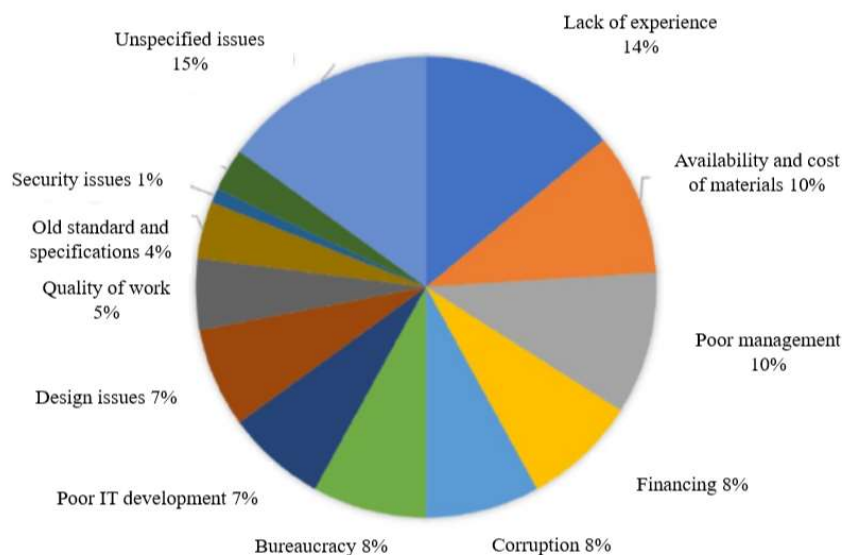
The components of the model must be classified according to the unified classification and coding system in construction. After that, a set of checks is uploaded to the relevant sections of the project. Analyzing the model, the program shows on which points of the standard the model meets the requirements, and on which there are comments. Using the example of the code of building rules of the Joint Venture RK 3.02-101" Residential apartment buildings", balconies leading to a non-smokable stairwell of the 1st type must have a width of at least 1.2 meters. The program shows that 11 balconies have been checked and 3 of them have a smaller the width. The expert can download the report and send it for review. Thus, information technology helps to identify an error in advance and thereby saves resources and time.

A special type of control during the implementation of construction, in which BIM technology plays a key role, is checking the accuracy of the construction of building structures. For example, designers know perfectly well that the design accuracy remains on paper, and on the construction site, as a result of many reasons, their building frame is built, where additional sagging, stresses, deviations from the vertical and other "liberties" may occur, sometimes significantly changing the design characteristics of the object. All these problems can be avoided if timely control of the accuracy of the construction of the object is carried out using laser scanning, if necessary, promptly correcting the project taking into account the resulting point cloud. To an even greater extent, this applies to monitoring the condition of the building during operation or during major repairs.

The operation stage is the longest in the life cycle of the facility and it can be 50 years or more. In addition, it is he who makes the main contribution to the cost of its life cycle. According to calculations, the cost of the life cycle is from five to seven times higher than the cost of the initial investment and three times higher than the cost of construction. There is an enormous economic and environmental need for the management of newly built and existing real estate to be carried out in the most efficient way.

Conducted foreign research on the potential of BIM in the direction of improving the efficiency of building operation, as well as the study of barriers, preventing its use, it has been shown that the potential of BIM arises from improving the currently existing manual information

transfer processes, for example, executive documentation. At the same time, it was noted that the technology also improves data accuracy and increases operational efficiency in terms of the speed of access to object data. There was also a lack of research based on real-world examples, especially in relation to existing buildings, despite the fact that newly built buildings represent only a small percentage of the total building stock.



Pic. 3 Problems of BIM implementation in the construction sector of Kazakhstan

According to the government initiative, information modeling technology in Kazakhstan will be implemented in the construction industry in three stages:

- In 2017-2019, voluntary application and development of standards are expected,
- In 2020-2021, the design of technologically complex facilities, and
- From 2022, the transfer of executive models into operation will begin.

Although several leading construction companies in Kazakhstan have started to apply BIM for their construction projects, including buildings and oil and gas transportation facilities, most construction companies, especially small and medium-sized companies, have not started using BIM for various reasons. The full potential of BIM can be realized when all companies create BIM capabilities in their organizations along with government initiatives. At the moment, government initiatives are limited to the development of standards and specifications for information modeling in the construction industry by analyzing national documents and coding systems of advanced countries that have implemented BIM technologies.

Thus, although the introduction of BIM technology provides many opportunities for to improve the quality of construction projects, there are still a number of difficulties that prevent the disclosure of the full potential of the use of information technology. One of them is the lack of experience in this aspect, since information modeling is a relatively new technology for Kazakhstan. As a result, there is no competition. However, all these issues are gradually being resolved, which may lead to economically beneficial results in the future.

The main part will be divided into several subsections, which will be devoted to the following topics:

1. Analysis of existing methods of monitoring the technical condition of buildings.

One of the most common methods is regular inspections carried out by qualified engineers or building maintenance specialists. Inspections may include visual inspection, inspection of

structures, engineering systems, roofing, etc. However, this method does not always allow you to detect hidden defects or problems that may arise in the future.

Another monitoring method is measurements, including measurement of vibration level, temperature, humidity and other parameters. This method allows you to get accurate data on the condition of the building, but it can be expensive and require special equipment and qualifications.

Vibration monitoring can also be used to assess the technical condition of buildings. This method is particularly useful for assessing the condition of foundations, but can also be used to control vibration inside a building. The disadvantage of this method is that it may not give a complete picture of the condition of the building.

Recently, sensor-based monitoring methods and IoT technologies have become increasingly popular. These methods allow you to obtain continuous data on the condition of the building and quickly identify any changes. However, they can also be expensive and require high qualifications for their installation and maintenance.

2. Basics of working with BIM technologies

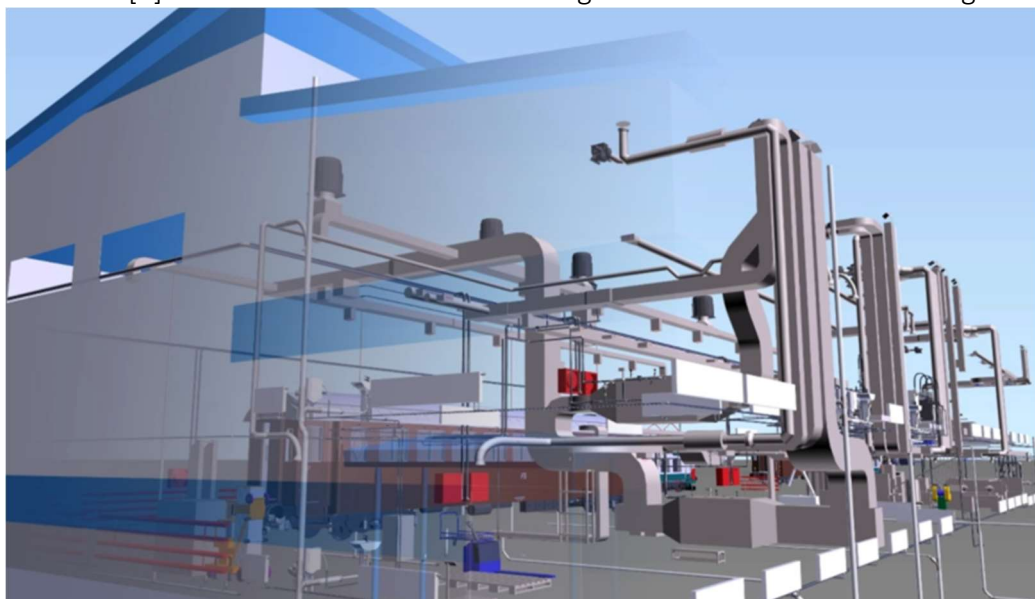
The BIM model [2] contains all the necessary information about the building that is currently available, and connects various data with each other. It can be said that information modeling technology becomes a kind of electronic instruction that immediately provides all the necessary information about the current processes taking place at the facility. It also helps to fully monitor the current condition of the building and take the necessary measures in a timely manner.

The basic principle of working with BIM technologies is to create a 3D model of a building that can be worked out in detail and contain various information about the building. Specialized programs such as Autodesk Revit, ArchiCAD, Tekla Structures and others are used to create a 3D model. In the process of creating a 3D model, designers can include information about the geometry of the building, engineering systems, materials and other characteristics.

3D models can include data such as:

- Geometry of the building and its surrounding area
- Structural elements and materials
- Engineering systems, including heating, ventilation, air conditioning, electricity, water supply, sewerage and others
- Information about deadlines, estimates and other characteristics

Picture 4 [3] will show a 3D BIM model during the construction of a building



Pic. 4. 3D BIM model for building construction

An important feature of BIM technologies is that the information in the 3D model is connected and interconnected, which allows it to be used for various purposes. For example, a 3D model can be used to evaluate the effectiveness of the design and construction of a building, to plan repairs or to improve the monitoring of the technical condition of the building.

3. Automation of monitoring of the technical condition of buildings using BIM technologies

Automation of monitoring of the technical condition of buildings using BIM technologies is a new approach to improving the efficiency and accuracy of monitoring. BIM technologies can help automate monitoring processes, including data collection, analysis and reporting, which will reduce the time and costs associated with manual processing of information.

Examples of using BIM technologies to automate monitoring of the technical condition of buildings:

A) Automatic detection of defects and malfunctions. With the help of BIM technologies, you can create a model of a building, which will include data on the state of all its elements. If there are changes in the condition of building elements, automatic monitoring systems will be able to detect defects and malfunctions and provide information about them in real time. This will allow you to quickly respond to possible problems and prevent serious damage.

B) Analysis of vibrations and temperature changes. BIM technologies allow collecting data on vibrations and temperature changes of a building. Automatic monitoring systems can analyze this data and identify malfunctions related to deformations and strength characteristics of the building.

C) Assessment of changes in the structure of the building. BIM technologies can be used to compare two building models created at different points in time.

Automation of monitoring the technical condition of buildings using BIM technologies has a number of advantages [4]:

1) Greater accuracy and reliability: BIM technologies allow obtaining data on the technical condition of buildings with high accuracy and reliability. Automation of monitoring makes it possible to eliminate errors related to the human factor, such as errors in measurements or in the interpretation of data.

2) Reduction of monitoring time: Automation of monitoring allows you to receive data on the technical condition of the building in real time. This allows you to quickly respond to possible problems and take measures to eliminate them, which in turn can reduce the time of monitoring and repair work.

3) Resource savings: Monitoring automation can help reduce monitoring and repair costs by optimizing processes and improving resource planning.

4) Increased Safety: BIM technologies and monitoring automation can help to increase the safety of buildings and reduce risks to people in buildings.

5) Building management improvement: BIM technologies and monitoring automation can help improve the management of buildings by providing more accurate and complete information about their technical condition, which will allow for more efficient planning of repairs and resource management.

4. Comparative analysis of the effectiveness of BIM technologies and traditional monitoring methods

When comparing the effectiveness of BIM technologies and traditional monitoring methods, it should be noted that BIM technologies can be more accurate and effective in many cases. For example, when using BIM technologies for monitoring buildings and structures, it is possible to obtain more accurate and complete information about the condition of the object than when using traditional monitoring methods.

In addition, BIM technologies can be used to prevent problems that may arise during the construction or operation of buildings and structures, which can reduce risks and save money in the long run.

Comparing BIM technologies with traditional monitoring methods, we found out that BIM technologies have a number of advantages, such as high accuracy, automation of processes, the ability to simulate various scenarios and improve the processes of construction and operation of buildings. However, they also have their drawbacks, such as higher cost and the need for certain knowledge and skills to use them.

A study devoted to automation of monitoring the technical condition of buildings using BIM technologies can lead to the following conclusions regarding technologies that should be used in the Republic of Kazakhstan:

1. BIM technologies should be used in the design and construction of new buildings. This will ensure the accuracy and efficiency of design, reduce the number of errors and repetitive work, as well as reduce construction time and costs.

2. BIM technologies can be used to upgrade and modernize existing buildings. This will allow for more accurate monitoring of the technical condition of buildings, as well as increase their energy efficiency.

3. To monitor the technical condition of buildings in the Republic of Kazakhstan, it is worth using various technologies, including sensors, machine learning and artificial intelligence. This will automate the monitoring process, improve the accuracy and efficiency of diagnostics and notification of problems, as well as increase the safety and comfort of residents of buildings.

4. Solutions for monitoring the technical condition of buildings using BIM technologies should be integrated into existing building management systems. This will allow you to easily and efficiently manage a variety of sensors and data received in real time, and improve the quality of building maintenance.

5. It is necessary to provide training and training of specialists in the Republic of Kazakhstan on the use of BIM technologies and other modern technologies for monitoring the technical condition of buildings.

Taking into account the peculiarities of the economic and technical development of the Republic of Kazakhstan, we recommend the introduction of BIM technologies in the processes of monitoring the technical condition of buildings at enterprises that have a significant volume of production, high requirements for safety and operational efficiency, as well as sufficient resources to invest in training and equipment.

However, for small and medium-sized enterprises that cannot afford significant training and equipment costs, traditional monitoring methods may remain more accessible and applicable in the current environment.

In general, research shows that automation of monitoring the technical condition of buildings using BIM technologies is a promising area, and we expect further development of this technology in the future.

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Оценка архитектурных зданий в Афганистане, как и в столице Кабуле

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Аннотация: Афганистан как многокультурная страна является свидетелем разнообразия архитектурных стилей, на которые повлияли многие цивилизации. Архитектура города Кабул, столицы Афганистана, включает в себя стили до появления ислама и после появления исламской религии. Учитывая влияние цивилизации, архитектурные стили Афганистана можно разделить на три части: среднеазиатский, персидский и индийский. Город Кабул – место встречи всех этих трех стилей. После образования нынешнего Афганистана в 1747 году впервые эволюция архитектурного стиля в Кабуле как столице произошла в 1880 году, на которую повлияли западные архитектурные стили, и он стал самым известным стилем в городе. В основном архитектурные стили города Кабул с учетом влияний цивилизации характеризуются среднеазиатским, персидским, индийским и западным стилями, которые нашли отражение в большинстве архитектурных памятников и жилых комплексов страны. Целью данной статьи является изучение архитектурной эволюции города Кабул путем рассмотрения влияния цивилизации на протяжении всей истории, особенно до появления ислама и после появления исламской религии. Сопутствующие архитектурные памятники и жилые комплексы каждого исторического периода города изучались с учетом его архитектурного стиля и связанной с ним цивилизации. Кроме того, было рассмотрено это влияние на формирование нынешнего архитектурного стиля города Кабул. Это исследование проводится в основном путем обзора литературы, чтобы выделить архитектурные стили, развивавшиеся в разные периоды в городе Кабул, и влияние на них культурных влияний. В каждом историческом периоде памятники оцениваются по их историческому значению, архитектурному стилю и способу строительства. В качестве картографического метода Arc GIS 10.5 используется для визуализации распределения архитектурных памятников и жилых комплексов в пределах города Кабул.

Ключевые слова: город Кабул, памятники, здания, архитектурный стиль, эволюция, западная архитектура, исламская архитектура

Кабул, спрятанный в горах Гиндукуша, Кабул издавна был городом традиционных домов (многим из них многовековая история), сделанных из глины и соломы, а другие были построены в начале 1900-х годов и известны своими замысловатыми укромными уголками, деревянными оконными рамами и роскошными сады. Но архитектурное наследие афганской столицы исчезает, предупреждают архитекторы, поскольку многие старые дома сносятся и заменяются быстро возводимыми высотными зданиями для размещения большого количества вновь прибывших из сельских провинций.

«Война уничтожила большую часть нашего культурного наследия, но теперь нам приходится вести архитектурную войну», — сказал Фердос Самим, архитектор и главный исполнительный директор Taak Inc., архитектурнопроектной фирмы, базирующейся в

Кабуле. В прошлом месяце всеми любимый кинотеатр «Синема Парк» — 70-летний кинотеатр — был снесен по требованию первого вице-президента Амруллы Салеха, несмотря на общественное возмущение и протесты со стороны художников, кинематографистов и общественности. Власти заявили, что здание является структурно несостоятельным. Годы конфликта и экономических трудностей заставили афганцев со всей страны перебраться в Кабул в поисках более безопасной жизни. По данным ООН-Хабитат, агентства жилищного строительства и городского развития, в городе средние ежегодные темпы роста составили почти 10% после падения талибов в 2001 году.



Рисунок 1. Расположение Афганистана на протяжении Шелкового пути (Берри, 2020 г.)

Из-за отсутствия недавней переписи населения трудно узнать, сколько людей проживает в столице Афганистана, но оценки колеблются от 6 до 7 миллионов человек. «Это быстрое расширение городов происходит за счет традиционных исторических домов», — сказал Самим. Семья Мариам Азими в 1940-х годах построила в Западном Кабуле несколько больших домов с садами. Сегодня, по ее словам, к ним постоянно обращаются инвесторы, надеющиеся купить землю, снести недвижимость и построить новые многоквартирные дома. «Предложения увеличиваются, когда ситуация в Афганистане ухудшается, например, когда насилие растет или накануне выборов», — сказал Азими, который попросил использовать псевдоним по соображениям безопасности.

По ее словам, жизнь в Кабуле становится все труднее, а содержание старых домов обходится дорого, поэтому некоторые семьи решают продать свою землю - потенциально за миллионы долларов - и вложить эти деньги за границу. «Конечно, это означает, что характер Кабула меняется. Старые здания разрушаются, новые быстро возводятся. Город едва узнаваем», — сказал Азими. Мэр Кабула Давуд Султанзой заявил Фонду Thomson Reuters, что «нет закона, запрещающего прогресс». «Исторические районы охраняются, но если здание небезопасно и не может быть восстановлено, мы не сможем сохранить его ради ностальгии», — добавил он в телефонном интервью. «Если дом объявлен историческим, он не будет разрушен».

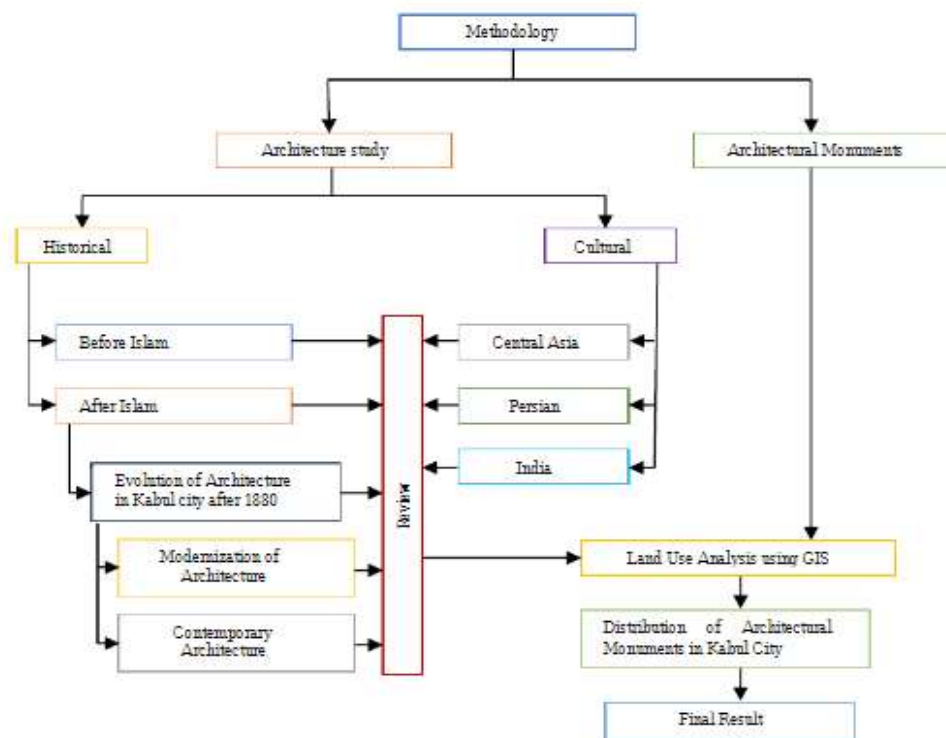


Рисунок 2. Блок-схема методологии

Это исследование проводится в основном путем обзора предыдущей литературы, чтобы подчеркнуть архитектурные особенности. стили, развивавшиеся в разные периоды жизни в Кабуле, и влияние на них культурных влияний. Как случай каждого исторического периода, памятники в соответствии с их исторической значимостью, Оцениваются архитектурный стиль и метод строительства.

«НЕТ ЗДАНИЙ, НЕ ПОДЛЕЖАЩИХ СОХРАНЕНИЮ»

Поскольку по всей стране широко распространено незарегистрированное строительство, а многие жители погрязли в давних земельных спорах, нет оценок того, сколько исторических зданий было снесено в Кабуле. Согласно национальному реестру охраняемых памятников страны, по всей стране зарегистрировано более 1300 зданий, мечетей и других исторических объектов. Но число, которое следует включить в список, гораздо выше, говорит Аджмал Майванди, главный исполнительный директор Треста Ага Хана по культуре. “There are 184 registered monuments in Kabul alone and the Департамент исторических памятников считает, что в будущем в городе их нужно будет обследовать и зарегистрировать как минимум в два раза больше», - отметил он. Фонд работает в Афганистане с 2002 года, восстанавливая разрушенные войной кварталы Кабула и исторические здания по всей стране. «Нет зданий, подлежащих сохранению, реконструкции и ремонту», — сказал Майванди из своего офиса, здания 1900-х годов с высокими богато украшенными потолками, толстыми деревянными оконными рамами и встроенной деревянной мебелью.



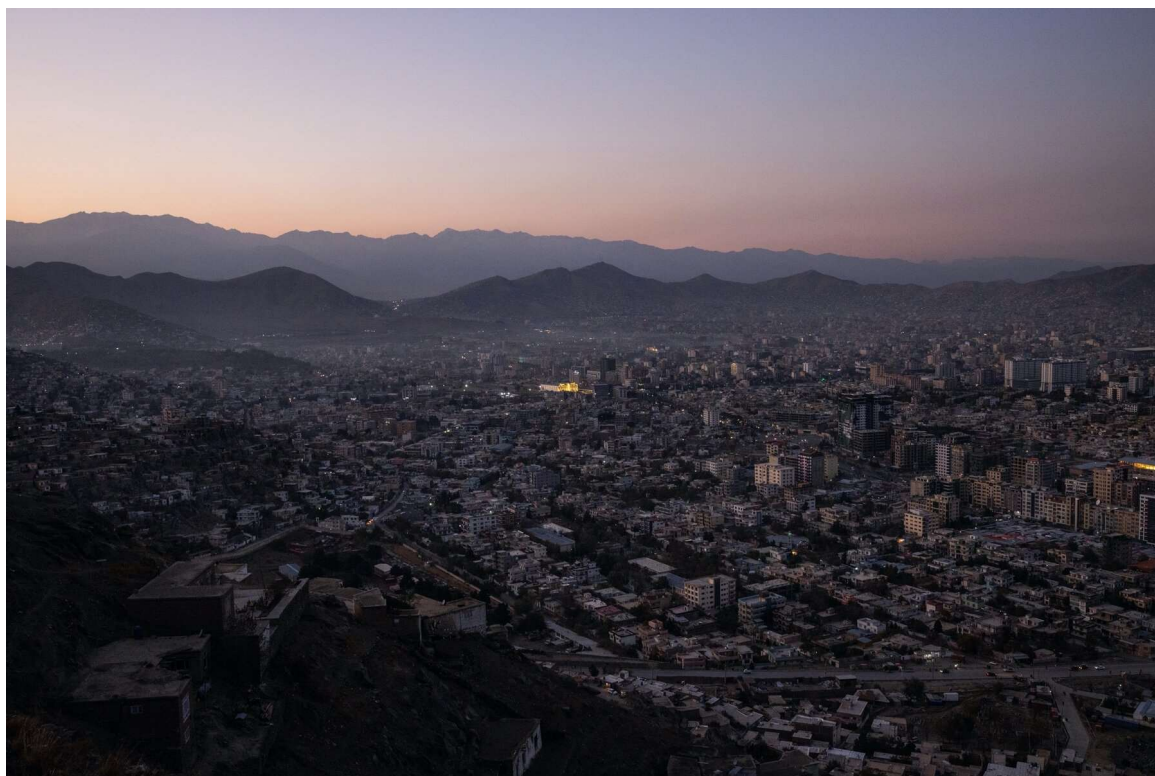
Figure 3 Minaret of Chakari (Buddhist pillar) in Kabul city (Dorn'eich, 1999).

МЕНЯЮТСЯ ОБЛИК КАБУЛА

Майванди отметил, что стиль и методы строительства новых зданий в Кабуле отражают эволюцию Афганистана в страну, раздираемую войной, но также наводненную иностранной помощью и растущим населением недавно разбогатевших людей. «Если вы исследуете политические, экономические реалии и динамику последних 20 лет, а также ситуацию в области безопасности, город во многом является отражением своего времени», — сказал он.

Первоначально Кабул был заполнен обнесенными стеной комплексами и домами, построенными вокруг дворов, с узкими проходами, ведущими к базарам, мечетям и скверам. 1920-е годы ознаменовали новую эру при короле Аманулле-хане, который занялся реформированием архитектуры Афганистана и выступал за модернизированный, открытый город со сносом многих стен, объяснил архитектор Самим.

«Он не тронул старые части города. Но за это время был построен новый город, который сейчас считается старым», — сказал он. Новый строительный бум произошел после вторжения в Афганистан под руководством США в 2001 году, когда люди, бежавшие из страны во время правления Талибана, вернулись с деньгами для инвестиций.



Inside the Fall of Kabul

В связи с большим притоком людей в город дома на одну семью уступили место зданиям, в которых проживают десятки, а иногда даже сотни семей. По данным ООН-Хабитат, до 80% городских жителей живут в неформальных кварталах, и отсутствие безопасности заставляет еще больше людей перебираться в города. «Большинство новых зданий не изолированы и не энергоэффективны, в то время как старые здания были построены так, чтобы выдерживать суровые погодные условия жаркого лета и холодной зимы», — сказал Самим. Несколько домовладельцев в Кабуле рассказали Фонду Thomson Reuters, что когда строятся новые многоквартирные дома, они часто возвышаются над старыми домами в этом районе, вторгаясь в их частную жизнь.

По их словам, это побудило некоторые семьи продать свои дома. Семья Азими арендует один из своих домов, но она выразила надежду, что ее семья сможет сохранить дом, в котором они сейчас живут.

Но они не могут избежать рывка Кабула в современность, сказала она. Новое высотное здание выросло прямо по соседству с ее домом, откуда теперь открывается вид на ее пышный, засаженный деревьями сад.



Commuters in Kabul make their way through traffic as construction laborers work on a road on Nov. 21

Муниципальные власти Кабула запустили амбициозную программу по улучшению жизни в городе с населением 7 миллионов человек, включающую активный сбор налогов, финансирующий дорожные работы, возведение общественных памятников и кампании по уборке.

Они также безжалостно очищали улицы от наркоманов и собирали нищих, чтобы отличать «профессионалов» от действительно нуждающихся.

4. Эволюция архитектуры города Кабул после 1880 года. Еще одна глава в эволюции архитектуры города Кабул открывается Амиром Абдуррахманом. Хан, пришедший к власти в 1880 году, и его царство просуществовало с 1880 по 1901 год. царствования, он построил свой собственный дворец – Дворец Баг-э-Бала (Дворец Верхнего сада) – в Моголове и Европейские стили архитектуры, отражающие его правление. После этого он построил еще один дворец, под названием «Арг» в стиле индийско-британской архитектуры в центре города, куда он перенес свой штат.

(Дюпри, 1977; Исса, 2006; Исса и Кохистани, 2007). Это было первое существенное отклонение от Традиционной и исламской архитектуры Афганистана в западном архитектурном стиле.

С началом правления Амира Абдур Рахман Хана стратегия проектирования строительства новой архитектуры была изменена.

а архитектурный дизайн считался эстетическим занятием, как во дворцах, стоящих позади

высокие стены в парковых ландшафтных садах. Усилия по модернизации также включали поиск в долговечности и новой практике защиты, необходимой для обработки обожженного кирпича и камня. Это также подразумевал отход от использования высушенного на солнце кирпича в однофасадных элементах традиционного афганского стиля.

архитектура (Дюпри, 1977). Король Амир Абдур Рахман Хан был заинтересован в разработке всех своих дворцов со среднеазиатской исламской архитектурой. Наиболее последовательно применявшимся планом был квадрат.

отдельно стоящее одноэтажное сооружение на цоколе, состоящее из центрального восьмиугольного зала с высокими куполами с квадратными комнатами на каждом углу, соединенными верандами с колоннадами (Дюпри, 1977). Размер города в 19 веке был таким же, и физическая структура города представляла собой большую часть элементы традиционного исламского города, такие как крепостные стены с контролируемые воротами и коммерческие базары и сериалы (Казими и Надзими, 2017). Во времена Амира Абдур Рахман Хана Царствование, новый город Кабул расширился, и король построил себе роскошные дворцы как Арг (цитадель), дворцы Баги-Бала и Чилсотун, а также базар Арг и несколько других роскошных здания. (Казими и Надзими, 2017). Амир Абдур Рахман Хан находился под влиянием Центральной Азии.

архитектурном стиле, и поэтому он строил богато украшенные дворцы внутри просторных садов с разработать архитектурные и ландшафтные схемы, чтобы провозгласить свое королевское положение.

Дворец Чилсотун

Дворец Чилсотун расположен у подножия горы Шер Дарваза. На основе исторического

Согласно документам, этот район считается форпостом войск Великих Моголов еще в шестнадцатом веке.

(Джодидио, 2017). Во время царствования Заман-шаха в 1796 году первоначальное здание было разрушено и перестроен во время правления короля Абдул Рахман-хана (1880-1901) (Н. Х. Дюпри, 1977; КМ, 2020).

Дворец также известен как дворцы Джахан Нама и Хендаки. Хабибулла Хан, а затем Захир

Хан, короли Афганистана, расширили дворец и построили его в четыре этажа (Джодидио, 2017).

Дворец Чилсотун (Сорок столпов) состоит из двух крытых и открытых садов, один из которых находится под открытым небом.

Площадь сада достигает 30 га. Фотографии павильона начала двадцатого века показывают

вытянутое прямолинейное здание (с одним круглым торцом), окруженное глубокой арочной верандой с сорок колонн, называемых чихил-ситун, построенных над рядом террасных платформ с видом на равнина Чарде. Недавно построенная королевская резиденция (Арг) в центре города, павильон оставался незанятым и иногда служил государственным гостевым домом. Во дворце представлено множество такие материалы, как мрамор, глина, цемент и железо. Большая часть города Кабул, особенно дворец Даруламан.

так как важный архитектурный памятник виден с террасы этого дворца (рис. 9).

Во время нескольких войн в Афганистане сад неоднократно разрушался и сейчас полностью разрушен.

был восстановлен в рамках программы Треста Ага Хана по культуре в 2015 году, а также реабилитирован Чихилситун Garden предоставляет пользователям высококачественные ландшафты и строительные пространства, способные вместить и содействовать богатым и разнообразным формам социального, культурного и экономического

самовыражения, проявляющимся в Афганистан (КМ, 2020). В архитектуре этого дворца разделены внутренний и открытый сады.

сплошная веранда вокруг здания и вытянутая прямолинейная плоскость — лишь иллюстрации Архитектурный стиль традиции Афганистана (Кала).



Рис. 9. Различные виды сада и дворца Чихилситун (Джодидио, 2017 г.).

Заключение: В этом исследовании была предпринята попытка осветить архитектурную эволюцию города Кабул на основе некоторых памятники архитектуры, зная, что оно не включает в себя все архитектурное наследие, которое еще не были обнаружены и уничтожены, начиная с первого века. Учитывая литературу и Результаты исследования показывают, что архитектурная эволюция в Кабуле указывает на важный поворотный момент в история как «доисламская» и «послеисламская» религия, включавшая в себя несколько типов архитектурных сооружений.стили. Архитектурные памятники, связанные с доисламским периодом, обычно относились к двум (Буддийская и гефалитская) цивилизации в городе Кабул. Важные представления предыдущего Исламская цивилизация в городе Кабул — это минареты Чакари, форт Бала-Хиссар и множество ступ в Тепе.Однако в Нарендже эти памятники практически разрушены. Архитектурные стили, связанные с послеисламским развитием города Кабул, в основном представляют Саманидов. Империи Газневидов, Тимуридов, Моголов, Гуридов и Хорасани в Афганистане, которые некоторые из их историческими памятниками являются Баг-е-Бабур, мавзолей Тимур-Шаха, мечеть Ид-Гах, спроектированные Традиционные и исламские стили архитектуры Афганистана. Эти архитектурные стили продолжались до создание Афганистана в 1747 году. Впоследствии, исходя из неподходящего состояния страны, Процесс архитектурной эволюции в Кабуле на некоторое время застопорился. После 1880 г., как крупномасштабные строительные работы в Кабуле возобновились, и под влиянием Запада появились новые были представлены архитектурные стили (как идеи модерна). С тех пор архитектурные стили Кабула Город, помимо традиционной архитектуры Афганистана, включает западную, исламскую и смесь их. Некоторыми важными примерами западного влияния на архитектурные стили являются Чилсотун, Баг- Дворцы э-Бала, Дарул Аман и мечеть Шах-э-До Шамшира.

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Последствия модернизации неформальных поселений в городе Кабул, Афганистан

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Абстракт:

Быстрая миграция и обширное расширение городов способствовали появлению крупных неформальных поселений в городе Кабул. Послевоенные беженцы, возвращение вынужденных переселенцев в город и сельская миграция являются некоторыми причинными факторами. Около 69 процентов населения города проживают в неформальных поселениях. Этот рост вместе с нестабильной ситуацией в области безопасности и ограниченными возможностями местных органов власти ошеломил муниципальные власти. Чтобы решить проблемы неформальных поселений в городе Кабул, правительство Афганистана при поддержке международных организаций недавно реализовало программу модернизации поселений. В настоящем документе основное внимание уделяется пониманию последствий этой программы модернизации и удовлетворенности ею жителей с использованием данных интервью, проведенных в районе Афшара города. Результаты показывают, что вмешательства в рамках программы были одномерными и часто были сосредоточены на физическом улучшении. Хотя это привело к улучшению жилищных условий, доступности и местной экономики в районе Афшара, оно не учитывает ключевые социальные, экономические и экологические проблемы. В дальнейшем в статье говорится о необходимости комплексной модернизации поселений, чтобы противостоять проблеме неформальных поселений в городе Кабул.

Ключевые слова:

Неформальные поселения, Модернизация городов, Улучшение домов, Кабул

1. Введение

Проблема неформальных поселений остается сложной задачей для городских властей и местных органов власти в развивающихся странах. Действительно, в наш век городов неформальность доминирует (Кудва, 2009), и, по оценкам, около одного миллиарда человек проживают в неформальных поселениях во всем мире. Такие поселения растут быстрее всего в странах Африки к югу от Сахары, Юго-Восточной и Западной Азии (Всемирный банк, 2016 г.). Таким образом, учитывая постоянную проблему неформальных поселений, они привлекают значительное внимание со стороны международных агентств, специалистов по планированию, ученых и гражданского общества.

С тех пор, как оно впервые появилось в 1950–60-х годах, произошел взрывной рост исследований городских неформальных поселений в различных академических дисциплинах, включая жилищное строительство и городское развитие. Это особенно верно в отношении модернизации неформальных поселений (UN Habitat, 2003; Balbo, 2001; Imparato & Ruster; 2003; Wegelin, 2004). Модернизация, которая сначала рассматривалась

как благоприятный вариант выселения/сноса неформальных территорий (Халифа, 2015), на базовом уровне касается улучшения физической среды поселения (Wekesa et al., 2011). Однако в ходе его развития стали интегрироваться физические, социальные, экономические и экологические улучшения, предпринимаемые совместно с местными жителями (Wekesa et al., 2011). Программы модернизации широко реализуются: от прямых международных и правительственных инициатив в конце 1970-х годов (Abbott, 2002) до программ на уровне сообществ с конца 1990-х годов (Weru, 2004; Galuszka, 2014). Таиланд, Филиппины, Пакистан, Кения, Южная Африка и Колумбия представляют собой лишь некоторые из этих стран, где такие программы были реализованы и проанализированы в научных работах. Действительно, многому можно научиться из кажущихся неудач (Gilbert, 2007) и успехов на местном уровне (Boonyabancha, 2005, 2009). В целом неформальность широко исследуется, но еще многое предстоит узнать (Кудва и Бенерия, 2005).

Несмотря на эти разнообразные исследования по модернизации, существует пробел в исследованиях по пониманию механизма модернизации и ее последствий в районах с уязвимой ситуацией в области безопасности и переживающих послевоенную урбанизацию. С этой целью понимание последствий программ модернизации послевоенных городских поселений будет способствовать богатому разнообразию текущих научных работ по этой теме. Это также улучшит существующие знания об улучшении условий неформального расселения в районах, которые почти не рассматриваются в городских исследованиях – районах с уязвимой ситуацией в плане безопасности и подвергающихся послевоенной урбанизации. В этом документе дается представление о реализации и эффектах национальной программы модернизации в городе Кабул. Город Кабул позволяет нам понять динамику программ модернизации в нестабильных городских сообществах с урбанизацией и ограниченным потенциалом местных органов власти. В данной статье основное внимание уделяется эффектам программ модернизации и удовлетворенности ими местных жителей. Он состоит из трех частей. Первый подчеркивает концептуальные нотки в производстве. Вторая часть посвящена программе модернизации, а третья часть посвящена влиянию модернизации на жилье, местную экономику и удовлетворенность жителей.

2. Концептуальная основа: неформальные поселения и модернизация
Неформальные поселения: эта терминология используется для описания широкого спектра поселений с низким доходом или плохими условиями жизни (UN Habitat, 2003). Это разнообразие часто подразумевает сложность, поскольку оно охватывает как прогрессивные поселения, характеризующиеся, как правило, незаконно построенными собственными силами структурами с определенным уровнем развития, так и приходящие в упадок районы, в которых экологические и бытовые услуги постоянно ухудшаются (UN Habitat, 2003). Его также называют «плохим» жильем или жильем, которое развивается вне порядка планирования (Gilbert, 2007; Okyere & Kita, 2015). Несмотря на обширные дебаты в научных кругах (Roy, 2011; Huchzermeyer, 2004; Davis, 2004; Okyere & Kita, 2015), неформальные поселения характеризуются такими характеристиками, как нерегулярное землевладение, самостоятельно построенное жилье и низкий уровень инфраструктуры (Lombard, 2014; ООН-Хабитат, 2003).

2.1. Улучшение поселения

Модернизация неформальных поселений обычно относится к любому отраслевому вмешательству, которое приводит к измеримому улучшению жизни людей (Abbott, 2002). Оно уходит корнями в работу ученого Джона Тернера, которого Всемирный банк продвигал в своем подходе к неформальным поселениям в 1970-х годах (World Bank, 1974; Lieberherr-Gardioli, 2006). Оно включает в себя обеспечение или улучшение базовой инфраструктуры и

услуг: водоснабжения и канализации, электричества, дренажа и дорог (Acioly, 2002; Menshawya et al., 2011) и, что более важно, легализацию и регулирование негарантированного землевладения (Imparato & Ruster, 2003).).

Несмотря на расходящиеся мнения о стратегии модернизации неформальных поселений (Смолка и Биддерман, 2011; Окьер и др., 2016), она пользуется большим предпочтением по сравнению со сносом (Дюран-Лассерв и Ройстон, 2002) — и доказала свою эффективность. полезны в комплексных мероприятиях по развитию под руководством сообщества (Hasan, 2006; Weru, 2004; Burra, 2005).

Важно подчеркнуть, что модернизация поселений перешла от основного исторического процесса физического развития к охвату экологических, институциональных и экономических мер (Wekesa et al., 2011). Опять же, были многочисленные случаи подобных мер по модернизации, проводимых общественными организациями и федерациями при определенном участии местных органов власти. В свете апатии, двойственности и минимального участия правительства, похоже, что модернизация под руководством сообщества получила широкое распространение (см. Weru, 2004).

Существует обширное хранилище литературы по модернизации неформальных поселений по всему миру, особенно в контексте развивающихся стран. Халифа (2015), например, рассмотрел эволюцию модернизации поселений с точки зрения изменений и политики в Египте. Другие (Weru, 2004; Abbott, 2002) рассматривали конкретные меры базового вмешательства в Кении и Южной Африке, указывая на кажущийся прогресс и проблемы. Более того, последствия модернизации с точки зрения гарантий владения, сплоченности сообщества и санитарии посредством программ на уровне сообществ существуют в Пакистане, Индии и Таиланде (Burra, 2005; Boonyabancha, 2005, 2009).

Несмотря на эти исследования, которые предоставили важную информацию о передовом опыте и эффективных механизмах урегулирования, в случае Афганистана опыта недостаточно. Модернизация в Афганистане началась совсем недавно, но знания о ее опыте и последствиях ограничены. Туркстра и Попал (2010) предоставляют полезную информацию о политике и процессе ее реализации в Афганистане, но при этом мало внимания уделяется последствиям и перспективам жителей. ООН-Хабитат, как городской аналитический центр, сыграла важную роль в неформальном урегулировании в Кабуле, включая модернизацию. Помимо этого и нескольких других отчетов международных агентств (например, JICA, 2011), мало что известно о модернизации неформальных поселений в Кабуле, где около 69 процентов города представляет собой неформальное жилье.

Учитывая новую политику правительства по расширению модернизации неформальных поселений в большинстве городов Афганистана, важно понять текущее состояние модернизированных территорий, чтобы извлечь уроки для новых программ. Таким образом, данная статья призвана внести свой вклад в знания о модернизации поселений в Афганистане путем анализа ее воздействия на жилье, местную экономику и удовлетворенность жителей мероприятиями по модернизации.

2.2. Город Кабул и развитие неформальных поселений

Город Кабул — столица и крупнейший город Афганистана, а также один из наиболее быстрорастущих городов Южной Азии. В настоящее время существуют некоторые проблемы с данными о численности населения города, отчасти из-за ситуации с безопасностью. Однако, по некоторым имеющимся оценкам, темпы роста населения города составляли 15 процентов в год с 1992 по 2002 год. В 2004 году общая численность населения города оценивалась в 3 миллиона жителей, что больше, чем 1,78 миллиона в 1999 году (Noori, 2010). В 2014 году в городе проживало около 6 миллионов человек (The Guardian, 2014; Beall & Esser, 2005).

Этот беспрецедентный рост городского населения объясняется недавним всплеском миграции в послевоенные годы. Миграция обеспечивает около 40 процентов прироста населения города (Noori, 2010). Ситуация усилилась с 2001 года, после падения режима Талибана.

В миграционных тенденциях можно отметить два выраженных процесса. Во-первых, люди в подавляющем большинстве мигрировали из сельских районов в Кабул в поисках работы и других экономических возможностей. Во-вторых, в Кабул вернулись вынужденные переселенцы и афганские беженцы, уехавшие в соседние страны в годы конфликта. Таким образом, рост населения привел к расширению городов, даже в холмистой местности, где экологическая уязвимость высока.

Таким образом, быстрый рост населения и расширение городов остаются огромной проблемой для местных органов власти в Кабуле. Неспособность рынка удовлетворить спрос на жилье, ограниченные возможности планирования и неконтролируемое развитие привели к тому, что неформальное освоение земли и жилья стало определяющей чертой городского расширения в Кабуле. Примерно 69 процентов запланированной площади города занимают неформальные поселения (Всемирный банк, 2005 г.; Муниципалитет города Кабул, 2008 г.). Около 2,44 миллиона жителей проживают в неформальных поселениях (Всемирный банк, 2005 г.). Таким образом, неформальные поселения широко распространены и обширны.

Кроме того, конфликты, нестабильность, отсутствие безопасности в городах и общая хрупкая политическая, экономическая и социальная ситуация повлияли на реализацию генерального плана города, подготовленного в 1978 году. По состоянию на 2002 год было реализовано только 20 процентов генерального плана (Хабиб, 2001; Виаро, 2004 г.; JICA, 2011 г.). Опять же, территории, отведенные для охраны окружающей среды, безопасности, отдыха, а также неосвоенные территории были захвачены и проданы мигрантам с низкими доходами. Эти районы обычно страдают от отсутствия или доступа к инфраструктуре, такой как канализационная система и служба утилизации твердых отходов, а также от недостаточного доступа к общественным услугам, таким как парки и игровые площадки. Самое главное, что многие жители не имеют прав собственности на земли, которые они занимают. В Кабуле неформальные поселения называются «Зорабад», что буквально переводится как «земля, захваченная силой». Это относится к районам, где люди захватывали государственные и государственные земли и продавали их другим или строили свои дома, не запрашивая официального разрешения. Официальные критерии заключаются в том, что дома: 1) находятся в нарушении генерального плана Кабула и 2) не отвечают формальным требованиям для доступа к земле (Гебремедин, 2005). Неформальные поселения в Кабуле сложны и разнообразны во многих отношениях, таких как их физическая форма, уязвимость, местоположение и социально-экономические характеристики жителей.

Подробное описание неформальных поселений города Кабул было проанализировано в более раннем исследовании, поэтому повторение здесь не представляется излишним (см. Назире и Кита, 2016). При этом такие поселения в Кабуле вмещают широкий круг социально-экономических групп населения. Плотность поселений варьируется от низкой до высокой и расположена в центре города или на окраине города. Кроме того, некоторые дома больше, чем в формальных районах, и в них разный состав как бедных, так и богатых (Bertaud, 2005).

Как и многие поселения в развивающихся странах, неформальные поселения предлагают жителям с низкими доходами «право на город», даже несмотря на то, что они страдают от недостаточного доступа к инфраструктуре, общественным объектам, а также подвержены наводнениям и другим стихийным бедствиям (около 9,8% неформальных домов).

2.3. Обзор модернизации неформальных поселений в Кабуле

В попытке противостоять растущему расширению неформальных поселений в Кабуле правительство Афганистана при поддержке международных агентств по оказанию помощи (ООН-Хабитат, Всемирный банк и т. д.) ввело программы модернизации, основанные на широком участии населения. Рассматриваемая как «человеческий процесс», программа направлена на содействие лидерству сообщества и контролю над мероприятиями при технической помощи со стороны муниципалитетов. Программа модернизации сосредоточена на улучшении инфраструктуры, обеспечении землевладения и сохранении исторических районов.

Программа организована на трех основных уровнях: местном, муниципальном и национальном. На уровне сообщества семьи и жители образуют «советы развития сообщества» (CDC) и несут ответственность за разработку, реализацию и обслуживание проектов (например, дорог, дренажей и открытых пространств). Такие города, как Кабул, на муниципальном уровне разрабатывают стратегии развития и обучают свой персонал работе с местными жителями. Национальный уровень включает в себя стратегии, законы и политику, которые поддерживают и укрепляют процессы модернизации на местном уровне. Программа модернизации Кабула состоит из пяти этапов, включающих пятнадцать стратегических шагов (рис. 1). С момента его введения в 2005 году некоторые районы были модернизированы. Это включало общественные консультации (в основном состоящие из мужчин) для обсуждения приоритетов района. Сообщества в форме CDC внесли 10–15 процентов стоимости проекта. Программа также признала право каждого домохозяйства на гарантию владения, доступ к государственным услугам и участие.

3. Методология исследования

Это исследование проводилось в районе Афшара, расположенном в округе 5 (D5) города Кабул (рис. 2). Население этого района составляет около 320 000 человек (оценка 2012 года). Большинство неформальных поселений в этом районе расположены на равнинах и сельскохозяйственных землях, а некоторые расположены на склонах гор. В основном благоустроены территории, расположенные на равнине. Район Афшар, один из модернизированных районов, был намеренно выбран для данного исследования по ряду причин. Во-первых, по сравнению с другими неформальными районами, которые были модернизированы недавно, район Афшара модернизировался в течение последних пяти лет, что дает достаточно времени для анализа последствий. Во-вторых, земля расположена на равнинной территории по сравнению с другими неформальными участками, что значительно облегчило доступ к ней.

дома и опросить жильцов. В-третьих, согласие или сотрудничество жильцов на обследование их дома (поскольку большинство людей не желают обследовать свои дома в городе Кабул по соображениям безопасности). В-четвертых, расположение этого района близко к центральной части города, что является предпочтительным с точки зрения безопасности и безопасности в городе Кабул.

Полуструктурированные интервью были проведены в 94 домах в одном районе Афшара. В некоторых домах было более одного домохозяйства, в каждом из 94 домов был выбран один глава домохозяйства. Чтобы обеспечить лучшее понимание респондентами до и после модернизации, были опрошены жители, которые оставались в доме дольше всех. Все респонденты были мужчинами, в соответствии с местной культурой, где мужчины обязаны предоставлять такую информацию. В тех случаях, когда контактировали с женщинами, исследователей направляли к главе домохозяйства-мужчине. В отсутствие главы семьи в качестве представителя выбирался один взрослый мужчина. Анкета была

разработана для получения информации о; характеристики домов и жильцов, благоустройство домов и районов до и после модернизации, мнение и опыт респондента о влиянии модернизации и удовлетворенности физической средой в этом районе. Кроме того, наблюдение за территорией и фотографии использовались для определения мер по модернизации и их последствий. Для анализа данных использовался контент-анализ и частота. Кроме того, были проведены интервью с представителями муниципалитета Кабула, Министерства городского развития и советов общественного развития. Это позволило провести триангуляцию, а также понять механизмы процесса модернизации.

4. Результаты и обсуждение.

4.1. Характеристики жителей и района исследования

Средний срок проживания в этом районе составляет около 18 лет, что дает достаточный период, чтобы понять условия до и после программы модернизации. Большинство жителей были собственниками (88%), по сравнению с арендатором (12%) (табл. 1). Что касается занятости, то только 81 процент респондентов были безработными. Более половины респондентов занимались индивидуальными частными предприятиями (59%), что подтверждает более ранние исследования неформальных поселений (Okyere & Kita, 2016; Ojong, 2011; Jabeen, Johnson, & Allen, 2010). Однако целых 31 процент респондентов в неформальных сферах были заняты в государственном и корпоративном секторах, что подтверждает недавние наблюдения на Ближнем Востоке и в Азии о том, что существует переплетение формальных и неформальных отношений, в которых работники формального сектора могут быть заняты. встречаются в неформальных поселениях (Аль-Сайяд, 2004; Рой, 2005, 2011).

По структуре жилья большинство домов были одноэтажными (54%), за ними следовали двухэтажные (30%), трехэтажные (11%) и четырехэтажные (5%). Размеры участков были довольно большими: от 300 до 700 м². Что касается строительных материалов, то около 66 домов имели деревянную крышу и стены из высушенного на солнце кирпича. Остальные дома были построены из бетона и стен из жженого кирпича. Обычно при строительстве домов жители полагаются на местные материалы, которые дешевы и легко доступны. Однако это также влияет на качество жилья. Исследование показало, что основными мероприятиями по благоустройству территории были мощение улиц и строительство дренажных сооружений, направленных на улучшение физического состояния территории. Кроме того, во все дома района проведено электричество. Таким образом, программа модернизации этого района была минимальной и физически ориентированной. Причина этого, как выяснилось в ходе институциональных интервью, связана с финансовыми ограничениями и поэтапным характером программы модернизации. Другими словами, город применил «поэтапный подход» к реализации. Учитывая эволюцию программ модернизации с целью принятия комплексного подхода, который учитывает физические, социальные, рекреационные, экологические, экономические и институциональные аспекты, можно утверждать, что случай Афшара является базовым, ему не хватает интеграции и не удастся принять комплексный взгляд на ситуацию в Афганистане. улучшение неформальных поселений.

4.2. Эффект обновления

Исследование также стремилось понять последствия программы модернизации в неформальной зоне Афшара. Это учитывалось с точки зрения улучшения жилья, доступности и местной экономики (малый бизнес и магазины). Чтобы определить последствия программы модернизации, респондентам были предоставлены два временных интервала: с 2002 по 2012 год и с 2012 по 2016 год. 2012 год был контрольной точкой с момента

модернизации поселения в 2012 году. понять ситуацию до и после и, таким образом, проанализировать последствия.

Несмотря на минимальную реализацию программы, жители отметили некоторые положительные эффекты программы модернизации в их поселении. Следовательно, этот раздел посвящен пониманию этих эффектов в свете результатов опроса.

4.2.1. Влияние модернизации на улучшение домов

Одной из важнейших инициатив в модернизации неформальных поселений является жилье, особенно с точки зрения качества. Интервью с жителями показали, что программа модернизации города не предусматривала какой-либо конкретной поддержки по улучшению жилья. Благоустройство жилья было выполнено самими жителями. Как показано на Рисунке 3, до модернизации (2002-2012 гг.) никаких существенных мероприятий по улучшению качества жилья не проводилось. Время от времени проводились ремонтные и расширенные работы для устранения мелких проблем, таких как трещины и повреждения, а также пристройки домов для увеличения размера домохозяйства. С другой стороны, после благоустройства территорий (2012-2016 гг.) произошли существенные изменения в благоустройстве жилья (рис. 4). Доля жителей, сделавших ремонт в своих домах, увеличилась с 22 процентов до 60 процентов. Из них большинство отремонтировали свои дома (36,2 %) или отремонтировали и пристроили дополнительные этажи к существующему дому (7,4 %). Остальные полностью реконструировали свои дома (16%).

4.2.4. Удовлетворенность и восприятие перемен в районе

В данной части статьи основное внимание уделяется комплексному влиянию благоустройства дома, доступности поверхности и местной экономической деятельности на удовлетворенность жителей модернизацией поселения. Жителям было предложено выбрать удовлетворенных или неудовлетворенных в зависимости от физических улучшений, доступности, а также наличия магазинов и других коммерческих услуг. По результатам 91 процент опрошенных жителей были удовлетворены улучшениями и текущими условиями в поселке (**Рисунок 11**).



Рисунок 9. Новые магазины в новых многоэтажных домах. Авторский снимок, 2016 год.



Рисунок 10. Новые магазины вдоль благоустроенных дорог Собственный снимок 2016г.

Те, кто остался доволен, утверждают, что внешний вид поселения значительно улучшился благодаря внедрению дренажных сооружений, канализации, дорожного покрытия и индивидуальным усилиям по улучшению физического состояния их домов. Причины такого положительного опыта связаны с улучшением доступности и снижением стоимости проезда в такси (55,3%), улучшением окружающей среды (21,3%), наличием нового социального пространства. чтобы дети играли, а взрослые болтали (17%), а также новые магазины и коммерческая деятельность, которая улучшила доступ к основным товарам и услугам (6,4%) (Таблица 2).

С другой стороны, некоторые жители (8%) остались недовольны модернизацией по нескольким причинам. Двумя основными причинами было отсутствие общественных или открытых пространств для отдыха и социальных объектов, таких как парки и детские площадки, школы и другие. Жители жаловались на отсутствие открытых пространств для отдыха, что, по их мнению, важно для улучшения социальных связей и повышения безопасности в этом районе. Несмотря на то, что доступность улучшилась, респонденты утверждали, что отсутствие улучшенной воды и удобств повлияло на их общее впечатление и комфорт в этом районе. Это связано с тем, что большинство жителей по-прежнему зависят от вырытых вручную колодцев, которые не всегда надежны. Обоснование недовольства респондента указывает на ограниченный характер программы модернизации, которая была сосредоточена на физических улучшениях без адекватных мер по улучшению общественных объектов, которые могут способствовать социальным и экологическим улучшениям в районе Афшара. Это противоречит общей государственной политике комплексной модернизации неформальных поселений, которой в случае с Афшаром не существует.

Заключение:

В настоящее время город Кабул сталкивается с непростой задачей решения проблемы городской неформальности. Нестабильная ситуация с безопасностью, послевоенная быстрая миграция и урбанизация городов, захват земель и ограниченные возможности правительства обеспечить доступное жилье привели к тому, что неформальные поселения стали основой проживания большинства городских жителей Кабула. В ответ правительство Афганистана при поддержке международных агентств развития реализовало программу модернизации поселений. В этом исследовании была

предпринята попытка понять правительственную программу модернизации и ее влияние на район Афшар в городе Кабул.

Исследование позволяет сделать два фундаментальных вывода. Во-первых, программа модернизации в Кабуле ограничена, носит частичный характер и сосредоточена на физических улучшениях. Таким образом, основными вмешательствами были дренаж, тротуары, канализация и другие. Таким образом, проекту не хватает необходимой интеграции, которая характерна для недавних инноваций в модернизации в соседних странах, таких как Пакистан и Индия. Во-вторых, программы модернизации стимулировали улучшение индивидуальных домов, инвестиции в местную экономическую деятельность, а также улучшение транспортной доступности и социального использования улиц. Это показывает, что, несмотря на свои ограничения, модернизация по-прежнему полезна как стратегия улучшения неформальных поселений. Предыдущие обсуждения указывают на необходимость критического переосмысления мероприятий по модернизации города Кабул и других городов Афганистана. Это демонстрирует необходимость учитывать все аспекты жизни в неформальных поселениях: социальные, экономические, экологические, институциональные и пространственные. Существует также необходимость наращивания потенциала местных органов власти для повышения эффективности этих мер. Это также требует необходимости поощрять совместное и совместное планирование, имеющее решающее значение для содействия миру и гармонии. Тот факт, что в поселении ограничено пространство для открытых пространств, указывает на необходимость проведения экспериментов по переустройству земель в этом районе и необходимости преобразования существующих построек в общественные места, такие как парк и игровая площадка. Продолжаются дискуссии о реорганизации земель, и результаты этого исследования еще больше подтверждают его значимость.

Заглядывая в будущее, необходимы дальнейшие исследования, чтобы всесторонне понять социально-пространственную и политическую структуру неформальных поселений в городе Кабул и то, как можно разработать стратегии под руководством сообщества для продвижения мер вмешательства на местном уровне. Тогда в будущем следует обратить внимание на роль гражданского общества и общественных организаций в модернизации неформальных поселений. Это будет полезно для пространственного и социального развития неформальных территорий, а также для содействия миру и безопасности.

Конфликт интересов

Авторы заявляют никакого конфликта интересов.

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БІЛІМ БЕРУДЕ БІЛІМГЕРЛЕРДІҢ КРЕАТИВТІЛІК ОЙЛАУЫН ДАМУЫ

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Аңдатпа. Мақала оқу үдерісінде креативтілік ойлау тұжырымдамасын зерттеуге арналған, оның негізінде оқушылардың мәселелерді шешудегі дүниетанымы туралы қарастырылады. Тұжырымдаманың негізгі компоненттері және оларды әртүрлі зерттеушілердің теориялық және эксперименттік зерттеулерінің нәтижелері бойынша түсіндіру ұсынылған. Кейбір зерттеушілер адамның креативтілік оның нәтижелерімен немесе жетістіктерімен байланыстырады, ал басқа ғалымдар креативтілікті жаңа және ерекше жарықта көру және мәселелердің бірегей шешімдерін табу деп түсіндіреді.

Кілт сөздер: креативтілік ойлау, ойлау икемділігі, зерттеу, тұлға, дарынды студент.

КІРІСПЕ

Қазіргі уақытта білім саласының әлемдік кеңестікке ену жағдайында елімізде білім берудің өзіндік ұлттық үлгісі қалыптасуда. Білім беру мазмұнын жаңарту жағдайында бірінші орынға жеке тұлғаның білім алу арқылы оның интеллектуалдық әлеуеті мен шығармашылық дағдысының өз дәрежесінде дамуын мақсат етіп қойып отыр. Себебі, қазіргі кездегі нарықтық жағдайда әр саладағы бәсекеге қабілетті, кәсіби дайындығы жоғары, интеллектуалды жастар ғана ел егемендігін баянды етіп, кез келген саласындағы мәселелерді креативтілікпен игеру арқылы қоғамның әлеуметтік-экономикалық дамуына елеулі үлес қоса алады.

Ел Президенті Қ.Тоқаевтың «Сындарлы қоғамдық диалог – Қазақстанның тұрақтылығы мен өркендеуінің негізі» Жолдауында білім беру сапасын жақсарту бағытындағы мәселелерге ерекше тоқталды, оның ішінде ең басты мәселе адам капиталын дамыту мақсатында ерекшелік білім беру, өскелең ұрпақтың спорттық және шығармашылық әлеуетіне аса назар аудару қажеттілігін, сонымен қатар аумалы-өтпелі заманда балалардың күш-жігері мен қызығушылығын дұрыс арнаға бағыттау маңыздылығын ерекше атап өтті [1].

Бұл міндеттерді жүзеге асыру еліміздегі мектептерде оқу-тәрбиелеу үдерісінің мазмұндық болмысына жаңа әдіснамалық тұрғыдан негіздеуді талап етеді. Мұндай жаңа әдіснамалық жүйе дәстүрлі оқу-тәрбие үдерісін түбегейлі өзгертудің қажеттігін көрсетіп, білім берудің шығармашылық қызметін дамытып, білім мазмұнының ұлттық негізде берілуін жаңа өркениеттік бағдар тұрғысынан жетілдіруді қарастырады.

Демек, еліміздің ілгері дамуын қамтамасыз ететін білім саласы болғандықтан, дайын білімді қайталайтын ғана емес, шығармашылық бағытта жұмыс істейтін, тың жаңалықтар ашатын, біртума ойлау қабілетімен ерекшеленетін жеке тұлға қалыптастыру керек. Бұл,

әріне, жеке тұлғаның креативтілігін қалыптастыру мен дамыту маңызды мәселе екендігін дәлелдейді.

Қазіргі білім берудің негізгі мақсаты-оқытушыдан білімгерге білім, дағдыларды нәтижелі түрде жеткізу ғана емес, сонымен қатар білімгердің оқу мәселесін өз бетінше баяндау, оны шешу алгоритмін тұжырымдау, процесті бақылау және нәтижені бағалау қабілеттерін толыққанды дамытуды қалыптастыру, қысқаша айтқанда, қалай үйренуге болатындығын үйрету. Елдің білім беру жүйесінің алдында өмір бойы оқуға деген ұмтылысы болатын мобильді өзін-өзі жүзеге асыратын тұлғаны құру және дамыту бойынша күрделі міндет тұр. Тиісінше, білімгердің жеке басының даму идеяларын ескере отырып, білім беру процесінің міндеттері мен шарттары түзетіледі.

Гилфорд креативтілікті көп мақсатты когнитивті-креативтілік қабілет ретінде анықтайды, оның төрт негізгі сипаттамасын атап көрсетеді: еркін сөйлеу, икемділік, дәлдік және өзіндік ерекшелік [2].

Торранс Гилфордтың идеяларын жалғастыра және дамыта отырып, шығармашылықты проблемаларға сезімталдық, білімнің жетіспеушілігі, дисгармония, жауаптар мен шешімдерді іздеу, гипотеза жасау, оларды тексеру және нәтижелерді қалыптастыру процесі ретінде анықтайды [3]. Маслоу жеке тұлғаның қажеттіліктеріне байланысты креативтілікті қарастырады: сұраныс деңгейі неғұрлым жоғары болса, креативтілік соғұрлым жоғары болады. Креативтілік әр адамға тән, бірақ көптеген адамдар оны әртүрлі факторлардың әсерінен жоғалтады [4].

Жеке тұлғаның креативтілігі, өзіндік жұмыс істеу шеберлігі мен дағдылары өзінен-өзі пайда болмайды, ол мақсатты оқу қызметі мен шығармашылық, практикалық сипаттағы әр түрлі тапсырмаларды, дербес жұмыстарды орындау үдерісінде қалыптасады.

Креативтілік - күрделі үдеріс, өйткені жеке тұлға өзінің іс-әрекетінде оның мақсатын сезінеді, міндет қояды және оның шешімін іздейді. Сонымен бірге аталмыш үдерісте ішкі түйсіктің де, елестетудің де, қиялдың да орны ерекше. Креативтілік тұрғыдан кез келген мәселелерді шешу: қуану, қанағаттану, тілек және т.б. ішкі сезімдермен байланысты болады [5].

Әдетте, тұлғаның креативтілігінің дамуы мектеп жасында анық көрініс береді. Мектеп жасы, яғни оқушылық кезең – психофизиологиялық функциялардың жан-жақты даму кезеңі. Бұл кезеңде, білімгерлердің қоршаған орта құбылыстарына баға беруге көзқарасы қалыптасып дағдыланады, өзгелерге сын айта білу деңгейіне көтеріледі, танымдық қызығушылығы, зерттеушілік ізденімпаздық белсенділігі артады, креативтілік іс-әрекетке қабілеттілігі туындайды.

ЗЕРТТЕУ ӘДІСТЕРІ

Әдістер: онлайн білім беру әлемінде креативті ойлау идеяларды қалыптастыруға (онлайн курстар үшін, онлайн мектептерді дамыту үшін), вебинарлар үшін тривиальды емес және тиімді тапсырмаларды ойлап табуға мүмкіндік береді. Қысқаша айтқанда, креативтілік ойлау сізге бәсекелестіктен ерекшеленуге және нарықта танымал болуға көмектеседі.

Тривиальды емес ойлау әдетін дамыту үшін қандай механика мен әдістерді қолдануға болатынын қарастырайық.

- Өзгеру қабілеті негізгі құндылыққа айналады. Бұрын үлкен көлемдегі ақпаратты есте сақтау және сақтау қабілеті бағаланған, бірақ бүгінде бұл дағды табысқа жетуге көмектеспейді. Кез-келген деректерді желіден бірнеше минут ішінде табуға болатын кезде ақпаратты басыңызда ұстаудың қажеті жоқ. Икемділік, өзгеру қабілеті және қол жеткізгенде әлдеқайда құнды. Өмір бойы үйрену және қайта үйрену, өзгерістердің бір бөлігі болу табысқа жетудің негізіне айналады.

- Қысқа мерзімді жады ұзақ мерзімді жадтан басым. Қазіргі уақытта ойлау қабілеті ескі үлгілерді есте сақтаудан маңыздырақ. Ұзақ мерзімді жад бұрын жұмыс істеген алгоритмдерді ұсынады және адам оларды қазіргі жағдайға қолдануға тырысады. Бірақ әлем соншалықты жылдамдықпен өзгеріп отырады, сондықтан әрекет етудің және ойлаудың дәлелденген тәсілдері өзекті болуды тез тоқтатады.

- Твит-ойлау. Адам үлкен мәтіндерді нашар есте сақтайды және түсінеді. Артықшылық үзінділерге бөлінген мазмұнға ие болады-мысалы, қазіргі микрооқыту жалпы жарыста жетекші орын алуда. Демек, қазіргі әлемнің бұрыннан таныс өнер әлемінде қайта-қайта кездескенді ұнатады және басқа шындықты түсінуге уақыт жұмсамайды.

- Қиялдаудың аз болуы немесе аса көп қолданылмауын ескерсек. Адамдар креативтілік белсенділікті қажет ететін мазмұнды аз пайдаланады (классикалық музыка, кітаптар). Бұл нәрселер жоғары деңгейдегі компьютерлік ойындармен ауыстырылды, мұнда ойыншы енді кейіпкерлердің қалай көрінетіні туралы ойланудың қажеті жоқ - бәрі ол үшін ойлап табылды. Осылайша, қазіргі әлем икемділікті қажет етеді, бірақ сонымен бірге ол адамдардың креативтілік ойлауын дамытуға мүдделі емес. Бұл өз қабілеттерін барынша пайдаланғысы келетін кез келген адамға өз бетінше жұмыс істеу үшін қалуында болып табылады.

Креативтілік-бұл дәстүрлі немесе жалпы қабылданған ойлау үлгілерінен ауытқып, дарындылық құрылымына тәуелсіз фактор ретінде енетін түбегейлі жаңа идеяларды зерттеуге дайын болуымен сипатталатын жеке тұлғаның қабілеті.

Креативтіліктің негізгі компоненттері [6]

1. Еркін ойлау;
2. Ойлаудың икемділігі;
3. Өзіндік ерекшелігі;
4. Қызығушылық;
5. Гипотеза жасау қабілеті;
6. Қанағаттану.

Көптеген теориялық және эксперименттік зерттеулерге қарамастан, креативтілікті дамыту мәселесі әлі де қосымша зерттеуді қажет етеді, өйткені белгілі тұжырымдамаларда феноменологияға, креативтілік тұлғаның қасиеттерін жіктеуге бірыңғай көзқарас жоқ. Демек, негізгі ұғымдарды жалпылау және креативтілікті дамытудың маңызды факторларын анықтау үшін креативтілік туралы ғылыми білімді жүйелі түрде талдау қажет.

Психологтар "креативтілік"терминінің бірыңғай анықтамасын тұжырымдай алмайды. Алайда, олардың көпшілігі креативтілікті жаңа және ерекше жарықта көру және проблемалардың ерекше шешімдерін табу деп түсіндіріледі. Креативтілік-бұл стереотиптік ойлауға мүлдем қарама-қайшы (әр түрлі мәселелерге бірдей көзқарастың ықтимал шешімдері мен тенденцияларын іздеу кезінде шектеулі таңдау). Бұл қарапайым идеялардан таныс көзқарастан алшақтатады және түпнұсқа шешімдерді тұдырады. Креативті ойлау процесін қызықты етеді және таныс мәселелердің жаңа шешімдерін табуға көмектеседі [7].

Осылайша, креативтілік процестің өзіндік ерекшеліктері бар және әртүрлі қызмет пен білім салаларына тән. Жалпы, креативтілік мәселесімен айналысатын зерттеушілер мен ғалымдар жүргізген зерттеулердің деректері креативтілік процестің басқа танымдық процестерге (ойлау, есте сақтау, қиял), сондай-ақ олардың даму деңгейі мен жеке ерекшеліктеріне және креативтілік қызмет саласына тәуелділігін көрсетеді.

ТАЛДАУ ЖӘНЕ НӘТИЖЕЛЕРІ

Креативті ойлау мәселесі бойынша шетелдік зерттеулерді талдай және қорытындылай келе, келесі қорытынды жасауға болады. Ең алдымен, креативтілік ойлау қолданыстағы білім жүйесінен тыс түбегейлі жаңа нәрсе жасайтын өнімді ойлау ретінде

қарастырылады. Оның мазмұны мен құрылымын анықтайтын креативтілік ойлаудың негізгі қасиеттері: еркін сөйлеу, икемділік, өзіндік ерекшелік, пысықтау.

Кейбір зерттеушілер адамның креативтілігін бағалау кезінде олардың нәтижелеріне немесе жетістіктеріне сүйенеді. Олар өнертабыстар, өнер туындылары немесе музыкалық шығармалар жасау сияқты әлеуметтік құнды нәтижелерді креативтілік белгілері ретінде қарастырады. Жетістіктер мен креативтіліктің арасында байланыс болғанымен, Баррон мен Харрингтон оның өте әлсіз екенін анықтады [8].

Креативті ойлаудың маңызды шарты-баламалы тәсілдер мен көзқарастарды ескеруге дайын болу. Креативтілікті дамыту сәттіліктің мысалдарын үнемі іздеуді, сондай-ақ қызықты және әртүрлі адамдармен қарым-қатынасты білдіреді. Олардың кейбіреулері ыңғайсыздық тудырса да, олардың ойларын түсінуге тырысуымыз керек. Бұл белгілі бір жетістікке жеткендерден көп нәрсені үйренуге мүмкіндік береді.

Осылайша, адамға салыстырмалы тәуелсіздік, еркіндік беру, жеке адамға деген құрмет және шамадан тыс талапшылдықтың болмауы оның отбасында креативтілік қабілеттерін дамытуға қолайлы жағдайлар болып табылады.

Бірқатар авторлар креативтіліктің дамуына ықпал ететін басқа факторларды анықтады:

- креативтілік ересектермен қарым-қатынастың кең ауқымы тудыру нәтижесімен;
- модель рөлін атқаратын ересек орта арқылы креативтілік ойлауларын қалыптастыру;

- ата-ана мен бала арасындағы қарым-қатынастың демократиялық стилі;
- баланың өзін эмоционалды түрде білдіруіне мүмкіндік берілумен;
- ересектердің белсенді, бос емес позициясы;
- білімгерлерді өз бетінше жұмыс істеуге ерте тарту;
- әр түрлі қызығушылық үйірмелеріне қатысу арқылы креативтілікпен таныстыру;
- жеке тәжірибе, саяхат арқылы бақыт ұғымымен танысу;
- білімгердің зерттеу қызметіне оң көзқарастарын қалыптастыру.

Көптеген зерттеулерге сәйкес, "идеалды білімгердің" тұлғасы шығармашылық тұлғаның сипаттамаларына қарама-қарсы болып келеді [9]. Мұғалімдер жұмыс істегісі келетін білімгердің жалпыланған портреті келесідей: ізденімпаз, ақылды, ойлы, көпшіл, шынайы, мейірімді, ұйымшыл, тәртіпті, өнертапқыш. Жоғарыда аталған барлық нәтижелерді бір ерекшелік біріктіретінін байқау қиын емес - мұғалімнің "барлық көрнекті адамдардың ең жалпы сипаттамасын" жеткіліксіз бағдарлауы немесе бағаламауы - креативтілікке деген құштарлығы негізінде қалыптастыра аламыз [10]. Мұғалімдер жеке тұлғаның интеллектуалды сипаттамаларына ерекше назар аударады, оның білімі мен игерілуіне креативтілікке қарағанда көбірек көңіл бөле алатындығын айта аламыз.

Креативтілік адамға қоғамда қалыптасқан ережелерді сақтамауға көмектесетіндіктен, жеке тұлғаның бұрын бытыраңқы идеяларды біріктіруге мүмкіндігі бар.

Креативті ойлау туралы айтатын көптеген жалпылауға тырысқан қосымша ерекшеліктер мен кемшіліктер қосады.

Ал дәл креативтілік әртүрлі ғалымдар мен зерттеушілердің көзқарастарын тұжырымдағанда осылай көрсете аламыз:

- қабілеттілік жасау зияткерлік креативтілік іс әрекеттің қызметі;
- жаңаны құру және түпнұсқаның өнімнің өзгеруіне әкеліп соғу;
- пайдалану шалғайдағы қауымдастықтардың;
- қабілеттілік қайта құрылымдау тұтас жүйесін;
- әдеттен тыс тәсілмен үйлестіру ақпаратты;
- дивергентті ойлауды пайдалану;
- диалектикалық ойлауды пайдалану;

- нәтиже немесе оның болмауымен болады байлау бастап тұлғайшілік қақтығыстармен болатын кемшіліктер;
- қабілеттілік шығу үшін шектеулер алынған нәтижелер бұрын білімді;
- қалыптасқан проблемалық мәселені барынша тез және тиімді шешуге мүмкіндік беретін дәстүрлі емес ойлау формаларын қолдану жағдайларды айта кетуіміз керек.

ҚОРЫТЫНДЫ

Қорытындылай келе, жоғарыда айтылғандардың барлығын ескере отырып, өкінішке орай, студенттердің шығармашылығын дамытуға бағытталған әрекеттер жақында басталды және қай әдістердің ең жақсы екендігі әлі белгісіз. Бірақ зерттеулер көрсеткендей, ата-аналар мен тәрбиешілер дәстүрлі академиялық пәндерден тыс креативтілік әрекеттерді ынталандыруда белсенді болуы керек. Мұндай қолдауды ұсыну (және мүмкіндігінше мамандардан оқыту) біздің болашақ инноваторларымыздың креативтілігін дамытуға көмектеседі.

Креативтілік ойлауды дамыту дегеніміз-талдау, синтез, салыстыру, жалпылау, нақтылау, жіктеу, жоспарлау, абстракциялау сияқты ойлау операцияларын қалыптастыру және жетілдіру, сонымен қатар сыни, тереңдік, икемділік, ендік, еркін сөйлеу, сезімталдық, өзгергіштік сияқты ойлау сипаттамаларына ие болу, ойлаудың өзіндік ерекшелігі, метафоралық, қиял, қанағаттану.

Креативтілік қабілеттерді өмірді жақсарту мақсатында жаңа қызықты идеялар жасау үшін ғана емес, сонымен бірге өзін-өзі жетілдіру және жалпы жеке даму үшін де қолдануға болады. Креативтілік белсенділік көп еңбекті, табандылық пен қызығушылықты қажет етеді.

Білім беру жүйесі бастама, инновация, креативтілік, ұтқырлық, икемділік, динамизм және конструктивтілік сияқты білімгерлердің жаңа қасиеттерін қалыптастыруға тиіс. Болашақ маман өмір бойы өзін-өзі тәрбиелеуге, жаңа технологияларды игеруге және оларды пайдалану мүмкіндіктерін түсінуге, тәуелсіз шешімдер қабылдауға, Әлеуметтік және болашақ кәсіби салаға бейімделуге, мәселелерді шешуге және топтада жұмыс істеуге ұмтылуы керек. Мұндай әлеуметтік және кәсіби белсенді тұлғаны тәрбиелеу қазіргі заманғы жоғары білім беру мұғалімдерінен мүлдем жаңа әдістерді, әдістерді және жұмыс формаларын қолдануды талап етеді. Қазіргі білімгерлердің танымдық, коммуникативтік және жеке белсенділігін дамытатын оқытудың белсенді әдістері мен технологияларын қолдану қажет: интерактивті семинарлар, пікірталастар, компьютерлік модельдеу, іскерлік және рөлдік ойындар, кейс-стади, психологиялық және басқа да тренингтер, топтық пікірталастар.

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Historical Sciences

LABOR CONFLICT WITH ETHNIC CONDITIONS AT THE TENGIZ FIELD OF ATYRAU REGION

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Abstract. The article deals with the conflict between Kazakh-Turkish workers in the Zhylyoy district of Atyrau region. Since Kazakhstan is a multinational state, the topic of ethnoconflictology is becoming relevant at the moment. In general, similar conflicts are repeated in other regions of the country. Therefore, this is one of the main problems facing our country. We have devoted this publication to the consideration of peaceful ways to solve this problem.

Key words: Kazakhstan, Atyrau region, Zhylyoy district, Kazakhs, Turks, Tengizchevroil, ethnic conflict.

Introduction

In general, conflicts between different ethnic groups are repeated not only in Kazakhstan, but also in other countries of the world. As a result of these interethnic conflicts, there are consequences such as human casualties and economic decline. That is why the prevention and resolution of interethnic conflicts is one of the urgent world problems. This is the relevance of this topic. In addition, one of the main tasks of the article is to find an answer to the question where the roots of this problem lie before thinking about ways to solve it.

We believe that in terms of the problem we are considering, it is necessary to show the ethno-demographic situation in the Atyrau region. Statistical materials of the 2009 National Population Census show the following numbers of main ethnic groups living in this area. For example, according to the 2009 census, Atyrau region had a total population of 510 377 people. Of these, kazakhs - 465033 (91,1%), russians – 33 617 (6,6%), koreans – 2 959 (0,6%), tatars – 2 304 (0,5%), uzbeks – 1 103 (0,2%), ukrainians – 815 (0,2%), germans – 471 (0,1%), azerbaijanis – 388 (0,1%), belarusians – 217 (0,04%), turks – 200 (0,04%), chechens – 164 (0,03%), kyrgyz – 159 (0,03%), uighurs – 83 (0,02%), poles – 36 (0,01%), tajiks – 32 (0,01%), kurds – 15 (0,00%), dungas – 8 (0,00%), other ethnic groups – 2 773 (0,5%) [1: 4]. They fully reflect the real ethnic situation, which is also typical for the other 16 regions of the Republic of Kazakhstan. In most of them there is a predominance of the indigenous Kazakh population. Some of them are distinguished by their multi-ethnic composition of the population.

The same predominance of the Kazakh ethnic group was recorded by the 2009 population census in the Zhylyoi district of the Atyrau region (see table 1).

Table 1. Ethnic composition of the population of Zhylyoy district of Atyrau region in 2009
[1: 11-12]

№	Ethnic groups	In total	
		abs.	%
1	Kazakhs	68 797	98,1
2	Russians	756	1,1
3	Tatars	214	0,3
4	Uzbeks	75	0,1
5	Koreans	47	0,1
6	Dargins	36	0,1
7	Qaraqalpaqs	28	0,04
8	Ukrainians	28	0,04
9	Chechens	26	0,04
10	Kyrgyz	20	0,03
11	Laks (Caucasus)	19	0,03
12	Germans	17	0,02
13	Turkmens	15	0,02
14	Other ethnic groups	52	0,1
	Total	70 156	100,0

The largest oil producing enterprise in Kazakhstan, Tengizchevroil, is located in this area. This field, discovered back in 1979, is one of the deepest and largest oil fields in the world. After the collapse of the former USSR and the formation of the independent Republic of Kazakhstan, this field was officially transferred in April 1993 to the Tengizchevroil Limited Liability Partnership for a period of 40 years. 75% of the shares went to the American companies «Chevron» and «ExxonMobil», 25% to the domestic «KazMunayGas» and 5% to the Dutch-Russian «Lukoil» [2; 3: 84-85].

If we look at the ethnic composition of skilled and unskilled workers at this field, 95% were Kazakhs, the rest were from near and far abroad countries, including Turkey. At the same time, in this field, as well as in others with the involvement of foreign capital, wages for local and foreign workers are unequal, in favor of foreign specialists and workers. Such a vicious established practice in remuneration exists everywhere not only in Kazakhstan, but also in other post-Soviet republics. This erroneous labor policy is fraught with great consequences, which can often lead to clashes between local and foreign workers. At the same time, any misunderstanding in the sphere of everyday work, everyday life, or the lack of a culture of interethnic communication can lead not only to labor, but also to ethnic conflict. It was precisely these objective and subjective factors that led to a serious labor conflict between Kazakh and Turkish oil workers at the Tengiz field.

It is clear that the above topic is not the first, but not the last interethnic conflict in Kazakhstan. The main task assigned to the leadership of both sides was to prevent further escalation of the incident. More precisely, not to harm peaceful relations between the two states. And the task set before the states is to instill in people such qualities as brotherhood. In addition, efforts should be made to improve the living conditions of the local population. The main factor that led to the beginning of the mentioned incident is the fact that the social and living standards of the local population are significantly lower than those of foreigners. Gross mistakes made by the company led to the complication of this event. In particular, this is the fact that the labor force of the local population is not evaluated and is not paid properly, and foreign workers are given too many advantages. One way to solve this problem is to reduce the difference between the wages and benefits of foreign workers and local workers.

If we turn to the beginning of the conflict, relevant publications about what happened were immediately written on Internet sites, in newspapers and magazines. In particular, it was published in the regional socio-political newspaper Atyrau and in the district newspaper Ken Zhyloy. Due to the lack of information on this complex topic, subjective opinions prevail over objective views. This can be attributed to the publications of the veteran of labor Utep Kumargaliev in the regional newspaper Ken zhyloy entitled «In order not to be ashamed of other nationalities» and the pensioner T. Zholdybaev «Anger is an enemy, reason is a friend», «Won't the brothers be friendly?». In general, it would be wrong to say that the ethnodemographic situation influenced the origin of the conflict.

Main part

This is not the first ethnic conflict at the field. In the spring of 2005, about 150 people took part in such a fight between Turkish and Kazakh workers, three were injured. Later, more than 30 workers were laid off. A year after this incident, in 2006, it was repeated among Kazakh-Turkish workers. On October 20, about 140 people were injured as a result of a fight between Kazakh and Turkish workers of one of the construction contractors of JSC Tengizchevroil at the Tengiz field in the Zhylyoy district of Atyrau region.

According to the prosecutor's office, the Kazakh worker was going to have an extra lunch, which caused outrage among Turkish citizens. The worker went into the hostel and returned with a group of about 400 people. There was a mass brawl between Turks and Kazakhstanis. During the shootout, several cars and a container with overalls burned down [4].

As a result of the close work of the authorities, representatives of Tengizchevroil and contractors, significant law enforcement forces were additionally mobilized to ensure the safety of everyone working at the facility, and the scene of the incident is now a safe workplace. Today, 6 400 workers who took part in the construction of the Second-Generation project are returning to their jobs," Todd Levy, General Director of Tengizchevroil LLP, said a few days after the events described in the document for internal use.

According to many narrators, on which most of the witnesses are based, it all started with the fact that a Kazakh guy from the security service or fire service approached the Turks on the square during a lunch break and asked them to sign a work permit document. According to the deputy prosecutor of Atyrau region H. Kasymov, the Turks refused to fold their hands and left a negative conclusion in the name of the Kazakh. A fight literally broke out – three Turks began to beat this guy with keys and a fire extinguisher [4].

The injured Kazakh worker entered the kitchen and called on other Kazakh workers to speak out against him. According to a witness who was there, Turkish workers ran away from work [5].

But back to the reasons. Officials and deputies from the TV screen said that the main thing is the inequality of Kazakh and Turkish workers who do the same job, but receive different salaries and different "social packages". In an interview with Zona.kz the famous Kazakh political scientist and public figure Bolathan Taizhan stated: «There is nothing surprising in what happened. It is quite natural that workers and citizens of Kazakhstan oppose the established norms. First of all, in this case, employees are not satisfied with their situation. Foreign workers are very arrogant towards local workers». In addition, the wages of Turkish workers were 15-20 times higher than those of Kazakhstan. This alone is enough to become a prerequisite for the beginning of a conflict [5].

The incident was recovered within an hour and a half. The workers involved in the construction of the second generation plant were transferred to a temporary settlement. 105 police officers and 25 additional posts guarded the canteens, dormitories, along the Kulsary-Tengiz highway. All measures have been taken to ensure the safety of foreign citizens. Medical assistance

was provided to the victims [6]. According to Bergey Ryskaliev, 136 Turkish citizens with various injuries were treated in the TCO and PFD clinics. The operation performed on one person was successful and he was transferred to the regional hospital, and six people were transferred to the hospital in Kulsary. The council also heard the report of the heads of the highest law enforcement agencies. They reported that the situation in Tengiz has calmed down and is under full control. The prosecutor of Atyrau region Rakymbek Mamyrbayev said that law enforcement agencies opened a criminal case on the fact of mass riots that occurred at the Turkish enterprise "Senimdi Kurylys" on October 20 [7]. The general fight between Kazakh and Turkish workers that took place yesterday in the shift settlement at the Tengiz mine, on the basis of domestic relations, did not affect the activities of Tengizchevroil LLP in any way, TCO CEO Todd Levy said at the meeting. Already on Saturday, 5 300 people went to work [5].

Today the situation has completely stabilized. Despite the fact that it was the first day of Eid al-Fitr, 1,260 workers involved in the construction of the second-generation plant went to work, and 5,400 people work at all sites outside the plant [6].

According to the first deputy akim of the region Sarsenbay Yensegenov, 391 citizens were sent to Turkey [4].

Conclusion

Thus, the material we briefly reviewed shows the presence of the following objective and subjective factors associated with this negative conflict.

Firstly, the conflicts that occurred in the Tengiz oil field involving Kazakhs and Turks are directly related to chronically unresolved economic, social and everyday difficulties that have accumulated over many years.

Secondly, we should not ignore the fact that here, as well as in other regions of the republic, there is the influence of rather hidden unemployment among the indigenous Kazakh population. They are largely forced to accept the most unprestigious and unskilled jobs; accordingly - for the lowest wages. Therefore, they react very sharply to disproportionate pay for foreign workers, whose qualifications are no different from local workers.

Thirdly, there is an absolute inaction of Kazakhstan trade union organizations to protect working conditions and wages of local workers - skilled and unskilled.

Fourthly, foreign employers and Kazakh officials, mostly not local, have absolutely no knowledge of the ethnocultural characteristics of the local Kazakh population. Ever since the times of Tsarist colonial Russia and the Soviet totalitarian state, the local Kazakhs, belonging to the "Baiuly" tribal groups (Adai, Berysh, Ysyk, etc.), were distinguished by their belligerence, courage, and intolerance to injustice.

Fifthly, they are distinguished by a fairly high level of self-awareness, comparing the capabilities of their region with the similar wealth of the principalities of the Persian Gulf - the United Arab Emirates, Qatar, Bahrain, and Trucial Oman. In them, the indigenous self-sufficient Arab population enjoys all the benefits of the riches of their oil and gas fields, without experiencing any discrimination from foreign capital.

We believe that it is necessary to eliminate the vicious practice of concluding enslaving contracts in favor of foreign companies and local oligarchs who take advantage of undeserved economic rent, causing serious damage not only to the local population, but also to its ecology. It is necessary to conclude a fair Agreement that establishes the mutual responsibility of the parties not only for the performance of labor duties, but also for compliance with appropriate wages, excluding any discrimination against ordinary Kazakh workers.

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Physical and Mathematical Sciences

Analytical solution of heat conduction equations in a polar coordinate system in a multilayer domain

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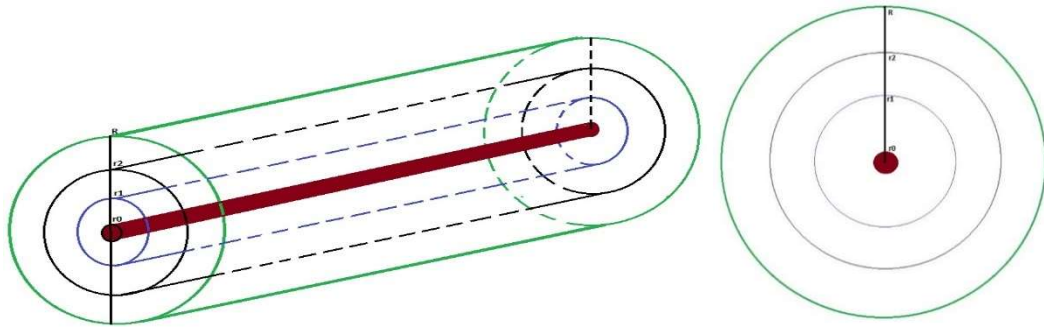
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ABSTRACT

Consider heat propagation in a cylindrical region with three layers. The experiment was conducted during scientific research. The layers of the cylindrical region are filled with chernozem ($\bar{r}_0, \bar{r}_1$), clay ($\bar{r}_1, \bar{r}_2$) and optima clay ($\bar{r}_2, \bar{R}$).



Pic. Cylindrical body and their section

Formulation of the problem is next:

$$C(\bar{r})\rho(\bar{r})\frac{\partial \bar{u}}{\partial \bar{t}} = \frac{1}{\bar{r}}\frac{\partial}{\partial \bar{r}}\left(\bar{r}k(\bar{r})\frac{\partial \bar{u}}{\partial \bar{r}}\right) \quad (1)$$

$$\text{Initial condition at the moment } \bar{t} = 0: \quad \bar{u}(\bar{r}, 0) = \bar{u}_0(\bar{r}). \quad (2)$$

Boundary conditions when $\bar{r} = \bar{r}_0, \bar{r} = \bar{r}_1, \bar{r} = \bar{r}_2, \bar{r} = \bar{R}$:

$$\bar{u}(\bar{r}_0, \bar{t}) = \bar{q}_0(\bar{t}), \quad (3)$$

$$k(\bar{r})\frac{\partial \bar{u}}{\partial \bar{r}}\Big|_{\bar{r}=\bar{R}} = -h_{env}(\bar{u} - \bar{u}_{env})|_{\bar{r}=\bar{R}}, \quad (4)$$

$$\bar{u}(\bar{r}_1^-, \bar{t}) = \bar{q}_1^-(\bar{t}), \quad (5)$$

$$\bar{u}(\bar{r}_1^+, \bar{t}) = \bar{q}_1^+(\bar{t}), \quad (6)$$

$$\bar{u}(\bar{r}_2^-, \bar{t}) = \bar{q}_2^-(\bar{t}), \quad (7)$$

$$\bar{u}(\bar{r}_2^+, t) = \bar{q}_2^+(\bar{t}). \quad (8)$$

Values $\bar{q}_0(\bar{t})$, $\bar{q}_1^-(\bar{t})$, $\bar{q}_1^+(\bar{t})$, $\bar{q}_2^-(\bar{t})$, $\bar{q}_2^+(\bar{t})$ will be taken from the experimental data. The heat conduction equation for the region is $\bar{\Omega} = (\bar{r}_0, \bar{r}_1) \cup (\bar{r}_1, \bar{r}_2) \cup (\bar{r}_2, \bar{R})$, $\bar{Q} = \bar{\Omega} \times (0, \bar{t}_m)$.

In this paper, we solved the problem of temperature distribution in cylindric region. The Fourier method is used for receiving solution of the problem. There are:

- 1) analytical solution of the (1)-(8) by Fourier Method;
- 2) conducted an experiment for identifying boundary conditions;
- 3) constructed algorithm for computer program;
- 4) conducted the analyses of the received numerical solutions.

Key words: heat conduction, multilayer, polar coordinate, temperature, Fourier, numerical solution.

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УПРАВЛЯЕМОСТЬ И ОПТИМАЛЬНОЕ БЫСТРОДЕЙСТВИЕ ЛИНЕЙНЫХ СИСТЕМ

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Аннотация. Актуальность данного исследования заключается в том, что решение краевых задач необходимо для обеспечения оптимальной динамики, минимизировать издержки или максимизировать заданный критерий производительности. Решение краевых задач является ключевым элементом для обеспечения оптимальной динамики и эффективного управления системами в различных областях, таких как автоматизированное управление, промышленные процессы, финансовые системы, транспортные сети и другие. Целью данного исследования является моделирование краевой задачи с помощью численных методов. Были использованы аналитический метод, математическое моделирование, метод моментов, среда программирования MATLAB.

Ключевые слова: численные методы, моделирование, анализ, интегральное уравнение, решение задач.

Введение

Решение краевых задач имеет важное значение для обеспечения оптимальной динамики и эффективного управления системами. Путем решения краевых задач можно достичь минимизации издержек, максимизации заданного критерия производительности и достижения оптимальной работы системы. Кроме того, решение краевых задач с фазовыми и интегральными ограничениями требуют применения численных методов, таких как метод конечных элементов, которые обеспечивают точные и надежные результаты.

Исследование сталкивается с главной проблемой, заключающейся в трудности решения данных задач из-за их высокой математической сложности и обилия переменных. Фазовые и интегральные ограничения добавляют дополнительные сложности, так как требуется учитывать не только динамику системы, но и различные ограничения на ее состояние и управление.

По словам С. Айсагалиева, математическая модель должна быть достаточно простой для проведения аналитической и численной обработки, ведущей к получению необходимых результатов об исследовании. С помощью математических моделей изучают самые разнообразные процессы в физике, химии, биологии и др., что позволяет лучше понять и объяснить фундаментальные законы и механизмы, лежащие в основе этих процессов [1].

С. Айсагалиев отмечает, что краевые задачи могут иметь разные типы граничных условий и ограничений, требующих использования различных методов для их численного решения. Правильный выбор численного метода позволяет получить точное решение краевой задачи, что позволяет достичь требуемой точности и надежности в численном решении. Важно также учитывать вычислительную эффективность выбранного метода, особенно для задач с большими размерностями или высокой сложностью. Некоторые методы могут быть более подходящими для параллельной обработки или использования графических процессоров, что позволяет ускорить вычисления [3].

Материалы и методы

При проведении исследования в сфере изучения краевых задач, были использованы методы, которые помогли раскрыть как теоретическое, так и практическое применение

содержание объекта. При помощи аналитического метода были изучены основные принципы и свойства краевых задач линейных систем управления с фазовыми и интегральными ограничениями, также теоретический анализ позволил получить глубокое понимание математической структуры и свойств этих задач, а также выявить основные трудности, связанные с их решением. Также аналитический метод помог в проведении вычисления, которые позволили получить точные решения для некоторых упрощенных случаев краевых задач.

Для решения краевых задач были использованы численные методы, такие как метод моментов. Этот метод позволил аппроксимировать дифференциальные уравнения, описывающие динамику системы, и преобразовывать их в систему алгебраических уравнений.

Среда программирования MATLAB была использована для разработки и реализации численных методов, а также для проведения численных экспериментов и анализа результатов. MATLAB предоставляет широкий спектр инструментов и функций для работы с численными методами и обработки данных, что значительно упростило процесс исследования.

Методы математического моделирования были использованы для более точного и полного описания краевых задач линейных систем управления с фазовыми и интегральными ограничениями. В частности, были применены методы математического моделирования, такие как методы дифференциальных уравнений, методы оптимального управления и методы численной оптимизации. Методы дифференциальных уравнений позволили описать динамику системы и ее эволюцию со временем. Методы оптимального управления использовались для определения оптимальных стратегий управления системой с учетом заданных критериев производительности и ограничений. Методы численной оптимизации применялись для решения оптимизационных задач, связанных с краевыми задачами управления.

Уравнение Фредгольма первого рода было использовано для решения краевой задачи линейной системы уравнений в контексте физической задачи. В рассмотренной задаче уравнение Фредгольма использовалось для получения матрицы системы, отображающей связь между потенциалами на проводе и потенциалами на цепи. Моделирование задачи осуществлялось с помощью численного метода моментов.

Результаты

Для лучшего понимания решения краевых задач линейных систем управления с фазовыми и интегральными ограничениями, изучение теории является ключевым элементом исследования. Это включало анализ устойчивости и управляемости системы, а также математические методы решения краевых задач, которые являлись неотъемлемой частью исследования. Такой подход позволил получить глубокое понимание принципов и методов решения краевых задач, а также разработать эффективные алгоритмы управления.

Для более глубокого изучения моделирования краевых задач были реализованы различные методы, которые позволили детальней разобраться в каждом из методов, а именно метод моментов, метод стрельбы и метод конечных разностей. Для каждого метода была рассмотрена отдельная задача, для того, чтобы показать эффективность применения каждого из методов для определенных заданных условий.

Для моделирования задачи с использованием уравнения Фредгольма первого рода, была рассмотрена задача электромагнитного поля, связанную с потенциалами провода и круга. Сперва были заданы параметры конфигурации (Рисунок 1), такие как радиус провода (a), радиус цепи (R), заряд (Q_0), расстояние от заряда до центра цепи (h), константа электрической проницаемости вакуума (ϵ_0) и константа K . Эти параметры использовались

для вычисления потенциалов и затем формирование системной матрицы. Затем были определены количество сегментов (N) и размер каждого сегмента ($d\theta$) для последующего вычисления.

$a = 5e-3$; % [m] Radius of wire
 $R = 1$; % [m] Radius of the circle
 $Q_0 = 1e-9$; % [C] Charge
 $h = 24$; % [m] Distance of the charge from the center of circle
 $\epsilon_0 = 8.854e-12$;
 $K = 1/(4*\pi*\epsilon_0)$;
 $N = 128$;
 $d\theta = 2*\pi/N$; % Number and size of segments

Рисунок 1. Параметры конфигурации

Легкая реализация делает метод стрельбы доступным для широкого круга исследователей и практиков, позволяя им проводить численное моделирование и анализ систем с различными краевыми условиями. Также, метод стрельбы позволяет решать широкий спектр краевых задач. Он может использоваться для различных типов граничных условий, включая условия Дирихле, условия Неймана, смешанные условия и другие. Это даст возможность применять метод стрельбы в различных областях, включая физику, инженерию, математику и другие дисциплины, где требуется решение краевых задач. Таким образом, метод стрельбы представляет собой эффективный инструмент для численного моделирования и анализа систем с различными краевыми условиями. Его простота в реализации и способность решать широкий спектр краевых задач делают его доступным и полезным для исследователей и практиков в различных областях науки и инженерии.

Обсуждение

Понимание и решение краевых задач линейных систем управления с фазовыми и интегральными ограничениями имеют важное значение при проектировании и оптимизации различных систем управления в различных областях применения, таких как инженерия, автоматика, робототехника и экология. Применение фазовых ограничений позволяет управлять и контролировать различные фазы или состояния системы, обеспечивая определенную последовательность их выполнения. Данное исследование, проведенное для лучшего понимания решения и моделирования краевых задач, позволило детальней разобраться в теоретических аспектах решения краевых задач, а также в применении численных методов и проблематике их реализации.

Выводы

Обобщая результаты исследования можно сделать следующие выводы. Численные методы являются необходимым инструментом для математического моделирования сложных краевых задач, которые нельзя решить аналитическим способом. Основной задачей математического моделирования является описание краевых задач с помощью математических уравнений и ограничений. Важным аспектом математического моделирования является учет фазовых и интегральных ограничений, которые могут быть заданы в задаче. Основными проблемами математического моделирования являются выбор, и реализация алгоритма для решения разных типов задач. Полученные результаты показали, что смоделировать краевую задачу достаточно просто при наличии нужных знаний и навыков.

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